CA-EZ/KEY™

Administrator's Guide

Release 3.2

Computer Associates®

R005EK32AGC

—PROPRIETARY AND CONFIDENTIAL INFORMATION—

THIS MATERIAL CONTAINS, AND IS PART OF A COMPUTER SOFTWARE PROGRAM WHICH IS, PROPRIETARY AND CONFIDENTIAL INFORMATION OWNED BY COMPUTER ASSOCIATES INTERNATIONAL, INC. THE PROGRAM, INCLUDING THIS MATERIAL, MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED IN WHOLE OR IN PART FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF COMPUTER ASSOCIATES. ALL AUTHORIZED REPRODUCTIONS MUST BE MARKED WITH THIS LEGEND.

RESTRICTED RIGHTS LEGEND

Use, duplication, or disclosure by the United States Government ("the Government") is subject to restrictions as set forth in A) subparagraph (c)(2) of the Commercial Computer Software — Restricted Rights clause at FAR 52.227-19, and/or B) subparagraphs (c)(1)(ii) of the Rights of Technical Data and Computer Software clause of DFAR 252.227-7013. This software is distributed to the Government by:

Computer Associates International, Inc.
One Computer Associates Plaza
Islandia, NY 11788-7000

Unpublished copyright work — all rights reserved under the copyright laws of the United States.

This material may be reproduced by or for the United States Government pursuant to the copyright license under the clause at DFAR 252.227-7013 (October 1988).

Release 3.2, November 1988

Copyright © 1988 Computer Associates International, Inc.
All Rights reserved.

CA-EZ/KEY is a trademark of Computer Associates International, Inc.

All product names referenced herein are trademarks of their respective companies.

Call Computer Associates technical services for any information not covered in this manual or the related publications. See your Computer Associates *Product Support Directory* for the appropriate telephone number to call for direct support, or you may call 1-800-645-3042 or 1-516-342-4683 and your call will be returned as soon as possible.

Outside North America, contact your local Computer Associates technical support center for assistance.

EZ/KEY
ADMINISTRATOR'S GUIDE

CONTENTS

SECTION 1 GENERAL INFORMATION

Introduction 1-1
Documentation 1-4
EZ/KEY Version 2.0 Summary 1-6
EZ/KEY Version 2.1 Summary 1-9
EZ/KEY Version 2.2 Summary 1-13
EZ/KEY Version 3.0 Summary 1-15
EZ/KEY Version 3.1 Summary 1-17
EZ/KEY Version 3.2 Summary 1-18

SECTION 2 PIE LIBRARY SYSTEM

Introduction 2-1
Library User Interface 2-2
Library System Interface 2-6
Sharing PIELIBs 2-15

SECTION 3 SPECIAL UTILITIES

Introduction 3-1
USERID/Library Utility 3-7
LIBSPACE Utility 3-11
PIELIB Connect or Format Utility 3-14
External LIBSPACE Connect Utility 3-23
System Reconnect Utility (CICS Only) 3-31
CICS/VS Recovery Procedures 3-38
Tuning Parameters 3-39
Site Options 3-48
Accessing and Exiting the Site Options Facility 3-49
Common Option Fields 3-50
CMS Site Options Panel 3-52
CICS Site Options Panel 3-54
TSO Site Options Panel 3-56

SECTION 4 ESTABLISH LIBRARIES

Introduction 4-1
Establish CMS User PIELIBs and Libraries 4-2
Establish TSO User PIELIBs and Libraries 4-8
Establish CICS USERIDs and Libraries 4-17
Setting Up Several Groups of Users 4-23

SECTION 5 BACKUP AND RESTORE FUNCTIONS

Introduction 5-1
Procedures 5-2

EZ/KEY
ADMINISTRATOR'S GUIDE

CONTENTS

SECTION 6 EXECUTION SERVICES

Introduction 6-1
CMS Foreground Execution 6-2
TSO Foreground Execution 6-6
Background Execution 6-10
How to Print the LOG in CICS/OS/VS 6-27
How to Print the LOG in CICS/DOS/VSE 6-29

SECTION 7 REPORT ADMINISTRATOR

Introduction 7-1
EZ/REPORT Utilities 7-3
Maintain Report Libraries and PROFILEs (Option 1) 7-6
Short Descriptions 7-8
Library Information 7-9
Report Member Utility 7-10
Report Addition 7-12
CMS On-Line Information 7-15
TSO On-Line Information 7-19
Batch Information 7-22
Report Information 7-25
Report Member Utility 7-26
Parameter Substitution in EASYTRIEVE PLUS Programs . . . 7-28
Report Addition-Reports with Parameters 7-31
CMS On-Line Information - Reports with Parameters 7-33
TSO On-Line Information - Reports with Parameters 7-35
Report Information - Reports with Parameters 7-37
Parameter Description 7-38
Creating A New EZ/REPORT User (Option 2) 7-40
Copy Default Attributes (Option 3) 7-48
Modifying PROFILEs 7-52
Default Profile Member Creation 7-56
Establish Default CONNECT and LIBCHAIN Members 7-61

SECTION 8 JOB INFORMATION CUSTOMIZATION

Modifying Batch Job Information 8-1
Sample Job Information Substitution 8-5

SECTION 9 MODEL FACILITY

Introduction 9-1
Model Creation 9-2

EZ/KEY
ADMINISTRATOR'S GUIDE

CONTENTS

APPENDIX A EZ/KEY MESSAGES

EZKEYnnn Messages A-1
EZKSEGnn Messages A-5

APPENDIX B EZ/KEY VS EASYTRIEVE PLUS

Restrictions in EZ/KEY B-1
Extensions in EZ/KEY B-3

INDEX I-1

Exhibit 2.1 Sample VERIFY Member 2-10

Exhibit 3.1 Utility Menu - PROUTL 3-1
Exhibit 3.2 System Administrator Utility Menu - PROUSA 3-2
Exhibit 3.3 PIE Test Mode Selection - PROMODE 3-5
Exhibit 3.4 USERID Utility - PROULUG 3-7
Exhibit 3.5 LIBSPACE Utility - PROULVG 3-11
Exhibit 3.6 PIELIB LIBSPACE Utility - PROULVF 3-14
Exhibit 3.7 PIELIB LIBSPACE Utility - PROULVF1 3-20
Exhibit 3.8 External LIBSPACE Utility - PROULVC 3-23
Exhibit 3.9 System Reconnect Utility - PROULIN 3-31
Exhibit 3.10 COPY/MOVE Member Utility - PROULCM 3-33
Exhibit 3.11 USERID Utility - PROULUG 3-34
Exhibit 3.12 PIELIB LIBSPACE Utility - PROULVF 3-35
Exhibit 3.13 System Reconnect Utility - PROULIN 3-36
Exhibit 3.14 LIBSPACE Utility - PROULVG 3-37
Exhibit 3.15 User Tuning Parameters - PROULTPU 3-39
Exhibit 3.16 System Tuning Parameters - PROULTPS 3-40
Exhibit 3.17 Data Base Default Parameters - PROULTPB 3-46
Exhibit 3.18 CMS Site Options Panel 3-52
Exhibit 3.19 CICS Site Options Panel 3-54
Exhibit 3.20 TSO Site Options Panel 3-56

Exhibit 4.1 PIELIB LIBSPACE Utility - PROULVF 4-4
Exhibit 4.2 PIELIB LIBSPACE Utility - PROULVF1 4-5
Exhibit 4.3 COPY/MOVE Member Utility - PROULCM (one) 4-6
Exhibit 4.4 COPY/MOVE Member Utility - PROULCM (two) 4-7
Exhibit 4.5 PIELIB LIBSPACE Utility - PROULVF 4-11
Exhibit 4.6 PIELIB LIBSPACE Utility - PROULVF1 4-12
Exhibit 4.7 COPY/MOVE Member Utility - PROULCM (one) 4-14
Exhibit 4.8 COPY/MOVE Member Utility - PROULCM (two) 4-15
Exhibit 4.9 PIELIB LIBSPACE Utility - PROULVF 4-18
Exhibit 4.10 PIELIB LIBSPACE Utility - PROULV1 4-19
Exhibit 4.11 USERID Utility - PROULUG 4-21

Exhibit 5.1 PIELIB LIBSPACE Utility - PROULVF 5-3
Exhibit 5.2 USERID Utility - PROULUG (one) 5-4
Exhibit 5.3 USERID Utility - PROULUG (two) 5-5
Exhibit 5.4 PIELIB LIBSPACE Utility - PROULVF 5-6
Exhibit 5.5 Multiple Member Utility - PROULSM 5-7
Exhibit 5.6 Multiple Processing Edit Panel - PROULED (one) 5-8
Exhibit 5.7 Multiple Processing Edit Panel - PROULED (two) 5-9
Exhibit 5.8 Multiple Processing Edit Panel - PROULED (three) 5-10
Exhibit 5.9 LIBSPACE Utility - PROULVG (one) 5-11
Exhibit 5.10 LIBSPACE Utility - PROULVG (two) 5-12

Exhibit 6.1 Run On-line - PROEXECC 6-2
Exhibit 6.2 Run On-Line - PROEXECT 6-6
Exhibit 6.3 Submit For Batch Execution - PROEXEC2 6-10
Exhibit 6.4 Modify Job Information - PROEXEC3 6-12

SECTION 1: GENERAL INFORMATION

Introduction 1-1
Security 1-2
Terminology 1-2

Documentation 1-4
Manuals 1-4
Using the Guide 1-4
Updating the Guide 1-5
Identifying Updated Material 1-5

EZ/KEY Version 2.0 Summary 1-6
General Enhancements 1-6
Documentation Enhancements 1-7
Restrictions Removed 1-7

EZ/KEY Version 2.1 Summary 1-9
General Enhancements 1-9
Performance Enhancements 1-11
Restrictions Removed 1-11

EZ/KEY Version 2.2 Summary 1-13
General Enhancements 1-13
Performance Enhancements 1-14
Documentation Enhancements 1-14

EZ/KEY Version 3.0 Summary 1-15
EZ/REPORT - Report Processing Facility 1-15
Execution Enhancements 1-15
Syntax Checking Enhancements 1-16
Performance Enhancements 1-16
Documentation Enhancements 1-16
General Enhancements 1-16

EZ/KEY Version 3.1 Summary 1-17
EZ/REPORT - Report Processing Facility 1-17
Syntax Checking Enhancements 1-17
Documentation Enhancements 1-17
PANVALET Version 12.0 1-17

EZ/KEY Version 3.2 Summary 1-18
General Enhancements 1-18
Confirm Delete 1-18
CMS Enhancements 1-18
CICS Enhancements 1-18
VSE Enhancements 1-19
Documentation Enhancements 1-19

(This page intentionally left blank.)

Introduction

The EZ/KEY Administrator's Guide provides information, procedures, and examples for use in operating and maintaining EZ/KEY. This Guide is intended exclusively for use by the system administrator who supports and maintains EZ/KEY.

After initially installing EZ/KEY, your organization should designate someone as the EZ/KEY System Administrator. The EZ/KEY System Administrator is the person in your organization responsible for establishing new users, setting up and maintaining shared and common libraries, establishing periodic backup/restore procedures, and performing individual member restores on an as-needed basis. This is accomplished through a series of panels and step-by-step procedures.

One or more people may be designated as System Administrators. There is no special USERID for this purpose. Access to system administrator functions may be controlled by a password.

Often, the person who installs EZ/KEY becomes the system administrator by "default". This person should become familiar with the Concepts and Facilities of EZ/KEY so he can train others in the organization to become "departmental" administrators. In this way, the function of administrator is distributed to various user organizations.

Initially, the EZ/KEY administrator(s) should work closely with the systems programmer who installs EZ/KEY so they can understand the local environment and other considerations that may affect decisions about how to set up EZ/KEY.

Decisions made in the beginning, such as the number or size of blocks allocated to a PIELIB LIBSPACE, can be changed later on. For example, if use proves that the initial size assessment was too small, you can create a new LIBSPACE with a different blocksize and a larger allocation and use the Multiple Member Copy function (3.4) to copy and reblock all the members in each library.

Security

Some functions and capabilities of EZ/KEY may not be desirable or appropriate for all users. EZ/KEY accepts installation-specified passwords so you can limit access to certain functions to selected users.

Within each department or group of users, you should designate a "group administrator" who is responsible for controlling users and for setting up and maintaining "shared" or "common" libraries for that department.

(CICS) To minimize the number of CICS FCT entries needed, multiple "libraries" are typically established within one physical LIBSPACE (for each department). When EZ/KEY CONNECTs a LIBSPACE, all libraries within that LIBSPACE immediately become "visible" to all others using the same EZ/KEY system.

In some organizations this may be undesirable. To limit the ability of users to "see" these libraries, a Utility Password is available to further limit the use of options 3.2, 3.3, and 3.4.

Terminology

Throughout this document, the term "system administrator" and the USERID "sysadmin" are both used to mean the USERID(s) at your installation designated as an EZ/KEY System Administrator.

Some special-purpose terms are used throughout the EZ/KEY documentation series that may not be familiar. These terms have specific meaning within the context of the use and administration of EZ/KEY and PIE.

Archive - Mark a member, library, or LIBSPACE for removal from the EZ/KEY system.

Background - Non-interactive execution. Available for CMS, TSO, and CICS.

Connect - Make a LIBSPACE accessible to EZ/KEY.

Disable - Mark a member, library, or LIBSPACE so that it cannot be processed by the EZ/KEY system. The entity continues to be known to EZ/KEY, but is not normally accessible.

DCSS	-	Discontiguous Shared Segment (VM/CMS).
External LIBSPACE	-	A LIBSPACE type other than PIEBDAM or PIEVSAM; e.g., PANVALET, PDS, MINIDISK, CMSMAC, SEQ.
Drop	-	Delete all knowledge of a LIBSPACE.
Enable	-	Reverse the effects of an Archive or Disable action.
Foreground	-	Interactive execution. Available for CMS and TSO.
Library	-	A collection of members.
LIBSPACE	-	A PIELIB LIBSPACE contains one or more libraries. An EXTERNAL LIBSPACE contains one library.
Member	-	An entity in a PIE library.
Member-Name	-	An 8-character identifier of a member.
Member-Type	-	An 8-character descriptor of the format of a member.
Member-Version	-	A 3-digit number from 000 to 999.
PIE	-	Pansophic Interactive Environment. PIE is the collection of routines that interface with the operating systems environment (VM/CMS, MVS/TSO or CICS/OS/VS, or CICS/DOS/VSE).
PIELIB	-	A LIBSPACE whose type is PIEBDAM or PIEVSAM.
Status	-	By default, the entity is accessible. The entity may be marked as "D" for Disabled, or "A" for Archive.
USERID	-	A unique 8-character identifier of an EZ/KEY user.
VSE	-	The term used throughout this Guide when referring to the DOS/VSE AF2 (or later) operating system.

Documentation

Manuals

EZ/KEY is documented in a set of four related manuals:

- Reference Manual - describes how to use EZ/KEY from an end-user perspective.
- Administrator's Guide - provides information, procedures, and examples for use in operating and maintaining EZ/KEY.
- Installation Guide - describes how to install EZ/KEY in your environment.
- Tutorial - provides the end user with instruction in the initial use of EZ/KEY.

Using the Guide

Future Enhancements

Plus signs ("+") in the left margin of this document identify future extensions to EZ/KEY that have been designed but not yet implemented.

Pansophic welcomes comments on these proposed enhancements and other extensions and revisions that you feel would make EZ/KEY a more useful system. Use the post paid comments form at the end of this Guide to document your suggestions.

CAPS

Words printed in all capital letters should be coded as shown.

Lower Case

Lower case entries identify variable information that you should supply.

Page Numbering System

Pages in this Guide are numbered by sections as shown below.

2-1 means Section 2, page 1
4-11 means Section 4, page 11
B-3 means Appendix B, page 3

Updating the Guide

When future versions of EZ/KEY are released, replacement Guides or updates will be provided. Updates will follow the existing numbering system. The scheme for adding new pages is:

Existing Pages		New Pages	
5-1			
5-2			
		5-2a	
	<-----	5-2b	3-page insert
		5-2c	
5-3			
5-4			
5-5	<-----	5-5	replacement page
	<-----	5-6	new page

Identifying Updated Material

Enhancements and extensions to EZ/KEY in new versions are described in the Version Summary in the EZ/KEY Reference Manual. When a new version is released, read through the Version Summary. Use the index to locate detailed information about new features. All changed pages contain the serial number of the Guide at the time of the revision. Vertical lines in the margin identify the revised information.

A manual's serial number (printed at the top of each page) identifies the current product version and each page's revision date. For example, a typical manual serial number is coded as follows:

EKA	03.1	-	87	12
manual identifier	version number		year of revision	month of revision

EZ/KEY Version 2.0 Summary

General Enhancements

Significant changes in EASYTRIEVE PLUS are: support for 18 decimal digits and the removal of support for generalized report procedures.

PANVALET libraries can be accessed read-only in the CICS/MVS and CICS/VSE environments. A directory of members in a PANVALET library can be displayed.

A directory of members on a CMS minidisk can be displayed.

Variable, variable-blocked, and undefined-length partitioned data sets can be accessed read-only under TSO and CMS; previously, only fixed and fixed-blocked PDSs could be accessed.

The COPY/MOVE Utility panel (PROULCM, option 3.3) now allows the record format and record size to be respecified for existing CMS sequential files. Members copied to existing variable-length CMS files are no longer truncated.

The Library Utility panel (PROULLG, option 3.2) has been restructured to simplify enabling and disabling libraries.

PFnn can be entered on the COMMAND line of any panel to perform the same function as pressing the "nn" PF Key.

A new Multiple Member Utility panel (PROULSM) can be used for various tasks on selected groups of members in any library.

TABLE files can be created or modified in prompt mode.

PRINT command -- appends an image of an EZ/KEY panel to the "userid LOG" member in your PIELIB.

TSO command -- non-authorized TSO commands can be executed directly from EZ/KEY.

The TUTORIAL Index can be used to locate information about any user-oriented capability of EZ/KEY or EASYTRIEVE PLUS.

All documentation, JCL, EXECs, CLISTs, CICS table entries, and member types have been changed to rename PRO/da to EZ/KEY and PRO/grammar to EASYTRIEVE PLUS.

References to specific releases of EZ/KEY have been removed from the CMS installation procedure.

The EXECs and CLISTs for EZ/KEY and EASYTRIEVE PLUS have been extensively modified.

A new CMS EXEC, EZTPLUSD, is provided for the foreground execution of the DOS version of EASYTRIEVE PLUS under VM/CMS.

A new CMS EXEC, EZKDIRST, is used to create a sorted list of members in a CMS minidisk.

The EXAMPLE PIELIB for CICS/MVS is now distributed as a VSAM file rather than a BDAM file.

The EXAMPLE PIELIB is automatically CONNECTed when EZ/KEY is initialized. The EXAMPLE library must be ENABLEd (using option 3.2) before it will be automatically searched.

The System Administrator utility panels contain prompting information for only the specific environment (CMS, TSO, CICS) in which EZ/KEY is executing.

A new System Administrator utility, System Reconnect Utility (panel PROULIN, option 3.a.5), can be used to reestablish CONNECTs to LIBSPACEs after a new version of the SYSTEM PIELIB is installed.

Documentation Enhancements

Additional information is provided for installing and using PANVALET libraries under TSO, CICS/MVS, and CICS/VSE.

Section 5: TSO Installation contains additional information about TCAM and VTAM.

Restrictions Removed

By removing several restrictions from Appendix B, the following capabilities are now supported:

- If another statement is detected on the same line as an ACCESS, LIST, NEWPAGE, SKIP, PUSH, POP, or macro invocation statement, the second statement is moved to a new line.

- COPY DLI-filename and COPY DLI-recordname are supported.
- DLI-recordname can be qualified by a filename.
- FILE-STATUS is allowed only for VSAM, ISAM, or DLI files.
- Items specified on a DISPLAY, TITLE, or LINE statement are flagged if they exceed the print line width.
- Warning messages are produced if the report page length (PAGESIZE) is exceeded due to excessive numbers of TITLE, HEADING, LINE, and line spacing values.
- Undocumented values in the DUMP parameter of the PARM statement are not flagged as errors.
- The length of a redefined field includes the implied lengths of the OCCURS parameter.
- Any error message for the last statement in an EASYTRIEVE PLUS program is displayed.

EZ/KEY Version 2.1 Summary

General Enhancements

- EDIT and UTILITY as stacked commands on the COMMAND line are allowed anywhere within EZ/KEY (except in HELP/TUTORIAL).

- EZTPLUSO JCL, EZTPLUSD JCL, EZTPTRLR JCL, EZTPLUSO EXEC, EZTPLUSD EXEC, EZTPLUS CLIST are added to the EXAMPLE PIELIB.

- CSECTs are reordered to reduce paging in all environments.

- A new option has been added to the foreground panel (PROEXEC). This allows the output of an EASYTRIEVE PLUS job executed in the foreground under CMS or TSO to be placed into a disk dataset.

- Allows dollar signs ($), at signs (@), pound signs (#), and underscores (_) in all EASYTRIEVE PLUS identifiers. (File names and other "external" names are restricted to alphabetics, numerics, and the national characters.)

- PROULLG (=3.2) does not display libraries that were DIsabled or ARchived on PROULUG (=3.a.1).

- PROULLG (=3.2) immediately "saves" any changes made "above the line".

- When submitting JCL and an EASYTRIEVE PLUS program for background execution (=5), only columns 1 through 71 are scanned. Any character in column 72 is never scanned or shifted. If substitution would cause data to be shifted into column 72, the SUBMIT is aborted and an error message is displayed.

- PRODIREC now displays the library name as well as the member name of programs. DIsabled and ARchived members are not listed.

- The new IDMS option is supported by EZ/checker in FREE mode only. The following statements were changed:

```
FILE file-name IDMS(subschema /RESET/)

RECORD record-name literal
      (after an IDMS FILE stmt)

RETRIEVE ... +
  SELECT(record-name +
    /AREA  'literal-1'/    +
    /SET   'literal-2'/    +
    /INDEX 'literal-3 /USING 'literal-4'// +
    /ID    'literal-5/     +
    /LIMIT  literal-6/     +
    /WHILE  (condition)/   +
    ...)

IDMS command  parms
```

All commands on the IDMS statement are checked for validity; however, currently only the parameters of the BIND command are checked for valid syntax. The BIND command is processed to determine the "active" files and records so that fields can be checked for valid use.

- Three new functions -- User Tuning Parameters, System Tuning Parameters, and an Administrator Password -- have been added to the System Administrator Utility Menu. The Tuning Parameters panels establish for all or specific users:

  - Whether to invoke Incremental Checking.
  - Size of the System Buffer Pool.
  - Maximum number of errors inserted by EZ/checker.
  - Allow/inhibit foreground and/or background execution.

The Administrator Password is initialized to "EZ/KEY". Current users do not have to specify a password until the System Administrator sets a new password. Subsequent users who invoke the System Administrator Utility Menu must specify the new password to use any of the Administrator functions. The new password is "remembered" in the users' profile and has to be respecified only when the password changes again.

Performance Enhancements

- During PROMPT mode, do not recompile if values are not changed on the PARM, FILE, JOB, SORT, or REPORT statement panels. This reduces the number of compiles (and thus the CPU usage) during PROMPT mode.
- Start compilation at the JOB/SORT that is modified; compile the entire program only if the library section is modified. This reduces CPU requirements when only the logic of an EASYTRIEVE PLUS program is modified. I/O is reduced if the library section is large or contains macros.
- Increase the blocksize of SYSTEM PIELIB for CMS from 1K to 2K. This reduces I/O.
- Insert only the first five error messages per line. This reduces storage and CPU usage.
- Insert only the first 99 error messages during a compile. This reduces peak storage use when there are many errors.

Restrictions Removed

By resolving incorrect processing, EZ/KEY now operates as follows:

- A MACRO prototype statement can be the first line of a program.
- The underscore (_) is allowed in macro parameter names.
- The FILE statement for DOS now requires RECFM, LRECL, and BLKSIZE information.

- ISAM and PRINTER files are not allowed as output files of SORT.
- Maximum segment length is now 32K for IMS/DLI files.
- A continued EASYTRIEVE PLUS statement cannot be a JCL statement.
- A macro keyword parm without a value on the %statement is flagged.
- The underscore in file names is rejected.
- Member names cannot now contain a blank, equal sign, period, or slash.
- DBDname on FILE statement cannot now be in quotes.
- Quotes are now flagged in LIMIT '10' on RETRIEVE statement.
- Parentheses are now allowed on CONTROL statement.
- DEFER can now be specified for an IMS/DLI FILE statement.
- 3330 is now allowed as a disk type on PROFLDDK.
- Can now PRint or PUnch files from CMS minidisks.

EZ/KEY Version 2.2 Summary

General Enhancements

- Read VSAM PIELIBs under CMS.
- Read and write VSAM PIELIBs under TSO.
- Read EASYTRIEVE PLUS VSAM KSDS macro libraries in all environments (especially useful for VSE customers).
- Read partitioned dataset (PDS) macro libraries in CICS/OS/VS.
- VM/CMS DCSS loader error messages improved.
- Allows a prefix of up to 26 characters for TSO dataset names.
- Allows use of CICS/VS Dynamic Transaction Backout facility.
- Uses an extrapartition dataset for submitting jobs to an internal reader in CICS/OS/VS.
- Utility password allows you to control who may use options 3.2, 3.3, and 3.4.
- Requires USERID PIELIB to be first in the enabled list.
- Member-type for the program can be specified for background execution.
- All panels can be displayed by 3270 Model 2 terminals.
- Printer LINESIZE default is now correct for DOS.
- FILE, JOB, and REPORT statements cannot have a statement label.
- The first TITLE statement must be 01 if numbered.
- The TARGET SYSTEM now defaults to DOS for CICS/DOS/VSE systems.
- The DOWN parameter of LABELS reports now works correctly in PROMPT MODE.

- PROMPT MODE now supports NL for TAPE files.
- PROMPT MODE now supports the LINK Replace option.
- PROMPT MODE now supports the IDMS filetype.
- PRINT command always stores into USERID PIELIB.
- Supports 3380 device type.
- The control code is required to access a PANVALET library only when the ++PRINT or ++WRITE commands are suppressed in that library.

Performance Enhancements

- CPU usage reduced by over 40 percent.
- Main storage usage reduced by approximately 32K bytes per user.
- The blocksize of SYSTEM PIELIB was increased from 2K to 4K in all environments to reduce I/O.

Documentation Enhancements

- The Installation Guide is divided into two manuals:
  - EZ/KEY System Administrator's Guide
  - EZ/KEY Installation Guide
- Documents use of TEST mode.
- Describes the use of CICS/VS Multi-Region Option to provide additional Virtual Storage Constraint Relief.
- Documents new "EZKEYnnn" error messages.
- Documents new "EZKSEGnn" error messages.
- Documents system and user tuning parameters.
- Documents administrator and utility passwords.
- Documents procedures for setting up several departments or groups of users under CICS.

EZ/KEY Version 3.0 Summary

EZ/REPORT - Report Processing Facility

- Easy to use, end user oriented, member selection list driven facility for running "canned" reports from within EZ/KEY.

Execution Enhancements

- Expand MACROs before background execution (allows macros to be stored in a PIELIB and used by EASYTRIEVE PLUS).
- Expand MACROs before foreground execution (CMS and TSO).
- Member-type for the program can be specified for foreground and background execution.
- Member-version for the program can be specified for background and foreground execution.
- Browse option allows browsing results of foreground execution (CMS and TSO).
- CMS EXECs may be kept in a PIELIB and are automatically copied out to CMS as needed for foreground execution.
- TSO CLISTs may be kept in a PIELIB and are automatically copied out to TSO as needed for foreground execution.
- TSO commands on the command line may now include implied CLISTs, LISTCAT, and other commands formerly restricted from use.
- SUBMIT User Exit capability is provided to enhance installation security checking when users submit batch jobs.

Syntax Checking Enhancements

- Supports the enhancements made for EASYTRIEVE PLUS Version 5.0, including new syntax for qualified fieldnames and subscripts.
- New HELP and TUTORIAL PF KEY definitions make it easier to navigate within the on-line Tutorial.
- The HEADING statement is flagged if NOHEADING is specified on the REPORT statement.
- The DEFINE statement (field definition) detects fields which extend beyond the record length or WORKAREA size.
- The JOB statement now handles parentheses correctly.

Performance Enhancements

- Installation option to specify direct execution of EASYTRIEVE PLUS under CMS and TSO without exiting EZ/KEY.
- EZ/KEY relinquishes control to higher priority CICS tasks after syntax checking each EASYTRIEVE PLUS statement.

Documentation Enhancements

The EZ/KEY Documentation has been enhanced to include the following documents:

- Reference Manual (Formerly User's Guide)
- Tutorial (New)
- Administrator's Guide (Updated)
- Installation Guide (Updated)
- Pocket Reference (New)

General Enhancements

- The example programs supplied in EXAMPLE PIELIB are renamed to correspond to the numbering scheme used in the EASYTRIEVE PLUS Application Guide.

EZ/KEY Version 3.1 Summary

EZ/REPORT - Report Processing Facility

- Report Parameter Substitution allows parameter substitution in previously prepared programs.

Syntax Checking Enhancements

- Supports the enhancements made for EASYTRIEVE PLUS Version 5.2.
- All IDMS statements now fully syntax checked.
- IDMS/IDD accessed for schema, file, and record definitions.
- SQL/DS and DB2 support.
- SQL/DB2 and IDMS defaults included with User Tuning and System Tuning Parameters.
- New PARM parameters supported in PROMPT mode.
- IDD and SQL statements supported in PROMPT mode.

Documentation Enhancements

- Administrator's Guide (updated)
- Reference Manual (Updated)
- Installation Guide (Updated)
- EZ/REPORT User's Guide (updated)

PANVALET Version 12.0

- PANVALET Version 12.0 supported.
- PANVALET Interface Module support in Systems Tuning Parameter panel.

EZ/KEY Version 3.2 Summary

General Enhancements

- EZ/KEY 3.2 dynamically loads programs into a program cache, reducing program storage requirements by as much as 50%. The System Administrator can adjust the program cache size.
- EZ/KEY provides a new Site Options panel for changing the program and panel cache sizes. The panel cache size is equivalent to the Buffer Size Tuning parameter in version 3.1.
- EZ/KEY no longer asks first time users to type the number of blocks to make their PIELIBs. Instead, the System Administrator sets this number.
- Human Factors have been improved. Panels are easier to read and understand, and are consistent with one another. Highlighting is also used consistently.
- Verify now recovers lost blocks in PIELIBs.

Confirm Delete

- This feature helps prevent the accidental deletion of members from a PIE library. When you request that a PIE library member be deleted, EZ/KEY displays a Confirm Delete panel. On this panel you confirm that you want the deletion performed or you cancel the request. You enable or disable this feature using the System and User Tuning parameters.

CMS Enhancements

- Two DCSS alternatives are available: a small DCSS and a high-performance DCSS.

CICS Enhancements

- You can execute EZ/KEY in either conversational or pseudo-conversational mode. The default is pseudo-conversational operation.
- A new transaction, EZKT, removes EZ/KEY from the CICS system. EZKT replaces the use of "EZKE TERMALL#" in previous versions of EZ/KEY.

VSE Enhancements

- The EZ/KEY installation procedure is simplified. EZ/KEY phases are distributed in BACKUP/RESTORE format, so only one tape drive is needed and a link-edit is no longer required.

Documentation Enhancements

- Administrator's Guide (Updated)
- Reference Manual (Updated)
- Installation Guide (Updated)
- EZ/REPORT User's Guide (Updated)

(This page intentionally left blank.)

SECTION 2: PIE LIBRARY SYSTEM

Introduction 2-1

Library User Interface 2-2
Library-Name 2-2
Member-Id 2-2
Library Index Member 2-5
Library Access 2-5
Library Access Rights 2-5

Library System Interface 2-6
LIBSPACE Name 2-6
PIELIB LIBSPACE 2-6
External LIBSPACE 2-7
LIBSPACE-library 2-8
Exhibit 2.1: Sample VERIFY Member 2-10
LIBSPACE TYPE 2-12

Sharing PIELIBs 2-15
Sharing a PIELIB in a Single Environment 2-15
Sharing a PIELIB between TSO and CICS/OS/VS 2-15
Sharing a PIELIB between CMS and TSO or CICS/VS . . . 2-16
Sharing a PIELIB in CMS 2-16

(This page intentionally left blank.)

Introduction

EZ/KEY uses PIE -- the Pansophic Interactive Environment. The Library System used by EZ/KEY is a component of PIE. Use of this Library System is defined and controlled by the EZ/KEY Systems Administrator.

The PIE Library System provides an environment-independent facility for the storage and retrieval of data. It shields users from the complexities and intricacies of the various file systems and access methods in VM, MVS, and VSE.

This section describes the external, user-oriented interface and the internal, system-oriented facilities necessary to provide the user interface.

Library User Interface

To EZ/KEY users, all libraries look alike. They see numerous libraries that contain one or more members. In general, users of EZ/KEY are concerned only with libraries and members in libraries. Each USERID known to EZ/KEY must have a library whose name is the same as the USERID.

Library-Name

A library is identified by a library-name. A library-name is any sequence of up to 8 nonblank characters that does not contain a period ("."), a slash ("/"), or an equal sign ("=").

Member-Id

Each member within a library is identified by a member-id consisting of three components:

member-name member-type member-version

Except where required to resolve ambiguities, the member-id is usually specified as:

member-name type version

Member-Name

Member-name is any combination of up to 8 nonblank characters that does not contain a period ("."), a slash ("/"), or an equal sign ("=").

Member-Type

Member-type is any combination of up to 8 nonblank characters that does not include a period ("."), a slash ("/"), or an equal sign ("=").

EZ/KEY provides special processing for members with the following member-types:

- CATALOG - Describes libraries in a LIBSPACE
- CONNECT - Describes LIBSPACEs connected to this system
- EZT - EASYTRIEVE PLUS source program
- EZTFILE - EASYTRIEVE PLUS model file definition
- EZTJOB - EASYTRIEVE PLUS model job definition
- EZTLIB - EASYTRIEVE PLUS model library definition
- EZTMACRO - EASYTRIEVE PLUS macro definition
- EZTRPT - EASYTRIEVE PLUS model report definition
- EZTSORT - EASYTRIEVE PLUS model sort definition
- GRPDESC - EZ/REPORT library description
- INDEX - Describes members in a library
- JCL - Job Control Language statements
- LIBCHAIN - Describes which libraries are enabled
- LOG - Contains screen-print images
- MESSAGES - Contains EZ/KEY messages
- PANELOBJ - Contains EZ/KEY panels in compiled form
- REPORT - EZ/REPORT report definition
- VERIFY - Results of verifying a LIBSPACE
- VPROFILE - Contains user profile variables

Although you may assign any member-type to members that you create or rename, you must ensure that the member contains information that is meaningful for the above types. Operations which use these types do not execute successfully when the contents of the member are not in the expected format.

Member-Version

Member-version is a three digit identifier between 000 and 999.

Leading zeros are automatically prefixed to the version if you specify only one or two digits.

At this time, 000 is the only member-version that is automatically processed by the PIE Library System. You can RENAME, COPY, or MOVE a member to create a numeric version other than 000. For example, both of the members "MAKEREPT EZT 000" and "MAKEREPT EZT 013" can reside in the same library; however, EZ/KEY automatically accesses only "MAKEREPT EZT 000".

Member-Status

A status is associated with each member. Normally, status is blank. A nonblank status implies special processing for a member. The only special processing supported at this time is:

D - Disabled
+ A - Archive

Future versions of PIE will support the status of:

+ P - Production

Library Index Member

Each library contains a special member whose member-id is:

library-name INDEX 000

This index member contains the member-id of every member in the library (including the index member itself).

Library Access

When a new USERID is defined, the System Administrator can specify the libraries that are "enabled" for that USERID; only these libraries are searched to satisfy a user request for a member.

The libraries enabled for a USERID are listed above the line on the Library Utility panel, PROULLG (option 3.2). Any of the libraries listed below the line can optionally be enabled by each user.

Library Access Rights

The System Administrator can establish the access rights of each USERID to a library. The currently supported access rights are:

USE	(can only retrieve panels or messages)
READ	(can read, but not update, members)
WRITE	(can update, but not create or delete members)
CREATE	(can create and delete members)

Library System Interface

At the system level, the PIE Library System appears as a number of LIBSPACEs that contain one or more libraries. The format and organization of a LIBSPACE depends upon the file structures available in the various operating systems. In general, EZ/KEY is insulated from the different types of LIBSPACEs.

LIBSPACEs whose type is PIEBDAM or PIEVSAM are PIELIBs. All other LIBSPACEs are "external" LIBSPACEs that are native to the environment.

LIBSPACE Name

A LIBSPACE is identified by a LIBSPACE-name. A LIBSPACE-name can be up to 8 characters long. The first character must be alphabetic or a national character ($, @, #). The remaining characters can be alphabetic, national, or numeric (0 through 9).

You may want to limit LIBSPACE-names to at most seven characters if the name may eventually be used as a CICS/DOS/VSE FCT name or as the name of a VSE DLBL.

PIELIB LIBSPACE

A LIBSPACE whose LIBSPACE-type is PIEVSAM or PIEBDAM is known as a PIELIB.

A PIELIB can contain one or more libraries. PIELIBs are allocated in blocks whose size can be from 505 to 4096 bytes. All libraries in a PIELIB have the same blocksize. Individual members within a library (and individual records within a member) can have logical record lengths between 1 and the blocksize of the LIBSPACE minus 10, i.e.:

$$1 <= LRECL <= (BLKSIZE - 10).$$

External LIBSPACE

External LIBSPACEs are file organizations native to the operating system (VM, MVS, VSE) in which EZ/KEY is operating. External LIBSPACEs are functionally equivalent to PIE libraries. A major difference is that PIELIBs may contain many libraries, but external LIBSPACEs contain only one library.

External TSO or CMS LIBSPACEs

A special LIBSPACE named "TSO" or "CMS" is associated with each TSO or CMS USERID.

The TSO LIBSPACE provides read/write access to all sequential MVS datasets cataloged with names of the form "prefix.member-name.member-type", where "prefix" is the TSO user's PROFILE PREFIX or the USERID if PROFILE NOPREFIX is in effect. The prefix may be modified in the EZ/KEY CLIST, depending on the installation's security requirements (RACF or ACF2) and dataset naming conventions. For example, many installations require TSO users to use dataset names of the form "groupid.userid.name1.name2". This may be accomplished by tailoring the EZ/KEY CLIST. EZ/KEY dynamically allocates these sequential datasets.

The CMS LIBSPACE provides read/write access to all CMS files on your "A" disk; EZ/KEY treats the CMS "filename filetype" as "member-name member-type 000".

LIBSPACE-library

A special library is associated with each PIELIB LIBSPACE. The name of this library is the same as the LIBSPACE name.

The LIBSPACE-library contains the following members:

```
ls-name CONNECT  000
ls-name LIBCHAIN 000
ls-name CATALOG  000
ls-name INDEX    000
ls-name VERIFY   000
```

where "ls-name" is the same name as the LIBSPACE.

CONNECT member

The CONNECT member in a LIBSPACE-library contains a record for each LIBSPACE "connected" to this USERID.

Since the USERID libraries for all CICS users are normally shared in one of several large PIELIB LIBSPACEs, CICS users can access the LIBSPACEs listed in the "SYSTEM@CONNECT@000" member in the SYSTEM PIELIB.

CMS and TSO users normally have a personal PIELIB LIBSPACE. Thus they can access LIBSPACEs listed in the "userid CONNECT 000" member in their USERID PIELIB.

LIBCHAIN member

The LIBCHAIN member in the USERID-library for each USERID contains a record for each library currently enabled for the USERID. The names of the libraries in the LIBCHAIN member are listed above the line on the Library Utility panel, PROULLG (option 3.2).

CATALOG member

The CATALOG member in a LIBSPACE-library contains a record for each library in the LIBSPACE. Among the information in each record is:

- USERID who created the library
- date and time the library was created
- USERID, date, time when the library was most recently enabled with "write" or "create" access rights
- number of members in the library
- number of data bytes now in use
- number of system "header" bytes now in use
- total number of bytes now used in the library (TOTAL = Data + Header)
- number of "free" bytes in the library
- maximum allowable number of bytes in the library (MAX = Data + Header + Free)

A CATALOG member cannot be edited.

VERIFY member

The VERIFY member contains information about the most recent verify operation performed for the LIBSPACE. (See the VERIFY action of the LIBSPACE Utility in the next section.) VERIFY validates the internal integrity of a PIELIB LIBSPACE. Internal pointers to all blocks in the LIBSPACE are checked for consistency. You can edit or print the VERIFY member to review the result of the verify operation. Exhibit 2.1 illustrates a sample VERIFY member:

```
LIBSPACE NAME = userid        DATE = 04/29/88              TIME = 11:33:06
CATALOG  NAME = userid     RELEASE =        1            BLKSIZE =     1024
Free block used by member at Block #        26
Library name   = userid
Member name,type = userid  VERIFY


BLOCK COUNTS
   MASTER    =     1
   BITMAP    =     1
   CATALOG   =     1
   INDEX     =     1
   STATISTIC =    22
   MEMBER    =     9
   FREE      =    66
   MISSING   =    -1
   TOTAL     =   100

MEMBER COUNTS
   CATALOG   =     1
   INDEX     =     1
   DATA      =    20
   TOTAL     =    22

ERROR COUNTS
   BLOCK PTRS > LIBSPACE BLOCKS =     0
   BLOCK PTRS > USABLE BLOCKS   =     0
   DUPLICATE ALLOCATED BLOCKS   =     0
   LOOPS IN BITMAP MEMBER       =     0
   LOOPS IN LIBSPACE CATALOG    =     0
   LOOPS IN LIBRARY INDEX       =     0
   LOOPS IN MEMBERS             =     0
   BLOCKS FREE, BUT MARKED ALLOC=     0
   BLOCKS ALLOC, BUT MARKED FREE=     1
   BLOCKS WITH BAD RECORDS      =     0
   TOTAL BLOCKS WITH ERRORS     =     1

LIBSPACE VERIFY COMPLETE

    BLOCKS RECOVERED IN BITMAP =     0

    BLOCKS ALLOCATED IN BITMAP =     1

LIBSPACE FIXUP COMPLETE
```

Exhibit 2.1: Sample VERIFY Member

If any errors are detected, you may need to create a new PIELIB and copy all of the members in the damaged PIELIB to it, or restore the PIELIB from a backup. Refer to the section "Backup and Restore Functions" in this manual for details.

The VERIFY utility recovers lost blocks while performing verification. If any blocks are recovered, messages are displayed at the end of the VERIFY member (as shown above) that identify the number of recovered blocks. These messages are then followed by the message "LIBSPACE FIXUP COMPLETE".

INDEX member

An index is a directory of members in a library. The INDEX member contains one record for each member in the library. For a LIBSPACE-library, the INDEX member contains records that describe the CONNECT, LIBCHAIN, CATALOG, VERIFY, and INDEX members. (The member named "USERID INDEX 000" also contains a record for each member in the user's personal library.) For other libraries in a PIELIB, the INDEX member contains as many records as there are members in the library (including the INDEX member).

In addition to the member-name, type, version, and status, the index entry for each member also contains the:

- USERID, date, time member was created
- USERID, date, time member was last opened for update
- USERID, date, time member was last opened for read-only access
- current number of records in the member
- length of an optional user information record (zero if no user information record is present)
- length of longest record in the member

An INDEX member cannot be edited.

LIBSPACE TYPE

The supported types of LIBSPACEs are:

PIELIB LIBSPACEs

PIEBDAM	direct access
PIEVSAM	VSAM RRDS

External LIBSPACEs

CMSMAC	CMS MACLIBs (R/O)
EZTMAC	EASYTRIEVE PLUS VSAM KSDS MACLIBs (R/O)
MINIDISK	CMS minidisks (R/W)
PANVALET	PANVALET library (R/O)
PDS	OS partitioned dataset (R/O)
SEQ	OS sequential dataset (R/W)

PIEBDAM and PIEVSAM

LIBSPACEs with a LIBSPACE-type of either PIEBDAM or PIEVSAM (i.e., PIELIBs) are custom library structures that were developed specifically for EZ/KEY. Their logical structure is identical; the only difference is that BDAM accesses PIEBDAM LIBSPACEs and VSAM accesses PIEVSAM LIBSPACEs. Under CMS, native CMS I/O facilities of the CMS file system access PIEBDAM LIBSPACEs on a CMS minidisk. A PIEBDAM or PIEVSAM LIBSPACE may contain multiple libraries; all other external LIBSPACE types contain only one library.

CMSMAC

A CMS MACLIB on a CMS minidisk can be accessed as read-only. The member-type is ignored when searching a MACLIB directory; the member is found if the member-name is in the directory (regardless of the EZ/KEY member-type being sought).

EZTMAC

EZTMAC is a custom library structure provided with the EASYTRIEVE PLUS system. An EZTMAC library can be accessed as read-only. The member-type is ignored when searching an EZTMAC library.

MINIDISK

A VM/CMS minidisk can be accessed as read/write. The EZ/KEY member-name and member-type become the CMS file-name and file-type.

PANVALET

A PANVALET library can be accessed as read-only. PANVALET is supported only for MVS/TSO, CICS/OS/VS, and CICS/DOS/VSE. PANVALET is a custom library structure provided by Pansophic for controlling source modules in the MVS and VSE operating systems environments. EZ/KEY can process only those PANVALET member names that contain between 1 and 8 characters (9 and 10 character PANVALET member names cannot be "found" by EZ/KEY).

A member-type must be specified when accessing a PANVALET library since the member-type may be needed while searching other enabled libraries that are not PANVALET libraries. The member-type, however, is ignored when searching a PANVALET directory; the member is found if the member-name is in the PANVALET directory (regardless of the EZ/KEY member-type being sought).

PANVALET status is treated by EZ/KEY as follows:

PANVALET Status	PANVALET Meaning	EZ/KEY Status	EZ/KEY Meaning
P	Production	P	Production
T	Test		Active/Enabled
A	Active		Active/Enabled
I	Inactive	A	Archive
E	Enabled		Active/Enabled
D	Disabled	D	Disabled

PDS

A Partitioned Data Set (PDS) can be accessed as read-only. PDSs are supported only for MVS/TSO, CICS/OS/VS, and VM/CMS. PDSs may be fixed or fixed blocked, variable or variable blocked, or undefined length. A member-type must be specified when accessing a PDS since the member-type may be needed while searching other enabled libraries that are not PDSs. The member-type, however, is ignored when searching a PDS directory; the member is found if the member-name is in the PDS directory (regardless of the EZ/KEY member-type being sought).

SEQ

A sequential file can be accessed as read/write. Sequential files are supported only for MVS/TSO. The member-type must be specified; it corresponds to the third component of the dataset name prefix.member-name.member-type for the sequential file.

Sharing PIELIBs

PIELIBs that are CONNECTED with READ access rights can be concurrently accessed by multiple EZ/KEY systems operating on one or more CPUs. No more than one EZ/KEY system or user should ever access a PIELIB with WRITE or CREATE access rights. PIELIBs are NOT protected from multiple updates from different EZ/KEY systems or users.

Sharing a PIELIB in a Single Environment

To allow all EZ/KEY users to access common information, you can create and CONNECT a new PIELIB.

To create a new library as a COMMON PIELIB:

1. Use option 3.a.3 to FORMAT and CONNECT the COMMON LIBSPACE with CREATE access rights.

2. Use option 3.3 or 3.4 to copy data into the new library.

Individual EZ/KEY users can use option 3.2 to ENABLE the newly-created library.

In general, don't modify SYSTEM PIELIB. Your modifications will be replaced when a new release of EZ/KEY is installed.

Sharing a PIELIB between TSO and CICS/OS/VS

A PIELIB can be shared between EZ/KEY systems operating under TSO and CICS/OS/VS as long as only one of the environments has WRITE or CREATE access to the PIELIB. For example, you can create a new LIBSPACE named COMMON PIELIB and CONNECT it to your CICS EZ/KEY system with READ access rights. Multiple TSO users of EZ/KEY could also CONNECT to COMMON PIELIB with READ access rights. One (and only one) TSO user could CONNECT to COMMON PIELIB with WRITE or CREATE access rights. This TSO user can copy data from sequential TSO datasets or from Partitioned Datasets into COMMON PIELIB. Other EZ/KEY users could then read the data contained in COMMON PIELIB.

Sharing a PIELIB between CMS and TSO or CICS/VS

A PIELIB can be shared between EZ/KEY systems operating under CMS and TSO or CICS/VS as follows. The PIELIB must be a VSAM PIELIB. CMS EZ/KEY can access VSAM PIELIBs with READ access only. TSO or CICS users can create or modify members in any library within the VSAM PIELIB through EZ/KEY. CMS EZ/KEY users can copy members from any library within the VSAM PIELIB, and can use macros and programs stored in any enabled library within the VSAM PIELIB.

Sharing a PIELIB in CMS

If one EZ/KEY user is updating a PIELIB on a CMS minidisk while other users are reading from the PIELIB, the blocksize of the PIELIB must be the same as the minidisk.

To set up a PIELIB to be shared in a VM/CMS environment:

- Use a CP write password to protect the minidisk on which the shared PIELIB will reside. Do not specify a "multi-write" password for this minidisk in the VM directory.

- Define the minidisk to the userid that will create and maintain the PIELIB by placing a LINK in the user's directory entry.

- Have that userid logon, access the shared minidisk R/W, and invoke EZ/KEY. Use Utility 3.a.3 to format the new PIELIB. Specify CREATE access. To allow update-in-place, be sure to specify the same blocksize for the PIELIB as the blocksize of the CMS minidisk on which it resides.

Other users can link to and access the minidisk read/only. They may connect to this PIELIB only with READ access.

SECTION 3: SPECIAL UTILITIES

Introduction 3-1
Exhibit 3.1: Utility Menu - PROUTL 3-1
System Administrator Utility Menu 3-2
Exhibit 3.2: System Administrator Utility Menu - PROUSA 3-2
SHOW Command 3-5
Test Mode 3-5
Exhibit 3.3: PIE Test Mode Selection - PROMODE . . . 3-5

USERID/Library Utility 3-7
Exhibit 3.4: USERID Utility - PROULUG 3-7
Archive 3-8
Delete 3-8
Disable 3-8
Enable 3-9
Logoff (CICS only) 3-9
NewUser 3-10
Rename 3-10
Select 3-10

LIBSPACE Utility 3-11
Exhibit 3.5: LIBSPACE Utility - PROULVG 3-11
Disable 3-12
Drop 3-12
Enable 3-12
Usage 3-13
Verify 3-13

PIELIB Connect or Format Utility 3-14
Exhibit 3.6: PIELIB LIBSPACE Utility - PROULVF . . . 3-14
LIBSPACE Name 3-15
LIBSPACE Type 3-15
Access Rights 3-16
External Name 3-17
Format 3-20
Exhibit 3.7: PIELIB LIBSPACE Utility - PROULVF1 . . 3-20
Number of Blocks 3-21
Size of Each Block 3-21

External LIBSPACE Connect Utility 3-23
Exhibit 3.8: External LIBSPACE Utility - PROULVC . . 3-23
LIBSPACE Name 3-24
LIBSPACE Type 3-24
Access Rights 3-25
External Name 3-26
External Password 3-30
TSO Sequential LIBSPACE Example 3-31

System Reconnect Utility (CICS Only) 3-31
Exhibit 3.9: System Reconnect Utility - PROULIN . . 3-31
CICS Reconnect Procedures 3-32
Reinstallation Procedures 3-33
Exhibit 3.10: COPY/MOVE Member Utility - PROULCM . . 3-33
Exhibit 3.11: USERID Utility - PROULUG 3-34
Exhibit 3.12: PIELIB LIBSPACE Utility - PROULVF . . 3-35
Exhibit 3.13: System Reconnect Utility - PROULIN . . 3-36
Exhibit 3.14: LIBSPACE Utility - PROULVG 3-37

CICS/VS Recovery Procedures 3-38
EZKT Transaction 3-38

Tuning Parameters 3-39
Exhibit 3.15: User Tuning Parameters - PROULTPU . . 3-39
Exhibit 3.16: System Tuning Parameters - PROULTPS . 3-40
Incremental Checking 3-40
Maximum Number of Error Messages 3-41
PANVALET Module Name 3-42
Foreground Execution 3-42
Background Submission 3-43
Confirm Delete 3-44
Report Processing Facility 3-44
Report Administrator Authority 3-45
Utility Password 3-45
System Administrator Password 3-45
Report Administrator Password 3-45
Execute Conversational (CICS only) 3-46
Proceed to Data Base System Defaults Panel 3-46
Exhibit 3.17: Data Base Default Parameters - PROULTPB 3-46
SQL/DS and DB2 Parameters 3-46
IDMS Parameters 3-47

Site Options 3-48
Introduction 3-48

Accessing and Exiting the Site Options Facility 3-49

Common Option Fields 3-50
Maximum Memory Size 3-50
Program Cache 3-50
Panel Cache 3-51

CMS Site Options Panel 3-52
Exhibit 3.18: CMS Site Options Panel 3-52
Gaining Write Access 3-52
Panel Fields 3-53
Maximum Memory Size 3-53
New Private Library - Number of Blocks 3-53

CICS Site Options Panel 3-54
Exhibit 3.19: CICS Site Options Panel 3-54
Panel Fields 3-54
Maximum Memory Size 3-54
Temp Storage 3-54

TSO Site Options Panel 3-56
Exhibit 3.20: TSO Site Options Panel 3-56
Panel Fields 3-56
Maximum Memory Size 3-56
New Private Library - Blocksize 3-57

(This page intentionally left blank.)

Introduction

Additional utility functions are performed by the System Administrator that are not available to ordinary EZ/KEY users. These functions are accessed using a menu selection from the Utility Menu panel (PROUTL).

Select the System Administrator utilities by entering option "a" on the Utility Menu.

The System Administrator password is initialized to "EZ/KEY". Users do not have to specify a password until the System Administrator sets a new one. Once the password is changed, the first time each user invokes the System Administrator Utility menu he or she must specify the new password. The new password is then "remembered" in the users' profile and need be respecified only when it is changed again.

```
PROUTL   ------------------------ Utility Menu ------------------- EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Members in Your userid   Library
                  2   Enable/Disable/Select Libraries
                  3   Copy/Move Individual Members To/From Libraries
                  4   Multiple Member Processing Menu

                  A   System Administrator Menu
                  R   Report Administrator Menu









Press END (PF3)  to return to the previous panel.
```

Exhibit 3.1: Utility Menu - PROUTL

System Administrator Utility Menu

The System Administrator Utility Menu lists the functions that can be performed with this facility.

```
PROUSA   -------------  System Administrator Utility Menu  ---------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain USERIDs and Libraries
                  2   Maintain LIBSPACES
                  3   Connect or Format a PIELIB LIBSPACE
                  4   Connect an External LIBSPACE
                  5   System Reconnect       (CICS only)
                  6   User Tuning Parameters
                  7   System Tuning Parameters

                  S   Site Options




Press END (PF3)  to return to the previous panel.
```

Exhibit 3.2: System Administrator Utility Menu - PROUSA

The System Administrator utilities provide seven functions, represented by the seven options on the System Administrator Utility Menu.

The seven functions on the System Administrator Utility Menu are:

1. Maintain USERIDs and Libraries.

   - List the names of all USERIDs and all libraries. In TSO and CMS, only the libraries you are connected to are displayed.
   - Delete, rename, disable, enable, archive, and create USERIDs and libraries.
   - Force the logoff of an EZ/KEY user under CICS.

2. Maintain LIBSPACEs.

   - List the names of all LIBSPACES.
   - Enable or Disable a LIBSPACE.
   - Drop a LIBSPACE (remove the LIBSPACE from EZ/KEY).
   - Display the percentage of space used on a LIBSPACE.
   - Verify the internal integrity of a PIELIB LIBSPACE.

3. Connect a PIELIB LIBSPACE.

   - Connect an existing PIELIB LIBSPACE for access by EZ/KEY.
   - Reformat an existing PIELIB LIBSPACE.
   - Format a new PIELIB LIBSPACE.

4. Connect an external LIBSPACE.

   - Connect an existing external LIBSPACE for access by EZ/KEY.

5. System Reconnect (CICS only)

   - Re-establish the CONNECTs to PIELIBs and external LIBSPACEs after a new release of the SYSTEM PIELIB is installed.

6. User Tuning Parameters

   - For specific users, establish whether to invoke Incremental Checking, whether or not Confirm Delete is enabled, the maximum number of messages inserted by EZ/checker, and allow/inhibit foreground and/or background execution and allow/inhibit use of the report processing facility. SQL and IDMS default values can be specified on this panel.

7. System Tuning Parameters

   - For all users, establish the same parameters as described in function 6. In addition, you can change the System Administrator, the Report Administrator, and utility passwords from this panel. The PANVALET Interface module name can be specified on this panel (TSO and CICS only). This panel permits you to display the Data Base System Defaults panel, where you can specify SQL and IDMS system-wide default values.

S. Site Options

   - The System Administrator can establish certain options that control the way EZ/KEY operates. Which options the System Administrator can set depends on the environment that EZ/KEY is running under. For all environments, the size of the program and panel caches can be specified. For CMS and TSO, the defaults to use for a new private library can be specified. For CICS, a Temporary Storage prefix and Blocksize can be specified.

The System Administrator can also restore individual members from a backup copy of a PIELIB LIBSPACE using a combination of the Utility Functions. Procedures for accomplishing this function are provided in detail later in this manual.

SHOW Command

You can request several actions at the same time on utility panels that have an ACTION/RESULT column on the left hand side of the panel. You can enter any combination of the actions shown at the bottom of the panel. The actions are processed in sequence from top to bottom. When the requested action has been processed, the result of the action replaces the action request. In most cases, the result can be overtyped to request another action for the same line of the panel. To "clear" the ACTION/RESULT column, you can issue the SHOW command. Move the cursor to the COMMAND line, type SHOW, and press ENTER or press a PF key previously assigned to the SHOW command.

(This page intentionally left blank.)

SHOW refreshes or "brings the display up-to-date" by redisplaying the panel after removing all of the displayed results. This is equivalent to exiting from and reinvoking the panel.

Test Mode

Normally, EZ/KEY does not allow a user to use Utility 3.2 to insert a library in front of the USERID library. EZ/KEY always saves information (such as a member that is being edited) into the first enabled library.

As System Administrator, you can re-arrange the list of enabled libraries in any order by placing EZ/KEY in test mode.

This is done from any place in EZ/KEY by positioning the cursor on the COMMAND line and entering "=*". This displays the following panel.

```
PROMODE ---------------  EZ/KEY Test Mode Selection  -------------- EZ/KEY
COMMAND ==>                                                USERID: userid
                                                           TIME  : 10:51:16
                                                           DATE  : 06/06/88
SELECT MODE ==>  TEST      (null, TEST)


  This panel allows you to place the EZ/KEY system into test mode.
  In test mode, certain features of the system are allowed.

  The most apparent feature is that you can place any library
  first on panel PROULLG (option 3.2).   Normally, your library
  must be first.


  WARNING...  WARNING...

    Do not set mode to TEST unless you know what you are doing!




Press ENTER to return to the Primary Selection Menu.
```

Exhibit 3.3: PIE Test Mode Selection - PROMODE

As illustrated above, enter "TEST" in the SELECT MODE field and press ENTER. You may then return to PROULLG (enter "=3.2" on the COMMAND line) and arrange the sequence of libraries in whatever order you need to accomplish some special purpose.

When you finish the task that required changing the order of the enabled list, return to Utility 3.2 and move your USERID library to the top of the list; then return to panel PROMODE by entering "=*" on the COMMAND line, and clear the SELECT MODE field.

If you are going to exit EZ/KEY right after finishing the task for which you rearranged the enabled list, you do not need to go back to panel PROULLG; simply return to PROMODE and clear the SELECT MODE field. The next time you sign on to EZ/KEY, your USERID library is automatically placed first in the enabled list.

USERID/Library Utility

Option 1 of the System Administrator Utility Menu displays the names of userids, libraries, and/or LIBSPACES known to EZ/KEY. The environment under which EZ/KEY is operating determines whether or not userids, libraries, and LIBSPACES are displayed, and which libraries and LIBSPACEs are displayed. In CMS and TSO, only those libraries and LIBSPACEs you are currently CONNECTed to are displayed. In CICS, all userids, libraries, and LIBSPACEs known to EZ/KEY are displayed. You can scroll up and down this list to see all of the entries:

```
PROULUG ---------------------- USERID Utility ------------------------ EZ/KEY
COMMAND ==>                                                SCROLL==> P


   ACTION       USERID    LIBSPACE       CREATE      ---- UPDATE ----    LOGON
   RESULT      (Libname)  NAME     STAT  DATE        DATE       TIME      TIME


               sysadmin   sysadmin       08/09/83    11/27/84   09:13:05  09:13:04
               EXAMPLE    EXAMPLE        04/19/84    04/19/84   15:22:25  -  -  -
               SYSTEM     SYSTEM         11/01/84    11/26/84   09:25:38  -  -  -
               OBJECT     SYSTEM         11/01/84    11/26/84   09:25:38  -  -  -









ACTIONS==> AR Archive   DE Delete    DI Disable   EN Enable
       ==> LO Logoff    NU NewUser   RE Rename    S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.4: USERID Utility - PROULUG

You can spell out the name of the action you want or you can abbreviate it as shown on the bottom of the panel. You may enter an action on more than one line before you press ENTER. The actions are processed in sequence from top to bottom of the list.

The LIBSPACEs are listed in the sequence in which they are connected to EZ/KEY. If there are multiple USERID/libraries within a LIBSPACE, their names are listed in alphabetical sequence.

(This page intentionally left blank.)

Archive

ARCHIVE marks a USERID/library that you want removed from the LIBSPACE and stored away. When this action is processed, the word ARCHIVED is displayed in the result field. The next time you list the libraries or issue the SHOW command, the USERID/library marked for archival is tagged with an "A" in the STAT field. A library marked for archival is inaccessible just like a disabled library. The library whose name is the same as its LIBSPACE cannot be archived. If you change your mind before the library is actually removed, you can Enable the library to remove it from archive status.

Libraries marked as Archive should be moved to tape on a regular basis. A utility to perform this function is not yet available.

Delete

DELETE erases the USERID or Library from the LIBSPACE. This action is irrevocable -- once a USERID/library is deleted, it cannot be recovered. (A revocable method of removal is the Disable action -- see below). Once deleted, the USERID/library name is highlighted and the word DELETED is displayed in the result field. You can't type over DELETED. This provides visibility for deleted libraries and prevents other actions from being attempted on a nonexistant library. The next time you list the libraries or issue the SHOW command, the deleted library is gone. The library whose name is the same as its LIBSPACE cannot be deleted (because it contains the special member "ls-name CATALOG 000" that contains the names of all other libraries in the LIBSPACE).

Disable

DISABLE is a good way to temporarily put a USERID or library out of action. The disabled USERID or library is considered "unavailable" until this action is revoked with ENABLE. A disabled USERID cannot logon to EZ/KEY.

A disabled USERID/library remains in the LIBSPACE but is inaccessible. When the action is processed, DISABLED appears in the result field. The next time you list the USERIDs/libraries or issue the SHOW command, the disabled USERID/library is flagged with a "D" in the STAT field. The library whose name is the same as its LIBSPACE cannot be disabled.

Enable

ENABLE reverses DISABLE -- the USERID/library becomes accessible. The word ENABLED is displayed in the result field, but the "D" in the STAT field does not go away until the next time you list the libraries or until you issue a SHOW command.

ENABLE also reverses ARCHIVE -- the USERID/library becomes accessible and the "A" goes away on the next library list.

Logoff (CICS only)

LOGOFF unconditionally forces the USERID off of an EZ/KEY system running under CICS. The results of the forced logoff are not necessarily predictable.

The word FORCED is displayed in the result field. The next time you list the USERIDs or issue the SHOW command, the result field is blank.

Users are automatically removed from the active table during normal termination. However, since EZ/KEY does not complete termination until all users are removed from the active table, the System Administrator should "logoff" any user who terminates abnormally.

This action prevents display of the message "User already signed on to EZ/KEY" when an abnormally-terminated user tries to re-enter an EZ/KEY transaction.

During the normal execution of EZ/KEY, some storage is allocated globally to all users (e.g., the active userid table). If the global storage must be released, first use option 3.a.1 to verify that no users are currently "logged on" to EZ/KEY. After exiting EZ/KEY, enter the special transaction "EZKEY TERMALL#". After EZ/KEY releases the global storage, it displays the message "EZ/KEY is now removed".

NewUser

The basic function of NEWUSER is to define a new library within a PIELIB LIBSPACE. For CICS, this action allows someone to logon to EZ/KEY with a USERID that is the same as the new library name.

Enter NEWUSER in the action field, the new USERID/library-name in the USERID/LIBNAME field, and the name of the LIBSPACE in the LIBSPACE NAME field. The new USERID/library-name must be unique within the EZ/KEY system.

The NEWUSER action is valid only on the first line of the panel (this line is initially blank). When the new USERID and library have been defined, the word CREATED is displayed in the result field. Overtype the USERID/LIBNAME (and, if necessary, the LIBSPACE NAME) fields on the first line to create additional USERIDs/libraries. The next time you list the libraries or issue the SHOW command, the created entries will be displayed in the proper sequence.

Rename

RENAME assigns a new name to the USERID/library. Enter RENAME in the action field and the new USERID or library name in the USERID/LIBNAME field. The new USERID/library must be unique within the EZ/KEY system.

The word RENAMED is displayed in the result field and the new name of the USERID/library appears on the same line (rather than being moved to the proper collating sequence.) The next time you list the libraries or issue the SHOW command, the renamed USERID/library will appear in the proper sequence.

Select

SELECT transfers to the MEMBER Utility and displays a list of the members of the selected library.

LIBSPACE Utility

Option 2 of the System Administrator Utility Menu displays the names of all LIBSPACEs connected to EZ/KEY.

```
PROULVG  -------------------- LIBSPACE Utility ----------------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P


  ACTION      LIBSPACE          LIBSPACE    ACCESS     EXTERNAL
  RESULT      NAME        STAT  TYPE        RIGHTS     NAME

              STUDENT           PIEBDAM     CREATE     STUDENT PIELIB  *
              SYSTEM            PIEBDAM     READ       SYSTEM  PIELIB  *
              SOURCE2           PIEBDAM     CREATE     SOURCE2 PIELIB  *
              EXAMPLE           PIEBDAM     READ       EXAMPLE PIELIB  *
              SYS2041           PIEBDAM     CREATE     SYS2041 PIELIB  *
              CMS               MINIDISK    CREATE     *       *       A1









ACTIONS==> DR DROP   U USAGE   V VERIFY
Press END (PF3) to return to the previous panel.
```

Exhibit 3.5: LIBSPACE Utility - PROULVG

You can spell out the name of the action you want or you can abbreviate it as shown on the bottom of the screen. You may enter an action on more than one line before pressing ENTER. The actions are processed in sequence from top to bottom of the list. The LIBSPACEs are listed in the sequence in which they are connected to EZ/KEY.

Disable

+ DISABLE makes a LIBSPACE (and all of its USERIDs and libraries) temporarily inaccessible to EZ/KEY. The affected libraries and their members cannot be found until the LIBSPACE is enabled. Until they logoff, the affected USERIDs can SAVE into their own library and can continue to access libraries in other LIBSPACEs. Once the disabled USERIDs logoff, they are unable to logon again until the LIBSPACE is ENABLEd.

+ When the action is processed, DISABLED is displayed in the result field. The next time you list the LIBSPACEs or issue the SHOW command, the disabled LIBSPACE is flagged with a "D" in the STAT field.

+ You cannot DISABLE the USERID/library/LIBSPACE that you are currently using nor can you DISABLE the SYSTEM PIELIB.

Drop

DROP removes a LIBSPACE from the EZ/KEY system. A dropped LIBSPACE is not deleted or erased but EZ/KEY is no longer aware of it. All data in the LIBSPACE becomes inaccessible. You can reconnect a LIBSPACE with Options 3 or 4 (LIBSPACE ENABLE) of the System Administrator Utility Menu.

When the DROP action is processed, the word DROPPED appears in the result field. The next time you list the LIBSPACEs or issue the SHOW command, the dropped LIBSPACE is gone.

You cannot DROP a LIBSPACE that contains any LIBRARY that is currently enabled. If you want to DROP an enabled LIBSPACE, you must first use Utility 3.2 to DISABLE it, then return to 3.a.2 and DROP it.

Enable

+ ENABLE reverses DISABLE -- the LIBSPACE becomes accessible. The word ENABLED appears in the result field, but the "D" in the STAT field does not go away until the next time you list the LIBSPACEs or issue the SHOW command.

+ ENABLE also reverses ARCHIVE -- the "A" goes away on the next LIBSPACE list or SHOW command.

Usage

USAGE displays the percentage of space being used in a PIELIB LIBSPACE. The usage is reported as "xxx% FULL", where "xxx" represents the percent of the space being used versus the total space allocated for the LIBSPACE. If usage is requested for an external LIBSPACE, "N/A" is displayed.

Verify

VERIFY validates the internal integrity of a PIELIB LIBSPACE. Internal pointers to all blocks in the LIBSPACE are checked for consistency. The results of the VERIFY operation are written into the member named "LIBSPACE-name VERIFY 000" in the first library you have enabled (the library must be accessed as WRITE or CREATE).

EZ/KEY displays "VERIFIED" in the result field if no errors are detected during the VERIFY operation. EZ/KEY displays "nnn FIXUPS" in the result field if the VERIFY operation recovers data blocks where "nnn" is the number of recovered blocks. Otherwise, EZ/KEY displays "nnn ERRORS" to alert you that the internal structure of the LIBSPACE may not be correct. "nnn" is the number of errors.

You can receive the ERRORS message if you verify a LIBSPACE while others are updating it. To prevent such errors, verify a LIBSPACE only when no other users are updating it.

When you do receive the ERRORS message, type "V" to verify the LIBSPACE again. If EZ/KEY displays the ERRORS message a second time, either move any members you want to save to another LIBSPACE and recreate the LIBSPACE, or restore the LIBSPACE from a backup copy. See Section 5, "Backup and Restore Functions", for instructions on how to do this.

You can edit or print the VERIFY member to review the result of the VERIFY operation. Based on the information in the verify member, you may need to restore the LIBSPACE from a backup copy.

See Exhibit 2.1 in Section 2 for an example VERIFY member.

PIELIB Connect or Format Utility

Option 3 on the System Administrator Utility Menu connects, enables, and/or formats a PIELIB LIBSPACE (the LIBSPACE type must be PIEVSAM or PIEBDAM). Connecting a LIBSPACE makes it accessible to EZ/KEY. To disconnect a LIBSPACE, use the DROP action of Option 3.a.2.

```
PROULVF ------------------ PIELIB LIBSPACE Utility ----------------- EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Connect

           LIBSPACE Name  ==>

           LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

          (Access Rights) ==>           (USE, READ, WRITE, CREATE)

          (External Name) ==>
                                        (Fname Ftype Fmode, DDname)  (CMS)
                                        (DDname)                     (TSO)
                                        (FCTname)                    (CICS)

                 (Format) ==> NO        (NO, YES)




Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 3.6: PIELIB LIBSPACE Utility - PROULVF

LIBSPACE Name

Enter the name by which you want EZ/KEY to reference the PIELIB LIBSPACE. The LIBSPACE name must be unique within all LIBSPACEs connected to EZ/KEY.

LIBSPACE Type

Enter PIEVSAM or PIEBDAM. The following PIELIB LIBSPACE types and access rights are available in the respective environments:

System	LIBSPACE Type	Access Rights
CMS	PIEBDAM	Read Write Create
	PIEVSAM	Read - -
TSO	PIEBDAM	Read Write Create
	PIEVSAM	Read Write Create
CICS/OS/VS	PIEBDAM	Read Write Create
	PIEVSAM	Read Write Create
CICS/DOS/VSE	PIEBDAM	Read Write Create
	PIEVSAM	Read Write Create

Access Rights

Enter one of the listed access rights. If not specified, the access rights default to READ-only. Access rights have the following meanings:

Types of Access Allowed	Access Rights			
	USE	READ	WRITE	CREATE
Members in the LIBSPACE may be created, updated, or deleted.				X
Members in the LIBSPACE may be updated.			X	X
Members may be read from the LIBSPACE.		X	X	X
EZ/KEY panels and messages may be accessed from the LIBSPACE.	X	X	X	X

The capabilities available under the four access rights increase as the chart is read from left to right. The access rights of a CONNECTed LIBSPACE can be changed by reCONNECTing the LIBSPACE with different access rights. Access Rights defaults to READ.

If the LIBSPACE name, LIBSPACE type, and external name are the same as an already CONNECTed LIBSPACE, the access rights are changed to the specified value.

External Name

Enter the operating system-dependent file name for the LIBSPACE. If not specified, the external name defaults to the LIBSPACE name. This name is one of the following values depending upon the operating environment:

CMS - For PIEBDAM, enter the name as "Fname Ftype Fmode", where Fname and Ftype can be up to 8 characters each and Fmode can be up to 2 characters. At least one blank must separate Fname, Ftype, and Fmode. A typical External Name is "PAYROLL PIELIB A". To CONNECT to SYSTEM PIELIB with CREATE access, specify the External Name as "SYSTEM PIELIB *", or leave it blank.

For PIEVSAM, enter the DDname, where DDname is the name used on a previously issued DLBL command. The disk must be already LINKed and ACCESSed. If not specified, the external name defaults to the LIBSPACE name.

To define VSAM PIELIBs to EZ/KEY under CMS, the following statements must be added to the EZKEY EXEC, just before the label "-INIT".

```
*
* LINK and ACCESS the disks containing the VSAM catalogs and datasets:
*
     CP LINK VSEIPO 431 431 RR
     ACCESS 431 O
     CP LINK VSEIPO 432 432 RR
     ACCESS 432 P
     CP LINK VSEIPO 433 433 RR
     ACCESS 433 Q
*
* Define the VSAM Master Catalog to CMS:
*
     DLBL IJSYSCT O DSN VSAM MASTER CATALOG ( VSAM PERM
*
* Define the VSAM User Catalogs to CMS:
*
     DLBL IJSYSUC P DSN USERCAT PERSONEL ( VSAM PERM
     DLBL ACCTCAT Q DSN USERCAT ACCNTING ( VSAM PERM
*
* Define the VSAM PIELIB datasets to CMS:
*
     DLBL PERSNL P DSN PERSONEL DEPT PIELIB ( VSAM PERM
     DLBL ACCTNG Q DSN ACCNTING DEPT PIELIB ( VSAM PERM CAT ACCTCAT
```

The PIELIBs must be CONNECTed and ENABLEd within EZ/KEY. In this example, you would use PERSNL and ACCTNG as the External Name to CONNECT the VSAM PIELIBs to EZ/KEY. The access mode must be READ for PIEVSAM under CMS.

Also add the following statements to the EZ/KEY EXEC, immediately after the label "-OUT".

```
*
* Clean up the CMS/DOS VSAM Environment after EZ/KEY:
*
     DLBL ACCTNG  CLEAR
     DLBL PERSNL  CLEAR
     DLBL IJSYSUC CLEAR
     DLBL IJSYSCT CLEAR
*
     RELEASE 431 ( DET
     RELEASE 432 ( DET
     RELEASE 433 ( DET
```

TSO - Enter a DDname, where DDname represents a previously allocated Data Definition Name. If EZ/KEY is installed as a command processor, you can allocate the dataset from the command line as follows:

```
TSO ALLOC F(common) DA('common.PIELIB') SHR
```

CICS - Enter an FCTname, where FCTname represents the name of an entry in the CICS File Control Table. A CICS/DOS/VSE FCTname must be seven characters or less.

Format

The FORMAT field is initialized to NO. Enter YES if you want to format a new PIELIB or reformat an existing PIELIB. Reformatting an existing PIELIB destroys all information in the LIBSPACE and lets you specify a different blocksize or a different number of blocks.

When you set format to YES and press ENTER, the following panel is displayed to allow you to enter the data for "Number of Blocks" and "Size of Each Block". These values are retained in your profile.

```
PROULVF1 ------------------ PIELIB LIBSPACE Utility ----------------- EZ/KEY
COMMAND ==>


     Describe the PIELIB LIBSPACE to Format

          LIBSPACE Name  ==>

          LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

         (Access Rights) ==>           (USE, READ, WRITE, CREATE)

          (External Name) ==>
                                       (Fname Ftype Fmode, DDname) (CMS)
                                       (DDname)                     (TSO)
                                       (FCTname)                   (CICS)

                (Format) ==> YES       (NO, YES)

       (Number of Blocks) ==> 100

     (Size of each Block) ==> 1024     (505 to 4096)


Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 3.7: PIELIB LIBSPACE Utility - PROULVF1

Number of Blocks

(Displayed only after FORMAT is changed to YES. The value is remembered from the last time you set it on this panel.) Enter the number of blocks (minimum of 10) in the LIBSPACE. This field must be numeric and should be large enough for future expansion. A LIBSPACE cannot be expanded easily.

If your CMS minidisk blocksize is greater than your PIELIB blocksize, the actual number of blocks allocated is equal to the quotient of the CMS minidisk blocksize divided by the PIELIB blocksize. For example, if your minidisk blocksize is 4096 and you specify a PIELIB blocksize of 1024 and 100 blocks to be formatted, 25 CMS minidisk blocks are actually used.

Size of Each Block

Enter the number of bytes for each block. EZ/KEY uses 10 bytes of each block for internal pointers. The blocksize should approximate the average size of members in the LIBSPACE. Large blocksizes waste disk space if most members are small; small blocksizes incur unnecessary I/O if most members are larger than the blocksize.

For PIEBDAM under CMS, the PIELIB blocksize should be the same as the minidisk blocksize to eliminate unnecessary I/O and processing of spanned records.

For PIEBDAM under CICS, the blocksize must be the same value specified in the CICS FCT (File Control Table).

For PIEVSAM, the blocksize must be the CISIZE minus 7 bytes (for VSAM overhead). 505, 1017, 2041, or 4089 are good choices.

PIEBDAM PIELIBs on FBA devices should have blocksizes equal to or an exact multiple of 512. PIEBDAM PIELIBs on non-FBA devices should have blocksizes equal to or slightly less than one fourth of the DASD track length. Consult your systems programmer for assistance in choosing an optimal blocksize.

Each record must be wholly contained on one block. The maximum recordsize is 10 characters less than the PIELIB blocksize (no spanned records).

Each block contains records from only one member. The LIBSPACE blocksize should be large enough to accommodate the largest record but small enough to avoid wasted space at the end of the block (505 - 4096 is the allowable range).

Each member must be wholly contained in one LIBSPACE. The size of the LIBSPACE (blocksize, number of blocks) must be large enough for the largest member.

All members within a library must be contained in one LIBSPACE.

With a blocksize of 1024, a 100-block LIBSPACE can hold 10 members with 200 80-byte records each (approximately 2,000 80-byte records or about 160,000 characters).

External LIBSPACE Connect Utility

Option 4 of the System Administrator Utility Menu connects and enables an external LIBSPACE to EZ/KEY. An external LIBSPACE has a LIBSPACE type other than PIEVSAM or PIEBDAM. Connecting a LIBSPACE makes it accessible to EZ/KEY. To disconnect a LIBSPACE, use the DROP action of Option 3.a.2.

```
PROULVC ---------------- External LIBSPACE Utility ---------------- EZ/KEY
COMMAND ==>


      Describe the External LIBSPACE to Connect


          LIBSPACE Name  ==>

          LIBSPACE Type  ==>          (MINIDISK, CMSMAC, PDS, EZTMAC) (CMS)
                                      (PDS, EZTMAC, PANVALET, SEQ)    (TSO)
                                      (PANVALET, EZTMAC, PDS)         (CICS)

         (Access Rights) ==>          (READ, WRITE, CREATE)

         (External Name) ==>          (Fname Ftype Fmode, DDname)  (CMS)
                                      (DDname, Qualifier)          (TSO)
                                      (FCTname, DDname)            (CICS)

     (External Password) ==>


Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 3.8: External LIBSPACE Utility - PROULVC

LIBSPACE Name

Enter the name by which you want EZ/KEY to reference the LIBSPACE. The name must be unique within all LIBSPACEs connected to EZ/KEY.

LIBSPACE Type

Enter one of the listed types. The following external LIBSPACE types are available in the respective environments (a "-" means that the access right is not available):

System	LIBSPACE Type	Access Rights
CMS	CMSMAC	Read - -
	PDS	Read - -
	MINIDISK	Read Write Create
	EZTMAC	Read - -
TSO	PDS	Read - -
	SEQ	Read Write Create
	PANVALET	Read - -
	EZTMAC	Read - -
CICS	PANVALET	Read - -
	EZTMAC	Read - -
	PDS	Read - -

Access Rights

Access rights for the External LIBSPACE Connect Utility are illustrated below.

Types of Access Allowed	Access Rights		
	READ	WRITE	CREATE
Members in the LIBSPACE may be created, updated, or deleted.			X
Members in the LIBSPACE may be updated.		X	X
Members may be read from the LIBSPACE.	X	X	X

If the LIBSPACE name, LIBSPACE type, and external name are the same as an already CONNECTed LIBSPACE, the access rights are changed to the specified value.

External Name

Enter the operating system-dependent file name for the LIBSPACE. If not specified, the external name defaults to the LIBSPACE name. This name is one of the following values depending upon the operating environment:

CMS - When the LIBSPACE type is MINIDISK, enter the external name as "* * Fmode", where Fmode (the CMS file access mode) is one or two characters. If not specified, the external name defaults to "* * A".

For example, if you have a minidisk accessed as "B", you can define an external LIBSPACE to access this disk by specifying "* * B" as the external name. Give the external LIBSPACE a meaningful name such as "BDISK" or simply "B".

When the LIBSPACE type is CMSMAC, enter the external name as "Fname MACLIB Fmode", where Fname is the CMS file name of the MACLIB. If not specified, the external name defaults to "LIBSPACE-name MACLIB A".

When the LIBSPACE type is PDS, enter the DDname, where DDname is the name used on a previously issued FILEDEF command. The OS disk must be already LINKed and ACCESSed. If not specified, the external name defaults to the LIBSPACE name.

To define OS Partitioned Datasets to EZ/KEY for use as macro libraries under CMS, the following statements must be added to the EZKEY EXEC, just before the label "-INIT".

```
*
* LINK and ACCESS the disks containing the OS partitioned datasets:
*
     CP LINK MVSSP3 431 431 RR
     ACCESS 431 O
     CP LINK MVSSP3 432 432 RR
     ACCESS 432 P
*
* Define the OS PDS EASYTRIEVE PLUS Macro Library datasets to CMS:
*
     FILEDEF PANDD1 O DSN PERSONEL EZTP MACLIB ( DSORG PO PERM
     FILEDEF PANDD2 P DSN ACCNTING EZTP MACLIB ( DSORG PO PERM
```

The OS PDS libraries must be CONNECTed and ENABLEd within EZ/KEY. In this example, you would use PANDD1 and PANDD2 as the External Name to CONNECT the PDS libraries to EZ/KEY. The access mode must be READ for PDS LIBSPACEs.

Also add the following statements to the EZ/KEY EXEC, immediately after the label "-OUT".

```
*
* Clean up the FILEDEFs for OS PDS ACCESS after EZ/KEY:
*
     FILEDEF PANDD1  CLEAR
     FILEDEF PANDD2  CLEAR
*
     RELEASE 431 ( DET
     RELEASE 432 ( DET
```

When the LIBSPACE type is EZTMAC, enter the DDname, where DDname is the name used on a previously issued DLBL command. The OS or DOS disk must be already LINKed and ACCESSed. If not specified, the external name defaults to the LIBSPACE name.

To define EZTMAC libraries to EZ/KEY under CMS, the following statements must be added to the EZKEY EXEC, just before the label "-INIT".

```
*
* LINK and ACCESS the disks containing the VSAM catalogs and datasets:
*
     CP LINK VSEIPO 431 431 RR
     ACCESS 431 O
     CP LINK VSEIPO 432 432 RR
     ACCESS 432 P
     CP LINK VSEIPO 433 433 RR
     ACCESS 433 Q
*
* Define the VSAM Master Catalog to CMS:
*
     DLBL IJSYSCT O DSN VSAM MASTER CATALOG ( VSAM PERM
*
* Define the VSAM User Catalogs to CMS:
*
     DLBL IJSYSUC P DSN USERCAT PERSONEL ( VSAM PERM
     DLBL ACCTCAT Q DSN USERCAT ACCNTING ( VSAM PERM
*
* Define the EASYTRIEVE PLUS VSAM Macro Library datasets to CMS:
*
     DLBL PANDD1 P DSN PERSONEL EZTP MACLIB ( VSAM PERM
     DLBL PANDD2 Q DSN ACCNTING EZTP MACLIB ( VSAM PERM CAT ACCTCAT
```

The EZTMAC libraries must be CONNECTed and ENABLEd within EZ/KEY. In this example, you would use PANDD1 and PANDD2 as the External Name to CONNECT the EZTMAC libraries to EZ/KEY. The access mode must be READ for EZTMAC.

Also add the following statements to the EZ/KEY EXEC, immediately after the label "-OUT".

```
*
* Clean up the CMS/DOS VSAM Environment after EZ/KEY:
*
     DLBL PANDD1  CLEAR
     DLBL PANDD2  CLEAR
     DLBL IJSYSUC CLEAR
     DLBL IJSYSCT CLEAR
*
     RELEASE 431 ( DET
     RELEASE 432 ( DET
     RELEASE 433 ( DET
```

TSO - For a PDS, PANVALET, or EZTMAC library, enter a DDname, where DDname identifies a previously allocated Data Definition name.

If EZ/KEY is installed as a TSO Command Processor, you can temporarily define a dataset to EZ/KEY by entering:

```
TSO ALLOC F(DDname) DA('data.set.name') SHR
```

on the COMMAND line and then CONNECTing the DDname as the External Name.

If EZ/KEY is not installed as a TSO Command Processor, you must exit EZ/KEY, issue the ALLOC command, reinvoke EZ/KEY, and then CONNECT the external file.

To determine if EZ/KEY is installed as a command processor, consult your systems programmer who installed EZ/KEY or examine the EZKEY.CLIST. Refer to the EZ/KEY Installation Guide for further details.

To list the members in a PDS, you can issue the TSO LISTDS command with the "members" option on the COMMAND line on any panel in EZ/KEY. For example:

```
TSO LISTDS 'PERSNL.PROJECT.LIBRARY' M
```

For a sequential LIBSPACE, enter a dataset name prefix of up to 26 characters. This is used to dynamically allocate sequential datasets with a name of the form:

```
prefix.member-name.member-type
```

Where member-name and member-type are the EZ/KEY member-name and member-type.

This feature is useful for accessing sequential datasets with high-level qualifiers different from the user's TSO LIBSPACE default prefix.

For sequential LIBSPACEs, you cannot enter a DDname. Also, you do not need to allocate the dataset(s) yourself. EZ/KEY dynamically allocates the dataset(s), forming the dataset name from the prefix provided when the external LIBSPACE was CONNECTed and the member-name and member-type provided on any EZ/KEY panel.

CICS - For an EZTMAC library, enter the FCTname, where FCTname is the name of an entry defined in the CICS File Control Table. A CICS/DOS/VSE FCTname must be seven characters or less.

For a PANVALET library enter the DDname or DLBL name that identifies the PANVALET library in the CICS JCL.

For a PDS (CICS/OS/VS only) enter the DDname of the DD statement that identifies the PDS library in the CICS JCL.

External Password

Enter a password or library control code associated with the External Name. This field is optional and is used for EZTMAC VSAM passwords and PANVALET security codes.

TSO Sequential LIBSPACE Example

The following example illustrates the use of the Sequential LIBSPACE type to access sequential datasets in a TSO environment.

Assume that a user named SMITH works in the Personnel Department. The Personnel Department requires all datasets to begin with PERSNL. Assume that a user named JONES wants to access SMITH's datasets, which begin with the high-level qualifier PERSNL.SMITH.

The following illustrates how userid JONES can connect an External LIBSPACE named SMITH for the purpose of accessing these datasets:

```
PROULVC ---------------- External LIBSPACE Utility ---------------- EZ/KEY
COMMAND ==>


      Describe the External LIBSPACE to Connect


          LIBSPACE Name  ==> smith

          LIBSPACE Type  ==> seq          (PDS, EZTMAC, PANVALET, SEQ)

         (Access Rights) ==> read         (READ, WRITE, CREATE)

         (External Name) ==> persnl.smith
                                          (DDname, Qualifier)

     (External Password) ==>




Provide the required information and press ENTER.
Press END (PF3)  to cancel and return to the previous panel.
```

Now, assuming that the SMITH External LIBSPACE has been CONNECTed, JONES can copy a sequential dataset named 'PERSNL.SMITH.TEST.DATA' using the EZ/KEY Copy/Move Utility (=3.3), as shown in the following illustration.

```
PROULCM   ----------------  COPY/MOVE Member Utility  -------------- EZ/KEY
COMMAND ==>

Specify Copy or Move ==> c

FROM:    Library Name ==> smith
          Member Name ==> test
          Member Type ==> data
       Member Version ==> 000
             Password ==>

TO:      Library Name ==> jones
          Member Name ==>
          Member Type ==>
       Member Version ==> 000

   If Same, Replace? ==> NO      (YES, NO)
   New Record Format ==>         (F, V)
     New Record Size ==>


Provide the information requested above and press ENTER.
Press END (PF3)  to return to the previous panel.
```

System Reconnect Utility (CICS Only)

Option 5 of the System Administrator Utility Menu is available only with CICS. This utility reestablishes CONNECTs to LIBSPACEs after a new version of the SYSTEM PIELIB is installed.

```
PROULIN  ----------------  System Reconnect Utility  ----------------  EZ/KEY
COMMAND ==>




Enter the Name of the reconnect member:

                 Library Name ==> sysadmin

                  Member Name ==> SYSTEM

                  Member Type ==> CONNECT

               Member Version ==> 000



Provide the information requested above and press ENTER.
Press END (PF3)  to cancel and return to the previous panel.
```

Exhibit 3.9: System Reconnect Utility - PROULIN

CICS Reconnect Procedures

In CICS environments, EZ/KEY updates the CONNECT member in the the SYSTEM PIELIB when the last user exits from EZ/KEY. The CONNECT member contains the names of all LIBSPACEs connected for the CICS user community sharing a particular copy of SYSTEM PIELIB.

The CONNECT member stored in the SYSTEM PIELIB is lost when a new EZ/KEY release is installed from the distribution tape. This Option can be used to restore the CONNECT member.

You must save the old "SYSTEM CONNECT 000" member by copying it to your own sysadmin library before you install or restore SYSTEM PIELIB.

If a LIBSPACE is already connected, it is not reconnected.

Reinstallation Procedures

Follow these steps to replace the SYSTEM PIELIB for EZ/KEY:

1. Use utility function 3.3 to copy the current CONNECT member from the SYSTEM PIELIB to your own Library, as illustrated below:

```
PROULCM  ----------------  COPY/MOVE Member Utility  ---------------  EZ/KEY
COMMAND ==>

Specify Copy or Move ==> c

FROM:   Library Name ==> system
         Member Name ==> system
         Member Type ==> connect
      Member Version ==> 000
            Password ==>

TO:     Library Name ==> sysadmin (your userid)
         Member Name ==>
         Member Type ==>
      Member Version ==>

   If Same, Replace? ==> YES     (YES, NO)
   New Record Format ==>         (F, V)
     New Record Size ==>

Provide the information requested above and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 3.10: COPY/MOVE Member Utility - PROULCM

2. Direct all CICS users to exit from EZ/KEY. Review the LOGON TIME column of panel PROULUG (option 3.a.1) to determine if all other CICS users have logged off.

```
PROULUG  -------------------- USERID Utility -------------------------  EZ/KEY
COMMAND ==>                                                  SCROLL==> P


   ACTION      USERID   LIBSPACE       CREATE      ---- UPDATE ----   LOGON
   RESULT     (Libname) NAME     STAT  DATE        DATE       TIME     TIME

              userid   USER           08/09/85    08/09/85  10:56:37  12:24:45
              OBJECT   SYSTEM         08/09/85    08/10/85  12:21:13  - - -
              EXAMPLE  EXAMPLE        08/09/85    08/10/85  12:21:13  - - -
              SYSTEM   SYSTEM         08/09/85    08/10/85  12:21:13  - - -
              USER     USER           08/09/85    08/10/85  12:21:13  - - -









ACTIONS==> AR Archive   DE Delete    DI Disable   EN Enable
       ==> LO Logoff    NU NewUser   RE Rename    S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.11: USERID Utility - PROULUG

3. Exit EZ/KEY by typing "=x" on the COMMAND line and pressing ENTER.

4. Have the person who installs EZ/KEY perform the steps described in the section "Reinstallation Procedures" in the EZ/KEY Installation Guide.

5. After Step 4 is completed, enter:

   ezkey system 3.a.3

   to invoke EZ/KEY and select option 3.a.3.

6. Connect the USER PIELIB to EZ/KEY on panel PROULVF.

```
PROULVF  ----------------- PIELIB LIBSPACE Utility  -----------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Connect

           LIBSPACE Name  ==> user

           LIBSPACE Type  ==> pievsam    (PIEVSAM, PIEBDAM)

          (Access Rights) ==> create     (USE, READ, WRITE, CREATE)

          (External Name) ==> ezkusr1
                                         (FCTname)

                 (Format) ==> no         (NO, YES)




Provide the required information and press ENTER.
Press the END (PF3) to return to the previous panel.
```

Exhibit 3.12: PIELIB LIBSPACE Utility - PROULVF

7. Invoke the "Re-Connect" Utility by typing "=3.a.5" on the COMMAND line and pressing ENTER.

```
PROULIN   ---------------  System Reconnect Utility  -----------------  EZ/KEY
COMMAND ==>




Enter the Name of the reconnect member:

                  Library Name ==> sysadmin

                   Member Name ==> system

                   Member Type ==> connect

                Member Version ==> 000



Provide the information requested above and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 3.13: System Reconnect Utility - PROULIN

8. Press enter to re-connect all LIBSPACEs connected under the previous release of EZ/KEY. If a LIBSPACE is already connected, it is not reconnected.

9. Verify the success of the connections by typing "=3.a.2" on the COMMAND line and pressing ENTER.

```
PROULVG ------------------- LIBSPACE Utility ----------------------- EZ/KEY
COMMAND ==>                                                SCROLL ==> P


  ACTION     LIBSPACE          LIBSPACE    ACCESS     EXTERNAL
  RESULT     NAME       STAT   TYPE        RIGHTS     NAME

             SYSTEM            PIEVSAM     READ       EZKSYS
             USER              PIEVSAM     CREATE     EZKUSR
             RESTORE           PIEVSAM     READ       EZKRSTR
             EXAMPLE           PIEVSAM     READ       EZKXMPL









ACTIONS==> DR Drop   U Usage   V Verify
Press END (PF3) to return to the previous panel.
```

Exhibit 3.14: LIBSPACE Utility - PROULVG

10. Use options 3.a.3 and 3.a.4 to explicitly connect any additional LIBSPACEs if needed.

11. Enter "=x" on the COMMAND line and press ENTER to exit EZ/KEY. This saves the CONNECT member into the new SYSTEM PIELIB.

12. Verify the success of the previous step by signing on to your userid. Enter:

    EZKEY sysadmin

The new EZ/KEY release is now ready for use by all CICS users.

CICS/VS Recovery Procedures

EZKT Transaction

When a user enters the first EZ/KEY transaction after CICS startup, EZ/KEY obtains a global storage area that is shared by all EZ/KEY users. EZ/KEY releases this storage when all users have normally exited EZ/KEY, regardless of the mode of transaction -- conversational or pseudo-conversational.

When one or more users cannot normally exit from EZ/KEY (due to their telecommunications line being disabled or because their transaction abended), you can release the global storage by issuing the EZKT transaction. You do this by typing "EZKT" and pressing ENTER.

If any users are still active on EZ/KEY, EZKT displays the message:

EZKEY024 - the following userids are active to EZ/KEY

followed by a list of the active userids. EZKT then displays the message:

EZKEY025 - Type YES to remove EZ/KEY

Type "YES" to release the global storage and end the sessions of the active users. Type "NO" to exit the EZKT transaction without affecting global storage or any of the users.

If you type "YES" and press ENTER, EZKT displays the message:

EZKEY019 - EZ/KEY is now removed

If you type "NO" and press ENTER, EZKT displays the message:

EZKEY026 - EZ/KEY removal cancelled

You can use CICS operator sign-on security to prevent other users from inadvertently terminating EZ/KEY.

Tuning Parameters

The Tuning Parameters affect the way EZ/KEY operates.

Options selected on the System Tuning Parameters panel (3.a.7) establish the defaults for all EZ/KEY users. When changing these parameters, you must have read/write access to the SYSTEM PIELIB.

Options selected on the User Tuning Parameters panel (3.a.6) override the system defaults for an individual EZ/KEY user.

These two panels deal with the same information. They are illustrated separately. The descriptions apply to both the User and the System Tuning Parameters, unless specified otherwise.

```
PROULTPU ------------------ User Tuning Parameters  ------------------- EZ/KEY
COMMAND ==>


                            Defaults      Changes
Incremental Checking        YES       =>        (Yes, No)
Maximum Errors Inserted     99        =>        (10 to 999)

Foreground Execution        YES       =>        (Yes, No, or Direct)
Background Submission       YES       =>        (Yes, No)
Confirm Delete              YES       =>        (Yes, No)
Report Processing Facility  YES       =>        (Yes, No, Only)

SQL/DS UserID               userid    =>        (1 to 8 chars)
SQL/DS Password                       =>        (1 to 8 chars)
SQL/DS PREPNAME Program Name EASYPLUS =>        (1 to 8 chars)
SQL/DS PREPNAME UserID                =>        (1 to 8 chars)
DB2 Subsystem ID (SSID)               =>        (1 to 4 chars)
IDMS Schema Version         HIGHEST   =>        (HIGHEST, LOWEST, nnnn)
IDMS File Version           HIGHEST   =>        (HIGHEST, LOWEST, nnnn)
IDMS Record Version         HIGHEST   =>        (HIGHEST, LOWEST, nnnn)
Execute Conversational      NO        =>        (Yes, No) (CICS)

Make Changes to the User Tuning Parameters and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.15: User Tuning Parameters - PROULTPU

```
PROULTPS ----------------  System Tuning Parameters  ------------------ EZ/KEY
COMMAND ==>


                                 Defaults      Changes
Incremental Checking              YES       =>          (Yes, No)
Max Number of Errors Inserted     99        =>          (10 to 999)
                                                       (EZKYLAM, PANMODK) (CICS)
PANVALET Module Name              EZKYLAM   =>          (EZKYLAM, PANMODI) (TSO)
Foreground Execution              YES       =>          (Yes, No, or Direct)
Background Submission             YES       =>          (Yes, No)
Confirm Delete                    YES       =>          (Yes, No)
Report Processing Facility        YES       =>          (Yes, No, or Only)
Report Administrator Authority    ALL       =>          (Create, Profile, All)

Utility Password                  EZ/KEY    =>          (1 to 8 chars)
System Administrator Password     EZ/KEY    =>          (1 to 8 chars)
Report Administrator Password     EZ/KEY    =>          (1 to 8 chars)
Execute Conversational            NO        =>          (Yes, No) (CICS)

Proceed to Data Base System Defaults Panel? => NO     (Yes, No)

Make Changes to the System Tuning Parameters and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.16: System Tuning Parameters - PROULTPS

Incremental Checking

If incremental checking is set to NO when you are processing an EASYTRIEVE PLUS program in either PROMPT or FREE mode, the entire program is processed after any change. Work areas in storage are released immediately after each check.

When incremental checking is set to YES, processing starts at the first JOB or SORT that was changed. This improves response time for programs with a large Library Section or programs with a large number of JOB or SORT activities. Work areas are retained in storage for use by subsequent checks.

To reduce CPU usage, set Incremental Checking to YES (the default for CMS and TSO).

To reduce storage usage, set Incremental Checking to NO. (the default for CICS).

Maximum Number of Error Messages

EZ/checker inserts error messages into EASYTRIEVE PLUS programs that are being edited. To conserve storage, only the first 99 messages are actually inserted. Subsequent errors are indicated by placing ERROR> in the line number area of lines that contain one or more errors.

To reduce the maximum amount of storage used by EZ/KEY, you can change the maximum number of errors from 99 (the default) to any value greater than or equal to 10.

Each error message uses about 100 bytes of storage.

The default maximum number of error messages is:

99 for CMS and TSO
25 for CICS

You should allow for approximately one line in every ten lines for an error message. For example, if your users typically edit large EASYTRIEVE PLUS programs of up to 2,000 lines, allow for 200 error lines.

PANVALET Module Name

(System Tuning Parameters panel only)

EZ/KEY comes with a PANVALET Interface module called EZKYLAM. If you have PANVALET Version 14.0 or above, you should use the interface module provided with PANVALET. For TSO, the PANVALET Interface module is called PANMODI. In CICS, the PANVALET Interface module is called PANMODK. This tuning parameter tells EZ/KEY which interface module to use. Before changing this field, refer to the EZ/KEY Installation Guide, and be sure to read the PANVALET/Considerations subsection for your environment. This option is not available for CMS.

Foreground Execution

You can execute an EASYTRIEVE PLUS program interactively under CMS and TSO by selecting Primary Selection Menu Option 4: (Foreground Execution).

To allow interactive execution, set Foreground Execution to YES (the default).

To inhibit interactive execution, set Foreground Execution to NO.

To speed up interactive execution, set Foreground Execution to DIRECT. This requires additional virtual storage because EZ/KEY executes the EZTPLUS EXEC or CLIST directly. This causes the EASYTRIEVE PLUS modules to be loaded into virtual storage along with the EZKEY modules. The amount of additional virtual storage required depends on what the EASYTRIEVE PLUS program to be run is doing. At least 512K of additional virtual storage should be available.

If you are running the DOS version of EASYTRIEVE PLUS under CMS, you must have EZ/KEY installed in a Discontiguous Shared Segment (DCSS) in order to use the DIRECT execution mode. See the EZ/KEY Installation Guide for further details regarding DCSS.

If you are running the TSO version of EZ/KEY, you must have EZ/KEY installed as a Command Processor (CP) in order to use the DIRECT execution mode. See the EZ/KEY Installation Guide for further information on installing EZ/KEY as a Command Processor.

If you are running the OS version of EASYTRIEVE PLUS under CMS and you want to use the DIRECT execution mode, you must do one of the following:

1. Install EZ/KEY in a Discontiguous Shared Segment (DCSS). See the EZ/KEY Installation Guide for further details regarding DCSS.

   or

2. Generate a new version of the EASYTRIEVE PLUS main program, EZTPnnn MODULE (where "nnn" is the version of EASYTRIEVE PLUS, e.g., 52C), for use with EZ/KEY. To do this, perform the following steps:

   a. LINK to and ACCESS the minidisk containing the EZTPnnn TXTLIB.

   b. Generate a new EZTPnnn MODULE. To do this, enter the following CMS commands:

```
GLOBAL TXTLIB EZTPnnn

LOAD EZTPA00 ( ORIGIN TRANS

GENMOD EZTPnnn ( STR ALL
```

   c. Copy the new module to its final destination by entering the following:

```
COPY EZTPnnn MODULE A = = m
```

   where "m" is the mode of the minidisk where you have installed EASYTRIEVE PLUS, so that this module is available for use with EZ/KEY.

Background Submission

You can SUBMIT jobs and requests for background processing by using:

- Primary Selection Menu Option 5 (Background Submission)
- The SUBMIT command of EZ/editor

- The SUBMIT action from a Member Selection List
- BATCH as the method for running an EZ/REPORT program.

To allow SUBMIT to background, set Background Submission to YES (the default).

To inhibit background execution, set Background Submission to NO.

Confirm Delete

Use the Confirm Delete parameter to specify whether or not the user must verify that a requested deletion is to occur. When you set the Confirm Delete parameter to "YES", EZ/KEY displays the Confirm Delete panel (PROULCON) when a user requests that a member be deleted. From the Confirm Delete panel the user tells EZ/KEY to delete the member or to cancel the request.

Type "YES" to cause the Confirm Delete panel to be displayed when a member is to be deleted. Type "NO" to prevent the Confirm Delete panel from being displayed.

The default value for this parameter is YES.

Report Processing Facility

You can easily run EASYTRIEVE PLUS programs to produce "canned" reports in Background or Foreground (CMS and TSO) by selecting Primary Selection Menu Option 6: (Report Processing Facility).

To allow use of the Report Processing Facility by all EZ/KEY users, set Report Processing Facility to YES (the default).

To inhibit use of the Report Processing Facility by any EZ/KEY users except those specifically allowed, set Report Processing Facility to NO.

To allow EZ/KEY users to use only the Report Processing Facility, effectively inhibiting the use of any of the other features of EZ/KEY, set Report Processing Facility to ONLY.

Report Administrator Authority

(System Tuning Parameters panel only)

You can optionally allow Report Administrators to use only a subset of the options shown on the EZRPTADM panel, the "Report Administrator Utility Menu".

The Report Administrator is always allowed to use option 1, "Maintain Report Libraries and Profiles".

To allow the Report Administrator to use option 1 and only option 2, "Create New Users", set Report Administrator Authority to CREATE.

To allow the Report Administrator to use option 1 and only option 3, "Copy default CONNECT, LIBCHAIN and PROFILE members", set Report Administrator Authority to PROFILE.

To allow the Report Administrator to use all three options, set Report Administrator Authority to ALL (the default).

(This page intentionally left blank.)

Utility Password

(System Tuning Parameters panel only)

Normally, all users in a CICS environment can READ from or WRITE to any other user's libraries. This is because access rights are enforced at the LIBSPACE level rather than the library level.

If you want to limit this access, establish a utility password. This password inhibits the use of options 3.2 and 3.4, and inhibits copying members to or from another user's library on the PROULCM panel (option 3.3) unless the correct password is supplied. The utility password is set, changed, and used the same as the System Administrator's password described below.

System Administrator Password

(System Tuning Parameters panel only)

This password is initialized to "EZ/KEY". Users do not have to specify a password until the System Administrator sets a new one. Once the password is changed, the first time each user selects the Systems Administrator Utility menu he or she must specify the new password. The new password is then "remembered" in the users' profile and need be respecified only when it is changed again.

Report Administrator Password

(System Tuning Parameters panel only)

This password is initialized to "EZ/KEY". Users do not have to specify a password until the System Administrator sets a new one. Once the password is changed, the first time each user selects the Report Administrator Utility menu he or she must specify the new password. The new password is "remembered" in the users' profile and needs to be respecified only when it is changed again.

Execute Conversational (CICS only)

You use the Execute Conversational parameter to define which conversational mode EZ/KEY is to operate in for the user.

EZ/KEY normally operates as a pseudo-conversational task under CICS. If enough virtual storage is available, you can reduce the I/O and CPU load by running EZ/KEY conversationally for some or all users.

Type "YES" to run in conversational mode.

Type "NO" to run in pseudo-conversational mode.

The default value for this parameter is NO.

Proceed to Data Base System Defaults Panel

(System Tuning Parameters panel only)

A Data Base System Default panel (PROULTPB) is provided for setting default values that the EZ/KEY compiler can use when syntax checking your program. To proceed to the Data Base System Default panel, type "YES" and PROULTPB is displayed.

(This page intentionally left blank.)

```
PROULTPB ---------------  Data Base System Defaults  ----------------  EZ/KEY
COMMAND ==>

                                 Defaults       Changes

 SQL/DS PREPNAME Program Name    EASYPLUS    =>          (1 to 8 chars)

 SQL/DS PREPNAME UserID                      =>          (1 to 8 chars)

 DB2 Subsystem ID (SSID)                     =>          (1 to 4 chars)

 IDMS Schema Version             HIGHEST     =>          (HIGHEST, LOWEST, nnnn)

 IDMS File Version               HIGHEST     =>          (HIGHEST, LOWEST, nnnn)

 IDMS Record Version             HIGHEST     =>          (HIGHEST, LOWEST, nnnn)


Make Changes to the Data Base Default Parameters and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.17: Data Base Default Parameters - PROULTPB

SQL/DS and DB2 Parameters

SQL/DS UserId (User Tuning Parameters panel only)

UserId is an SQL parameter. UserId is required for SQL/DS. It is ignored for DB2. It is used to identify the person compiling the SQL program and defaults to the UserId of the EZ/KEY user.

SQL/DS Password (User Tuning Parameters panel only)

Password for the SQL/DS UserId.

SQL/DS PREPNAME Program Name

PREPNAME is an SQL parameter. It identifies the name of the SQL/DS access module.

SQL/DS PREPNAME UserID

UserID is used to qualify the PREPNAME.

DB2 Subsystem ID (SSID)

DB2SSID is an SQL parameter. It identifies the name of an alternate DB2 system to be used for the compile and execution of the EASYTRIEVE PLUS program.

IDMS Parameters

Schema Version
File Version
Record Version

You can override the default IDMS schema, record, or file version that the EZ/KEY compiler uses when syntax checking your EASYTRIEVE PLUS programs.

To override the default, enter LOWEST or an integer from one to 9999. If you leave this field blank, the default, HIGHEST, is used.

Site Options

Introduction

With the Site Options panel you can control the operation of your site's entire EZ/KEY system. Among the items you can specify are:

- The maximum amount of memory EZ/KEY programs and panels can use
- The defaults for new private libraries when EZ/KEY is operating under CMS and TSO
- The temporary storage prefix and block size when EZ/KEY is operating under CICS

There are three Site Options panels, as listed below. Only one of these panels is displayed, depending on which environment you are in:

- CMS Site Options panel
- CICS Site Options panel
- TSO Site Options panel

The values changed by the Site Options facility are stored in the SYSTEM PIELIB.

For CMS, you must acquire write access to the minidisk where the SYSTEM PIELIB resides before you can change the values of any of these options. For TSO and CICS, you always have write access. Therefore, you do not have to acquire it before changing the option values.

Under CMS and TSO, the revised options take effect the next time a user starts EZ/KEY.

Under CICS, the revised options take effect only after all users logoff, EZ/KEY terminates, and the next user starts a fresh copy of EZ/KEY.

EZ/KEY displays the system default options under the Defaults column header on each Site Options panel. Changes you make are displayed by EZ/KEY under the Changes column header. To restore a default, type blanks or the same value as the default in the Changes field of the item you want to restore.

Accessing and Exiting the Site Options Facility

You access the Site Options facility from either the EZ/KEY Primary Menu or from the System Administrator Utility Menu:

- From the Primary Menu, type "3.a.s"
- From the System Administrator Utility Menu, type "s"

In either case, only the Site Options panel for your environment (CMS, CICS, or TSO) is displayed.

To exit the Site Options facility, press the END PF key when viewing the Site Options panel.

Common Option Fields

The Maximum Memory Size option is common to the CMS, CICS, and TSO Site Options panels. Rather than repeating the description, it is described just once here.

Maximum Memory Size

Specifying the value for Maximum Memory Size involves setting the sizes for two caches. A cache is an area of main storage that holds program modules or panels. EZ/KEY dynamically loads items into the cache and does not remove them until the cache size is exceeded. EZ/KEY satisfies subsequent requests for the same item by using the copy in the cache rather than performing relatively expensive I/O operations to retrieve the item from disk storage.

If main storage is scarce in your environment, reduce the cache sizes. This reduces long term storage usage, but does require extra I/Os to load programs and panels as they are referenced.

If main storage is readily available in your environment, increase the cache sizes. This increases long term storage usage, but improves response time because programs and panels do not have to be read into the cache from disk storage as often.

Under CICS, the caches are shared by all EZ/KEY users. Under TSO and CMS, the caches occupy storage in each user's address space or virtual machine.

There are two caches: a program cache and a panel cache.

Program Cache

After EZ/KEY loads its base module into main storage, EZ/KEY dynamically loads other modules into the program cache from the SYSTEM PIELIB.

The size of the cache grows until it exceeds the program cache's size value. At that time, EZ/KEY releases all inactive modules from main storage. If the storage that active modules use exceeds the program cache's size value, the program cache temporarily expands to hold the new modules.

The value you type after Program Cache must be a number from 100 to 1024. This value is the number of kilobytes of main memory that the program cache can use.

Panel Cache

EZ/KEY uses the panel cache in the same way it uses the program cache. Before displaying a panel, EZ/KEY dynamically loads it into the panel cache from the SYSTEM PIELIB. EZ/KEY also dynamically loads subsequent panels into the panel cache. If a panel needs more space, EZ/KEY temporarily expands the panel cache.

The value you type after Panel Cache must be a number from 16 to 256. This value is the number of kilobytes of main memory that the panel cache can use.

CMS Site Options Panel

You use the CMS Site Options panel, shown below, to specify the default options for a CMS site:

```
PROOPC  ---------------------  CMS Site Options  --------------------  EZ/KEY
COMMAND  ==>


                                Defaults       Changes
   Maximum Memory Size
      Program Cache             448        ==>        (100 to 1024) (times 1K)
      Panel Cache               48         ==>        (16 to 256)   (times 1K)

   New Private Library
      Number of Blocks          100        ==>        (10 to 4096)




Type CANCEL on the COMMAND line to exit without updating.
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.18: CMS Site Options Panel

Gaining Write Access

Before you can update the CMS Site Options, however, you must have write access to the CMS minidisk that contains the SYSTEM PIELIB. To gain write access, issue the following CMS commands before starting EZ/KEY:

```
LINK ezkey 123 456 WR PASS= password
ACCESS 456 F
```

The parameters used in these commands are:

ezkey - the userid that owns the minidisk that contains SYSTEM PIELIB

123	-	the device address of the minidisk
456	-	an arbitrary virtual device address
password	-	the write password for the minidisk
F	-	an arbitrary file mode

Panel Fields

Maximum Memory Size

The Maximum Memory Size fields are common to all three Site Options panels. These fields are explained at the beginning of this section in the topic titled "Common Option Fields."

New Private Library - Number of Blocks

When a new CMS user starts EZ/KEY for the first time, EZ/KEY automatically allocates and formats a private PIELIB on the user's A-disk. The size of this private PIELIB is determined by the value entered in this field, which identifies the number of blocks to allocate for the PIELIB. The size of each block is based on the minidisk block size.

CICS Site Options Panel

You use the CICS Site Options panel, shown below, to specify the default options for a CICS site:

```
PROOPK  ---------------------  CICS Site Options  -------------------  EZ/KEY
COMMAND  ==>


                                Defaults       Changes
   Maximum Memory Size
      Program Cache             448        ==>        (100 to 1024) (times 1K)
      Panel Cache               48         ==>        (16 to 256)   (times 1K)

   Temp Storage
      Prefix                    EZ         ==>        (2 characters)
      Blocksize                 4000       ==>        (505 to 32768)









Type CANCEL on the COMMAND line to exit without updating.
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.19: CICS Site Options Panel

Panel Fields

Maximum Memory Size

The Maximum Memory Size fields are common to all three Site Options panels. These fields are explained at the beginning of this section in the topic titled "Common Option Fields."

Temp Storage

EZ/KEY can operate as a pseudo-conversational task when under CICS. Before displaying a panel on the user's terminal, EZ/KEY stores user-specific information in CICS temporary storage and releases all main storage obtained for that user. When the user responds to the displayed panel,

EZ/KEY restores the user-specific information from CICS temporary storage. This process reduces long term main storage usage at the expense of extra I/O operations to temporary storage.

Prefix

Here you specify the first two characters of EZ/KEY generated temporary storage identifiers.

If the default prefix is already being used by EZ/KEY in your CICS system, change the prefix the first time you start EZ/KEY. Use the following procedure to do this:

1. Issue the following transaction to start EZ/KEY for the user named SYSTEM and to display the CICS Options panel:

   ```
   ezke system 3.a.s
   ```

2. Type a two-character prefix that is different from the CICS default. Type this new prefix beneath the Changes column header for Temp Storage Prefix.

3. Exit EZ/KEY by typing "=x" on the Command line and pressing ENTER.

4. Start EZ/KEY for your userid. To verify that EZ/KEY accepted the new prefix, type "=3.a.s" on the Command line and press ENTER.

Blocksize

With this value you specify the block size of the temporary storage areas. For optimal performance, type a value that is seven less than the Control Interval Size used at your site for temporary storage.

TSO Site Options Panel

You use the TSO Site Options panel, shown below, to specify the default options for a TSO site:

```
PROOPT  ---------------------  TSO Site Options  --------------------  EZ/KEY
COMMAND  ==>


                                Defaults       Changes
   Maximum Memory Size
      Program Cache             448        ==>        (100 to 1024) (times 1K)
      Panel Cache               48         ==>        (16 to 256)   (times 1K)

   New Private Library
      Blocksize                 2048       ==>        (505 to 4096)









Type CANCEL on the COMMAND line to exit without updating.
Press END (PF3)  to return to the previous panel.
```

Exhibit 3.20: TSO Site Options Panel

Panel Fields

Maximum Memory Size

The Maximum Memory Size fields are common to all three Site Options panels. These fields are explained at the beginning of this section in the topic titled "Common Option Fields."

New Private Library - Blocksize

When a new TSO user starts EZ/KEY for the first time, EZ/KEY automatically formats the user's private PIELIB. With the Blocksize option, you specify the size of each block that EZ/KEY uses to format the PIELIB. The value you type must be from 505 to 4096. This value is the number of bytes in each block.

You must also specify the name and number of blocks to be allocated in the PIELIB in the EZ/KEY CLIST. For more information, see "Choosing the Size of PIELIBs" in Section 3 of the EZ/KEY Installation Guide.

(This page intentionally left blank.)

SECTION 4: ESTABLISH LIBRARIES

Introduction 4-1

Establish CMS User PIELIBs and Libraries 4-2
PIELIB Configuration 4-2
Exhibit 4.1: PIELIB LIBSPACE Utility - PROULVF . . . 4-4
Exhibit 4.2: PIELIB LIBSPACE Utility - PROULVF1 . . 4-5
Exhibit 4.3: COPY/MOVE Member Utility - PROULCM (one) 4-6
Exhibit 4.4: COPY/MOVE Member Utility - PROULCM (two) 4-7

Establish TSO User PIELIBs and Libraries 4-8
PIELIB Configuration 4-8
Exhibit 4.5: PIELIB LIBSPACE Utility - PROULVF . . . 4-11
Exhibit 4.6: PIELIB LIBSPACE Utility - PROULVF1 . . 4-12
Exhibit 4.7: COPY/MOVE Member Utility - PROULCM (one) 4-14
Exhibit 4.8: COPY/MOVE Member Utility - PROULCM (two) 4-15

Establish CICS USERIDs and Libraries 4-17
PIELIB Configuration 4-17
Signing on the First Time 4-18
Exhibit 4.9: PIELIB LIBSPACE Utility - PROULVF . . . 4-18
Exhibit 4.10: PIELIB LIBSPACE Utility - PROULV1 . . 4-19
Exhibit 4.11: USERID Utility - PROULUG 4-21

Setting Up Several Groups of Users 4-23
Establish Groups under CMS 4-24
Establish Groups under TSO 4-26
Establish Groups under CICS 4-28

(This page intentionally left blank.)

Introduction

This section provides step-by-step procedures for establishing PIELIBs and other libraries in each of the following three environments.

- CMS User PIELIBS and Libraries
- TSO User PIELIBS and Libraries
- CICS USERIDs and Libraries

Each of the following sample configurations show how the SYSTEM PIELIB and EXAMPLE PIELIB are distributed with the EZ/KEY system. Additionally, each environment has a diagrammed illustration showing the organization of its own configuration.

Finally, to suggest ways in which you can organize the users along departmental or functional lines, we include a discussion of how to set up several groups of users.

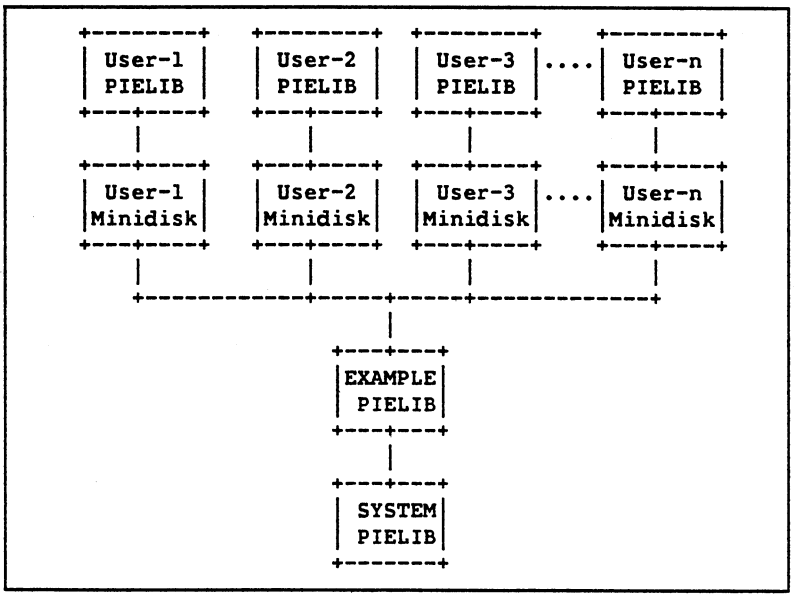
As an alternative method of setting up new users, groups of users, and libraries, see Section 7: REPORT ADMINISTRATOR: 1) Creating a New EZ/REPORT User, 2) Copy Default Attributes, and 3) Establish Default CONNECT and LIBCHAIN Members.

Establish CMS User PIELIBs and Libraries

PIELIB Configuration

The SYSTEM PIELIB and EXAMPLE PIELIB are distributed with the EZ/KEY system. They should be contained on a minidisk that can be accessed by all users. The PIELIB for each user is a file named "userid PIELIB" on the user's "A" disk.

A typical configuration of PIELIBs in the CMS environment is illustrated below, with the search order from top to bottom.



When first invoked, EZ/KEY searches for "userid PIELIB". If the file is not found, EZ/KEY prompts the user for the number of blocks for a new PIELIB. EZ/KEY creates the file "userid PIELIB" on the user's "A" disk, formats the PIELIB, and continues with normal EZ/KEY execution. The new user is automatically CONNECTed to the SYSTEM and EXAMPLE PIELIBs.

Alternately, the System Administrator may establish PIELIBs for each user, as well as other project and installation libraries for common use.

1. Invoke EZ/KEY by typing "EZKEY" and pressing ENTER.

2. Use utility functions 3.a.3 and 3.a.4 to CONNECT to EZ/KEY all of the LIBSPACEs to be shared by all users. Review Section 3 of this Guide for specific information about CONNECTing PIELIB's and external LIBSPACEs.

3. Use utility function 3.2 to ENABLE all libraries to be searched by all users. Review Section 3 of this Guide for specific information about how to ENABLE libraries.

4. Exit from EZ/KEY by entering "=x" on the COMMAND line of any panel and pressing ENTER. This updates the CONNECT member for your userid.

5. Re-invoke EZ/KEY.

6. Enter "=3.1" on the COMMAND line of any panel and press ENTER to transfer to the "MEMBER Utility" panel.

   Enter "edit" under the ACTION/RESULT column on the line that displays "sysadmin CONNECT 000". Press ENTER.

   When the editor panel is displayed, delete the line that contains:

   ```
   CONNECT sysadminLOGICAL CMS MAINTAIN sysadminPIELIB *
   ```

   Press PF3 (END) to save the "sysadmin CONNECT 000" member and return to PROULFGL.

7. Enter "edit" under the ACTION/RESULT column on the line that displays "sysadmin LIBCHAIN 000". Press ENTER.

   On PROEDIT1, delete the line that contains:

   "CONCAT sysadmin"

Press PF3 (END) to save the "sysadmin LIBCHAIN 000" member.

8. Select option 3.a.3 to initialize the new user PIELIBs. To create the new PIELIB on the user's minidisk, link to the minidisk in WRITE mode by entering the following on the COMMAND line:

   cms link userid 191 291 wr password

   Then access the minidisk by entering:

   cms access 291 m

   where "m" is the filemode you choose to access the minidisk as.

   Fill in the information on the panel as illustrated below:

```
PROULVF ---------------  PIELIB LIBSPACE Utility  -------------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Connect

           LIBSPACE Name  ==> userid

           LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

          (Access Rights) ==> create    (USE, READ, WRITE, CREATE)

          (External Name) ==> userid pielib m
                                        (Fname Ftype Fmode, DDname)

                 (Format) ==> yes       (NO, YES)



Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 4.1: PIELIB LIBSPACE Utility - PROULVF

"m" is the filemode of the minidisk where the PIELIB is to be created.

Press ENTER. The panel illustrated in the following example is displayed.

```
PROULVF1 ---------------  PIELIB LIBSPACE Utility  -------------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Format


           LIBSPACE Name  ==> userid

           LIBSPACE Type  ==> PIEBDAM    (PIEBDAM, PIEVSAM)

         (Access Rights) ==> CREATE     (USE, READ, WRITE, CREATE)

         (External Name) ==> userid PIELIB m
                                        (Fname Ftype Fmode, DDname)

                 (Format) ==> YES        (NO, YES)

        (Number of Blocks) ==> iii

      (Size of each Block) ==> jjj       (505 to 4096)


Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 4.2: PIELIB LIBSPACE Utility - PROULVF1

"iii" is the number of blocks desired for the specified USERID. (100 is recommended as a minimum.)

"jjj" is the blocksize of each block.

Press ENTER.

The "userid PIELIB" is allocated and formatted on the "m" minidisk specified.

Refer to Section 3 for information on blocksizes.

9. Enter "3.3" on the COMMAND line. Press ENTER to transfer to the COPY/MOVE Utility panel (PROULCM). Use this panel to copy the "sysadmin CONNECT 000" member to the USERID whose PIELIB was formatted above. An example COPY panel is illustrated below.

```
PROULCM ----------------- COPY/MOVE Member Utility --------------- EZ/KEY
COMMAND ==>

Specify Copy or Move ==> c


FROM:   Library Name ==> sysadmin
         Member Name ==> sysadmin
         Member Type ==> connect
      Member Version ==> 000
            Password ==>


TO:     Library Name ==> userid
         Member Name ==> userid
         Member Type ==>
      Member Version ==>

   If Same, Replace? ==> NO      (YES, NO)
       Record Format ==>         (F, V)
         Record Size ==>

Provide the required information and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 4.3: COPY/MOVE Member Utility - PROULCM (one)

10. Use the same panel to copy the "sysadmin LIBCHAIN 000" member to the same userid PIELIB.

```
PROULCM  -----------------  COPY/MOVE Member Utility  ---------------  EZ/KEY
COMMAND ==>

Specify Copy or Move ==> c


FROM:   Library Name ==> sysadmin
          Member Name ==> sysadmin
          Member Type ==> libchain
       Member Version ==> 000
             Password ==>


TO:       Library Name ==> userid
          Member Name ==> userid
          Member Type ==> libchain
       Member Version ==>

   If Same, Replace? ==> NO       (YES, NO)
       Record Format ==>          (F, V)
         Record Size ==>

Provide the required information and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 4.4: COPY/MOVE Member Utility - PROULCM (two)

The member-type and version of the "TO:" member is supplied by EZ/KEY. You need to change the TO: Member Type from "CONNECT" to "libchain" as shown above.

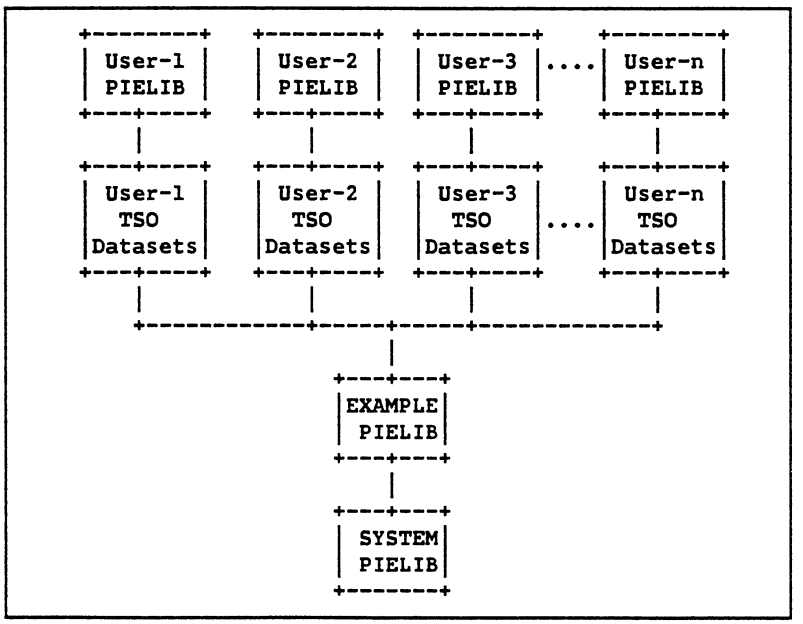
11. Repeat steps 9 and 10 for each "userid PIELIB" to be formatted.

Establish TSO User PIELIBs and Libraries

PIELIB Configuration

The SYSTEM PIELIB and EXAMPLE PIELIB are distributed with the EZ/KEY system. These datasets should be cataloged with a high level index that can be used by all EZ/KEY users. The PIELIB for each user is a dataset named "userid.PIELIB".

A typical configuration of PIELIBs in the TSO environment is illustrated below, with the search order from top to bottom.



When the EZKEY CLIST is invoked, EZ/KEY continues with normal execution if the dataset "userid.PIELIB" already exists. Otherwise, the CLIST allocates a PIELIB for the userid. EZ/KEY recognizes that a newly allocated userid.PIELIB exists and formats the PIELIB with the space and blocksize specified in the CLIST. If desired, you can modify the EZKEY CLIST to specify a different blocksize and/or a different amount of space to be allocated for new EZ/KEY users. The new user is automatically CONNECTed to the SYSTEM PIELIB identified by the ALLOC statement for F(SYSTEM).

You can suppress the extraneous IEC031I, IEC143I, and IEC161I messages by issuing the TSO command: "PROFILE NOWTPMSG" before invoking EZ/KEY.

Alternatively, the System Administrator can use the following procedure to establish PIELIBs for each user. This procedure is necessary only when CONNECTs to additional LIBSPACEs need to be pre-established for new users of EZ/KEY.

1. Invoke EZ/KEY by typing EZKEY and pressing ENTER.

2. Use utility functions 3.a.3 and 3.a.4 to CONNECT the desired LIBSPACEs to your USERID. Review Section 3 of this Guide for specific information about CONNECTing PIELIBs and external LIBSPACEs.

3. Use utility function 3.2 to ENABLE all libraries that will normally be searched by all users. Review Section 3 of this Guide for specific information about how to ENABLE libraries.

4. Exit from EZ/KEY by entering "=x" on the COMMAND line of any panel and pressing ENTER. This updates the CONNECT and ENABLE members for your USERID.

5. Allocate disk space for each user PIELIB by issuing the TSO ATTRIB and ALLOC commands.

   The dataset name for each user PIELIB is "userid.PIELIB." If a different naming convention is used at your site, you must also modify the EZKEY CLIST.

   The default record length and blocksize for PIELIBs is 2048. You can specify any value between 505 and 4096. Choose a BLKSIZE which is optimal for the device type on which the PIELIBs are to reside. Use the following ATTRIB and ALLOC statements as a guide:

```
ATTRIB PIELIB RECFM(F) LRECL(2048) BLKSIZE(2048)

ALLOC F(userid) DA('userid.PIELIB') SPACE(100) +
   BLOCK(2048)  NEW USING(PIELIB)
```

   See Section 3 for a detailed discussion of blocksizes.

6. Re-invoke EZ/KEY.

7. Select option 3.a.3 to initialize the new userid.PIELIBs.

8. On the PIELIB LIBSPACE Utility panel (PROULVF), enter the following for a userid.PIELIB to be formatted.

```
PROULVF  ---------------  PIELIB LIBSPACE Utility  -------------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Connect


           LIBSPACE Name  ==> userid

           LIBSPACE Type  ==> PIEBDAM    (PIEBDAM, PIEVSAM)

          (Access Rights) ==> create     (USE, READ, WRITE, CREATE)

          (External Name) ==> userid
                                         (DDname)

                 (Format) ==> yes        (NO, YES)



Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 4.5: PIELIB LIBSPACE Utility - PROULVF

Press ENTER. The panel illustrated on the next page is displayed.

```
PROULVF1 ---------------  PIELIB LIBSPACE Utility  -------------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Format


           LIBSPACE Name  ==> userid

           LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

          (Access Rights) ==> CREATE    (USE, READ, WRITE, CREATE)

          (External Name) ==> userid
                                        (DDname)

                 (Format) ==> YES       (NO, YES)

        (Number of Blocks) ==> iii

      (Size of each Block) ==> jjj      (505 to 4096)


Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 4.6: PIELIB LIBSPACE Utility - PROULVF1

"iii" is the number of primary blocks (100) specified in the SPACE parameter of the ALLOC statement.

"jjj" is the blocksize (2048) specified in the BLOCK parameter of the ALLOC statement and as the BLKSIZE parameter of the ATTR statement.

Press ENTER. Repeat this step for each userid.PIELIB to be formatted.

9. Enter "=3.1" in the COMMAND line of any panel and press ENTER to transfer to the Member Utility panel (PROULFGL).

   Enter "edit" under the ACTION/RESULT column on the line that displays "sysadmin CONNECT 000". Press ENTER.

   When the editor panel is displayed, delete the line that contains:

   ```
   CONNECT sysadminLOGICAL BDAM MAINTAIN sysadmin
   ```

   Press END (PF3) to save the "sysadmin CONNECT 000" member and return to the Member Utility panel.

10. Enter "edit" under the ACTION/RESULT column on the line that displays "sysadmin LIBCHAIN 000". Press ENTER.

    When the editor panel is displayed, delete the line that contains:

    ```
    CONCAT sysadmin.
    ```

    Press END (PF3) to save the "sysadmin LIBCHAIN 000" member and return to the Member Utility panel.

11. Enter "copy" under the ACTION/RESULT column on the line that displays "sysadmin CONNECT 000". Press ENTER to transfer to the COPY/MOVE Utility panel (PROULCM). This panel is used to copy the "sysadmin CONNECT 000" member to each userid.PIELIB formatted above. An example COPY panel is:

```
PROULCM  -----------------  COPY/MOVE Member Utility  --------------  EZ/KEY
COMMAND ==>

Specify Copy or Move ==> c


FROM:   Library Name ==> sysadmin
          Member Name ==> sysadmin
          Member Type ==> CONNECT
       Member Version ==> 000
             Password ==>


TO:       Library Name ==> userid
          Member Name ==> userid
          Member Type ==>
       Member Version ==>

   If Same, Replace? ==> NO      (YES, NO)
       Record Format ==>         (F, V)
         Record Size ==>

Provide the required information and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 4.7: COPY/MOVE Member Utility - PROULCM (one)

The member type and version of the "TO:" member are supplied by EZ/KEY. You need change only the USERID for each userid.PIELIB to which the CONNECT member is to be copied.

Press ENTER. Repeat this step for each new userid.PIELIB. Press END (PF3) to return to the Member Utility panel.

12. Enter "copy" under the ACTION/RESULT column on the line that displays "sysadmin LIBCHAIN 000". Press ENTER to transfer to the COPY/MOVE Utility panel (PROULCM). This panel is used to copy the "sysadmin LIBCHAIN 000" member to each userid.PIELIB formatted above. An example COPY panel is illustrated on the next page.

```
PROULCM  -----------------  COPY/MOVE Member Utility ----------------- EZ/KEY
COMMAND ==>

Specify Copy or Move ==> c


FROM:    Library Name ==> sysadmin
          Member Name ==> sysadmin
          Member Type ==> LIBCHAIN
       Member Version ==> 000
             Password ==>


TO:      Library Name ==> userid
          Member Name ==> userid
          Member Type ==>
       Member Version ==>

   If Same, Replace? ==> NO      (YES, NO)
       Record Format ==>         (F, V)
         Record Size ==>

Provide the required information and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 4.8: COPY/MOVE Member Utility - PROULCM (two)

The member type and version of the "TO:" member is supplied by EZ/KEY. You need change only the USERID for each "userid.PIELIB" to which the LIBCHAIN member is to be copied.

Press ENTER. Repeat this step for each new userid.PIELIB.

13. Enter "=3.a.2" on the COMMAND line of any panel and press ENTER to transfer to the PIELIB LIBSPACE Utility panel (PROULVG). Enter "DROP" under the ACTION/RESULT column for each line that contains a new USERID in the LIBSPACE NAME column. Press ENTER.

14. Exit from EZ/KEY by entering "=x" on the COMMAND line of any panel and pressing ENTER. Your CONNECT and ENABLE members are restored to their values prior to performing step 7.

Each formatted userid.PIELIB now contains the CONNECT and LIBCHAIN members, thus each USERID defined can access all of the libraries ENABLEd for that user.

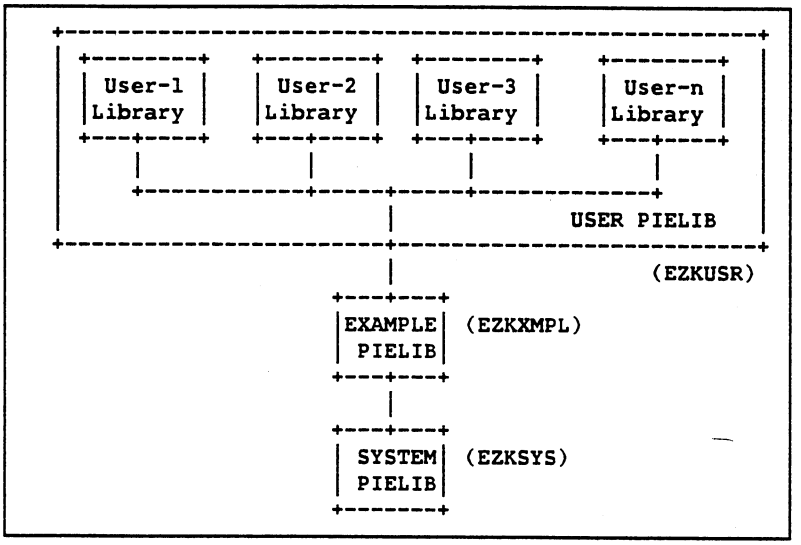
Establish CICS USERIDs and Libraries

PIELIB Configuration

The SYSTEM PIELIB, EXAMPLE PIELIB, and an empty USER PIELIB are distributed with the EZ/KEY system.

Multiple user libraries are contained in one PIELIB. Additional PIELIBs for users can be defined, CONNECTed, and formatted. JCL and a CICS FCT entry must be added for each new PIELIB.

A typical configuration of PIELIBs in the CICS environment is illustrated below, with the search order from top to bottom.



Signing on the First Time

The first invocation of EZ/KEY after installation MUST specify the transaction "EZKEY SYSTEM" to indicate to EZ/KEY that the USERID "SYSTEM" is logging-on.

1. Enter "=3.a.3" in the COMMAND line of the primary panel to transfer you to the PIELIB LIBSPACE Utility panel (PROULVF). Enter the following to format the USER PIELIB:

```
PROULVF ---------------  PIELIB LIBSPACE Utility  -------------------  EZ/KEY
COMMAND ==>



      Describe the PIELIB LIBSPACE to Connect


           LIBSPACE Name  ==> user

           LIBSPACE Type  ==> PIEVSAM   (PIEVSAM, PIEBDAM)

          (Access Rights) ==> CREATE    (USE, READ, WRITE, CREATE)

          (External Name) ==> ezkusr
                                        (FCTname)

                 (Format) ==> YES       (NO, YES)




Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 4.9: PIELIB LIBSPACE Utility - PROULVF

When the panel is redisplayed, enter the following:

```
PROULV1 ---------------  PIELIB LIBSPACE Utility  -------------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Format


           LIBSPACE Name  ==> USER

           LIBSPACE Type  ==> PIEVSAM   (PIEVSAM, PIEBDAM)

          (Access Rights) ==> CREATE    (USE, READ, WRITE, CREATE)

          (External Name) ==> EZKUSR
                                        (FCTname)

                 (Format) ==> YES       (NO, YES)

        (Number of Blocks) ==> iii

      (Size of each Block) ==> jjj      (505 to 4096)


Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 4.10: PIELIB LIBSPACE Utility - PROULV1

"iii" must be the same as the number of records that was specified as the RECORDS parameter in the DEFINE CLUSTER for the USER PIELIB in the DEFCLUST step during installation. Consult the system programmer who installed EZ/KEY for this information.

"jjj" must be the same as the record size that you specified as the RECORDSIZE parameter in the DEFINE CLUSTER for the USER PIELIB in the DEFCLUST step during installation.

See Section 3 for more information on blocksizes.

If you specify one of these values incorrectly you get a "FORMAT ERROR". Once this happens, even if you enter the correct values you will continue to get a "FORMAT ERROR".

To correct this situation you must exit EZ/KEY (enter "=x" on the COMMAND line and press ENTER) and enter the CICS command:

CEMT INQUIRE DATASET(EZKUSR)

The following panel is displayed:

```
  INQUIRE DATASET(EZKUSR)
  STATUS:  RESULTS - OVERTYPE TO MODIFY
   Dat(EZKUSR  ) Vsa Ope Ena Rea Upd Add Bro    Exc









  RESPONSE: NORMAL                        TIME:  12.07.49   DATE:  85.0 35
PF: 1 HELP       3 END                     7 SBH 8 SFH 9 MSG 10 SB 11 S F
```

On line 3, overtype "Ope" with "Clo" and press ENTER. Then overtype the "Clo" with "Ope" and press ENTER. Then press PF3 to end the CEMT session.

This closes and reopens the VSAM dataset, which clears the error condition from the VSAM AMCB.

NOTE: For DOS/VSE VSAM, you must perform an IDCAMS REPRO of at least one record into the VSAM file; otherwise, a "FORMAT ERROR" message results, no matter what you specify. For an example of how to do this, see the EZ/KEY INSTALLATION GUIDE, SECTION 5: CICS/DOS/VSE INSTALLATION, Installation JCL, "JOB REPRO THE USER PIELIB."

Next, press the keyboard CLEAR key and enter "ezkey system 3.a.3" to invoke EZ/KEY and select option 3.a.3 to format the VSAM LIBSPACE. Be careful to enter the correct information.

2. Enter "=3.a.1" on the COMMAND line of any panel to transfer you to the USERID Utility panel (PROULUG).

```
PROULUG  -------------------- USERID Utility -------------------------- List OK
COMMAND ==>                                                    SCROLL==> P


   ACTION       USERID    LIBSPACE        CREATE       ---- UPDATE ----    LOGON
   RESULT     (Libname)     NAME    STAT   DATE        DATE       TIME      TIME


   newuser      userid    ezkusr
                ADMIN     EZKUSR          08/09/85    03/01/85  12:56:12  12:54:23
                SYSTEM    EZKSYS          01/24/85    02/04/85  09:12:05  -  -  -
                EXAMPLE   EZKXMPL         01/24/85    02/14/85  12:21:13  -  -  -









ACTIONS==> AR Archive    DE Delete     DI Disable    EN Enable
       ==> LO Logoff     NU NewUser    RE Rename     S  Select
Press END (PF3) to return to the previous panel.
```

Exhibit 4.11: USERID Utility - PROULUG

3. Enter NEWUSER on the first line beneath the ACTION/RESULT header; enter the USERID of a new EZ/KEY user beneath the USERID header; enter EZKUSR beneath the LIBSPACE header; press ENTER. "CREATED" is displayed in the ACTION/RESULT column after the new CICS USERID is successfully defined. Repeat step 3 for each USERID to be defined.

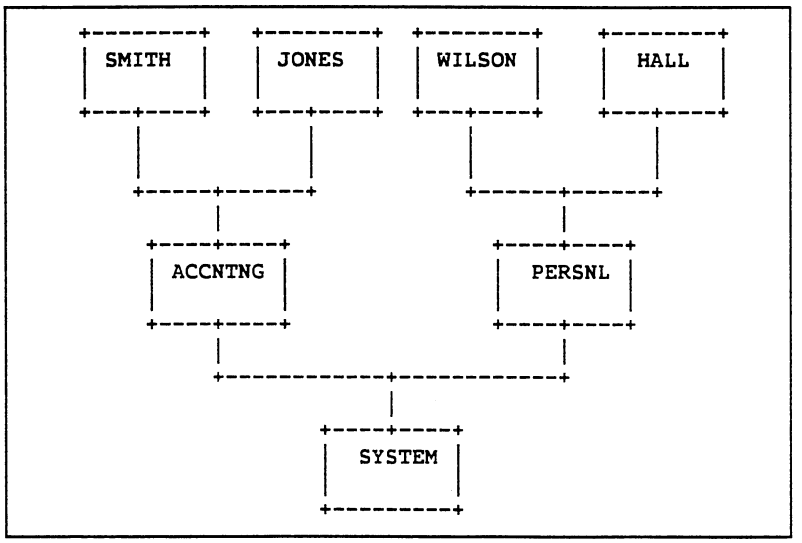
Each defined user can access EZ/KEY by entering the following transaction:

EZKEY userid

Setting Up Several Groups of Users

Many installations like to organize their users along departmental or functional lines. For example, users in the Accounting department may share common programs and file descriptions, while users in the Personnel department share different files and programs. However, users in the Personnel department would not normally have access to information belonging to the Accounting department, and vice versa.

For example, suppose Mr. Smith and Mr. Jones are in Accounting, and Mr. Wilson and Ms. Hall are in Personnel. You might picture their access capabilities as follows:



This may be accomplished when you initially define each new user to EZ/KEY.

Establish Groups under CMS

Each user library contains a "userid CONNECT" and "userid LIBCHAIN" member. The CONNECT member informs EZ/KEY which LIBSPACEs this user is automatically connected to and whether the access is READ, WRITE, or CREATE. The LIBCHAIN member tells EZ/KEY which Libraries are currently enabled.

You can control which Libraries and LIBSPACEs are automatically accessed for each user by creating these members for each department or group of users, and copying them into each user's library after you create the user's library.

For example, to set up the configuration illustrated above:

1. Define and format the ACCNTNG PIELIB and a USERID PIELIB for each person in the Accounting Department (in this case; SMITH and JONES).

2. Create the "ACCNTNG CONNECT" member in your library. You may do this as follows:

   Enter "=2" on the COMMAND line of any panel and press ENTER to transfer to the Free Mode Edit Entry Panel (PROEDIT).

   Enter "ACCNTNG" in the Member Name field, "CONNECT" in the member type field, and press ENTER.

   When the editor panel is displayed, enter "COPY" on the COMMAND line and an "a" in the line command area of the first line, and press ENTER.

   When the member copy panel is displayed, enter "sysadmin" (your userid) as the member name, and "CONNECT" as the member type. Press ENTER.

   When the edit panel is displayed again delete the line that contains:

   ```
   CONNECT sysadminLOGICAL CMS CREATE sysadminPIELIB *
   ```

   Press PF3 (END) to save the "ACCNTNG CONNECT 000" member and return to the edit entry panel.

3. Create the "ACCNTNG LIBCHAIN" member in your library as follows:

   Enter "=2" on the COMMAND line and press ENTER to transfer to the Free Mode Edit Entry Panel (PROEDIT).

   Enter "ACCNTNG" as the member name and enter "LIBCHAIN" as the member type. Press ENTER.

   When the editor panel is displayed, enter "COPY" on the COMMAND line and an "a" in the line command area of the first line. Press ENTER.

   When the member copy panel is displayed, enter "sysadmin" (your userid) as the member name and "LIBCHAIN" as the member type. Press ENTER.

   When the editor panel is displayed, overtype the line that contains "CONCAT sysadmin" so that it becomes "CONCAT ACCNTNG".

   Press PF3 (END) to save the "ACCNTNG LIBCHAIN 000" member and return to the edit entry panel.

4. Enter "=3.3" on the COMMAND line and press ENTER to transfer to the COPY/MOVE Utility panel (PROULCM). Use this panel to copy the "ACCNTNG CONNECT 000" member to each USERID library belonging to the Accounting Department. Specify the TO: member name as the corresponding userid. Copy the "ACCNTNG LIBCHAIN 000" member to each Accounting Department USERID library. Specify the TO: member name as the corresponding userid.

Repeat steps 1 through 4 above for the PERSNL Department.

Establish Groups under TSO

Each user library contains a "userid CONNECT" and "userid LIBCHAIN" member. The CONNECT member informs EZ/KEY which LIBSPACEs this user is automatically connected to and whether the access is READ, WRITE, or CREATE. The LIBCHAIN member tells EZ/KEY which Libraries are currently enabled.

You can control which Libraries and LIBSPACEs are automatically accessed for each user by creating these members for each department or group of users, and copying them into each user's library after you create the user's library.

For example, to set up the configuration illustrated at the beginning of this section:

1. Define and format the ACCNTNG PIELIB and a USERID PIELIB for each person in the Accounting Department (in this case; SMITH and JONES).

2. Create the "ACCNTNG CONNECT" member in your library. You may do this as follows:

   Enter "=2" on the COMMAND line of any panel and press ENTER to transfer to the Free Mode Edit Entry Panel (PROEDIT).

   Enter "ACCNTNG" in the Member Name field, "CONNECT" in the member type field, and press ENTER.

   When the editor panel is displayed, enter "COPY" on the COMMAND line and an "a" in the line command area of the first line, and press ENTER.

   When the member copy panel is displayed, enter "sysadmin" (your userid) as the member name, and "CONNECT" as the member type. Press ENTER.

   When the edit panel is displayed again delete the line that contains:

   CONNECT sysadminLOGICAL BDAM MAINTAIN sysadmin

   Press PF3 (END) to save the "ACCNTNG CONNECT 000" member and return to the edit entry panel.

3. Create the "ACCNTNG LIBCHAIN" member in your library as follows:

   Enter "=2" on the COMMAND line and press ENTER to transfer to the Free Mode Edit Entry Panel (PROEDIT).

   Enter "ACCNTNG" as the member name and enter "LIBCHAIN" as the member type. Press ENTER.

   When the editor panel is displayed, enter "COPY" on the COMMAND line and an "a" in the line command area of the first line. Press ENTER.

   When the member copy panel is displayed, enter "sysadmin" (your userid) as the member name and "LIBCHAIN" as the member type. Press ENTER.

   When the editor panel is displayed, overtype the line that contains "CONCAT sysadmin" so that it becomes "CONCAT ACCNTNG".

   Press PF3 (END) to save the "ACCNTNG LIBCHAIN 000" member and return to the edit entry panel.

4. Enter "=3.3" on the COMMAND line and press ENTER to transfer to the "COPY/MOVE Utility" panel, PROULCM. Use this panel to copy the "ACCNTNG CONNECT 000" member to each USERID library belonging to the Accounting Department. Specify the TO: member name as the corresponding userid. Copy the "ACCNTNG LIBCHAIN 000" member to each Accounting Department USERID library. Specify the TO: member name as the corresponding userid.

Repeat steps 1 through 4 above for the PERSNL Department.

Establish Groups under CICS

The SYSTEM PIELIB contains a "SYSTEM CONNECT" member. The CONNECT member informs EZ/KEY what LIBSPACEs are automatically connected to the EZ/KEY CICS system. When you format or CONNECT a LIBSPACE, its name is automatically added to this member.

Each user library contains a "userid LIBCHAIN" member. The LIBCHAIN member tells EZ/KEY which libraries are currently enabled for this userid. These libraries are automatically enabled each time this user signs on to EZ/KEY.

You can control which libraries are automatically enabled for each user by creating a "userid LIBCHAIN" member for each department or group of users and copying it into each user's library after you create them.

For example, to set up the above configuration, you may wish to set up separate physical PIELIBs for each department. This will simplify backup and restore operations and provide better control of disk space allocation to each department.

1. Define and format an ACCNTNG PIELIB. Your CICS systems programmer must add an FCT entry for this library. Your systems programmer may choose to call this FCT name "EZKACT", for example.

   Enter "=3.a.3" on the COMMAND line of any panel and press ENTER to transfer to the panel PROULVF to format and connect a LIBSPACE. Format the ACCNTNG PIELIB, using "ACCNTNG" as the LIBSPACE name. Enter either PIEVSAM or PIEBDAM as the LIBSPACE type depending on how your CICS systems programmer defined the dataset. Use "CREATE" for the Access Rights and "EZKACT" (the CICS FCTname) as the external name.

   Enter "=3.a.1" on the COMMAND line to transfer to panel PROULUG to define each USERID library within the ACCNTNG LIBSPACE for the Accounting Department (in this case, SMITH and JONES).

2. Create the "ACCNTNG LIBCHAIN" member in your library as follows:

   Enter "=3.2" on the COMMAND line and press ENTER. Enable all of the libraries that you want to have enabled for the Accounting Department users. Leave your library enabled at the beginning of the list -- this entry will be deleted in a later step.

   Enter "=2" on the COMMAND line and press ENTER to transfer to the Free Mode Edit Entry Panel (PROEDIT).

   Enter "ACCNTNG" as the member name and "LIBCHAIN" as the member type. Press ENTER.

   When the editor panel is displayed, enter "COPY" on the COMMAND line and an "a" in the line command area of the first line. Press ENTER.

   When the member copy panel is displayed, enter "sysadmin" (your userid) as the member name and "LIBCHAIN" as the member type. Press ENTER.

   When the editor panel is displayed, delete the line that contains:

        CONCAT sysadmin

   Press PF3 (END) to save the "ACCNTNG LIBCHAIN 000" member and return to the edit entry panel.

3. Enter "=3.3" on the COMMAND line and press ENTER to transfer to the COPY/MOVE Utility panel (PROULCM). Use this panel to copy the "ACCNTNG LIBCHAIN 000" member to each USERID library belonging to the Accounting department. Specify the TO: member name as the corresponding userid.

Repeat steps 1 through 3 above for the PERSNL Department.

After you establish all of the userids and libraries for your departments, you may wish to use a Password to prevent individual users from changing what you have set up. Refer to the sections "Administrator Password" and "Utility Password" in this manual.

(This page intentionally left blank.)

SECTION 5: BACKUP AND RESTORE FUNCTIONS

Introduction 5-1

Procedures 5-2
Exhibit 5.1: PIELIB LIBSPACE Utility - PROULVF . . . 5-3
Exhibit 5.2: USERID Utility - PROULUG (one) 5-4
Exhibit 5.3: USERID Utility - PROULUG (two) 5-5
Exhibit 5.4: PIELIB LIBSPACE Utility - PROULVF . . . 5-6
Exhibit 5.5: Multiple Member Utility - PROULSM . . . 5-7
Exhibit 5.6: Multiple Processing Edit Panel - PROULED (one) 5-8
Exhibit 5.7: Multiple Processing Edit Panel - PROULED (two) 5-9
Exhibit 5.8: Multiple Processing Edit Panel - PROULED (three) 5-10
Exhibit 5.9: LIBSPACE Utility - PROULVG (one) . . . 5-11
Exhibit 5.10: LIBSPACE Utility - PROULVG (two) . . . 5-12

(This page intentionally left blank.)

Introduction

Periodically, the System Administrator should backup each PIELIB LIBSPACE with standard Operating System utilities. This ensures the ability to restore an individual member from the backup PIELIB if the member becomes inaccessible on the production PIELIB.

The Operating System utility used to backup each PIELIB depends on the operating environment and the PIELIB LIBSPACE-type as follows:

Environment	LIBSPACE-type	Utility
CMS	PIEBDAM	TAPE DUMP command
	PIEVSAM	IDCAMS (REPRO)
TSO	PIEBDAM	IEBGENER
	PIEVSAM	IDCAMS (REPRO)
CICS/OS/VS	PIEBDAM	IEBGENER
	PIEVSAM	IDCAMS (REPRO)
CICS/DOS/VSE	PIEBDAM	DITTO
	PIEVSAM	IDCAMS (REPRO)

You may use any equivalent backup facility for your environment.

NOTE: Restore operations should be performed during off-peak hours or during periods of inactivity. You can verify that no one else is signed on to EZ/KEY by using utility 3.a.1.

Procedures

Perform the following steps to restore a member from a backup PIELIB to the production PIELIB.

1. Restore the backup PIELIB LIBSPACE to a restore PIELIB LIBSPACE with the same system utility used during the backup. The restored PIELIB LIBSPACE must have an external name (DDname or FCTname) different from the external name of the production PIELIB (e.g., RESTORE or EZKRSTR).

   a. In CMS, locate the RESTORE PIELIB on a minidisk that has been linked and accessed in WRITE mode.

   b. In TSO, allocate the RESTORE PIELIB with an ALLOCATE command in the form of:

      ALLOC F(RESTORE) DA('dataset name') SHR

   c. In CICS, open the EZKRSTR FCT entry with the CEMT transaction as illustrated below.

```
INQUIRE DATASET(EZKRSTR)
STATUS:  RESULTS - OVERTYPE TO MODIFY
 Dat(EZKRSTR ) Vsa Clo Ena Rea Upd Add Bro    Exc









  RESPONSE: NORMAL                          TIME:  08.06.47   DATE:  85.138
PF: 1 HELP       3 END                      7 SBH 8 SFH 9 MSG 10 SB 11 SF
```

Overtype "Clo" with "Ope" on line 3. Press ENTER. Press PF3 to end the CEMT session.

2. Drop the LIBSPACE to be restored using utility function 3.a.2. If you receive the message "IN USE", you must first disable all libraries within that LIBSPACE using option 3.2.

3. CONNECT the restore PIELIB LIBSPACE by using utility function 3.a.3. The LIBSPACE name must be unique among all LIBSPACEs (for example, "restore").

```
PROULVF ------------------ PIELIB LIBSPACE Utility ---------------- EZ/KEY
COMMAND ==>


       Describe the PIELIB LIBSPACE to Connect

           LIBSPACE Name  ==> restore

           LIBSPACE Type  ==> PIEBDAM    (PIEBDAM,PIEVSAM)

          (Access Rights) ==> create     (USE, READ, WRITE, CREATE)

          (External Name) ==> restore-external-name
                                         (Fname Ftype Fmode, DDname)  (CMS)
                                         (DDname)                     (TSO)
                                         (FCTname)                   (CICS)

                (Format) ==> NO          (NO, YES)




Provide the required information and press ENTER.
Press END (PF3)  to cancel and return to the previous panel.
```

Exhibit 5.1: PIELIB LIBSPACE Utility - PROULVF

4. Use utility function 3.a.1 to RENAME the library on the restored PIELIB that contains the member(s) to be restored. The new library name must be unique among all libraries.

   NOTE: If your library is in the LIBSPACE to be restored, you must put yourself in "test" mode in order to temporarily disable your own library.

```
PROULUG  -------------------- USERID Utility -------------------------  EZ/KEY
COMMAND ==>                                                  SCROLL==> P


   ACTION      USERID    LIBSPACE        CREATE      ---- UPDATE ----   LOGON
   RESULT    (Libname)   NAME     STAT   DATE        DATE       TIME     TIME


             SYSTEM    SYSTEM           12/12/84    01/16/85  15:16:16  -  -  -
             ADMIN     RESTORE          02/07/85    02/07/85  07:45:35  09:35:20
             JONES     RESTORE          02/07/85    02/07/85  07:44:05  -  -  -
   re        smith2    RESTORE          02/07/85    02/07/85  07:43:57  -  -  -
             USER      RESTORE          02/07/85    02/07/85  07:43:14  -  -  -
             WILSON    RESTORE          02/07/85    02/07/85  07:44:17  vb -  -




ACTIONS==> AR Archive   DE Delete    DI Disable   EN Enable
       ==> LO Logoff    NU NewUser   RE Rename    S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 5.2: USERID Utility - PROULUG (one)

In the ACTION/RESULT column, type "re" beside the line displaying "SMITH RESTORE". Overtype "SMITH" with "smith2". Press ENTER.

The requested function is performed, and panel PROULUG is redisplayed as illustrated below.

```
PROULUG  -------------------- USERID Utility ------------------------  EZ/KEY
COMMAND ==>                                                  SCROLL==> P


   ACTION      USERID   LIBSPACE       CREATE      ---- UPDATE ----   LOGON
   RESULT     (Libname) NAME     STAT  DATE        DATE       TIME    TIME


               SYSTEM   SYSTEM         12/12/84   01/16/85  15:16:16  -  -  -
               ADMIN    RESTORE        02/07/85   02/07/85  07:45:35  09:35:20
               JONES    RESTORE        02/07/85   02/07/85  07:44:05  -  -  -
   RENAMED     SMITH2   RESTORE        02/07/85   02/07/85  07:43:57  -  -  -
               USER     RESTORE        02/07/85   02/07/85  07:43:14  -  -  -
               WILSON   RESTORE        02/07/85   02/07/85  07:44:17  -  -  -





ACTIONS==> AR Archive   DE Delete    DI Disable   EN Enable
       ==> LO Logoff    NU NewUser   RE Rename    S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 5.3: USERID Utility - PROULUG (two)

5. Reconnect to the LIBSPACE containing the libraries to be restored using utility function 3.a.3, as illustrated below.

```
PROULVF ------------------ PIELIB LIBSPACE Utility -------------------- EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Connect

          LIBSPACE Name    ==> user

          LIBSPACE Type    ==> PIEBDAM   (PIEBDAM,PIEVSAM)

          (Access Rights) ==> read       (USE, READ, WRITE, CREATE)

          (External Name) ==> user-external-name
                                    (Fname Ftype Fmode, DDname)   (CMS)
                                    (DDname)                      (TSO)
                                    (FCTname)                    (CICS)

                 (Format) ==> NO     (NO, YES)




Provide the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 5.4: PIELIB LIBSPACE Utility - PROULVF

6. COPY selected member(s) from the restored library to the renamed library by using utility function 3.4 as illustrated.

```
PROULSM  -------------  Multiple Member Utility  ------------------  EZ/KEY
COMMAND ==>

Enter Desired Action ==> copy

FROM:
        Library Name ==> smith2
         Member Name ==> *
         Member Type ==> *
      Member Version ==> *

  TO:
        Library Name ==> smith
         Member Name ==>
         Member Type ==>
      Member Version ==>

   If Same, Replace? ==> YES     (YES, NO)
   New Record Format ==>         (F, V)
     New Record Size ==>

ACTIONS=> AR Archive  C  Copy     DE Delete    DI Disable    EN Enable
       => M  Move     PR Print    PU Punch     RE Rename
Press END (PF3) to return to the previous panel.
```

Exhibit 5.5: Multiple Member Utility - PROULSM

Enter "copy" in the Action field, "smith2" as the FROM: Library Name, and "smith" as the TO: Library name. Press ENTER.

An intermediate panel named PROULED is displayed listing the members you have requested. You can edit this panel using all standard EZ/editor commands if desired. PROULED is illustrated in the example shown below.

```
PROULED   ------------ Multiple Processing Edit Panel -------------- EZ/KEY
COMMAND ==>                                                 SCROLL ==> P

      COPY    from  SMITH2   to   SMITH

****** ***************************** START OF DATA ****************************
000001 COPY     ASMSTATS EZT      000 TO ASMSTATS EZT      000 Y F  80
000002 COPY     DAYTBL   EZTMACRO 000 TO DAYTBL   EZTMACRO 000 Y F  80
000003 COPY     EZKEY    VPROFILE 000 TO EZKEY    VPROFILE 000 Y F  80
000004 COPY     JULIANDT EZTMACRO 000 TO JULIANDT EZTMACRO 000 Y F  80
000005 COPY     PART1    JCL      000 TO PART1    JCL      000 Y F  80
000006 COPY     PART2    JCL      000 TO PART2    JCL      000 Y F  80
000007 COPY     SMITH    CONNECT  000 TO SMITH    CONNECT  000 Y F  80
000008 COPY     SMITH    LIBCHAIN 000 TO SMITH    LIBCHAIN 000 Y F  80
000009 COPY     SYSTPROF VPROFILE 000 TO SYSTPROF VPROFILE 000 Y F  80
****** ***************************** END OF DATA ******************************



Edit the data using any editor command.
Press END (PF3) to continue processing.
Type CANCEL on the COMMAND line to cancel processing.
```

Exhibit 5.6: Multiple Processing Edit Panel - PROULED (one)

After viewing the list and making sure it contains the items you want, press END (PF3) to accomplish the copy operation.

When processing is completed, the panel is redisplayed as illustrated below.

```
PROULED   ------------  Multiple Processing Edit Panel  --------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P

      COPY    from  SMITH2   to   SMITH

****** **************************** START OF DATA ****************************
000001 COPY     ASMSTATS EZT      000 TO ASMSTATS EZT      000 Y F  80
000002 Member ASMSTATS EZT was copied/moved to ASMSTATS EZT
000003 COPY     DAYTBL   EZTMACRO 000 TO DAYTBL   EZTMACRO 000 Y F  80
000004 Member DAYTBL EZTMACRO was copied/moved to DAYTBL EZTMACRO
000005 COPY     EZKEY    VPROFILE 000 TO EZKEY    VPROFILE 000 Y F  80
000006 Member EZKEY VPROFILE was copied/moved to EZKEY VPROFILE
000007 COPY     JULIANDT EZTMACRO 000 TO JULIANDT EZTMACRO 000 Y F  80
000008 Member JULIANDT EZTMACRO was copied/moved to JULIANDT EZTMACRO
000009 COPY     PART1    JCL      000 TO PART1    JCL      000 Y F  80
000010 Member PART1 JCL was copied/moved to PART1 JCL
000011 COPY     PART2    JCL      000 TO PART2    JCL      000 Y F  80
000012 Member PART2 JCL was copied/moved to PART2 JCL
000013 COPY     SMITH    CONNECT  000 TO SMITH    CONNECT  000 Y F  80
000014 Member SMITH CONNECT was copied/moved to SMITH CONNECT

Edit the data using any editor command.
Press END (PF3) to continue processing.
Type CANCEL on the COMMAND line to cancel processing.
```

Exhibit 5.7: Multiple Processing Edit Panel - PROULED (two)

Scroll DOWN (press PF8) to view the rest of the list, as illustrated below.

```
DOWN      ------------ Multiple Processing Edit Panel --------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P

      COPY    from  SMITH2   to   SMITH

000014 Member SMITH CONNECT was copied/moved to SMITH CONNECT
000015 COPY     SMITH    LIBCHAIN 000 TO SMITH    LIBCHAIN 000 Y F  80
000016 Member SMITH LIBCHAIN was copied/moved to SMITH LIBCHAIN
000017 COPY     SYSTPROF VPROFILE 000 TO SYSTPROF VPROFILE 000 Y F  80
000018 Member SYSTPROF VPROFILE was copied/moved to SYSTPROF VPROFILE
****** ***************************** END OF DATA ******************************




Edit the data using any editor command.
Press END (PF3) to continue processing.
Type CANCEL on the COMMAND line to cancel processing.
```

Exhibit 5.8: Multiple Processing Edit Panel - PROULED (three)

7. The last step is to DROP the restore PIELIB LIBSPACE with utility function 3.a.2, as illustrated below.

```
PROULVG ------------------- LIBSPACE Utility ----------------------- EZ/KEY
COMMAND ==>                                                SCROLL ==> P


  ACTION     LIBSPACE          LIBSPACE    ACCESS     EXTERNAL
  RESULT     NAME       STAT   TYPE        RIGHTS     NAME

             SYSTEM            PIEBDAM     READ       EZKSYS
             USER              PIEBDAM     CREATE     EZKUSR
  dr         RESTORE           PIEBDAM     CREATE     EZKRSTR
             EXAMPLE           PIEBDAM     READ       EZKXMPL









ACTIONS==> DR DROP   U USAGE   V VERIFY
Press END (PF3) to return to the previous panel.
```

Exhibit 5.9: LIBSPACE Utility - PROULVG (one)

Enter "dr" in the ACTION/RESULT column beside the "RESTORE" name and press ENTER.

The requested action is performed and PROULVG is redisplayed as illustrated below.

```
PROULVG ------------------- LIBSPACE Utility ----------------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P


  ACTION      LIBSPACE          LIBSPACE     ACCESS      EXTERNAL
  RESULT      NAME        STAT  TYPE         RIGHTS      NAME

              SYSTEM            PIEBDAM      READ        EZKSYS
              USER              PIEBDAM      CREATE      EZKUSR
  DROPPED     RESTORE           PIEBDAM      CREATE      EZKRSTR
              EXAMPLE           PIEBDAM      READ        EZKXMPL









ACTIONS==> DR DROP   U USAGE   V VERIFY
Press END (PF3) to return to the previous panel.
```

Exhibit 5.10: LIBSPACE Utility - PROULVG (two)

SECTION 6: EXECUTION SERVICES

Introduction 6-1

CMS Foreground Execution 6-2
Exhibit 6.1: Run On-line - PROEXECC 6-2

TSO Foreground Execution 6-6
Exhibit 6.2: Run On-Line - PROEXECT 6-6

Background Execution 6-10
Exhibit 6.3: Submit For Batch Execution - PROEXEC2 . 6-10
Exhibit 6.4: Modify Job Information - PROEXEC3 . . . 6-12
Other EZ/KEY Variables 6-14
Sample MVS JCL Substitution 6-15
Exhibit 6.5: Submit For Batch Execution - PROEXEC2 . 6-15
Exhibit 6.6: Modify Job Information - PROEXEC3 . . . 6-16
Exhibit 6.7: JCL Before Substitution (JCLPRNT Header Member) 6-18
Exhibit 6.8: JCL After Substitution (No Trailer JCL Specified) 6-18
Sample VSE JCL Substitution 6-19
Exhibit 6.9: Submit For Batch Execution - PROEXEC2 . 6-19
Exhibit 6.10: Modify Job Information - PROEXEC3 . . 6-20
Exhibit 6.11: JCL Before Substitution (EZTPJCL Header Member) 6-22
Exhibit 6.12: JCL Before Substitution (ENDJCL Trailer Member) 6-22
Exhibit 6.13: JCL After Substitution 6-23
JCL Substitution and Macro Expansion for Background Execution 6-23
Viewing Report Output On-Line in CICS 6-24
VSE Report Output Requirements 6-24
MVS Report Output Requirements 6-24
CONNECT and ENABLE Report Output Library 6-26
How To View Report Output On-Line 6-26

How to Print the LOG in CICS/OS/VS 6-27
Exhibit 6.14: Submit For Batch Execution - PROEXEC2 (one) 6-28

How to Print the LOG in CICS/DOS/VSE 6-29
Exhibit 6.15: Submit For Batch Execution - PROEXEC2 (two) 6-30

(This page intentionally left blank.)

Introduction

EASYTRIEVE PLUS programs created by EZ/KEY can be executed in the background or the foreground. Background (or batch) execution is available in CMS, TSO, and CICS. Foreground (or interactive) execution is supported only in the CMS and TSO environments.

This section provides a detailed description of how EZ/KEY executes EASYTRIEVE PLUS in the CMS and TSO foreground and how EZ/KEY submits a program for batch execution under all environments.

CMS Foreground Execution

1. a. Type EZKEY and press ENTER to invoke EZ/KEY.

   b. Select Option 4 (Foreground Execution) and press ENTER to display the panel illustrated below.

```
PROEXECC ---------------------- Run On-Line ----------------------- EZ/KEY
COMMAND ==>

Enter/Verify the Following Information:


                    EXEC Name ==>
EASYTRIEVE PLUS Program Name ==>
                Program Type ==> EZT
                     Version ==> 000

FIRST FILE:      Filedef Name ==>          (DDname)
                CMS File Name ==>
                CMS File Type ==>

SECOND FILE:     Filedef Name ==>          (DDname)
                CMS File Name ==>
                CMS File Type ==>

          Send the Output to ==>          (Browse, Disk, Printer, or Terminal)

               Expand Macros ==> NO       (YES or NO)

Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.1: Run On-line - PROEXECC

c. The following table illustrates the information to enter in the Run On-Line panel. The EXEC Name, Program Name, Program Type, and Send the Output to fields are required; the remaining fields are optional.

Prompt	Internal Name	CMS EXEC Parameter
EXEC Name	execnam	&0
Program Name	pgmnam	&1
FIRST FILE: Filedef Name (DDname)	ddnam	&2
FIRST FILE: CMS File Name	dsnam	&3
FIRST FILE: CMS File Type	dstyp	&4
Send the Output to	dest	&5
SECOND FILE: Filedef Name (DDname)	ddnam2	&6
SECOND FILE: CMS File Name	dsnam2	&7
SECOND FILE: CMS File Type	dstyp2	&8
Program Type	pgmtyp	&9

2. For the specified program name, the member "&pgm EZT 000" is read from an enabled PIELIB and is written to an external dataset named "&pgm EZT A1".

3. A PIETEMP EXEC is constructed internally as a member in your PIELIB and is moved to CMS as a sequential dataset:

   The file's name is "PIETEMP EXEC A1"; its content is:

```
&CONTROL OFF
EXEC execnam pgmnam ddnam dsnam dstyp dest ddnam2 dsnam2 dstyp2 pgmtyp
```

   If values are not entered on the panel, the default values are:

```
EXEC execnam pgmnam 2 3 4 dest 6 7 8 pgmtyp
```

4. EZ/KEY sets the return code to 4 and returns to the EXEC invoked in step 1a.

5. The EZKEY EXEC checks the return code. Since the return code is 4, PIETEMP is executed.

6. a. The PIETEMP EXEC executes the target EXEC whose name was supplied as the first field on the panel in step 1. PIETEMP passes the values of the other fields as arguments to the target EXEC.

      The EZTPLUSO (OS) and EZTPLUSD (DOS) EXECs are given in Section 2 of the EZ/KEY Installation Guide. You can provide additional EXECs to execute programs other than EASYTRIEVE PLUS programs.

      When tailoring EXECs for use with foreground execution, you can optionally place your tailored EXECs in a PIELIB (such as EXAMPLE PIELIB). EZ/KEY automatically copies the EXEC out to the CMS A(191) minidisk from any enabled library during foreground execution. This permits you to store all of your EXECs for use with EZ/KEY in one place.

   b. As EASYTRIEVE PLUS executes, the printed output for SYSPRINT is displayed on the terminal if the output destination is "T". If the output destination is "P", the printed output is sent to the printer; output destination "D" produces a disk file with a filename the same as your program name and a filetype of "LISTING"; and output destination "B" allows the listing to be browsed.

c. When the EASYTRIEVE PLUS program completes, the target EXEC returns to the PIETEMP EXEC which immediately returns to the EZKEY EXEC invoked in step 1a.

7. The EZKEY EXEC erases the PIETEMP EXEC and displays, "Press ENTER to continue, or type END to exit EZ/KEY" on the terminal. If you press ENTER, EZ/KEY is reinvoked with a primary selection option of "4" which transfers to the EZ/KEY foreground execution panel. If you type "END" and press ENTER, the EZKEY EXEC returns to CMS.

TSO Foreground Execution

1. a. Type EZKEY and press ENTER to invoke EZ/KEY.

   b. Select Option 4 (Foreground Execution) and press ENTER to display the panel illustrated below.

```
PROEXECT ---------------------- Run On-Line ---------------------- EZ/KEY
COMMAND ==>

Enter/Verify the Following Information:

                   CLIST Name ==>
EASYTRIEVE PLUS Program Name ==>
                 Program Type ==> EZT
                      Version ==> 000

FIRST FILE:         File Name ==>        (DDname)
                  Dataset Name ==>

SECOND FILE:        File Name ==>        (DDname)
                  Dataset Name ==>

           Send the Output to ==>        (Browse, Disk, Printer or Terminal)

                   CLIST Type ==> %      (% = SYSPROC, EX = EXEC)

                 Expand Macros ==> NO    (YES or NO)

Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.2: Run On-Line - PROEXECT

c. The following table illustrates the information to enter in the Run On-Line panel. The CLIST Name, Program Name, Program Type, and Send the Output to fields are required; the remaining fields are optional.

Prompt	Internal Name	TSO CLIST Parameter
CLIST Name	execnam	&SYSICMD
Program Name	pgmnam	&PGM
Program Type	pgmtyp	&PGMTYP
FIRST FILE: File Name (DDname)	ddnam	&DDNAM
FIRST FILE: Dataset Name	dsnam	&DSNAM
SECOND FILE: File Name (DDname)	ddnam2	&DDNAM2
SECOND FILE: Dataset Name	dsnam2	&DSNAM2
Send the Output to	dest	&TYP

2. For the specified program name, the member "&pgm EZT 000" is read from an enabled PIELIB and is written to an external dataset named "userid.&pgm.EZT".

3. The PIETEMP CLIST is constructed internally as a member in your PIELIB and is moved to TSO as a sequential dataset named "prefix.PIETEMP.CLIST", where, "prefix" is the prefix selected by the installation in the EZKEY.CLIST, usually &SYSPREF. Refer to the EZ/KEY Installation Guide for more details. The contents of this file are:

```
PROC 0
EX clistid 'pgm indd indsn dest'
EX execnam 'pgmnam ddnam dsnam dest ddnam2 dsnam2 pgmnam'
```

If values are not entered on the panel, the default values are:

```
EX execnam 'pgmnam ddnam dsnam dest 6 7 pgmtyp'
```

4. EZ/KEY sets the return code to 4 and returns to the CLIST invoked in step 1a.

5. The EZKEY.CLIST checks the return code. Since the return code is 4, the PIETEMP.CLIST is executed.

6. a. The PIETEMP.CLIST executes the target CLIST whose name was supplied as the first field on the panel in step 1. PIETEMP passes the values of the other fields as arguments to the target CLIST.

   The EZTPLUS.CLIST for TSO is given in Section 3 of the EZ/KEY Installation Guide. You can provide additional CLISTs to execute programs other than EASYTRIEVE PLUS programs.

   When tailoring CLISTs for use with foreground execution, you can optionally place your tailored CLISTs in a PIELIB (such as EXAMPLE PIELIB). If "EX" is specified for CLIST type, EZ/KEY automatically copies the CLIST out to the TSO sequential library from any enabled library during foreground execution. This permits you to store all of your CLISTs for use with EZ/KEY in one place.

   b. As EASYTRIEVE PLUS executes, the printed output for SYSPRINT is displayed on the terminal if the output destination is "T". If the output destination is "P", the printed output is sent to the printer. Output destination "D" produces a disk file with a name of 'prefix.pgm.LIST'; where "prefix" is the user's EZ/KEY prefix and "pgm" is the same as the name of the program selected. Output destination "B" allows the program listing to be browsed.

   c. When the EASYTRIEVE PLUS program completes, the target CLIST returns to the PIETEMP.CLIST, which immediately returns to the EZKEY.CLIST invoked in step 1a.

7. The EZKEY.CLIST erases the PIETEMP.CLIST and displays: "PRESS ENTER TO CONTINUE ..." on the terminal. When you press ENTER, EZ/KEY is reinvoked with a primary selection option of "4" which transfers to the EZ/KEY foreground execution panel.

Background Execution

1. a. Type EZKEY and press ENTER to invoke EZ/KEY.

   b. Select Option 5 (Background Execution) and press ENTER to display a panel similar to the following:

```
PROEXEC2 ---------------  Submit For Batch Execution  --------------- EZ/KEY
COMMAND ===>

Enter/Verify the Following Information:

             Header JCL Name ==>
EASYTRIEVE PLUS Program Name ==>
                Program Type ==> EZT
                     Version ==> 000
            Trailer JCL Name ==>

FIRST FILE:        File Name ==>        (DDname)
                 Dataset Name ==>

SECOND FILE:       File Name ==>        (DDname)
                 Dataset Name ==>

               Expand Macros ==> NO     (YES or NO)
      Modify Job Information ==> YES    (YES or NO)

      Destination Machine ID ==>        (CMS only)

Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.3: Submit For Batch Execution - PROEXEC2

c. Enter the following fields on the panel (the header JCL member name is required; the remaining fields are optional):

Prompt	Variable Name
Header JCL Name (Member-type must be JCL)	JCLFILE
Program Name	CPGMNAM
Program Type	CPGMTYP
Version	CVR
Trailer JCL Name (Member-type must be JCL)	JCLFIL2
FIRST FILE: File Name (DDname)	DDNAM
FIRST FILE: Dataset Name	DSNAM
SECOND FILE: File Name (DDname)	DDNAM2
SECOND FILE: Dataset Name	DSNAM2
Expand macros	EDXPND
Destination Machine ID (CMS only)	MCHDEST

2. The header JCL member is read from an enabled library. The lines are scanned for EZ/KEY JCL variables (EZ/KEY JCL variables start with a '%' and end with a '|'). When an EZ/KEY JCL variable is found, the variable name (including the "%" and "|") is replaced by the values entered on the panel or by other values maintained by EZ/KEY. If no value was entered on the panel, the JCL variable name (including the "%" and "|") is deleted from the JCL. See the following OS and DOS examples for an example of this substitution.

3. If an EASYTRIEVE PLUS program name was entered, that member is located in an enabled library and is added after the header JCL.

4. If a trailer JCL name was entered, that member is located in an enabled library and is added after the EASYTRIEVE PLUS program. The same EZ/KEY JCL substitution is provided for the trailer JCL as for the header JCL in step 2.

5. If "YES" is specified for Expand Macros, macros are expanded at this time.

6. If "YES" is specified for Modify Job Information, the panel PROEXEC3 is displayed.

```
PROEXEC3  ----------------- Modify Job Information -----------------   EZ/KEY
COMMAND

Enter/Verify the Following Job Information:

Job Name        ==>
Account         ==>
SubAccount      ==>
Msgclass        ==>
Password        ==>




Type the required information and press ENTER.
Press END (PF3) to submit the job and return to the previous panel.
Type CANCEL on the COMMAND line to exit without changing anything.
```

Exhibit 6.4: Modify Job Information - PROEXEC3

The following table illustrates the information that may be entered in the Modify Job Information panel. All of these fields are optional.

Prompt	Variable Name
Job Name	EZKEY1
Account	EZKEY2
Subaccount	EZKEY3
Msgclass	EZKEY4
Password	EZKEY5

See Section 8: JOB INFORMATION CUSTOMIZATION for instructions on how to customize the information displayed on the Modify Job Information panel.

7. The collected records are written to the internal reader of the host system. In CMS, the data is "punched" to the "Destination Machine ID".

   To retain compatability with previous versions of EZ/KEY, existing user profiles and JCL members, EZ/KEY maintains the following equivalences:

```
INDDNAM = DDNAM
INDSNAM = DSNAM
VPIJOB  = EZKEY1
VPIA    = EZKEY2
VPIS    = EZKEY3
VC      = EZKEY4
VPASS   = EZKEY5
```

   You should set up separate Header and/or Trailer JCL members for the cases where:

   a. no files are specified;
   b. one file is specified;
      and
   c. two files are specified.

   or instruct your users to fill in an appropriate dummy dataset name. Otherwise, JCL errors may result.

Other EZ/KEY Variables

The following variables (maintained internally by EZ/KEY) may also be used as EZ/KEY JCL variables.

Variable	Value	Description
ZDATE ZMONTH ZDAY ZYEAR	MM/DD/YY MM DD YY	Current Date
ZTIME ZHOUR ZMIN ZSEC	HH:MM:SS HH MM SS	Current Time
ZSYSTEM ZSYS	CMS, MVS, CICS CMS, TSO, CICS	Operating Environment
ZOPSYS (CICS only)	OS, DOS	Operating System
ZUSERID ZUSER	(no trailing blanks) (8 characters)	Userid
ZVERSION	30C	EZ/KEY Version
CS	OS, DOS	Target System
CMODE	Prompt, Free	EZ/Editor Mode
MJI	YES, NO	Modify Job Information
INCRMNTL	YES, NO	Incremental Checking
PIEBUFSZ	SMALL, MEDIUM, LARGE	Buffer Pool Size
MAXERROR	10 to 999	Maximum Number of Errors Inserted by EZ/checker

Sample MVS JCL Substitution

This example illustrates one method of printing the contents of a member in a PIELIB.

1. Select primary Option 5 and enter the following values on the panel:

```
PROEXEC2 ---------------  Submit For Batch Execution  ---------------  EZ/KEY
COMMAND ===>

Enter/Verify the Following Information:

             Header JCL Name ==> jclprnt
EASYTRIEVE PLUS Program Name ==> eztpa
               Program Type ==> ezt
                    Version ==>
            Trailer JCL Name ==>

FIRST FILE:        File Name ==> *                   (DDname)
                 Dataset Name ==> test.dataset.name

SECOND FILE:       File Name ==>                     (DDname)
                 Dataset Name ==>

              Expand macros ==> no                  (YES or NO)
      Modify Job Information ==> yes                (YES or NO)

      Destination Machine ID ==>                    (CMS only)

Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.5: Submit For Batch Execution - PROEXEC2

NOTE: The values shown above are for illustration purposes only.

2. Press ENTER. The Modify Job Information panel (PROEXEC3) is displayed.

3. Fill in the values as shown below on the panel, and press ENTER. Note that the password "crypto" will not show up on your screen as you type it since this is a non-display field.

```
PROEXEC3  ---------------- Modify Job Information -----------------  EZ/KEY
COMMAND ===>

Enter/Verify the Following Job Information:

Job Name          ==> samplea
Account           ==> 6078
Subaccount        ==> smple
Msgclass          ==> x
Password          ==> crypto




Type the required information and press ENTER.
Press END (PF3) to submit the job and return to the previous panel.
Type CANCEL on the COMMAND line to exit without changing anything.
```

Exhibit 6.6: Modify Job Information - PROEXEC3

NOTE: The values shown above are for illustration purposes only.

The following table illustrates the values of various EZ/KEY variables accumulated from panels PROEXEC2 and PROEXEC3:

Prompt	Variable Name	Variable Value
Header JCL Name	JCLFILE	JCLPRNT
Program Name	CPGMNAM	EZTPA
Program Type	CPGMTYP	EZT
Trailer JCL Name	JCLFIL2	(null)
File Name Dataset Name	DDNAM DSNAM	* TEST.DATASET.NAME
Job Name Account Subaccount Msgclass Password	EZKEY1 EZKEY2 EZKEY3 EZKEY4 EZKEY5	SAMPLEA 6078 SMPLE X CRYPTO

4. Press the END key (PF3) to submit the sample job.

The following illustrations show the results of the JCL substitution process on the Header JCL.

```
//%EZKEY1|  JOB (%EZKEY2|,%EZKEY3|),'PRINT OF %CPGMNAM|',
//          MSGCLASS=%EZKEY4|,CLASS=6
//*  %EZKEY1| SUBMITTED ON %ZDATE| AT %ZTIME|
//PRINT     EXEC PGM=IEBGENER
//%DDNAM|   DD   DSN=%DSNAM|,DISP=SHR
//SYSPRINT  DD   SYSOUT=*
//SYSUT2    DD   SYSOUT=*
//SYSIN     DD   DUMMY
//SYSUT1    DD   *
```

Exhibit 6.7: JCL Before Substitution (JCLPRNT Header Member)

```
//SAMPLEA   JOB (6078,SMPLE),'PRINT OF EZTPA',
//          MSGCLASS=X,CLASS=6
//* SAMPLEA SUBMITTED ON 03/18/85 AT 08:36:39
//PRINT     EXEC PGM=IEBGENER
//* DD   DSN=TEST.DATASET.NAME,DISP=SHR
//SYSPRINT  DD   SYSOUT=*
//SYSUT2    DD   SYSOUT=*
//SYSIN     DD   DUMMY
//SYSUT1    DD   *
   ((Source for the program EZTPA EZT 000))
```

Exhibit 6.8: JCL After Substitution (No Trailer JCL Specified)

Sample VSE JCL Substitution

This example submits the JCL and an EASYTRIEVE PLUS program from an EZ/KEY system operating under CICS/DOS/VSE.

1. Select primary Option 5 and enter the following values on the panel:

```
PROEXEC2 -------------  Submit For Batch Execution  ---------------  EZ/KEY
COMMAND ===>

Enter/Verify the Following Information:

             Header JCL Name ==> eztpjcl
EASYTRIEVE PLUS Program Name ==> testa
                Program Type ==> EZT
                     Version ==>
            Trailer JCL Name ==> encjcl

FIRST FILE:        File Name ==> sample          (DDname)
                 Dataset Name ==> test.data

SECOND FILE:       File Name ==>                 (DDname)
                 Dataset Name ==>

               Expand Macros ==> no              (YES or NO)
      Modify Job Information ==> yes             (YES or NO)



Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.9: Submit For Batch Execution - PROEXEC2

NOTE: The values shown above are for illustration purposes only.

2. Press ENTER. The Modify Job Information panel (PROEXEC3) is displayed.

3. Fill in the values as shown below on the panel, and press ENTER.

```
PROEXEC3 ----------------- Modify Job Information ----------------- EZ/KEY
COMMAND

Enter/Verify the Following Job Information:

Job Name       ==> samplea
Account        ==>
Subaccount     ==>
Msgclass       ==> a
Password       ==>




Type the required information and press ENTER.
Press END (PF3) to submit the job and return to the previous panel.
Type CANCEL on the COMMAND line to exit without changing anything.
```

Exhibit 6.10: Modify Job Information - PROEXEC3

NOTE: The values shown above are for illustration purposes only.

The following table illustrates the values of various EZ/KEY variables accumulated from panels PROEXEC2 and PROEXEC3:

Prompt	Variable Name	Variable Value
Header JCL Member Name	JCLFILE	EZTPJCL
Program Member Name	CPGMNAM	TESTA
Program Member Type	CPGMTYP	EZT
Trailer JCL Member Name	JCLFIL2	ENDJCL
File Name Physical Dataset Name	DDNAM DSNAM	SAMPLE TEST.DATA
Job name Account Subaccount Msgclass Password	EZKEY1 EZKEY2 EZKEY3 EZKEY4 EZKEY5	SAMPLEA (null) (null) A (null)

4. Press the END key (PF3) to submit the sample job.

The following illustrations show the results of the JCL substitution process on the Header JCL.

```
* $$ JOB JNM=%EZKEY1|,CLASS=A,USER='%ZUSERID|',DISP=H
* $$ PRT CLASS=%EZKEY4|,DISP=H
// JOB %EZKEY1|
*
* %EZKEY1| SUBMITTED ON %ZDATE| AT %ZTIME|
*
// ASSGN SYS003,186
// DLBL  EZTP,'EZTPLUS.CORE.IMAGE.LIBRARY',83/350,SD
// EXTENT SYS003,TRNSYS,1,0,180,90
// LIBDEF CL,SEARCH=EZTP,TEMP
// ASSGN SYS016,186
// DLBL  EZTVFM,'WORKAREA',0,SD
// EXTENT SYS016,TRNSYS,1,0,270,30
// ASSGN SYS011,DISK,VOL=USER01,SHR
// DLBL  %DDNAM|,'%DSNAM|',0,SD
// EXTENT SYS011,USER01,1,0,12443,1
// EXEC EZTPA00,SIZE=512K
```

Exhibit 6.11: JCL Before Substitution (EZTPJCL Header Member)

```
/*
/&
* $$ EOJ
```

Exhibit 6.12: JCL Before Substitution (ENDJCL Trailer Member)

```
* $$ JOB JNM=SAMPLEA,CLASS=A,USER='SAMPLE',DISP=H
* $$ PRT CLASS=A,DISP=H
// JOB SAMPLEA
*
* SAMPLEA SUBMITTED ON 03/28/85 AT 08:36:39
*
// ASSGN SYS003,186
// DLBL  EZTP,'EZTPLUS.CORE.IMAGE.LIBRARY',83/350,SD
// EXTENT SYS003,TRNSYS,1,0,180,90
// LIBDEF CL,SEARCH=EZTP,TEMP
// ASSGN SYS016,186
// DLBL  EZTVFM,'WORKAREA',0,SD
// EXTENT SYS016,TRNSYS,1,0,270,30
// ASSGN SYS011,DISK,VOL=USER01,SHR
// DLBL  SAMPLE,'TEST.DATA',0,SD
// EXTENT SYS011,USER01,1,0,12443,1
// EXEC EZTPA00,SIZE=512K
   ((Source for the program TESTA EZT 000))
/*
/&
* $$ EOJ
```

Exhibit 6.13: JCL After Substitution

JCL Substitution and Macro Expansion for Background Execution

EZ/KEY performs JCL substitution and macro expansion using the following steps:

1. The Header JCL is loaded into a temporary member and JCL substitution is performed. The temporary member is saved for use in step 3.

2. The EASYTRIEVE PLUS program is copied into memory.

   If the Expand Macros field is set to "YES", the EZ/KEY syntax checker expands macros in the program.

3. The temporary member from step 1 is copied before the EASYTRIEVE PLUS program.

4. The Trailer JCL is copied after the EASYTRIEVE PLUS program.

   JCL substitution takes place for the TRAILER JCL.

5. The Header JCL, EASYTRIEVE PLUS program, and Trailer JCL is submitted for batch execution.

6. The temporary member is deleted.

(This page intentionally left blank.)

Viewing Report Output On-Line in CICS

EZ/KEY users can submit EASYTRIEVE PLUS programs from EZ/KEY under CICS/OS/VS or CICS/DOS/VSE and view the report output on-line, without exiting EZ/KEY.

VSE Report Output Requirements

Report output can be saved as a member in a single, large EASYTRIEVE PLUS VSAM KSDS library, using as a member name the UserID of the user who submitted the report job.

VSAM Report Output Library Considerations

A benefit of using a VSAM KSDS library is that it never needs to be compressed. VSAM automatically reclaims the space and manages sharing via the VSAM SHARE OPTIONS specified when the cluster is defined.

EZTPLUS Header JCL Requirements

Modify the EZTPLUS Header JCL used at your site to store the report output in a sequential disk dataset. Invoke EZTPMNT to add sequential data sets, as members, to an EASYTRIEVE PLUS VSAM KSDS library accessible to EZ/KEY.

EASYTRIEVE PLUS Program Considerations

Specify a LINESIZE of 79 or less on the REPORT statement in all EASYTRIEVE PLUS programs when the output is to be stored in a VSAM KSDS library.

MVS Report Output Requirements

Report output can be saved as separate members in a single, large PDS library, using the UserID of the user who submits the report job. This library should be accessed using DISP=SHR in the CICS JCL and in the EZTPLUS Header JCL by all batch report jobs that update it.

EZTPLUS Header JCL Requirements

Modify the EZTPLUS Header JCL used at your site to store the report output as members of a PDS library accessible to EZ/KEY. Include a job step to delete any old report member by the same name, and compress the library before adding a new report member. This should prevent report job failures due to x37 abends.

PDS Report Output Library Considerations

Specify a record format of VB for the report output library. Select a reasonable blocksize, based on the device type of the disk volume where the library resides. A good blocksize is 4096 for most device types.

Preventing Simultaneous Update of PDS

You must ensure that batch report jobs do not update the library at the same time, since this usually results in the intermixing of output from several reports. Use one of the following methods to accomplish this:

1. Make all report jobs run in the same job class, and ensure that only one initiator runs jobs for that class.

2. Make all report jobs use the same job name. JES2 permits only one job with the same job name to run at a time.

3. Make all report jobs reference a control file with a disposition of OLD in the JCL. For example, allocate and catalog a sequential dataset on a permanently-mounted disk volume. This dataset can be of minimal size, such as one block, since it contains no actual data. Add a DD statement to the JCL for all batch job steps that update the corresponding report output library. For example, you could use:

```
//CONTROL DD DSN=EZTPLUS.REPORT.CONTROL,DISP=OLD
```

When such a control file is used, JOBs may be reported as "WAITING FOR DATASET(S)" by MVS. Check with your site's system programmers to see if this is acceptable.

Be sure to use a CONTROL DD statement, as shown above, for the compress job step and the EASYTRIEVE PLUS job step that updates the PDS.

Do not add a CONTROL DD statement to the CICS start-up JCL. Doing so causes all batch jobs containing the CONTROL DD statement to be "WAITING FOR DATASET(S)" until CICS terminates.

CONNECT and ENABLE Report Output Library

The macro library must be CONNECTed to EZ/KEY using option 4 of the System Adminstrator Utility Menu. After it is CONNECTed, it must also be ENABLEd to allow your users to view reports on-line. You can tell your users to do this themselves using option 3.2 of EZ/KEY, or you can do it for them. See Section 7, Report Adminstrator, "Copy Default Attributes", in this guide for information on how to do this.

How To View Report Output On-Line

To view the output of a report, instruct EZ/KEY users to do the following:

1. Select Option 2, Edit. This can be specified from any panel by typing "=2" on the COMMAND line. The PROEDIT panel is displayed.

2. Specify the EZ/KEY UserID as the member-name, "OUTPUT" as the member-type, and press ENTER. The PROEDIT1 panel appears, displaying the first part of the output.

3. Scroll UP (PF7), DOWN (PF8), LEFT (PF10), and RIGHT (PF11) within the output dataset by using the PF KEYs defined in EZ/KEY for this purpose.

4. When finished viewing the output, press END (PF3) or RETURN (PF4) to leave the Editor.

This method provides CICS-based EZ/KEY users with the ability to view the output of a batch job without exiting EZ/KEY. This technique is not limited to EASYTRIEVE PLUS. EZ/KEY may be used to submit COBOL compiles, or almost any batch job, and view the output on-line.

This is only a suggested use; you must evaluate the implications of implementing this technique for use at your site. If you have a JES or POWER Queue Display product available under CICS at your site, it may be more appropriate to instruct your users in its use. You might, for instance, have them exit EZ/KEY and invoke the Queue Display product to perform this function.

How to Print the LOG in CICS/OS/VS

The PRINT primary command appends copies of EZ/KEY panels to the member "userid LOG" in each user's PIELIB library. To get a hard copy listing of your LOG, you can use Option 5 to submit the following member, LOGPRNT JCL, which is in the EXAMPLE PIELIB:

```
//%EZKEY1| JOB (%EZKEY2|,%EZKEY3|),'PRINT OF %CPGMNAM|',
//         MSGCLASS=%EZKEY4|
//* COMMENT %ZUSERID| SUBMITTED ON %&ZDATE| AT %&ZTIME|
//PRINT    EXEC PGM=IEBGENER
//SYSPRINT  DD  SYSOUT=*
//SYSUT2    DD  SYSOUT=*
//SYSIN     DD  DUMMY
//SYSUT1    DD  *
```

To get a listing of selected EZ/KEY panels, users can:

- Enter PRINT on the command line of one or more panels.
- Select primary Option 5 and enter the following values on the panel:

```
PROEXEC2 --------------  Submit For Batch Execution  --------------   EZ/KEY
COMMAND ===>

Enter/Verify the Following Information:

             Header JCL Name ==> logprnt
EASYTRIEVE PLUS Program Name ==> userid
                Program Type ==> log
                     Version ==>
            Trailer JCL Name ==>

FIRST FILE:        File Name ==> *           (DDname)
                 Dataset Name ==> *

SECOND FILE:       File Name ==>             (DDname)
                 Dataset Name ==>

               Expand Macros ==> no          (YES or NO)
      Modify Job Information ==> no          (YES or NO)



Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.14: Submit For Batch Execution - PROEXEC2 (one)

How to Print the LOG in CICS/DOS/VSE

The PRINT primary command appends copies of EZ/KEY panels to the member "userid LOG" in each user's PIELIB library. To get a hard copy listing of your LOG, you can use Option 5 to submit the following members in the EXAMPLE PIELIB:

LOGHEAD JCL

```
* $$ JOB JNM=%EZKEY1|,CLASS=5,USER='%ZUSERID|',DISP=D
* $$ LST CLASS=%EZKEY4|,DISP=D,RBS=200
// JOB %EZKEY1| %EZKEY2|
// UPSI 1
// EXEC DITTO,SIZE=128K
$$DITTO CP
```

LOGTRAIL JCL

```
/*
$$DITTO EOJ
/*
/&
* $$ EOJ
```

To get a listing of selected EZ/KEY panels, users can:

- Enter PRINT on the command line of one or more panels.
- Select primary Option 5 and enter the following values on the panel:

```
PROEXEC2 -------------- Submit For Batch Execution ---------------- EZ/KEY
COMMAND ===>

Enter/Verify the Following Information:

             Header JCL Name ==> loghead
EASYTRIEVE PLUS Program Name ==> userid
                Program Type ==> log
                     Version ==>
            Trailer JCL Name ==> logtrail

FIRST FILE:        File Name ==> *             (DDname)
                 Dataset Name ==> *

SECOND FILE:       File Name ==>               (DDname)
                 Dataset Name ==>

               Expand Macros ==> no            (YES or NO)
      Modify Job Information ==> no            (YES or NO)



Type the required information and press ENTER.
Press END (PF3) to cancel and return to the previous panel.
```

Exhibit 6.15: Submit For Batch Execution - PROEXEC2 (two)

SECTION 7: REPORT ADMINISTRATOR

Introduction 7-1
Exhibit 7.1: Utility Menu - PROUTL 7-2

EZ/REPORT Utilities 7-3
Report Administrator Utility Menu 7-3
Exhibit 7.2: Report Administrator Utility Menu - EZRPTADM (one) 7-3
Exhibit 7.3: Report Administrator Utility Menu - EZRPTADM (two) 7-5

Maintain Report Libraries and PROFILEs (Option 1) 7-6
Exhibit 7.4: Report Utility - EZRPTLIB (one) 7-6

Short Descriptions 7-8
Exhibit 7.5: Report Utility - EZRPTLIB (two) 7-8

Library Information 7-9
Exhibit 7.6: Report Library Information - EZRPTLIN . 7-9

Report Member Utility 7-10
Exhibit 7.7: Report Utility - EZRPTLIB 7-10
Exhibit 7.8: Report Member Utility - EZRPTMSL . . . 7-11

Report Addition 7-12
Exhibit 7.9: New Report Addition - EZRPTADD 7-12
Program Name 7-14
Program Type 7-14
Program Version 7-14
To Run This Report 7-14

CMS On-Line Information 7-15
Exhibit 7.10: On-Line Report Information - EZRPTORC (one) 7-15
EXEC Name 7-16
Send Output To 7-16
Submit Expanded Macros 7-16
Syntax Check Program 7-16
Filedef DD Name 7-17
CMS File Name 7-17
CMS File Type 7-17
Exhibit 7.11: On-Line Report Information - EZRPTORC (two) 7-18

TSO On-Line Information 7-19
Exhibit 7.12: On-Line Report Information - EZRPTORP (one) 7-19
CLIST Name 7-19
CLIST Type 7-20

Send Output To 7-20
Submit Expanded Macros 7-20
Syntax Check Program 7-20
File Name (DD Name) 7-20
Physical Dataset Name 7-20
Exhibit 7.13: On-Line Report Information - EZRPTORP (two) 7-21

Batch Information 7-22
Exhibit 7.14: Batch Report Information - EZRPTBRP . 7-22
Header JCL Name 7-23
Trailer JCL Name 7-23
Submit Expanded Macros 7-23
Syntax Check Program 7-23
DD Name 7-23
Dataset Name 7-23
Destination Machine ID (CMS Only) 7-23
JCL Substitution and Macro Expansion for EZ/REPORT . 7-24
Exhibit 7.15: Batch Report Information - EZRPTBRP . 7-24

Report Information 7-25
Exhibit 7.16: Report Information - EZRPTRIN 7-25

Report Member Utility 7-26
Exhibit 7.17: Report Member Utility - EZRPTMSL . . . 7-26
Add Report 7-27
Delete Report 7-27
Report Information 7-27
Batch Parameters 7-27
On-Line Parameters 7-27
Parameter Descriptions 7-27

Parameter Substitution in EASYTRIEVE PLUS Programs . . . 7-28
Exhibit 7.18: Sample EASYTRIEVE PLUS Program DEDUCTS 7-28
Exhibit 7.19: Sample Program DEDUCTS - with Parameters (One) 7-29
Exhibit 7.20: Sample Program DEDUCTS - with Parameters (Two) 7-30

Report Addition-Reports with Parameters 7-31
Exhibit 7.21: Report Member Utility - EZRPTMSL . . . 7-31
Exhibit 7.22: New Report Addition - EZRPTADD 7-32

CMS On-Line Information - Reports with Parameters 7-33
Exhibit 7.23: On-Line Report Information (CMS) . . . 7-34

TSO On-Line Information - Reports with Parameters 7-35
Exhibit 7.24: On-Line Report Information (TSO) . . . 7-36

Report Information - Reports with Parameters 7-37
Exhibit 7.25: Report Information - EZRPTRIN 7-37

Parameter Description 7-38
Exhibit 7.26: Parameter Description - EZRPTDES . . . 7-38
Exhibit 7.27: Report Member Utility (EZRPTMSL) . . . 7-39

Creating A New EZ/REPORT User (Option 2) 7-40
Exhibit 7.28: Report Administrator Utility Menu - EZRPTADM 7-40
Creating New Userids in CMS and TSO 7-42
Exhibit 7.29: PIELIB LIBSPACE Utility - PROULVF . . 7-42
Exhibit 7.30: PIELIB LIBSPACE Utility - PROULVF1 (one) 7-43
Exhibit 7.31: PIELIB LIBSPACE Utility - PROULVF1 (two) 7-44
Creating New Userids in CICS 7-45
Exhibit 7.32: USERID Utility - PROULUG 7-45
Exhibit 7.33: USERID Utility - PROULUG 7-46
Exhibit 7.34: USERID Utility - PROULUG 7-47

Copy Default Attributes (Option 3) 7-48
Exhibit 7.35: Report Administrator Utility Menu - EZRPTADM 7-48
Exhibit 7.36: Establish Default Attributes - EZRPTCLP (one) 7-49
Exhibit 7.37: Establish Default Attributes - EZRPTCLP (two) 7-50
Exhibit 7.38: Establish Default Attributes - EZRPTCLP (three) 7-51

Modifying PROFILEs 7-52
Exhibit 7.39: Report Administrator Utility Menu - EZRPTADM 7-52
Exhibit 7.40: Report Utility - EZRPTLIB 7-53
Profile Variables 7-53
Exhibit 7.41: Profile Utility - EZRPTPRF 7-54
Adding Profile Variables 7-55
Removing Profile Variables 7-55
Changing Profile Names 7-55
Changing Profile Values 7-55

Default Profile Member Creation 7-56
Exhibit 7.42: Report Administrator Utility Menu - EZRPTADM 7-56
Exhibit 7.43: Report Utility - EZRPTLIB 7-57
Exhibit 7.44: Profile Utility - EZRPTPRF 7-58
Adding Profile Variables 7-58
Removing Profile Variables 7-58
Changing Profile Names 7-59

Changing Profile Values 7-59
Exhibit 7.45: Profile Utility - EZRPTPRF 7-60

Establish Default CONNECT and LIBCHAIN Members 7-61
Exhibit 7.46: Report Administrator Utility Menu - EZRPTADM 7-61
Exhibit 7.47: Report Utility - EZRPTLIB (one) . . . 7-62
Exhibit 7.48: Report Utility - EZRPTLIB (two) . . . 7-63
Exhibit 7.49: Member Utility - PROULFGL 7-64
Exhibit 7.50: Edit - PROEDIT1 7-65
Exhibit 7.51: Member Utility - PROULFGL 7-66
Exhibit 7.52: Edit - PROEDIT1 7-67
Exhibit 7.53: Member Utility - PROULFGL 7-68
Exhibit 7.54: Report Utility - EZRPTLIB 7-69
Exhibit 7.55: Report Administrator Utility Menu - EZRPTADM 7-70
Exhibit 7.56: Set Up Default Attributes - EZRPTCLP (one) 7-71
Exhibit 7.57: Set Up Default Attributes - EZRPTCLP (two) 7-72
Exhibit 7.58: Set Up Default Attributes - EZRPTCLP (three) 7-73

Introduction

Previously created EASYTRIEVE PLUS programs can be executed by any authorized user easily and without much training. This section describes how to initiate users and reports for easy job execution by the user and administrator.

Additional utility functions are performed by the Report Administrator that are not available to ordinary EZ/KEY users. These functions, which are called EZ/REPORT utilities, are accessed using the Report Administrator Utility Menu panel (EZRPTADM).

Select the Report Administrator utilities by entering option "r" on the Utility Menu. Some installations require an administrator password. If one is required from you, enter it in the Password field and press ENTER. If a password is not required, the password field does not appear.

The Report Administrator password is initialized to "EZ/KEY". Report Administrators do not have to specify a password until the System Administrator sets a new one. Once the Report Administrator password is changed, the first time a Report Administrator invokes the Report Administrator Utility menu he or she must specify the correct Report Administrator password. The new password is "remembered" in the Report Administrator's profile and doesn't need to be respecified until it is changed again.

```
PROUTL   ------------------------  Utility Menu  ---------------------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Members in Your userid   Library
                  2   Enable/Disable/Select Libraries
                  3   Copy/Move Individual Members To/From Libraries
                  4   Multiple Member Processing Menu

                  A   System Administrator Menu
                  R   Report Administrator Menu









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.1: Utility Menu - PROUTL

EZ/REPORT Utilities

Report Administrator Utility Menu

The EZ/REPORT utilities are made available on the Report Administrator Utility Menu panel (EZRPTADM). The menu lists the functions that can be performed with this facility.

```
EZRPTADM ------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Report Libraries and PROFILEs
                  2   Add New Users to EZ/REPORT
                  3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.2: Report Administrator Utility Menu - EZRPTADM (one)

The Report Administrator utilities provide three functions represented by the three options on the Report Administrator Utility Menu.

The three functions on the Report Administrator Utility Menu are:

1. Maintain Report Libraries and PROFILES

   - List the Report Libraries
   - Modify Profile Variables
   - Add, Delete, and Modify Reports
   - EZ/KEY utility functions

2. Add New Users

   - Connect an existing PIELIB LIBSPACE for access by EZ/KEY
   - Reformat an existing PIELIB LIBSPACE
   - Format a new PIELIB LIBSPACE

3. Copy Defaults

   - Copy CONNECT members to another library
   - Copy LIBCHAIN members to another library
   - Copy PROFILE members to another library

Before proceeding with the EZ/REPORT utilities, be sure that you have enabled a library that is connected as create or write. In this Guide, examples given use a library named PERSONEL.

If you do not have a library that you can practice with, create a PERSONEL library using the utilities described in Section 3 of this Guide. Be sure to name your practice library PERSONEL so that you will be able to follow the succeeding examples.

The EASYTRIEVE PLUS programs that we will be using are in the EXAMPLE library. The EXAMPLE library is distributed by Pansophic Systems, Inc., with EZ/KEY. Be sure that the EXAMPLE library is enabled before proceeding. For instructions on enabling libraries, refer to the EZ/KEY REFERENCE MANUAL, SECTION 4: LIBRARY FUNCTIONS.

```
EZRPTADM ------------  Report Administrator Utility Menu  ----------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Report Libraries and PROFILEs
                  2   Add New Users to EZ/REPORT
                  3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.3: Report Administrator Utility Menu - EZRPTADM (two)

Maintain Report Libraries and PROFILEs (Option 1)

This section of the Guide describes Option 1 of the menu and discusses maintaining Report Libraries and PROFILEs. Options 2 and 3 are discussed later in this section under the topics "Creating a New EZ/REPORT User" and "Copy Default Attributes."

1. Type a "1" in the SELECT OPTION field and press ENTER. The Report Utility panel is displayed.

```
EZRPTLIB ---------------------  Report Utility  ---------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> H


ACTION    LIBRARY                                    ACCESS  LIST      LIST
RESULT    NAME      REPORT LIBRARY DESCRIPTION       RIGHTS  NAME      TYPE

          rptadmin                                   CREATE
          PERSONEL                                   CREATE
          EXAMPLE   EZ/KEY Example Library           READ
--------  --------  -------------------------------  ------- --------  --------
          CMS                                        CREATE
          OBJECT    EZ/KEY Program Library           READ
          SYSTEM    EZ/KEY System Library            READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.4: Report Utility - EZRPTLIB (one)

The Report Utility panel (EZRPTLIB) is similar to the Library Utility panel (PROULLG) except for the addition of the R, I, and P actions. These new options are for EZ/REPORT.

The first time you use EZ/REPORT, no description exists for any of your CONNECTed libraries. This is a good time to add the short library description. The library description you add is the same description EZ/REPORT users see when they use EZ/REPORT.

When using EZ/REPORT, users may enter a question mark in place of the Report Name if they forget the names of the reports that they may execute. The panel they receive next lists the libraries they may choose reports from. Along with the libraries, the description you enter here is displayed.

You may specify descriptions only for PIELIB LIBSPACEs that are CONNECTed as WRITE or CREATE. EZ/KEY does not allow you to enter a description for EXTERNAL LIBSPACEs.

Descriptions for SYSTEM and EXAMPLE are included with EZ/KEY.

Short Descriptions

```
EZRPTLIB ---------------------  Report Utility  ---------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> H


ACTION     LIBRARY                                    ACCESS  LIST      LIST
RESULT     NAME      REPORT LIBRARY DESCRIPTION       RIGHTS  NAME      TYPE

           rptadmin                                   CREATE
i          PERSONEL  The Personnel Dept Library       CREATE
           EXAMPLE   EZ/KEY Example Library           READ
---------  --------  -------------------------------- ------- --------  -------
           CMS                                        CREATE
           OBJECT    EZ/KEY Program Library           READ
           SYSTEM    EZ/KEY System Library            READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.5: Report Utility - EZRPTLIB (two)

To add a short description, move the cursor over to the library and type a short description under the column REPORT LIBRARY DESCRIPTION for that library. When you are finished, press ENTER. The description you typed is associated with the library. The member name of the library description is the same as the library name. The member type of the description is GRPDESC. The library description is saved in the library for which it was written.

Tab right, type "The Personnel Dept Library" as the description, and press ENTER. The short description is saved in a member called PERSONEL GRPDESC in the PERSONEL library.

At this point you may want to add descriptions for all of the other libraries to which you are CONNECTed. Remember, don't add a description for External LIBSPACEs such as TSO or CMS.

After you have set up short descriptions you may want to enter more information about the library. This can be accomplished by typing "i" under the ACTION/RESULT column and pressing ENTER.

Library Information

```
EZRPTLIN ----------------- Report Library Information ---------------- EZ/KEY
COMMAND ==>

Information for PERSONEL Report Library:
------------------------------------------------------------------------




     No information has been provided for this library




------------------------------------------------------------------------
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.6: Report Library Information - EZRPTLIN

When you select "i" you obtain the Report Library Information panel (EZRPTLIN). Think of this panel as a blank tablet on which any information can be written. The information you enter here is saved in the same member as the short description for the library. The member name is the same as the library name. The member type is GRPDESC.

Since the information you enter in this panel may be viewed by EZ/REPORT users, take care and be sure that your description is clear.

Besides being used for library information, this facility could be used to broadcast news to your users. For example, in the information panel you could tell users not to run CPU intensive reports during prime time if you are having resource shortages.

When you have finished entering the desired information, press the END PF KEY to return to the Report Utility panel.

Report Member Utility

```
EZRPTLIB ---------------------  Report Utility  ---------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> H


ACTION     LIBRARY                                    ACCESS  LIST     LIST
RESULT     NAME      REPORT LIBRARY DESCRIPTION       RIGHTS  NAME     TYPE

           rptadmin                                   CREATE
r          PERSONEL  The Personnel Dept Library       CREATE
           EXAMPLE   EZ/KEY Example Library           READ
---------  --------  -------------------------------  ------- -------- --------
           CMS                                        CREATE
           OBJECT    EZ/KEY Program Library           READ
           SYSTEM    EZ/KEY System Library            READ

ACTIONS=> R Reports     I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.7: Report Utility - EZRPTLIB

1. Type "r" in the ACTION/RESULT field to the left of PERSONEL and press ENTER. The Report Member Utility panel is displayed.

Any report members that you add or modify using the EZ/REPORT facilities are saved into the library you selected. Note how the "R" action differs from the "S" action. With the "S" action, if you selected a library that is not the first connected library, any members that you modify or create (perhaps by using the editor) are saved in the first connected library.

Of course, to be able to add or modify members in a library, the library you select must be in a LIBSPACE that is connected with create or write access. You can verify a library's access rights by checking the ACCESS RIGHTS column for that library.

```
EZRPTMSL --------------- Report Member Utility ---------- 0 Members Selected
COMMAND ==>                                                    SCROLL ==> P
                                                      REPORT GROUP: PERSONEL
 ACTION   REPORT     REPORT
 RESULT   NAME       DESCRIPTION
 -------- -------    ---------------------------------------------------




Actions =>  A Add Report        DE Delete Report     I Report Information
        =>  B Batch Parameters  O On-line Parameters P Parameter Descriptions
Press END (PF3)  to return to the previous panel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.8: Report Member Utility - EZRPTMSL

The message at the right corner of the screen says "0 Members Selected". This is because the library does not contain any reports. We are going to add our first report.

Directly below the ACTION/RESULT column, type an "a". Tab to the right under the column REPORT NAME and type in "LEARNER". Then tab to the right again and type in "Classic EASYTRIEVE PLUS Example Program".

Let's review what we've done so far. We're trying to add a new report and we're going to call it "LEARNER". The short description for the new report is "Classic EASYTRIEVE PLUS Example Program".

After you have typed in this information, press ENTER.

You get the New Report Addition panel (EZRPTADD).

Report Addition

```
EZRPTADD ----------------  New Report Addition  -------------------   EZ/KEY
COMMAND ==>

Fill in the requested information:

  Report Library: PERSONEL

  Name Of Report: LEARNER

  Report Description ==> Classic EASYTRIEVE PLUS Example Program


  Describe the program to be associated with this report:

        PROGRAM NAME    ==>
        PROGRAM TYPE    ==> EZT
        PROGRAM VERSION ==> 000

  This Report can be run ==>       (O for On-Line)
                                   (B for Batch)
                                   (blank for both)

Provide the information requested above and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.9: New Report Addition - EZRPTADD

This is the New Report Addition panel. You get it after adding a report with the Report Member Utility panel (EZRPTMSL).

At first PROGRAM NAME is left blank. PROGRAM TYPE defaults to "EZT". These fields identify the program that is associated with the report you are setting up. Be sure that this program exists in one of your enabled libraries so that EZ/REPORT knows about it. If the program is not found, the message "Member Not Found" is displayed and you are not allowed to proceed any further. Enter the name of the program now. It does not have to be the same as the REPORT NAME. Of course, it is easier to keep track of the report if the report name is the same as the program name.

Although you may keep the EASYTRIEVE PLUS program in any enabled library, keeping the program in the same library as the report will simplify your bookkeeping tasks.

NOTE: To exit any of the EZ/REPORT panels, type "CANCEL" on the command line and press ENTER. You return to the previous panel.

Type "LEARNED" in the PROGRAM NAME field. LEARNED EZT is a program that is distributed in the EXAMPLE PIELIB. If your users do not have EXAMPLE PIELIB enabled by default you can do one of two things. You can make sure EXAMPLE PIELIB is enabled for the user, or you can copy LEARNED EZT into a library that is enabled for the EZ/REPORT user. You may want to place LEARNED EZT within the library you are working on.

For now, allow the report to be run both on-line and batch. Leave the On-Line or Batch field blank.

After typing in the program name, press ENTER. At this point the member having a matching program name and type is searched for to see if it exists. If the member cannot be found, the message "Member Not Found" is displayed.

When all the information you have entered has been validated, press the END PF KEY. A new member is created and is associated with this report. That new member is called LEARNER REPORT. The member name matches the report name and has a member type of REPORT.

LEARNER REPORT is saved in the library you are currently working with. EZ/REPORT manages the REPORT members. Do not edit the REPORT members to change them. If you must change values in a REPORT member, use the utilities EZ/REPORT has provided.

The series of panels you receive after the New Report Addition panel depends on how the report can be run. If the report can be run both on-line and batch, you get the following panels in order: On-Line Report Information, Batch Report Information, and Report Information. In our example, we elected to allow LEARNER to be run both on-line and batch so we get all three panels in succession. If "O" were entered for the report, then the On-Line Report Information and Report Information panels would be displayed. To go from one panel to the next, press the END PF KEY.

The first panel to be displayed after you press the END PF KEY from the New Report Addition panel is the On-Line Report Information panel.

Program Name

The program name consists of the member name for the program that is used for the report. Enter the name of the member to be used when executing the report. Be sure that this program exists in an enabled library so that EZ/REPORT knows about it. If the program is not found, an appropriate message is displayed.

Program Type

The program type consists of the member type for the program that is used for the report. Enter the type of the member to be used when executing the report.

Program Version

The program version consists of the member version for the program that is used for the report. Enter the version of the member to be used when executing the report.

To Run This Report

Enter B for batch, O for on-line, and blank for both. Batch means that the report can be run in the background mode. On-line means that the report can be run in the foreground. On-line is not valid for CICS.

CMS On-Line Information

```
EZRPTORC ---------------- On-Line Report Information ---------------- EZ/KEY
COMMAND ==>
                                                  Report Library: PERSONEL
Enter/Verify the Following Information For LEARNER  Report:

 Report Name   Report Description
 -----------   ------------------------------------------------
 LEARNER       Classic EASYTRIEVE PLUS Example Program

 Program Name  Program Type  Program Version Run Mode
 ------------  -----------   ---------------    -
 LEARNED       EZT                 000              (O, B, or Blank for both)

 EXEC Name ==>                      Send Output To ==>     (B, D, P, or T)
                           Submit Expanded Macros ==> NO      (YES or NO)
                             Syntax Check Program ==> NO      (YES or NO)
                   Filedef    CMS File   CMS File
                   DD Name    Name       Type
                   --------   --------   --------
     FIRST FILE:
    SECOND FILE:

Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.10: On-Line Report Information - EZRPTORC (one)

If your system is CMS, the On-Line Report Information panel for CMS (EZRPTORC) is displayed next. Otherwise, the next panel displayed is the On-Line Report Information panel for TSO (EZRPTORP). On-line reports are not valid for CICS.

If you are using TSO, see "TSO On-Line Information" later in this section.

Several fields are carried over from the New Report Addition panel. You can still modify these fields if you like.

On the On-Line Report Information panel you enter parameters that are used to run the report on-line. This panel requires the same information as the Run On-Line panel for CMS (PROEXECC).

EXEC Name

Type the name of the CMS EXEC to use to execute this EASYTRIEVE PLUS program. Your EZ/KEY System Administrator can supply the name of the EXEC. The EXEC must be in an enabled PIELIB library; otherwise, EZ/KEY displays the message "Member Not Found".

Send Output To

If you want this report sent to the printer, type "P". The report is printed after the listing of your EASYTRIEVE PLUS program. If you would like the report sent to the terminal, type "T". When the user viewing the report presses ENTER, the first page of the program listing is displayed. Keep pressing the CLEAR key until the rest of the EASYTRIEVE PLUS report has been reviewed.

To send the report to a disk file, enter "D". After the report has been produced, the disk file containing the report may be viewed or printed.

To allow the report to be browsed using the EZ/KEY editor, enter "B". This places the report in a file that is suitable for browsing.

Submit Expanded Macros

If you want macros expanded before the report is run, type "YES". If you type "NO", macros are expanded by EASYTRIEVE PLUS when the report is run.

Syntax Check Program

If you want to syntax check the program before executing it batch or on-line, type "YES". If you type "NO", syntax errors are passed through to EASYTRIEVE PLUS. If you type "YES" and syntax errors are found, EZ/KEY does not invoke EASYTRIEVE PLUS.

Filedef DD Name

If you are running a program that uses an input file coded on an EASYTRIEVE PLUS FILE statement, enter the DD Name here.

CMS File Name

Enter the CMS File Name to be processed by the EASYTRIEVE PLUS program.

CMS File Type

If you supplied a CMS File Name, enter the CMS File Type here.

For our example, enter the following:

```
EZTPLUS for EXEC Name
T       for Send Output To
YES     for Submit Expanded Macros
YES     for Syntax Check Program
PERSNL  for Filedef DD Name
PERSNL  for CMS File Name
MASTER  for CMS File Type
```

```
EZRPTORC ---------------- On-Line Report Information ---------------  EZ/KEY
COMMAND ==>
                                                    Report Library: PERSONEL
Enter/Verify the Following Information For LEARNER  Report:

 Report Name   Report Description
 -----------   --------------------------------------------------
 LEARNER       Classic EASYTRIEVE PLUS Example Program

 Program Name  Program Type  Program Version Run Mode
 ------------  -----------   ---------------    -
 LEARNED       EZT                 000              (O, B, or Blank for both)

 EXEC Name ==> EZTPLUS              Send Output To ==> T   (B, D, P, or T)
                                 Submit Expanded Macros ==> YES     (YES or NO)
                                   Syntax Check Program ==> YES     (YES or NO)
                    Filedef     CMS File    CMS File
                    DD Name     Name        Type
                    --------    --------    --------
     FIRST FILE:    PERSNL      PERSNL      MASTER
    SECOND FILE:

Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.11: On-Line Report Information - EZRPTORC (two)

After all the parameters have been entered, press the END PF KEY.

The next panel displayed is the Batch Report Information panel (EZRPTBRP).

CMS users, please skip the following TSO topic and go to "Batch Information."

TSO On-Line Information

```
EZRPTORP ---------------- On-Line Report Information ----------------   EZ/KEY
COMMAND ==>
                                                    Report Library: PERSONEL
Enter/Verify the Following Information For LEARNER  Report:

 Report Name   Report Description
 -----------   ------------------------------------------------
 LEARNER       Classic EASYTRIEVE PLUS Example Program

 Program Name  Program Type  Program Version Run Mode
 ------------  -----------   ---------------    -
 LEARNED       EZT                 000              (O, B, or Blank for both)

CLIST Name ==>                          Send Output To ==> T  (B, D, P, or T)
CLIST Type ==> EX      (%, EX)   Submit Expanded Macros ==> NO     (YES or NO)
                                   Syntax Check Program ==> NO     (YES or NO)
FIRST FILE:   DD Name ==>
         Dataset Name ==>

SECOND FILE:  DD Name ==>
         Dataset Name ==>

Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.12: On-Line Report Information - EZRPTORP (one)

You receive the On-Line Report Information panel for TSO (EZRPTORP) if you are running under TSO. Otherwise, you get the On-Line Report Information panel for CMS (EZRPTORC).

Several fields are carried over from the New Report Addition panel. You can still modify these fields if you like.

On the On-Line Report Information panel you enter parameters that are used to run the report on-line. This panel requires the same information as the Run On-Line panel for TSO (PROEXECT).

CLIST Name

Enter the name of the TSO CLIST that executes your EASYTRIEVE PLUS program. The EZ/KEY System Administrator can supply the name of the CLIST.

CLIST Type

CLISTs are sequential datasets or members in a SYSPROC library. If the CLIST is in a SYSPROC library, type "%"; otherwise, type "EX". If you specify "EX", the CLIST must be in an enabled PIELIB library; otherwise, EZ/KEY displays the message "Member Not Found".

Send Output To

If you want this report sent to the printer, type "P". The report is printed after the listing of your EASYTRIEVE PLUS program. If you would like the report sent to the terminal, type "T". When the user viewing the report presses ENTER, the first page of the program listing is displayed. Keep pressing the CLEAR key until the rest of the EASYTRIEVE PLUS report has been reviewed.

To send the report to a disk file, type "D". After the report has been produced, the disk file containing the report may be viewed or printed.

To allow the report to be browsed using the EZ/KEY editor, type "B". This places the report in a file that is suitable for browsing.

Submit Expanded Macros

If you want macros expanded before the report is run, type "YES". If you type "NO", macros are expanded by EASYTRIEVE PLUS when the report is run.

Syntax Check Program

If you want to syntax check the program before executing it batch or on-line, type "YES". If you type "NO", syntax errors are passed through to EASYTRIEVE PLUS. If you type "YES" and syntax errors are found, EZ/KEY does not invoke EASYTRIEVE PLUS.

File Name (DD Name)

If the EASYTRIEVE PLUS program uses an input file coded on an EASYTRIEVE PLUS FILE statement, type the DD Name here.

Physical Dataset Name

Type the TSO dataset name of the MVS file that is to be processed by the EASYTRIEVE PLUS program.

For our example, enter the following:

EZTPLUS	for CLIST Name
EX	for CLIST Type
T	for Send Output To
YES	for Submit Expanded Macros
YES	for Syntax Check Program
PERSNL	for DD Name
PERSNL.MASTER	for Dataset Name

```
EZRPTORP ---------------- On-Line Report Information ----------------  EZ/KEY
COMMAND ==>
                                                    Report Library: PERSONEL
Enter/Verify the Following Information For LEARNER  Report:

 Report Name   Report Description
 -----------   ------------------------------------------------
 LEARNED       Classic EASYTRIEVE PLUS Example Program

 Program Name  Program Type  Program Version Run Mode
 ------------  -----------   ---------------    -
 LEARNED       EZT                 000               (O, B, or Blank for both)

CLIST Name ==> EZTPLUS                    Send Output To ==> T  (B, D, P, or T)
CLIST Type ==> EX      (%, EX)    Submit Expanded Macros ==> YES    (YES or NO)
                                    Syntax Check Program ==> YES    (YES or NO)
FIRST FILE:   DD Name ==> PERSNL
         Dataset Name ==> PERSNL.MASTER

SECOND FILE:  DD Name ==>
         Dataset Name ==>

Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.13: On-Line Report Information - EZRPTORP (two)

After all the parameters have been entered, press the END PF KEY.

The next panel displayed is the Batch Report Information panel (EZRPTBRP).

Batch Information

The Batch Report Information panel for entering parameters to run reports in background is similar for CMS, TSO, and CICS.

```
EZRPTBRP ------------- Batch Report Information ----------------- EZ/KEY
COMMAND ===>
                                                  Report Library: PERSONEL
 Report Name   Report Description
 -----------   ------------------------------------------------------
 LEARNER       Classic EASYTRIEVE PLUS Example Program

 Program Name  Program Type  Program Version Run Mode
 ------------  ------------  ---------------   -
 LEARNED       EZT                 000              (O, B, or Blank for both)

 JCL INFORMATION:
   Header JCL Name ==>
  Trailer JCL Name ==>          Submit Expanded Macros ==> NO     (YES or NO)
                                  Syntax Check Program ==> NO     (YES or NO)
 FILE INFORMATION:
                 DD Name   Physical Dataset Name
                 --------  ----------------------
 FIRST FILE:
 SECOND FILE:

 Destination Machine ID ==>
Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.14: Batch Report Information - EZRPTBRP

The Batch Report Information panel (EZRPTBRP) is used to enter parameters that are used when the report is run in background. This panel requires the same information as the Submit For Batch Execution panel (PROEXEC2).

Several fields are carried over from the New Report Addition panel. You may modify these fields if you like.

Submitting reports to execute in batch mode allows the EZ/REPORT user to continue working on something else while the report executes. The Header JCL, Trailer JCL, and EASYTRIEVE PLUS program must be in an enabled library. Keeping the Header JCL and Trailer JCL in the same library simplifies your bookkeeping tasks.

Header JCL Name

The EZ/KEY System Administrator has several JCL members for use by a variety of different programs. The program and JCL members must reside in an enabled library. Check with the EZ/KEY administrator to learn the JCL member names that may be used.

Trailer JCL Name

If your job requires additional JCL statements following the EASYTRIEVE PLUS program, enter the name of the Trailer JCL member here. The Trailer JCL member can be in any enabled library.

Submit Expanded Macros

If you want macros expanded before the report is run enter "YES". If you enter "NO", the macros are expanded by EASYTRIEVE PLUS when the report is run.

Syntax Check Program

If you want to syntax check the program before executing it batch or on-line, enter "YES". If you enter "NO", syntax errors are passed through to EASYTRIEVE PLUS. If you enter "YES" and syntax errors are found, EZ/KEY does not invoke EASYTRIEVE PLUS.

DD Name

If you are submitting an EASYTRIEVE PLUS program that uses a single input file coded on a FILE statement, enter the DD name here.

Dataset Name

If you have entered a DD name, enter the dataset name here.

Destination Machine ID (CMS Only)

Enter the name of the batch system you want the job sent to for execution. Your EZ/KEY System Administrator provides this information. This field does not apply to or appear on the Batch Report Information panel for TSO or CICS.

JCL Substitution and Macro Expansion for EZ/REPORT

When a batch report is executed, EZ/KEY:

1. Loads the Header JCL into a temporary member and performs JCL substitution. The temporary member is saved for use in step 3.

2. Copies the EASYTRIEVE PLUS program into memory.

   If the Submit Expanded Macros field is set to "YES", the EZ/KEY syntax checker expands macros in the program.

   If there are any Parameters for the report, EZ/REPORT performs parameter substitution.

3. Copies the temporary member from step 1 before the EASYTRIEVE PLUS program.

4. Copies the Trailer JCL after the EASYTRIEVE PLUS program.

   Performs JCL substitution for the TRAILER JCL.

5. Submits the Header JCL, EASYTRIEVE PLUS program, and Trailer JCL for batch execution.

6. Deletes the temporary member.

(This page intentionally left blank.)

For our example, enter the following:

EZTPLUS	for Header JCL Name
YES	for Submit Expanded Macros
YES	for Syntax Check Program
PERSNL	for DD Name
PERSNL.MASTER	for Physical Dataset Name

```
EZRPTBRP ------------- Batch Report Information ---------------- EZ/KEY
COMMAND ===>
                                                  Report Library: MARTING
 Report Name   Report Description
 -----------   ------------------------------------------------------------
 LEARNER       Classic EASYTRIEVE PLUS Example Program

 Program Name  Program Type  Program Version Run Mode
 ------------  ------------  ---------------   -
 LEARNED       EZT                 000              (O, B, or Blank for both)

 JCL INFORMATION:
   Header JCL Name ==> EZTPLUS
  Trailer JCL Name ==>           Submit Expanded Macros ==> YES    (YES or NO)
                                   Syntax Check Program ==> YES    (YES or NO)
 FILE INFORMATION:
                 DD Name   Physical Dataset Name
                 --------  ----------------------
 FIRST FILE:     PERSNL    PERSNL.MASTER
 SECOND FILE:


Enter the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.15: Batch Report Information - EZRPTBRP

Press the END PF KEY after you enter all the parameters.

The Report Information panel (EZRPTRIN) is displayed next.

Report Information

```
EZRPTRIN ---------------- Report Information ------------------------  EZ/KEY
COMMAND ==>

Information for LEARNER  Report:
--------------------------------------------------------------------------------




   No description has been provided for this report




--------------------------------------------------------------------------------
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.16: Report Information - EZRPTRIN

The Report Information panel (EZRPTRIN) allows you to enter a page of information about a report. This panel is a blank tablet on which you can freely enter text. The EZ/REPORT user may view the information for a report at any time, so word your description carefully.

When you finish entering the report description, press the END PF KEY. You return to the Report Member Utility panel (EZRPTMSL) that now shows the report you have just entered.

Report Member Utility

```
EZRPTMSL ---------------  Report Member Utility  ----------- 1 Members Selected
COMMAND ==>                                                      SCROLL ==> P
                                                        REPORT GROUP: PERSONEL
 ACTION   REPORT     REPORT
 RESULT   NAME       DESCRIPTION
 -------- -------    --------------------------------------------------

          LEARNER    Classic EASYTRIEVE PLUS Example Program









Actions =>  A Add Report         DE Delete Report      I Report Information
        =>  B Batch Parameters   O On-Line Parameters  P Parameter Descriptions
Press END (PF3)  to return to the previous panel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.17: Report Member Utility - EZRPTMSL

Congratulations! You have just created your first report.

If you want to change the Report Information and On-Line or Batch Parameters, type the appropriate action next to the report and press ENTER.

To use the actions in the Report Member Utility panel (EZRPTMSL), create or write access is needed for the library. If you do not have these access rights, EZ/REPORT does not save the changes that you make to a report. A short description of each action follows.

Add Report

To add a report, type "A" or "ADD" in the first row. Add is the only action available on this row. Tab to the right and enter a new report name. The new report name must be unique. Tab to the right once more and enter a short description for the report.

Delete Report

To delete a report, type "DE" in the ACTION/RESULT column to the left of the report to be deleted and press ENTER. If the Confirm Delete Tuning Parameter is set to "YES", EZ/KEY displays the Confirm Delete panel (PROULCON) to let you confirm that the deletion is to occur. If the Tuning parameter is set to "NO", the deletion occurs without confirmation. Note that the EASYTRIEVE PLUS program and any associated JCL, CLISTs, or EXECs are NOT deleted automatically since these may be shared by several different report definitions.

Report Information

To change or add information about a report, use action "I" and press ENTER. The Report Information panel (EZRPTRIN) is displayed.

Batch Parameters

To change the batch parameters, type "B" in the ACTION/RESULT column to the left of the report to be modified, and press ENTER. The Batch Report Information panel is displayed. Overtype any of the information you want to change and press ENTER. Press the END PF KEY when you are finished.

On-Line Parameters

To change or add any on-line parameter, use action "O". The On-Line Report Information panel is displayed. Overtype any of the information you want to change and press ENTER. Press the END PF KEY when you are finished. This action is not valid for CICS.

Parameter Descriptions

To change the parameter descriptions, type "P" in the ACTION/RESULT column to the left of the report to modify and press ENTER. Overtype any of the descriptions to be changed and press ENTER. Press the END PF KEY when finished.

Parameter Substitution in EASYTRIEVE PLUS Programs

Parameter Substitution can be used in an EASYTRIEVE PLUS program to make general reports fit particular needs. The program shown in Exhibit 7.18 calculates deductions for every employee in Department 911. As shown, DEDUCTS EZT, which is in EXAMPLE PIELIB, cannot be used by EZ/REPORT users who want deductions printed for any other department without modifying the program. However, with EZ/REPORT's Parameter Substitution, the department number can be made into a parameter that every EZ/REPORT user can enter. Thus, if one EZ/REPORT user wants a report for Department 911 and another wants a report for Department 914, the same program can be shared by both EZ/REPORT users.

Parameter substitution is supported for both on-line and batch execution.

```
PROEDIT1  --- DEDUCTS.EZT(000) ---------Edit --------------- 0 errors detected
COMMAND ==>                                                  SCROLL ==> H
****** ***************************** START OF DATA ****************************
000001 %PAYFILE
       MACRO
       FILE PAYFILE FB(150 1800)
         NAME        17  20  A
         EMP#         9   5  N
         DEPARTMENT  98   3  N
         NET         90   4  P  2
         GROSS       94   4  P  2
         DEDUCTIONS   W   4  P  2
000010 *
000011 JOB NAME DEDUCTS
000012     IF DEPARTMENT = 911
000013        DEDUCTIONS = GROSS - NET
000014        PRINT DEDUCTS1
000015     END-IF
000016 *
000017 REPORT DEDUCTS1 LINESIZE 80
000018   TITLE 1 'DEDUCTIONS FOR DEPARTMENT 911'
000019   LINE 01 NAME EMP# GROSS NET DEDUCTIONS

Press END (PF3)  to return to the previous panel.
```

Exhibit 7.18: Sample EASYTRIEVE PLUS Program DEDUCTS

To indicate that a parameter is substitutable in an EASYTRIEVE PLUS program, the parameter must begin with a percent sign (%) and end with a vertical bar (|). The characters between "%" and "|" make up the parameter name. The parameter name must be 16 characters or less (not including "%" and "|") and cannot contain any spaces. For example, %DEPT|, %NUM|, and %INFO2| are valid parameter names, but %NUM ONE| and %THISNAMEISTOOLONG| are not.

To make DEPARTMENT a parameter, replace the 911 on lines 12 and 18 of DEDUCTS EZT with %DEPT|. This tells EZ/REPORT that the name of the parameter is DEPT. Press the ENTER key after you have made changes.

```
PROEDIT1  --- DEDUCTS.EZT(000) ---------Edit ---------------- 2 errors detected
COMMAND ==>                                                    SCROLL ==> H
****** ****************************** START OF DATA ****************************
000001 %PAYFILE
       MACRO
       FILE PAYFILE FB(150 1800)
         NAME       17  20  A
         EMP#        9   5  N
         DEPARTMENT 98   3  N
         NET        90   4  P  2
         GROSS      94   4  P  2
         DEDUCTIONS  W   4  P  2
000010 *
000011 JOB NAME DEDUCTS
000012     IF DEPARTMENT = %DEPT|
                         $ not valid in an identifier
                          $ not valid in a condition
000015        DEDUCTIONS = GROSS - NET
000016        PRINT DEDUCTS1
000017     END-IF
000018 *
000019 REPORT DEDUCTS1 LINESIZE 80

Press END (PF3)  to return to the previous panel.
```

Exhibit 7.19: Sample Program DEDUCTS - with Parameters (One)

EZ/KEY syntax checks your EASYTRIEVE PLUS program when you make changes. The two errors shown in Exhibit 7.19 on the previous page (after line 12) are expected. EZ/KEY does not recognize parameters until values have been substituted for them. Immediately before executing a report for an EZ/REPORT user, EZ/KEY substitutes values for parameters. Such error messages are displayed in both PROMPT and FREE mode.

```
PROEDIT1  --- DEDUCTS.EZT(000) ---------Edit --------------- 2 errors detected
COMMAND ==>                                                    SCROLL ==> H
000010 *
000011 JOB NAME DEDUCTS
000012     IF DEPARTMENT = %DEPT
                           $ not valid in an identifier
                            $ not valid in a condition
000015        DEDUCTIONS = GROSS - NET
000016        PRINT DEDUCTS1
000017     END-IF
000018 *
000019 REPORT DEDUCTS1 LINESIZE 80
000020   TITLE 1 'DEDUCTIONS FOR DEPARTMENT %DEPT'
000021   LINE 01 NAME EMP# GROSS NET DEDUCTIONS
****** ******************************** END OF DATA ******************************


Press END (PF3)  to return to the previous panel.
```

Exhibit 7.20: Sample Program DEDUCTS - with Parameters (Two)

To view the rest of the program, press the DOWN PF KEY.

You have now created a program with parameters.

The next example shows how to add a report with parameters to a report library.

Report Addition-Reports with Parameters

The process of adding a report with parameters to a report library is similar to the process used for adding reports without parameters. Begin by accessing the Report Member Utility panel (EZRPTMSL). Then follow the example below.

Type an "a" in the ACTION/RESULT column. Tab right to the REPORT NAME column and type in "DEDUCTS". Then tab right again and type "Calculates Deductions for Selected Department" in the REPORT DESCRIPTION column.

```
EZRPTMSL ---------------  Report Member Utility  ---------------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> H
                                                  REPORT LIBRARY: PERSONEL
 ACTION   REPORT
 RESULT   NAME      REPORT DESCRIPTION
 -------- --------  ------------------------------------------------
 a        DEDUCTS   Calculates Deductions for Selected Department




ACTIONS =>  A Add Report        DE Delete Report     I Report Information
        =>  B Batch Parameters  O On-Line Parameters P Parameter Descriptions
Press END (PF3)  to return to the previous panel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.21: Report Member Utility - EZRPTMSL

After entering the information as shown above, press ENTER. The New Report Addition panel (EZRPTADD) is displayed.

The DEDUCTS report will use the DEDUCTS EZT program that contains parameters and will be set up to run On-Line.

For our example, enter the following:

DEDUCTS	for PROGRAM NAME
EZT	for PROGRAM TYPE
O	for This Report can be run

```
EZRPTADD ------------------ New Report Addition --------------------  EZ/KEY
COMMAND ==>

Fill in the requested information:

  Report Library: PERSONEL

  Name Of Report: DEDUCTS

  Report Description ==> Calculates Deductions for Selected Department


  Describe the program to be associated with this report:

          PROGRAM NAME ==> DEDUCTS
          PROGRAM TYPE ==> EZT
       PROGRAM VERSION ==> 000

  This Report can be run ==> O     (O for On-Line)
                                   (B for Batch)
                                   (blank for both)

Provide the information requested above and press ENTER.
Press END (PF3)  to proceed to the next panel.
```

Exhibit 7.22: New Report Addition - EZRPTADD

After entering the information as shown above, press ENTER, and then press the END PF KEY. Depending on whether you are using TSO or CMS, EZ/KEY will display either the On-Line Report Information panel for TSO (EZRPTORP) or the On-Line Report Information panel for CMS (EZRPTORC).

CMS On-Line Information - Reports with Parameters

NOTE: This part of the example covers the On-Line Report Information panel for CMS users (EZRPTORC). If you are using TSO, skip this part and go to "TSO On-Line Report Information - Reports with Parameters".

After you have entered information on the New Report Addition panel, EZ/KEY displays the On-Line Report Information panel. This sequence of panels is the same as when you add a report that does not have parameters. There is no difference in the On-Line Report Information panel displayed for reports with or without parameters.

For our example, enter the following:

EZTPLUS	for EXEC Name
B	for Send Output to
YES	for Submit Expanded Macros
YES	for Syntax Check Program
PAYFILE	for Filedef DD Name
PERSNL	for CMS File Name
MASTER	for CMS File Type

```
EZRPTORC ----------------- On-Line Report Information ----------------- EZ/KEY
COMMAND ==>
                                                    Report Library: PERSONEL
Enter/Verify the Following Information For DEDUCTS  Report:

 Report Name   Report Description
 -----------   ------------------------------------------------
 DEDUCTS       Calculates Deductions for Selected Departments

 Program Name  Program Type  Program Version Run Mode
 ------------  -----------   ---------------    -
 DEDUCTS       EZT                 000          O    (O, B, or Blank for both)

 EXEC Name ==> EZTPLUS              Send Output To ==> B   (B, D, P, or T)
                              Submit Expanded Macros ==> YES   (YES or NO)
                              Syntax Check Program   ==> YES   (YES or NO)
                   Filedef    CMS File   CMS File
                   DD Name    Name       Type
                   --------   --------   --------
     FIRST FILE:   PAYFILE    PERSNL     MASTER
    SECOND FILE:

Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.23: On-Line Report Information (CMS)

When you set Syntax Check Program to YES, EZ/REPORT checks programs for syntax errors after substituting parameters. If errors are found, EZ/REPORT does not process the report. Instead, the user receives a message indicating errors were found in the program. This ensures that EZ/REPORT users cannot run reports with syntax errors.

After entering the information as shown above, press the END PF KEY. The Report Information panel (EZRPTRIN) is displayed.

In a prior example, where we added the LEARNER report, the Batch Report Information panel (EZRPTBRP) was displayed after the On-Line Report Information panel (EZRPTORC or EZRPTORP). This time EZ/REPORT does not display the Batch Report Information panel because we defined the RUN MODE for DEDUCTS as On-Line only.

TSO On-Line Information - Reports with Parameters

NOTE: This part of the example covers the On-Line Report Information panel for TSO users (EZRPTORP). If you are using CMS, skip this part and go to "Report Information - Reports with Parameters".

After you have entered information on the New Report Addition panel, EZ/KEY displays the On-Line Report Information panel. This sequence of panels is the same as when you add a report that does not have parameters. There is no difference in the On-Line Report Information panel displayed for reports with or without parameters.

For our example, enter the following:

EZTPLUS	for CLIST Name
EX	for CLIST Type
T	for Send Output To
YES	for Submit Expanded Macros
YES	for Syntax Check Program
PAYFILE	for DD Name
PERSNL.MASTER	for Dataset Name

```
EZRPTORP ----------------- On-Line Report Information ----------------- EZ/KEY
COMMAND ==>
                                                    Report Library: MARTING
Enter/Verify the Following Information For DEDUCTS  Report:

 Report Name   Report Description
 -----------   ------------------------------------------------
 DEDUCTS       Calculates Deductions for Selected Department

 Program Name  Program Type  Program Version Run Mode
 ------------  ------------  ---------------   -
 DEDUCTS       EZT                 000          O    (O, B, or Blank for both)

CLIST Name ==> EZTPLUS                    Send Output To ==> T  (B, D, P, or T)
CLIST Type ==> EX      (%, EX)   Submit Expanded Macros ==> YES    (YES or NO)
                                   Syntax Check Program ==> YES    (YES or NO)
FIRST FILE:   DD Name ==> PAYFILE
         Dataset Name ==> PERSNL.MASTER

SECOND FILE:  DD Name ==>
         Dataset Name ==>

Type the required information and press ENTER.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.24: On-Line Report Information (TSO)

When you set Syntax Check Program to YES, EZ/REPORT checks programs for syntax errors after substituting parameters. If errors are found, EZ/REPORT does not process the report. Instead, the user receives a message indicating errors were found in the program. This ensures that EZ/REPORT users cannot run reports with syntax errors.

After entering the information as shown above, press the END PF KEY. The Report Information panel (EZRPTRIN) is displayed.

In a prior example, where we added the LEARNER report, the Batch Report Information panel (EZRPTBRP) was displayed after the On-Line Report Information panel (EZRPTORC or EZRPTORP). This time EZ/REPORT does not display the Batch Report Information panel because we defined the RUN MODE for DEDUCTS as On-Line only.

Report Information - Reports with Parameters

The Report Information panel (EZRPRTIN) for a report with parameters is the same as one for a report without parameters. The panel is a blank tablet on which you can freely enter text. Since the EZ/REPORT user can view this information any time, word your description carefully.

For our example, copy the information shown in the sample Report Information panel and press ENTER. Press the END PF KEY to display the Parameter Description panel.

```
EZRPTRIN ---------- Report Information ------------------------- EZ/KEY
COMMAND ==>

Information for DEDUCTS  Report:
--------------------------------------------------------------------------------


   DEDUCTS REPORT:


   This report calculates deductions for a selected department.









--------------------------------------------------------------------------------
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.25: Report Information - EZRPTRIN

Parameter Description

```
EZRPTDES ------------------  Parameter Description ------------------  EZ/KEY
COMMAND ==>                                                  Report: DEDUCTS
                                                              Scroll ==> H

Parameter Name      Description
--------------- ------------------------------------------------------------
DEPT            > Type in the department that the report is to be run for. <
                > For example, 911 and 914 are valid departments.          <









Type in a description for the parameter.
Use UP (PF7)  and DOWN (PF8)  to scroll the screen.
Press END (PF3)  to return to the previous panel or type CANCEL to cancel.
```

Exhibit 7.26: Parameter Description - EZRPTDES

Since the EASYTRIEVE PLUS program for this report has parameters, EZ/KEY displays the Parameter Description panel (EZRPTDES). Otherwise, the Report Member Utility panel (EZRPTMSL) is displayed next.

The Parameter Description panel (EZRPTDES) allows you to enter a description for each parameter found in the EASYTRIEVE PLUS program. In this example, there is only one parameter, DEPT. EZ/REPORT knows that DEPT is a parameter because it starts with a percent sign (%) and ends with a verical bar (|). If you forget to type the vertical bar, EZ/KEY assumes that %DEPT is a macro and, in most cases, is not able to find it.

If there are many parameters in the EASYTRIEVE PLUS program, more than one screen may be needed to enter all the descriptions. To enter descriptions for parameters not shown on the panel, press the UP or DOWN PF KEY to scroll the screen up or down.

The Parameter Substitution panel does not capitalize lowercase characters that you type in the value fields. If you require uppercase letters, press the SHIFT LOCK key before or hold down the SHIFT key while typing the data, or use the CAPS ON key.

The Parameter Description panel gives you two lines to enter each parameter description. For this report, type in the description as shown above.

When you finish typing the description, press ENTER, and EZ/KEY displays the Report Member Utility panel (EZRPTMSL).

```
EZRPTMSL ---------------  Report Member Utility  --------- 1 Members Selected
COMMAND ==>                                                  SCROLL ==> H
                                                    REPORT LIBRARY: PERSONEL
 ACTION   REPORT
 RESULT   NAME      REPORT DESCRIPTION
 -------- -------   ------------------------------------------------

          DEDUCTS   Calculates Deductions for Selected Department




ACTIONS =>  A Add Report        DE Delete Report     I Report Information
        =>  B Batch Parameters  O On-Line Parameters P Parameter Descriptions
Press END (PF3)  to return to the previous panel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.27: Report Member Utility (EZRPTMSL)

Congratulations! You have added a report with parameters. Now EZ/REPORT users can run DEDUCTS for their selected department without your having to create several copies of the same program.

Creating A New EZ/REPORT User (Option 2)

From the Report Administrator Utility Menu panel (EZRPTADM), let's create an EZ/REPORT user.

Select option 2 and press ENTER.

```
EZRPTADM -------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Report Libraries and PROFILEs
                  2   Add New Users to EZ/REPORT
                  3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.28: Report Administrator Utility Menu - EZRPTADM

EZ/REPORT has been set up so that the Report Administrator can create new users and default PROFILE, CONNECT, and LIBCHAIN members. However, the EZ/KEY administrator may want to limit the creation of new users or the modification of defaults, so you may not have this option.

Some computer sites are very concerned with computer security, so we gave each installation the choice of allowing Report Administrators to create new USERIDs and Copy defaults. The EZ/KEY System Administrator can set up the Report Administrator so you may not be able to select option 2 or 3.

Assuming that you can create new USERIDs, let's proceed to create one.

If you are using CICS, see "Creating New Userids in CICS" later in this section.

The next panel displayed is the PIELIB LIBSPACE Utility panel (PROULVF). If you are using CICS, the next panel displayed is the USERID Utility panel (PROULVG).

Creating New Userids in CMS and TSO

```
PROULVF  ------------------ PIELIB LIBSPACE Utility -----------------  EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Connect

            LIBSPACE Name  ==>

            LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

           (Access Rights) ==>           (USE, READ, WRITE, CREATE)

           (External Name) ==>
                                         (Fname Ftype Fmode, DDname) (CMS)
                                         (DDname)                    (TSO)

                 (Format) ==> NO         (NO, YES)



Provide the required information and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.29: PIELIB LIBSPACE Utility - PROULVF

This is the PIELIB LIBSPACE Utility panel. We are going to create a LIBSPACE for an EZ/REPORT user.

For a description of the input fields in the PIELIB LIBSPACE Utility see Section 3: SPECIAL UTILITIES, PIELIB Connect Utility, in this Guide.

```
PROULVF1 ------------------ PIELIB LIBSPACE Utility ----------------- EZ/KEY
COMMAND ==>


      Describe the PIELIB LIBSPACE to Format

            LIBSPACE Name  ==> SMITH

            LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

           (Access Rights) ==> CREATE    (USE, READ, WRITE, CREATE)

           (External Name) ==> SMITH PIELIB A
                                         (Fname Ftype Fmode, DDname)

                  (Format) ==> YES

          (Number of Blocks) ==> 50

        (Size of each Block) ==> 4096      (505 to 4096)


Provide the required information and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.30: PIELIB LIBSPACE Utility - PROULVF1 (one)

Enter the information as shown above to create a new user LIBPSPACE called "SMITH". The Number of Blocks and Size of each Block used here are good round figures to use when creating new LIBSPACEs. Since every installation is different, you may want to use different values for these fields. Consult the EZ/KEY System Administrator to find out what is appropriate for your installation.

If the user you are creating should use only EZ/REPORT, then the number of blocks you specify can be relatively small. A report user requires at least three members, the CONNECT, PROFILE, and LIBCHAIN members, but he won't need space for very much more. You can experiment with the number of blocks to arrive at a reasonable size for your installation.

Press ENTER after you have furnished the above information. EZ/KEY creates the SMITH PIELIB and CONNECTs it for you.

```
PROULVF1 ------------------ PIELIB LIBSPACE Utility  -------------- Format OK
COMMAND ==>


      Describe the PIELIB LIBSPACE to Format

            LIBSPACE Name  ==> SMITH

            LIBSPACE Type  ==> PIEBDAM   (PIEBDAM, PIEVSAM)

           (Access Rights) ==> CREATE    (USE, READ, WRITE, CREATE)

           (External Name) ==> SMITH PIELIB A
                                         (Fname Ftype Fmode, DDname)

                  (Format) ==> YES

          (Number of Blocks) ==> 50

        (Size of each Block) ==> 4096      (505 to 4096)


Provide the required information and press ENTER.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.31: PIELIB LIBSPACE Utility - PROULVF1 (two)

You see a short message at the upper right corner of the screen that says "Format OK". This means that the PIELIB LIBSPACE has been created and connected.

So far we have only created a LIBSPACE. This LIBSPACE contains no members. When user SMITH signs on, he will not have any default profiles or enabled libraries. The reports we have set up in the report libraries will not be available to SMITH.

To give SMITH profiles and enabled libraries, use option 3 of the Report Administrator Utility Menu panel. So from this panel press the END PF KEY.

The Report Administrator Utility Menu is shown.

TSO and CMS users, please skip the following CICS topic and go to "Copy Default Attributes".

Creating New Userids in CICS

```
PROULUG ---------------------- USERID Utility ----------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> P


   ACTION      USERID    LIBSPACE        CREATE      ---- UPDATE ----   LOGON
   RESULT     (Libname)  NAME      STAT  DATE        DATE       TIME     TIME

              EXAMPLE    EXAMPLE         07/22/86    11/15/86 11:01:14  - - -
              rptadmin   USER            06/12/87    09/02/87 11:05:09  11:05:08
              USER       USER            06/12/87    06/12/87 10:00:00  - - -
              SYSTEM     SYSTEM          08/11/87    09/01/87 16:38:18  - - -
              OBJECT     SYSTEM          06/12/87    06/12/87 10:00:00  - - -









ACTIONS=>  AR Archive   DE Delete    DI Disable  EN Enable
      =>   LO Logoff    NU NewUser   RE Rename   S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.32: USERID Utility - PROULUG

This is the USERID Utility panel. We are going to create a new userid in the USER libspace.

For a description of creating new userids, see Section 4: ESTABLISH LIBRARIES, Establish CICS USERIDS and Libraries in this guide.

```
PROULUG ---------------------- USERID Utility ----------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> P


   ACTION      USERID   LIBSPACE       CREATE     ---- UPDATE ----  LOGON
   RESULT     (Libname) NAME     STAT  DATE       DATE      TIME    TIME

   nu          smith    user
               EXAMPLE  EXAMPLE        07/22/86  11/15/86 11:01:14  -  -  -
               rptadmin USER           06/12/87  09/02/87 11:05:09  11:05:08
               USER     USER           06/12/87  06/12/87 10:00:00  -  -  -
               SYSTEM   SYSTEM         08/11/87  09/01/87 16:38:18  -  -  -
               OBJECT   SYSTEM         06/12/87  06/12/87 10:00:00  -  -  -









ACTIONS=>  AR Archive   DE Delete    DI Disable  EN Enable
       =>  LO Logoff    NU NewUser   RE Rename   S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.33: USERID Utility - PROULUG

Type the information as shown above to create a new userid within the LIBSPACE called USER.

Press ENTER after you have furnished the above information. EZ/KEY creates the SMITH userid and CONNECTs it for you.

```
PROULUG -------------------- USERID Utility ----------------------  EZ/KEY
COMMAND ==>                                                  SCROLL==> P


   ACTION      USERID    LIBSPACE       CREATE      ---- UPDATE ----  LOGON
   RESULT     (Libname)  NAME     STAT  DATE        DATE       TIME    TIME

   CREATED     SMITH     USER
               EXAMPLE   EXAMPLE        07/22/86   11/15/86 11:01:14  -  -  -
               rptadmin  USER           06/12/87   09/02/87 11:05:09  11:05:08
               USER      USER           06/12/87   06/12/87 10:00:00  -  -  -
               SYSTEM    SYSTEM         08/11/87   09/01/87 16:38:18  -  -  -
               OBJECT    SYSTEM         06/12/87   06/12/87 10:00:00  -  -  -









ACTIONS=>  AR Archive   DE Delete    DI Disable  EN Enable
       =>  LO Logoff    NU NewUser   RE Rename   S  Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.34: USERID Utility - PROULUG

You see a short message, "CREATED", on the left of the userid that was created as an indication that everything is OK.

So far, we have only created a userid. This userid contains no members. When user SMITH signs on, he will not have any default profiles or enabled libraries. The reports we have set up in the report libraries will not be available to SMITH.

To give SMITH profiles and enabled libraries, use option 3 of the Report Administrator Utility Menu panel. So, from this panel, press the END PF KEY.

The Report Administrator Utility Menu is shown.

Copy Default Attributes (Option 3)

From the Report Administration Utility Menu panel (EZRPTADM), you want to select option 3.

```
EZRPTADM ------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                    1   Maintain Report Libraries and PROFILEs
                    2   Add New Users to EZ/REPORT
                    3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.35: Report Administrator Utility Menu - EZRPTADM

1. Type "3" in the Select Option field and press ENTER. The Establish Default Attributes panel (EZRPTCLP) is displayed.

```
EZRPTCLP ----------------- Establish Default Attributes ------------ EZ/KEY
COMMAND ==>


  Enter/Verify the following information:

                   USERID ==>

         From LIBRARY Name ==>


  Enter the Members to copy:

     Default PROFILE Name ==> *

     Default CONNECT Name ==> *

    Default LIBCHAIN Name ==> *

     If members exist, replace? ==> NO     (YES, NO)

Press END (PF3)  to process this userid, or type CANCEL to cancel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.36: Establish Default Attributes - EZRPTCLP (one)

This utility allows you to copy PROFILE, CONNECT, and LIBCHAIN members from one library to another. If you are creating many new users who belong to the same logical group, then using this utility can save a lot of time. This panel assumes that the PROFILE, CONNECT, and LIBCHAIN members are in the Group Library. Creation of PROFILE, CONNECT, and LIBCHAIN members is discussed later in this section.

The asterisks (*) in the name fields indicate that you should copy the members to the new USER LIBSPACE. In our case we copy them to SMITH. If the PROFILE, CONNECT, or LIBCHAIN members have names different than their default names, then type their names over the asterisks. If you don't want to copy a member, then blank out the asterisk. The default name for the PROFILE is EZKEY VPROFILE. The default name for the CONNECT and LIBCHAIN members are USERID CONNECT and USERID LIBCHAIN, respectively.

Existing users may already have a PROFILE, CONNECT, and LIBCHAIN member. This panel defaults to "NO" for replacing the original members. If you want to replace the user's PROFILE, CONNECT, or LIBCHAIN members, then indicate "YES" in the replacement field.

Since SMITH is a new user he does not have a PROFILE, CONNECT, or LIBCHAIN member in his LIBSPACE. You can copy all of the defaults into his library.

For CICS, copying a CONNECT member is not necessary since EZ/KEY uses the CONNECT member found in the SYSTEM PIELIB.

```
EZRPTCLP ----------------  Establish Default Attributes  ------------  EZ/KEY
COMMAND ==>


  Enter/Verify the following information:

                  USERID ==> SMITH

        From LIBRARY Name ==> PERSONEL


  Enter the Members to copy:

     Default PROFILE Name ==> *

     Default CONNECT Name ==> *

    Default LIBCHAIN Name ==> *

     If members exist, replace? ==> NO     (YES, NO)

Press END (PF3)  to process this userid, or type CANCEL to cancel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.37: Establish Default Attributes - EZRPTCLP (two)

2. Fill in the fields as shown above and press ENTER. The PROFILE, CONNECT, and LIBCHAIN members are copied from the PERSONEL LIBRARY to the SMITH LIBRARY.

```
EZRPTCLP ----------------  Establish Default Attributes  ----------  Copy OK
COMMAND ==>


  Enter/Verify the following information:

                   USERID ==> SMITH

         From LIBRARY Name ==> PERSONEL


  Enter the Members to copy:

     Default PROFILE Name ==> *

     Default CONNECT Name ==> *

    Default LIBCHAIN Name ==> *

    If members exist, replace? ==> NO     (YES, NO)

Press END (PF3)  to process this userid, or type CANCEL to cancel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.38: Establish Default Attributes - EZRPTCLP (three)

The short message "Copy OK" is displayed in the right upper corner of the screen.

Press the END PF KEY to return to the Report Administrator Utility Menu.

Modifying PROFILEs

```
EZRPTADM -------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                    1   Maintain Report Libraries and PROFILEs
                    2   Add New Users to EZ/REPORT
                    3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.39: Report Administrator Utility Menu - EZRPTADM

At this point you may want to customize SMITH's profile. To modify SMITH's profile variables select option 1.

1. Type "1" in the Select Option field and press ENTER. The Report Utility (EZRPTLIB) panel is displayed.

```
EZRPTLIB ---------------------  Report Utility  ----------------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P


ACTION     LIBRARY                                    ACCESS  LIST      LIST
RESULT     NAME      REPORT LIBRARY DESCRIPTION       RIGHTS  NAME      TYPE

           rptadmin                                   CREATE
           PERSONEL  The Personnel Dept Library       CREATE
           EXAMPLE   EZ/KEY Example Library           READ
---------  --------  -------------------------------  ------- --------  --------
           CMS                                        CREATE
           OBJECT    EZ/KEY Program Library           READ
           SMITH                                      CREATE
           SYSTEM    EZ/KEY System Library            READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.40: Report Utility - EZRPTLIB

We can see that the SMITH LIBSPACE is connected. To modify SMITH's profiles, tab down to the row in which SMITH appears, type "P" for the action, and press ENTER.

The Profile Utility (EZRPTPRF) panel is displayed.

Profile Variables

EZ/KEY uses profile variables to store and retrieve information about previous EZ/KEY sessions. EZ/KEY can remember the last program name, program type, and report that you processed by saving this and other information in the profile member. Each EZ/KEY user has a profile member named EZKEY VPROFILE. At the start of each EZ/KEY session, EZ/KEY reads the contents of the EZKEY VPROFILE member. When you exit EZ/KEY, whatever profiles were added, deleted, or changed are saved into the EZKEY VPROFILE member.

The profile member is managed by EZ/KEY. As you use EZ/KEY, profiles are added, changed, and deleted. For example, new users have no EZKEY VPROFILE member. When they first use EZ/KEY, many fields, such as the program name and program type on option 2, are blank.

Another use for profile variables is JCL substitution. Some of these variables, such as JCLFILE, CPGMNAM, VPIJOB, etc., are listed and described in Section 6: EXECUTION SERVICES. Using the Profile Utility panel (EZRPTPRF), you can add variables, delete variables, or change values of variables for use with JCL substitution. On the following pages, we illustrate how to add profile variables to the EZKEY VPROFILE member using the Profile Utility panel.

In the following topic we use the term "default profile variable". Any profile that exists before a user actually signs on to EZ/KEY is considered a "default profile variable". So if we add variables to a user's library, we are, in fact, adding default profile variables.

```
EZRPTPRF ------------------- Profile Utility ----------------------- EZ/KEY
COMMAND ==>                                                SCROLL==> P

 Variable Name   Default Value

 NAME            xxxxxxxxx
 DEST            yyyyyyyyy




To add a profile variable, enter its name and value in the first row.
To delete a profile variable, make its name blank.
To change a profile variable, type over it.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.41: Profile Utility - EZRPTPRF

For our example, SMITH has two default profile variables that were copied from the PERSONEL Library. The two profile variables NAME and DEST were preset to some value. To change the values for SMITH, overtype the old values with the new. In this case, change xxxxxxxxx to SMITH and yyyyyyyyy to REMOTE1.

If the profile member does not exist, a message "No PROFILE Found" is displayed at the right corner of the panel. When the END PF KEY is pressed, the profile member is saved. Of course, to save the profile member, create or write access to the Library is required. Profile members cannot be created for EXTERNAL LIBSPACEs such as TSO, CMS, PDSs, etc.

Adding Profile Variables

To add profile variables, enter a new variable name in the first row. Also, be sure to add a corresponding value. The new profile variable is placed at the end of the profile list. When many variables have been added, several screens of values may result. To make other profile variables visible, use the UP and DOWN PF KEYS.

Removing Profile Variables

To remove profile variables, blank out or erase the name of the variable.

Changing Profile Names

To change profile names, overtype the old name with a new name.

Changing Profile Values

To change profile values, overtype the old value with the new value.

After you have changed SMITH's profiles, press the END PF KEY to return to the Report Utility panel (EZRPTLIB). Press the END PF KEY again to return to the Report Administrator Utility Menu panel (EZRPTADM).

Default Profile Member Creation

When creating a default profile member, start from the Report Administrator Utility Menu panel (EZRPTADM).

```
EZRPTADM -------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Report Libraries and PROFILEs
                  2   Add New Users to EZ/REPORT
                  3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.42: Report Administrator Utility Menu - EZRPTADM

1. Type "1" in the Select Option field and press ENTER. The Report Utility panel (EZRPTLIB) is displayed.

```
EZRPTLIB ---------------------  Report Utility  ---------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> P


ACTION     LIBRARY                                    ACCESS  LIST     LIST
RESULT     NAME     REPORT LIBRARY DESCRIPTION        RIGHTS  NAME     TYPE

           rptadmin                                   CREATE
           PERSONEL The Personnel Dept Library        CREATE
           EXAMPLE  EZ/KEY Example Library            READ
 --------  -------- ------------------------------- ------- -------- --------
           CMS                                        CREATE
           OBJECT   EZ/KEY Program Library            READ
           SMITH                                      CREATE
           SYSTEM   EZ/KEY System Library             READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.43: Report Utility - EZRPTLIB

To create or modify a default profile member, tab down to the proper library and type a "P" under the ACTION/RESULT column.

2. Type "P" in the ACTION/RESULT column field next to PERSONEL and press ENTER. The Profile Utility panel (EZRPTPRF) is displayed.

```
EZRPTPRF --------------------  Profile Utility ------------ No PROFILE Found
COMMAND ==>                                                 SCROLL==> P

 Variable Name   Default Value




To add a profile variable, enter its name and value in the first row.
To delete a profile variable, make its name blank.
To change a profile variable, type over it.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.44: Profile Utility - EZRPTPRF

If the library you selected doesn't have a profile member, then you get the panel shown above. Notice that there aren't any Profile Variable Names or Profile Default Values and the message at the upper right corner says "No PROFILE Found". This means that there is no EZKEY VPROFILE member in the library you have selected.

Adding Profile Variables

To add profile variables, enter a new variable name in the first row. Also, be sure to add a corresponding value. The new profile variable is placed at the end of the profile list. When many variables have been added, several screens of values may result. To make other profile variables visible, use the UP and DOWN PF KEYS.

Removing Profile Variables

Blank out or erase the name of the variable to delete it.

Changing Profile Names

To change profile names, overtype the old name with a new name.

Changing Profile Values

To change profile values, overtype the old value with the new value.

For our example, suppose you want to add two profiles into the profile member. You create NAME and DEST. These two profile variables contain the name of the user and the destination of the program when it is executed. Since the values you enter here are not for a particular user, you do not have to enter an actual value for the profile values. Enter "xxxxxxxxxx" and "yyyyyyyyyy" for the values of NAME and DEST.

Adding new variables to the profile member requires that the variables be added one at a time. You may change as many of the profile variable names or values as you want to, but the addition of new variables must be done one at a time. You must press ENTER after adding each variable. EZ/REPORT places the newly added profile variables at the end of the profile list. When EZ/REPORT needs to use the value of any profile variable, its position in the profile member is not important.

```
EZRPTPRF -------------------- Profile Utility ---------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> P

 Variable Name   Default Value

 NAME            xxxxxxxxxx
 DEST            yyyyyyyyyy




To add a profile variable, enter its name and value in the first row.
To delete a profile variable, make its name blank.
To change a profile variable, type over it.
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.45: Profile Utility - EZRPTPRF

Press the END PF KEY when you have entered the profile values.

EZ/REPORT saves the profile member into the library you selected. In this instance, the profile member is saved in the PERSONEL Library.

The profile member is always called EZKEY VPROFILE. Do not edit EZKEY VPROFILE. If you need to change it, use the Profile Utility panel (EZRPTPRF) provided.

Any time a user invokes EZ/KEY, new profiles may be added, profile values may change, and profile variables may be deleted. This is normal. EZ/KEY uses the profile to save certain information about an EZ/KEY session. Information such as the last member edited is kept in a profile member.

Establish Default CONNECT and LIBCHAIN Members

When creating a default CONNECT or LIBCHAIN member, start from the Report Administrator Utility Menu panel (EZRPTADM).

```
EZRPTADM -------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Report Libraries and PROFILEs
                  2   Add New Users to EZ/REPORT
                  3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.46: Report Administrator Utility Menu - EZRPTADM

Select Option "1" and press ENTER. The Report Utility panel (EZRPTLIB) is displayed.

```
EZRPTLIB ---------------------  Report Utility  ---------------------  EZ/KEY
COMMAND ==>                                                  SCROLL==> P


ACTION     LIBRARY                                    ACCESS  LIST      LIST
RESULT     NAME      REPORT LIBRARY DESCRIPTION       RIGHTS  NAME      TYPE

           rptadmin                                   CREATE
           PERSONEL  The Personnel Dept Library       CREATE
           EXAMPLE   EZ/KEY Example Library           READ
---------  --------  -------------------------------  ------- --------  --------
           CMS                                        CREATE
           OBJECT    EZ/KEY Program Library           READ
           SYSTEM    EZ/KEY System Library            READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.47: Report Utility - EZRPTLIB (one)

Review the order of the libraries to see if they are correct. For an EZ/REPORT user, you want SYSTEM to be last among the connected libraries as EZ/REPORT makes SYSTEM "invisible" to the EZ/REPORT user. If you require additional LIBSPACEs to be CONNECTED, use utility functions 3.a.3 and 3.a.4 to connect to EZ/KEY all of the LIBSPACEs to be shared by all users. You can use this utility to enable selected libraries.

Exit EZ/KEY by entering "=x" on the COMMAND line of this panel and pressing ENTER. This updates the CONNECT and LIBCHAIN members for your userid.

Reinvoke EZ/KEY and select the Report Administrator Utility Menu panel (EZRPTADM) by typing "3.r" and pressing ENTER. Select option "1" on the Report Administrator Utility Menu panel (EZRPTADM) and press ENTER.

The Report Utility panel (EZRPTLIB) is displayed.

```
EZRPTLIB ---------------------  Report Utility  ---------------------- EZ/KEY
COMMAND ==>                                                  SCROLL==> P


ACTION     LIBRARY                                    ACCESS  LIST      LIST
RESULT     NAME     REPORT LIBRARY DESCRIPTION        RIGHTS  NAME      TYPE

s          rptadmin                                   CREATE  rptadmin
           PERSONEL The Personnel Dept Library        CREATE
           EXAMPLE  EZ/KEY Example Library            READ
---------  -------- ------------------------------- ------- -------- --------
           CMS                                        CREATE
           OBJECT   EZ/KEY Program Library            READ
           SYSTEM   EZ/KEY System Library             READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.48: Report Utility - EZRPTLIB (two)

At this point, your library is first. Tab down to the first row next to your library and enter "s" to select it. Tab to the right under LIST NAME and enter your userid as shown above and press ENTER. This selects only those members that have your userid as the member name.

The Member Utility panel (PROULFGL) is displayed.

```
PROULFGL ----------------  Member Utility  -------------- 2 Members Selected
COMMAND ==>                                                    SCROLL ==> P
                                                      LIBRARY NAME: rptadmin

 ACTION    MEMBER    MEMBER  MEMB       RECORD   BLK   CREATE     UPDATE    UPDATE
 RESULT    NAME      TYPE    VERS  STAT  COUNT    CNT   DATE       DATE      TIME

 ed        rptadmin  CONNECT 000            7     1   10/31/85   01/24/86  14:24:0
           rptadmin  LIBCHAIN 000           6     1   10/31/85   01/24/86  14:24:0




ACTIONS=> AR Archive  C  Copy   DE Delete  DI Disable  ED Edit    EN Enable
       => M  Move     PR Print  PU Punch   RE Rename   SU Submit
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.49: Member Utility - PROULFGL

There should be at least two members shown to you, the CONNECT and LIBCHAIN members. Other members that have your userid as the name are also shown if they exist.

NOTE: When EZ/KEY is running under CICS, the SYSTEM CONNECT member is stored in the SYSTEM PIELIB rather than in each user's library. This is because under CICS LIBSPACEs are CONNECTed to the entire CICS system rather than to individual users. Therefore, it is not necessary to edit the CONNECT member under CICS.

Edit the CONNECT member by moving the cursor next to it and entering "ed" under the ACTION/RESULT column. Press ENTER.

```
PROEDIT1  --- rptadmin.CONNECT(000) ---- Edit ----------------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P
****** ******************************** START OF DATA ***************************
000001 CONNECT SYSTEM  LOGICAL CMS     READ    SYSTEM  PIELIB  *
000002 CONNECT PERSONELLOGICAL CMS     MAINTAINPERSONELPIELIB  *
000003 CONNECT EXAMPLE LOGICAL CMS     READ    EXAMPLE PIELIB  *
000004 CONNECT rptadminLOGICAL CMS     MAINTAINrptadminPIELIB  *
000005 CONNECT CMS     CMSDISK CMS     MAINTAIN*       *       A
****** ********************************* END OF DATA ****************************
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.50: Edit - PROEDIT1

Delete the line that contains the "CONNECT rptadmin" line, where "rptadmin" is your userid. To delete a line, type "d" over its line number and press ENTER. In this example, delete line 4. Delete any other lines that indicate libraries you do not want your users to have access to. Press the END PF KEY when you are done.

```
PROULFGL ------------------- Member Utility ----------------------- EZ/KEY
COMMAND ==>                                                SCROLL ==> P
                                                  LIBRARY NAME: rptadmin

 ACTION    MEMBER    MEMBER  MEMB       RECORD   BLK   CREATE    UPDATE   UPDATE
 RESULT    NAME      TYPE    VERS  STAT  COUNT    CNT   DATE      DATE     TIME

 EDITED    rptadmin CONNECT  000          7      1  10/31/85  01/24/86   15:41:1
           rptadmin LIBCHAIN 000          6      1  10/31/85  01/24/86   15:40:1




ACTIONS=> AR Archive  C  Copy   DE Delete  DI Disable  ED Edit    EN Enable
       => M  Move     PR Print  PU Punch   RE Rename   SU Submit
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.51: Member Utility - PROULFGL

Edit the LIBCHAIN member. Select it the same way you selected the CONNECT member, by typing "ed" next to the LIBCHAIN member.

```
PROEDIT1  --- rptadmin.LIBCHAIN(000) --- Edit ----------------------- EZ/KEY
COMMAND ==>                                                  SCROLL ==> P
****** ***************************** START OF DATA ****************************
000001 CONCAT  rptadmin
000002 CONCAT  PERSONEL
000003 CONCAT  CMS
****** ***************************** END OF DATA ******************************




Press END (PF3)  to return to the previous panel.
```

Exhibit 7.52: Edit - PROEDIT1

The LIBCHAIN member contains the names of all the enabled libraries. Delete the line that contains your userid. In this example, delete line 1. Press the END PF KEY when you are done.

If the EZ/REPORT users you are creating will be browsing reports in TSO or CMS, be sure to insert a CONCAT CMS or CONCAT TSO line before the CONCAT SYSTEM line. Since EZ/KEY stores the listing file that will be browsed in CMS or TSO, CMS or TSO must be enabled.

Browse is not available in CICS.

```
PROULFGL ------------------- Member Utility ----------------------- EZ/KEY
COMMAND ==>                                                SCROLL ==> P
                                                  LIBRARY NAME: rptadmin

 ACTION   MEMBER   MEMBER  MEMB       RECORD   BLK   CREATE    UPDATE   UPDATE
 RESULT   NAME     TYPE    VERS  STAT  COUNT    CNT   DATE      DATE     TIME

 EDITED   rptadmin CONNECT  000            4     1  10/31/85  01/24/86  15:41:1
 EDITED   rptadmin LIBCHAIN 000            4     1  10/31/85  01/24/86  15:42:1









ACTIONS=> AR Archive  C  Copy   DE Delete  DI Disable  ED Edit    EN Enable
       => M  Move     PR Print  PU Punch   RE Rename   SU Submit
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.53: Member Utility - PROULFGL

Press the END PF KEY to return to the Report Utility panel (EZRPTLIB).

```
EZRPTLIB ---------------------  Report Utility  ----------------------  EZ/KEY
COMMAND ==>                                                  SCROLL ==> P


ACTION     LIBRARY                                        ACCESS  LIST      LIST
RESULT     NAME      REPORT LIBRARY DESCRIPTION           RIGHTS  NAME      TYPE

SELECTED   rptadmin                                       CREATE
           PERSONEL  The Personnel Dept Library           CREATE
           EXAMPLE   EZ/KEY Example Library               READ
---------  --------  ------------------------------------ ------- --------- ---------
           CMS                                            CREATE
           OBJECT    EZ/KEY Program Library               READ
           SYSTEM    EZ/KEY System Library                READ

ACTIONS=> R Reports   I Library Information    P Profile Variables
       => A After  B Before  DI Disable  EN Enable  M Move  PR Print  S Select
Press END (PF3)  to return to the previous panel.
```

Exhibit 7.54: Report Utility - EZRPTLIB

Press the END PF KEY to return to the Report Administrator Utility Menu panel (EZRPTADM).

```
EZRPTADM -------------  Report Administrator Utility Menu  -----------  EZ/KEY
COMMAND ==>


Select Option ===>


                  1   Maintain Report Libraries and PROFILEs
                  2   Add New Users to EZ/REPORT
                  3   Copy CONNECT, LIBCHAIN, and PROFILE defaults









Press END (PF3)  to return to the previous panel.
```

Exhibit 7.55: Report Administrator Utility Menu - EZRPTADM

Select option 3, and press ENTER.

```
EZRPTCLP ----------------- Set Up Default Attributes --------------- EZ/KEY
COMMAND ==>


  Enter/Verify the following information:

                   USERID ==>

         From LIBRARY Name ==>


  Enter the Members to copy:

     Default PROFILE Name ==> *

     Default CONNECT Name ==> *

    Default LIBCHAIN Name ==> *

    If members exist, replace? ==> NO     (YES, NO)

Press END (PF3)  to process this userid, or type CANCEL to cancel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.56: Set Up Default Attributes - EZRPTCLP (one)

You want to copy the LIBCHAIN and CONNECT members, so you must blank out the asterisk at the Default PROFILE Name prompt. Since you are going to copy the LIBCHAIN and CONNECT members from your library, enter your userid in the From LIBRARY Name field, and PERSONEL in the USERID field.

NOTE: When EZ/KEY is running under CICS, the SYSTEM CONNECT member is stored in the SYSTEM PIELIB rather than in each user's library. This is because under CICS LIBSPACES are CONNECTed to the entire CICS system rather than to individual users. There is no need to copy the CONNECT member. Blank out the asterisk at the Default CONNECT Name prompt.

```
EZRPTCLP ----------------  Set Up Default Attributes  ---------------  EZ/KEY
COMMAND ==>


  Enter/Verify the following information:

                  USERID ==> PERSONEL

        From LIBRARY Name ==> rptadmin


  Enter the Members to copy:

     Default PROFILE Name ==>

     Default CONNECT Name ==> *

    Default LIBCHAIN Name ==> *

     If members exist, replace? ==> NO     (YES, NO)

Press END (PF3)  to process this userid, or type CANCEL to cancel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.57: Set Up Default Attributes - EZRPTCLP (two)

Once all the changes have been made as shown above, press ENTER. EZ/REPORT copies the CONNECT and LIBCHAIN members to the PERSONEL library.

```
EZRPTCLP ----------------  Set Up Default Attributes  ------------- Copy OK
COMMAND ==>


  Enter/Verify the following information:

                  USERID ==> PERSONEL

        From LIBRARY Name ==> rptadmin


  Enter the Members to copy:

     Default PROFILE Name ==>

     Default CONNECT Name ==> *

    Default LIBCHAIN Name ==> *

    If members exist, replace? ==> NO     (YES, NO)

Press END (PF3)  to process this userid, or type CANCEL to cancel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Exhibit 7.58: Set Up Default Attributes - EZRPTCLP (three)

The short message "Copy OK" is displayed in the right upper corner of the screen. This indicates that the members have been successfully copied to the PERSONEL library.

At this point, the default CONNECT, LIBCHAIN, and PROFILE members are in the PERSONEL library. When initializing new users who belong to the Personnel Group, you can copy the CONNECT, LIBCHAIN, and PROFILE members from the PERSONEL library to the new user's library.

Press the END PF KEY to return to the Report Administrator Utility Menu panel (EZRPTADM).

(This page intentionally left blank.)

SECTION 8: JOB INFORMATION CUSTOMIZATION

Modifying Batch Job Information 8-1
Exhibit 8.1: Modify Job Information - PROEXEC3 . . . 8-1
Exhibit 8.2: Profile Utility - EZRPTPRF 8-2
Exhibit 8.3: Modify Job Information - PROEXEC3 (one) 8-3

Sample Job Information Substitution 8-5
Exhibit 8.4: Modify Job Information - PROEXEC3 (two) 8-5

(This page intentionally left blank.)

Modifying Batch Job Information

The Modify Job Information panel (PROEXEC3) can be customized to contain batch execution information relevant to your installation.

PROEXEC3 consists of two arrays of profile variables that can be modified by an EZ/KEY Administrator using the Profile Utility panel (EZRPTPRF). See Section 7: REPORT ADMINISTRATOR, Modifying PROFILEs, for additional instructions on how to use the Profile Utility panel (EZRPTPRF).

The two columns that form the screen of PROEXEC3 are named EZKNAM1 through EZKNAM15 and EZKEY1 through EZKEY15. EZKNAM1 through EZKNAM15 form the descriptions that your users see when they view PROEXEC3. EZKEY1 through EZKEY15 contain values that are used when substituting variables into JCL streams.

```
PROEXEC3 ---------------- Modify Job Information ------------------ EZ/KEY
COMMAND ===>

Enter/Verify the Following Job Information:

EZKNAM1          ==>  EZKEY1
EZKNAM2          ==>  EZKEY2
EZKNAM3          ==>  EZKEY3
EZKNAM4          ==>  EZKEY4
EZKNAM5          ==>  EZKEY5
EZKNAM6          ==>  EZKEY6
EZKNAM7          ==>  EZKEY7
EZKNAM8          ==>  EZKEY8
EZKNAM9          ==>  EZKEY9
EZKNAM10         ==>  EZKEY10
EZKNAM11         ==>  EZKEY11
EZKNAM12         ==>  EZKEY12
EZKNAM13         ==>  EZKEY13
EZKNAM14         ==>  EZKEY14
EZKNAM15         ==>  EZKEY15


Type the required information and press ENTER.
Press END (PF3) to submit the job and return to the previous panel.
Type CANCEL on the COMMAND line to exit without changing anything.
```

Exhibit 8.1: Modify Job Information - PROEXEC3

To specify that a variable is to be used, make its corresponding EZKNAMnn value nonblank. You must use the Profile Utility panel (EZRPTPRF) to perform this task.

For example:

```
EZRPTPRF ------------------- Profile Utility ----------------------- EZ/KEY
COMMAND ==>                                                SCROLL==> P

 Variable Name   Default Value

   EZKNAM1       Job Name
   EZKNAM2       Account
   EZKNAM3       Subaccount
   EZKNAM4       Msgclass
   EZKNAM5       Password
   EZKNAM6       Destination




To add a profile variable, enter its name and value in the first row.
To delete a profile variable, make its name blank.
To change a profile variable, type over it.
Press END (PF3) to return to the previous panel.
```

Exhibit 8.2: Profile Utility - EZRPTPRF

In the example above, we define values for EZKNAM1 through EZKNAM6. When we create a new user and copy the profile into his library, he sees the following screen whenever he needs to modify his job information.

The user obtains the Modify Job Information panel (PROEXEC3) by typing "YES" in the Modify Job Information field of the PROEXEC2, EZREPORT, and EZRPTRSL panels.

```
PROEXEC3 ---------------- Modify Job Information ------------------ EZ/KEY
COMMAND ===>

Enter/Verify the Following Job Information:

Job Name          ==>
Account           ==>
Subaccount        ==>
Msgclass          ==>
Password          ==>
Destination       ==>









Type the required information and press ENTER.
Press END (PF3) to submit the job and return to the previous panel.
Type CANCEL on the COMMAND line to exit without changing anything.
```

Exhibit 8.3: Modify Job Information - PROEXEC3 (one)

Since the values of EZKNAM7 through EZKNAM15 are blank, no value is expected for them.

EZ/KEY treats EZKNAM1 through EZKNAM5 as special variables. If they are blank, their values default to the following:

```
EZKNAM1 = 'Job Name'
EZKNAM2 = 'Account'
EZKNAM3 = 'Subaccount'
EZKNAM4 = 'Msgclass'
EZKNAM5 = 'Password'
```

To retain compatability with previous versions of EZ/KEY, existing user profiles and JCL members, EZ/KEY maintains the following equivalences:

```
VPIJOB = EZKEY1
VPIA   = EZKEY2
VPIS   = EZKEY3
VC     = EZKEY4
VPASS  = EZKEY5
```

For the purpose of passwords, EZKEY5 and EZKEY15 are non-displayable fields. You can use these two fields if you need to substitute passwords into a JCL stream.

Sample Job Information Substitution

```
PROEXEC3 ---------------- Modify Job Information ------------------ EZ/KEY
COMMAND ===>

Enter/Verify the Following Job Information:

Job Name          ==> SAMPLEA
Account           ==> 1234
Subaccount        ==> SMPL
Msgclass          ==> X
Password          ==>
Destination       ==> ATLANTA









Type the required information and press ENTER.
Press END (PF3) to submit the job and return to the previous panel.
Type CANCEL on the COMMAND line to exit without changing anything.
```

Exhibit 8.4: Modify Job Information - PROEXEC3 (two)

Assume that the user from ATLANTA fills in the job information as shown above. The JCL before substitution would be as follows:

```
//%EZKEY1| JOB (%EZKEY2|,%EZKEY3),'PRINT OF %CPGMNAM|',
//         MSGCLASS=%EZKEY4|,CLASS=6
/*ROUTE PRINT &EZKEY6|
//PRINT   EXEC IEBGENER
//SYSPRINT DD SYSOUT=*
//SYSUT2   DD SYSOUT=*
//SYSIN    DD DUMMY
//SYSUT1   DD *
```

The JCL after substitution is as follows:

```
//SAMPLEA JOB (607A,SMPL),'PRINT OF PROGRAM1',
//         MSGCLASS=X,CLASS=6
/*ROUTE PRINT ATLANTA
//PRINT   EXEC IEBGENER
//SYSPRINT DD SYSOUT=*
//SYSUT2   DD SYSOUT=*
//SYSIN    DD DUMMY
//SYSUT1   DD *
```

SECTION 9: MODEL FACILITY

Introduction 9-1

Model Creation 9-2
Using Macros as Models 9-2
Model Types 9-2

(This page intentionally left blank.)

Introduction

A model is all or part of an existing EASYTRIEVE PLUS program that can be used as a base for developing a new program or modifying an old one.

In PROMPT mode, the menu options on appropriate panels are used to identify and insert the desired models. In FREE mode, the COPY primary command is used.

Currently, there are four types of models:

1. A whole program
2. File and field definitions
3. A job activity
4. A report definition

These can be used individually or in combination. As a System Administrator you are responsible for creating and maintaining models for your users.

Model Creation

Use EZ/KEY Option 2 (Create or Modify any Member) to create models. You can code a model from scratch or you can use the COPY primary command to retrieve all or parts of other members. You can modify copied members.

The member names of file, job, and report models must be the same as the file names, job names, and report names specified on the first statement in the models. The member types of the models must be:

Model Type	Member Type
Program	EZT
File	EZTLIB
Job	EZTJOB
Report	EZTRPT

Using Macros as Models

An EASYTRIEVE PLUS macro stored in a Partitioned Data Set, CMS MACLIB, CMS minidisk, or PANVALET library can be used as a file, job, or report model if the first record in the macro contains only the word MACRO. Use of the macro as a model is rejected if the macro prototype statement defines any positional or keyword parameters.

Model Types

Program Models

A program model is an entire EASYTRIEVE PLUS program that you want to use as the base for creating another program. In PROMPT mode, select Option 3 on the EZ/KEY Edit-Entry Panel (PROEDBGN) and provide the following:

a. The name of the program you are creating or modifying, and

b. The name of the program to use as a model.

The model must be stored in the library with a member type of EZT.

After you have typed the necessary information on PROEDBGN, press ENTER. EZ/KEY displays the structure of the program you have chosen as a model. You may then make all the changes you want for the new program. EZ/KEY saves the changed program with the new name you specified on PROEDBGN.

File Models

A file model is composed of a single EASYTRIEVE PLUS FILE statement and one or more related field definitions. The definitions can be for fields in the file and/or working storage (W or S).

The member name of the model is the same as the name of the file defined in the FILE statement; the member type must be EZTLIB. Following is an example of a file model named FILE1:

```
member =  FILE1  EZTLIB  000

   FILE  FILE1   FB(80 3200)   +
      BUFNO 5
   *
   *  comments about file use and fields     (optional)
   *
     REGION    1  1  N
     BRANCH    2  2  N
     NAME     17  8  A
   *
     REGCHK    W  1  N
     BRCHK     W  BRANCH
```

You can insert a file model into another program in either PROMPT or FREE mode.

In PROMPT mode, enter the member name of the model on the File Description Panel (PROLIB) and select Option 1. The model is copied into your program. You may then edit the model using option 2 or 3.

In FREE mode, enter "COPY model-name EZTLIB" on the COMMAND line, type "a" (after) or "b" (before) in the line number where you want the model to be inserted, and press ENTER.

Job Models

A job model is composed of all or part of a single EASYTRIEVE PLUS job activity. The model can be an entire job activity (including report definitions), or it can be a job prefix (JOB statement and EASYTRIEVE PLUS statements but no report declaratives). If you use just a job prefix, you can specify entirely new report definitions or use report models.

The member name of a job model is the same as the jobname specified on the JOB statement; the member type must be EZTJOB. Two examples of job models follow:

```
member = FULLJOB  EZTJOB  000

   JOB  NAME(FULLJOB)
     IF REGION = 2
        PRINT RPT1
     END-IF
     REPORT  RPT1
       TITLE 'REGION 2 EMPLOYEES'
       LINE  BRANCH  NAME


member = JOBPFX  EZTJOB  000

   JOB  NAME(JOBPFX)
     IF REGION = 3
        PRINT  RPT2
     END-IF
```

You can insert a job model from either PROMPT or FREE mode.

In PROMPT mode, enter the model name on the Job Activity Definition panel (PROJOB) and select Option 1. The model is copied into your program. You can then edit the model by selecting the desired option for the section of the job that you want to change.

In FREE mode, type "COPY model-name EZTJOB" on the COMMAND line, enter "a" (after) or "b" (before) in the line number where you want the model to be inserted, and press ENTER.

Report Models

A report model consists of a single EASYTRIEVE PLUS report definition. The model can be a complete report definition including associated procedures or it can be any part of a definition as long as it begins with the REPORT statement.

The member name of a report model is the same as the name of the report; the member type must be EZTRPT. Sample report models are shown below.

```
member = RPT1  EZTRPT  000

   REPORT RPT1   SUMMARY
     SEQUENCE    REGION
     CONTROL     REGION
     TITLE   'REGION SALARY SUMMARY'
     LINE    REGION  NET-PAY  AVG-PAY
     BEFORE-BREAK.  PROC
       AVG-PAY = NET-PAY / TALLY
     END-PROC
                                  This model is a simple
member = RPT2  EZTRPT  000        set of code that you
                                  complete using normal
   REPORT RPT2                    report PROMPTs.  It
     SEQUENCE    REGION           can be used as a guide
     TITLE       ' '              to create a report.
     LINE        REGION
```

You can insert a report model in the current job activity from either FREE or PROMPT mode.

In PROMPT mode, enter the name of a report model on the Primary Report Menu (PRORPT) and select Option 1. You can then make desired changes in the model using the Report Declarative Menu panel (PRORPTM) and its subordinate panels.

In FREE mode, type "COPY model-name EZTRPT" on the COMMAND line, enter "a" (after) or "b" (before) in the line number where you want the model inserted, and press ENTER.

APPENDIX A: EZ/KEY MESSAGES

EZKEYnnn Messages A-1

EZKSEGnn Messages A-5

(This page intentionally left blank.)

EZKEYnnn Messages

The following messages may be issued by the EZ/KEY Main Program. A brief explanation of the probable causes is also included where needed.

Message Number	Description
EZKEY001 (CMS) (TSO)	Creating your Library file. This message appears during the sign-on process of EZ/KEY.
EZKEY002 (CMS) (TSO)	Your Library could not be created. The CMS minidisk to contain your PIELIB is full or is ACCESSed Read-Only. The dataset to contain your PIELIB could not be created, or is access-protected, or is Read-Only.
EZKEY003	PIE Library Services Connect Error, RC = nn Report this error to Pansophic Customer Service.
EZKEY004	MINIDISK containing your PIELIB is full.
EZKEY005 (CMS)	Your Library is Read-Only. The CMS minidisk containing your PIELIB is ACCESSed R/O.
EZKEY006	PIE Library System Initialization Error, RC = nn Report this error to Pansophic Customer Service.
EZKEY007 (CICS)	User already signed on to EZ/KEY. This userid is already signed on to EZ/KEY under CICS/VS.

Message Number	Description
EZKEY008 (CICS) (CMS) (TSO)	User not authorized to use EZ/KEY. The system administrator must create a user Library before a user can sign on to EZ/KEY under CICS/VS. The internal name of the user's PIELIB does not agree with the external name (usually USERID PIELIB). This could be caused by renaming the Library within the USERID PIELIB to some name other than userid. The installation has decided that the EZ/KEY System Administrator must create a userid.PIELIB before a user can use EZ/KEY or the internal name of the user's PIELIB does not agree with the external name (usually USERID.PIELIB). This could be caused by the ALLOCATE for FILE(userid) pointing to a userid.PIELIB belonging to another user.
EZKEY009	PIE Library Services Initialize User Error, RC = nn Report this error to Pansophic Customer Service.
EZKEY010	PIE System Variable Pool Definition Error, RC = nn Report this error to Pansophic Customer Service.
EZKEY011	PIE Variable Pool Termination Error, RC = nn Report this error to Pansophic Customer Service.

Message Number	Description
EZKEY012	EZ/KEY was not installed correctly; the SYSTEM PIELIB could not be found.
(CMS)	The SYSTEM PIELIB does not contain the correct data.
(TSO)	DDname SYSTEM is not allocated to the correct dataset or that dataset does not contain the SYSTEM PIELIB data.
(CICS)	The EZKSYS DD or DLBL does not access the correct dataset or that dataset does not contain the SYSTEM PIELIB data.
EZKEY013	PIE Library Services Terminate User Error, RC = nn Report this error to Pansophic Customer Service.
EZKEY014	Your Library is full. PROFILE, LIBCHAIN, or CONNECT data was not updated. Delete some members or make the LIBSPACE larger.
EZKEY015	I/O Error on your Library. An I/O Error was detected while trying to read or write to the user's PIELIB LIBSPACE.
EZKEY016	USERID must be 1 to 8 characters
(CICS)	Under CICS, you must sign on with "EZKEY userid", where USERID must be from 1 to 8 alphanumeric characters.

Message Number	Description
EZKEY017 (CICS)	TWA must be at least 40 bytes Under CICS, EZ/KEY requires a minimum of 40 bytes of Transaction Work Area. Check the CICS Program Control Table (PCT) entry for 'EZKEY' for the correct specification of TWASIZE.
EZKEY018	EZ/KEY completed After issuing "=X" from the command line, or "X" on the primary menu, this indicates that your EZ/KEY session has terminated normally.
EZKEY019 (CICS)	EZ/KEY is now removed After issuing "EZKT", this message indicates the clean-up program successfully completed its operation.
EZKEY020	EZ/KEY Options not found During initialization of your transaction, EZ/KEY could not find the EZ/KEY options.
EZKEY021	EZ/KEY unable to locate EZKYOPTN During system initialization, EZ/KEY could not find the module EZKYOPTN. This is probably due to an error while installing EZ/KEY.
EZKEY022	EZ/KEY unable to locate system library During system initialization, EZ/KEY could not find the SYSTEM PIELIB. This is probably due to an error while installing EZ/KEY.
EZKEY023	The Administrator has signed you off EZ/KEY The EZ/KEY Administrator has signed you off EZ/KEY with the LOGOFF command.

Message Number	Description
EZKEY024	The following userids are active to EZ/KEY You have requested that EZ/KEY be removed from the system, but the following userids are still active in EZ/KEY.
EZKEY025	Type YES to remove EZ/KEY You have requested that EZ/KEY be removed from the system, but there are still people using EZ/KEY. Type "YES" to remove EZ/KEY anyway or "NO" to cancel the removal request.
EZKEY026	EZ/KEY removal cancelled You replied "NO" to message EZKEY025.

(This page intentionally left blank.)

EZKSEGnn Messages

The following messages may be issued under VM/CMS by the program EZKEYSEG MODULE, the EZ/KEY Shared Segment Loader. A brief explanation of the probable causes is also included below.

Message Number	Description
EZKSEG01	Invoking EZKEYMOD MODULE EZKEYSEG is not able to attach EZ/KEY in a DCSS. EZ/KEY is executed in the CMS user area.
EZKSEG02	Recursive Call to EZKEYSEG MODULE EZKEYSEG detected that EZ/KEY is already in the CMS user area.
EZKSEG03	Insufficient storage for EZ/KEY Not enough virtual storage is available to initialize EZ/KEY. DEFINE STORAGE 1M (or larger), re-IPL CMS, and try again.
EZKSEG04	Error loading EZKEY shared segment EZKEYSEG found that the EZKEY DCSS is not yet generated into CP, the virtual machine size overlaps the EZKEY DCSS start address, or another DCSS was already loaded in same address range.
EZKSEG05	EZKEY DCSS not initialized The EZKEY DCSS has been generated into CP, but it has not yet been initialized. Refer to the procedure in the EZ/KEY Installation Guide on running the EZKEYSEG EXEC to install EZ/KEY in a DCSS.

Message Number	Description
EZKSEG06	EZKEY DCSS does not contain EZ/KEY The EZKEY DCSS has been generated into CP and it contains something, but not EZ/KEY. Refer to the procedure in the EZ/KEY Installation Guide for running the EZKEYSEG EXEC to install EZ/KEY in a DCSS.
EZKSEG07	EZKEYMOD MODULE not found EZKEYMOD MODULE was not found on any ACCESSed CMS minidisk. The EZKEY EXEC must LINK to and ACCESS the correct minidisk.
EZKSEG08	Invalid CMS SUBSET Command A user issued 'CMS EZKEY' on the command line of EZ/KEY. This is not supported.
EZKSEG09	Insufficient storage for EZKEYSEG Not enough virtual storage was available to initialize EZKEYSEG. DEFINE STORAGE 1M (or larger), re-IPL CMS, and try again.

APPENDIX B: EZ/KEY VS EASYTRIEVE PLUS

Restrictions in EZ/KEY B-1
PROMPT Mode Restrictions B-2

Extensions in EZ/KEY B-3

(This page intentionally left blank.)

Restrictions in EZ/KEY

EZ/KEY uses the default options (EZTPOPT) distributed with EASYTRIEVE PLUS. Installation changes to EZTPOPT are not recognized by EZ/KEY.

SCANCOL is fixed at 1-72 (i.e., EASYTRIEVE PLUS statements must be within the first 72 columns).

PRINT statement - report-name is required by EZ/KEY.
REPORT statement - report-name is required by EZ/KEY.
JOB statement - "NAME jobname" is required by EZ/KEY.
SORT statement - "NAME sortname" is required by EZ/KEY.

JOB and SORT names must be unique throughout a program. The name of a FILE, JOB, SORT, PROC, REPORT, or statement label cannot be a keyword or used to identify another item.

EZ/KEY syntax-checks the LIST ON/OFF statements, but displays macro-generated statements based on the setting of MACRO ON/OFF in EZ/editor and the presence of LIST MACROS or LIST NOMACROS statements in the program source. You can use the X and XX line commands of EZ/editor to inhibit the display of non-macro statements (equivalent to LIST OFF).

MACRO names must be <= 8 characters in length (thus you cannot access PANVALET members whose names are 9 or 10 characters long).

Instream MACROs are not supported.

Values in the PARM SORT DEVICE parameter that contain special characters (such as "-") must be enclosed within quotes. For example, PARM SORT DEVICE '3330-11'.

PROMPT Mode Restrictions

If you terminate a PROMPT mode session by typing "=x" on the COMMAND line, your program may not be saved if the library is full.

The RECORD statement and synchronized files on the JOB statement are not supported by menus.

You cannot change statements generated by a macro.

FILE, JOB, and REPORT names cannot be changed in PROMPT mode; you can SWAP to FREE mode to change these names.

The DOS device type on the PARM statement cannot be specified in prompt mode. The device type is determined dynamically for DOS/VSE AF2 and above.

The EXITSTR parameter of the PARM statement cannot be changed in PROMPT mode; you can SWAP to FREE mode to change it, or it can be specified in the EASYTRIEVE PLUS options table, EZTPOPT. This value is usually determined by your systems programmer; improper values can cause storage overlays or poor performance.

Extensions in EZ/KEY

EZ/KEY flags OS-only or DOS-only syntax; EASYTRIEVE PLUS does not.

When the EZ/editor profile variable MACRO is ON, EZ/KEY displays the MACRO prototype statement as well as the macro body generated statements. This allows error messages for the prototype statements to be displayed in a meaningful manner.

EZ/checker ignores lines with '///', '/*' or '/&' in columns 1 and 2 (to permit "embedded JCL"). The EASYTRIEVE PLUS program must terminate with an END statement if other than JCL statements follow the program.

EZ/KEY supports macros in the following types of libraries (the libraries must be "enabled" for your USERID for you to access macros within them).

"macroname EZTMACRO"	in a PIE Library
"macroname EZTMACRO"	in a CMS minidisk
"macroname"	in a CMS MACLIB
"macroname"	in an OS PDS
"macroname"	in a PANVALET library

When EZ/KEY detects that another statement is coded on the same line as an ACCESS, LIST, NEWPAGE, POP, PUSH, SKIP, or macro invocation statement, the second statement is automatically moved to a new line.

Lowercase

EZ/KEY translates lower-to-uppercase as necessary when CHECK is ON or when CHECK is issued. Lowercase characters within quoted literals are not translated. In batch EASYTRIEVE PLUS, all keywords and identifiers must be in uppercase.

EZ/checker allows the use of lowercase characters anywhere, but immediately replaces them with their uppercase equivalent as needed for compatibility with batch EASYTRIEVE PLUS. This is similar to "CAPS ON" in EZ/editor, but with additional intelligence to allow lowercase letters within quoted literals. You do not need to set "CAPS ON" when running EZ/editor.

Delimiters

EZ/KEY handles delimiters, parentheses, and commas different than batch EASYTRIEVE PLUS. These differences permit EZ/KEY to process existing EASYTRIEVE PLUS programs and macro libraries, but provide a more consistent, user-friendly approach to delimiters and special characters.

1. The following characters are always treated as delimiters and thus are not allowed within an identifier:

'	Single Quote
	Space
(	Left Paren
)	Right Paren
,	Comma
.	Period
;	Semicolon

2. Commas

   a. Commas are always treated as delimiters.

   b. Commas are allowed anywhere a blank is allowed. (EZ/KEY treats commas as blanks.)

   c. A comma followed by any nonblank character (other than another comma) is replaced by a comma, a blank, and the nonblank character. If there isn't room on the line to insert the blank, a "blank expected" message is reported.

   d. Multiple commas are replaced by ', '.

3. Semicolons

   a. Semicolons are treated as delimiter characters.

   b. Semicolons are allowed anywhere a period is allowed. (EZ/KEY treats semicolons as periods.)

   c. A semicolon followed by any nonblank character (except for a ';') is replaced by a period, a blank, and the nonblank character. If there isn't room on the line to insert the blank, a "blank expected" message is reported.

   d. Multiple semicolons are replaced by '. '.

4. Periods

   a. Periods are not allowed within identifiers (field-names, file-names, labels, etc.).

   b. Within an identifier, a period followed by any nonblank character (other than another period) is replaced by a period, a blank, and the nonblank character. If there isn't room on the line to insert the blank, a "blank expected" message is reported.

5. Subparameters may always be enclosed in parentheses. Parentheses are not required when only one subparameter is specified.

   a. Multiple parentheses are allowed where one is required, but parentheses must be balanced.

   b. EZ/KEY never generates multiple parentheses where one will suffice.

(This page intentionally left blank.)

-A- ACCESS 1-7, 3-17, 3-27, 3-43
access rights 2-9, 3-16, 3-25, 7-10
Accessing and Exiting the Site Options Facility 3-49
ACCNTNG LIBCHAIN 4-25, 4-27, 4-29
ACCNTNG PIELIB 4-24, 4-26
active 2-13
add report 7-27
additional utility functions 3-1
administrator password 1-10-1-11, 1-14
administrator's guide 1-4, 1-14
ALLOC statement 4-12
ALLOCATE 5-2
append 1-6
archive 1-2-1-3, 2-4, 3-3, 3-8, 3-12
ATTR statement 4-12

-B- background 1-2, 7-14
background execution 1-9-1-10, 1-13, 1-15, 3-39, 6-10, 6-10 to 6-26
background sdubmission 3-43
background submission 3-44
backup 5-1
backup and restore functions 2-11
BACKUP AND RESTORE FUNCTIONS 5-1 to 5-12
backup and restore operations 4-28
backup PIELIB 5-1-5-2
backup/restore 1-1
batch 7-14
batch field 7-13
Batch Information 7-22 to 7-24
batch mode 7-22
batch parameters 7-27
batch report 7-18
batch report information 7-13
batch report information panel 7-21-7-22
BDAM 1-7
BIND 1-10
BLOCK parameter 4-12
blocksize 1-1, 2-6, 2-16, 3-20, 3-22, 4-5, 4-9

-C- CAPS 1-4
CATALOG 2-3-2-4, 2-8, 2-11
CATALOG member 2-9
CICS 1-2, 1-14, 1-16, 2-16, 3-9-3-10, 3-19, 3-21, 3-24, 3-30, 5-2, 6-1, 7-14-7-15, 7-22, 7-41
CICS environment 3-45, 4-17
CICS FCT 3-21, 4-17
CICS FCT entries 1-2
CICS file control table 3-19
CICS JCL 3-30
CICS reconnect procedures 3-32

CICS region 3-38
CICS Site Options Panel 3-54 to 3-55
CICS table entries 1-7
CICS user community 3-32
CICS USERID 4-1, 4-22
CICS/DOS/VSE 1-3, 1-13, 2-13, 5-1, 6-19
FCT
name' 2-6
CICS/DOS/VSE FCTname 3-19, 3-30
CICS/MVS 1-6-1-7
CICS/OS/VS 1-3, 1-13, 2-13-2-15, 3-30, 5-1
CICS/VS 2-16
CICS/VS dynamic transaction backout facility 1-13
CICS/VS multi-region option 1-14
CICS/VS Recovery Procedures 3-38
CICS/VSE 1-6-1-7
CISIZE 3-21
CLIST 1-7, 1-15, 3-42, 4-9, 6-8, 7-19-7-20
CLIST name 6-7
CMODE 6-14
CMS 1-2-1-3, 1-6-1-7, 1-9, 1-11, 1-16, 2-7-2-8, 2-16, 3-3, 3-17-3-18, 3-21, 3-24, 3-26, 3-42, 3-44, 5-1-5-2, 6-1, 6-4, 6-13, 7-8, 7-15, 7-19, 7-22
CMS environment 4-2
CMS EXEC 1-7, 1-15, 7-16
CMS file name 7-17
CMS file system 2-12
CMS file type 7-17
CMS Foreground Execution 6-2 to 6-5
CMS I/O facilities 2-12
CMS LIBSPACE 2-7
CMS MACLIB 2-12
CMS minidisk 1-6-1-7, 2-12, 2-16, 3-21
CMS minidisk blocksize 3-21
CMS minidisks 1-12
CMS On-Line Information 7-15 to 7-18
CMS On-Line Information - Reports with Parameters 7-33 to 7-34
CMS Site Options Panel 3-52 to 3-53
CMS user PIELIBS 4-1
CMSMAC 1-3, 2-12, 3-24, 3-26
common libraries 1-2
Common Option Fields 3-50 to 3-51
COMMON PIELIB 2-15
configuration 4-24, 4-26, 4-28
connect 1-2, 1-7, 2-3-2-4, 2-8, 2-11, 2-15, 3-17-3-18, 3-27, 3-31, 3-45, 4-1, 4-3, 4-9, 4-16, 5-3, 7-7-7-8, 7-41
CONNECT a LIBSPACE 4-28
connect a PIELIB LIBSPACE 3-3
connect an external LIBSPACE 3-3
CONNECT member 2-8, 3-32-3-33, 4-24, 4-26

CONNECT members 7-4
control code 1-14
COPY 1-8, 2-4, 4-6, 5-7
Copy Default Attributes (Option 3) 7-48 to 7-51
COPY panel 4-14
COPY/MOVE utility 1-6
COPY/MOVE utility panel 4-13-4-14, 4-25, 4-27, 4-29
CP write password 2-16
CREATE 2-5, 2-15-2-16, 3-3, 3-17, 3-45, 4-24, 4-26, 7-7
Creating A New EZ/REPORT User (Option 2) 7-40 to 7-47
CS 6-14
CSECT 1-9

-D- DASD track length 3-21
data definition name 3-29
dataset 2-7, 3-19
dataset name 7-23
dataset name prefix 3-30
DBDname on FILE statement 1-12
DCSS 1-3, 3-42
DD name 7-23
ddname 3-17, 3-19, 3-26-3-27, 3-29-3-30, 5-2
Default Profile Member Creation 7-56 to 7-60
default record length and blocksize for PIELIB 4-10
DEFCLUST 4-19
DEFER for IMS/DLI FILE statement 1-12
DEFINE 1-16
DEFINE CLUSTER 4-19
delete 3-3, 3-8
delete report 7-27
departmental administrator 1-1
destination machine ID 6-13, 7-23
DIRECT execution mode 3-42
disable 1-2, 3-3, 3-8-3-9, 3-12
disabled 1-3, 2-4, 2-13
discontiguous shared segment 3-42
disk space allocation 4-28
DISPLAY 1-8
DLBL 3-27
DLI 1-8
DLI-filename 1-8
DLI-recordname 1-8
Documentation 1-4 to 1-5, 1-7
DOS 6-11
DOS/VSE AF2 1-3
DOS/VSE VSAM 4-21
DOWN parameter (LABELS) 1-13
drop 1-3, 3-12, 3-14, 3-23, 5-11
DUMP parameter 1-8

-E- EASYTRIEVE PLUS identifiers 1-9
EASYTRIEVE PLUS program 6-19, 7-12, 7-22
EASYTRIEVE PLUS programs 7-1, 7-5
EDIT 1-9
editor panel 4-24-4-27, 4-29
enable 1-3, 1-7, 3-3, 3-9, 3-12, 3-18, 3-27, 4-3, 4-9, 4-16
ENABLE libraries 4-3
enabled 2-13
equivalent backup facility 5-1
error message 1-8-1-9, 3-41
error messages 1-14
Establish CICS USERIDs and Libraries 4-17 to 4-22
Establish CMS User PIELIBs and Libraries 4-2 to 4-7
Establish Default CONNECT and LIBCHAIN Members 7-61 to 7-73
establish groups under CICS 4-28
establish groups under CMS 4-24
establish groups under TSO 4-26
ESTABLISH LIBRARIES 4-1 to 4-29
Establish TSO User PIELIBs and Libraries 4-8 to 4-16
establishing PIELIB 4-1
EXAMPLE library 7-5
EXAMPLE PIELIB 1-7, 1-9, 1-16, 4-1-4-2, 4-8, 4-17, 6-29, 7-13
EXEC 1-7, 7-16
EXECUTION SERVICES 6-1 to 6-30
expand MACRO 1-15
Extensions in EZ/KEY B-3 to B-5
external LIBSPACE 1-3, 2-7, 3-30, 7-7
External LIBSPACE Connect Utility 3-23 to 3-30
external password 3-30
extrapartition data set 1-13
EZ/checker 1-10, 3-41
EZ/KEY CLIST 2-7
EZ/KEY editor 7-20
EZ/KEY EXEC 3-18, 3-27, 3-29
EZ/KEY foreground execution panel 6-5
EZ/KEY JCL variables 6-11, 6-14
EZ/KEY MESSAGES A-1 to A-6
EZ/KEY panels 6-30
EZ/KEY variables 6-17, 6-21
EZ/KEY Version 2.0 Summary 1-6 to 1-8
EZ/KEY Version 2.1 Summary 1-9 to 1-12
EZ/KEY Version 2.2 Summary 1-13 to 1-14
EZ/KEY Version 3.0 Summary 1-15 to 1-16
EZ/KEY Version 3.1 Summary 1-17
EZ/KEY Version 3.2 Summary 1-18 to 1-19
EZ/KEY VS EASYTRIEVE PLUS B-1 to B-5
EZ/REPORT 7-6-7-7, 7-14, 7-22, 7-26, 7-41
EZ/REPORT facilities 7-10
EZ/REPORT panels 7-13
EZ/REPORT user 7-13, 7-25, 7-42

EZ/REPORT users 7-9
EZ/REPORT utilities 7-1, 7-3, 7-3 to 7-5
EZKDIRST 1-7
EZKEY CLIST 4-9-4-10
EZKEY EXEC 6-4-6-5
EZKEY.CLIST 6-9
EZKEYnnn Messages A-1 to A-4
EZKSEGnn Messages A-5 to A-6
EZKUSR 4-22
EZT 2-3-2-4
EZTFILE 2-3-2-4
EZTJOB 2-3-2-4
EZTLIB 2-3-2-4
EZTMAC 2-12, 3-24, 3-27-3-30
EZTMACRO 2-3-2-4
EZTPLUS CLIST 1-9
EZTPLUS EXEC 3-42
EZTPLUS.CLIST 6-8
EZTPLUSD 1-7, 6-4
EZTPLUSD EXEC 1-9
EZTPLUSD JCL 1-9
EZTPLUSO 6-4
EZTPLUSO EXEC 1-9
EZTPLUSO JCL 1-9
EZTPTRLR JCL 1-9
EZTRPT 2-3-2-4
EZTSORT 2-3-2-4

-F- FCT entry 4-28
FCTname 3-19, 3-30, 5-2
FILE 1-11, 1-13
FILE statement for DOS 1-11
FILE-STATUS 1-8
FILEDEF 3-26
filemode 4-5
first EZKEY transaction 3-38
fixed 1-6
fixed-blocked 1-6
fmode 3-17, 3-26
fname 3-17
FORCED 3-9
foreground 1-3, 7-14
foreground execution 1-7, 1-10, 3-39, 3-42, 6-1, 6-4, 6-6, 6-8
foreground execution panel 6-9
foreground panel 1-9
format 1-3, 2-15-2-16, 3-3, 3-21
FORMAT ERROR message 4-21
FORMAT field 3-20
FREE mode 1-10
free mode edit entry panel 4-25, 4-27

ftype 3-17
future enhancements 1-4

-G- GENERAL INFORMATION 1-1 to 1-19
global storage area 3-38
group administrator 1-2
GRPDESC 2-3

-H- header JCL 6-17, 6-21, 7-22
header JCL member 6-11
header JCL name 7-23
HEADING 1-8, 1-16
HELP PF KEYS 1-16
high level index 4-8
high-level qualifiers 3-30
How to Print the LOG in CICS/DOS/VSE 6-29 to 6-30
How to Print the LOG in CICS/OS/VS 6-27 to 6-28

-I- IDCAMS REPRO 4-21
identifying updated material 1-5
IDMS 1-10
IDMS filetype 1-14
inactive 2-13
INCREMENTAL 6-14
incremental checking 3-4, 3-40
INDEX 2-3-2-5, 2-8, 2-11
INDEX member 2-11
installation guide 1-4, 1-14
installation-specified passwords 1-2
installed as a command processor 3-19
interactive execution 3-42
intermediate panel 5-8
internal integrity 2-9
internal pointers 3-13, 3-21
ISAM 1-8
ISAM files 1-12

-J- JCL 1-7, 1-9, 1-12, 2-3-2-4, 4-17, 6-11-6-12, 6-19, 6-21
JCL errors 6-13
JCL variables 6-11
JOB 1-11, 1-13, 3-40
JOB INFORMATION CUSTOMIZATION 8-1 to 8-6
JOB statement 1-16

-L- LIBCHAIN 2-3-2-4, 2-8, 2-11, 3-45, 4-1, 4-3, 4-24, 4-26, 7-41, A-3
LIBCHAIN member 2-8, 4-15, 4-28
LIBCHAIN members 4-16, 7-4
library 1-3
library access 2-5
library access rights 2-5

library control code 3-30
library description 2-3, 7-6
library index member 2-5
Library Information 7-9
Library System Interface 2-6 to 2-14
Library User Interface 2-2 to 2-5
library utility 1-6
library utility panel 2-8, 7-6
library-name 2-2
LIBSPACE 1-1-1-3, 1-7, 2-3, 2-6, 2-8-2-9, 2-12, 2-15, 3-3, 3-8, 3-11-3-17, 3-20-3-22, 3-24, 3-26-3-27, 3-31, 3-36, 3-45, 4-3, 4-9, 5-3, 5-6, 7-8, 7-10, 7-42
LIBSPACE blocksize 3-22
LIBSPACE name 2-6, 3-25
LIBSPACE TYPE 2-12, 3-25
LIBSPACE Utility 3-11 to 3-13
LIBSPACE-library 2-8-2-9, 2-11
LINE 1-8
LINESIZE 1-13
LINK 2-16, 3-17, 3-43
LINK Replace option 1-14
LIST 1-7
LISTCAT 1-15
local environment 1-1
LOG 2-3-2-4
logical record length 2-6
LOGOFF 3-9
lower case 1-4

-M- MACLIB 3-26
macro definition 2-3
macro keyword parm 1-12
macro libraries 3-27
macro parameter names 1-11
maintain LIBSPACEs 3-3
Maintain Report Libraries and PROFILEs (Option 1) 7-6 to 7-7
maintain USERIDs and libraries 3-3
manuals 1-4
MAXERROR 6-14
maximum segment length for IMS/DLI 1-12
member 1-3
member copy panel 4-24-4-27, 4-29
member names 1-12
member selection list 3-44
member types 1-7
MEMBER utility 3-10
member-id 2-2
member-name 1-3, 2-2, 2-13
member-status 2-4
member-type 1-3, 2-3, 2-13

member-version 1-3, 2-4
MESSAGES 2-3-2-4
MINIDISK 1-3, 2-13, 3-24, 4-5
minidisk blocksize 3-21
MJI 6-14
Model Creation 9-2 to 9-6
MODEL FACILITY 9-1 to 9-6
model file definition 2-3
model job definition 2-3
model library definition 2-3
model report definition 2-3
model sort definition 2-3
modify job information panel 6-12, 6-15, 6-19
Modifying Batch Job Information 8-1 to 8-4
Modifying PROFILEs 7-52 to 7-55
MOVE 2-4
multiple libraries 1-2
multiple member copy function 1-1
multiple member utility 1-6
MVS 2-1, 2-7, 2-13
MVS file 7-20
MVS JCL substitution 6-15
MVS/TSO 1-3, 2-13-2-14

-N- new report addition panel 7-12-7-13, 7-15, 7-19
new user PIELIB 4-4
NEWPAGE 1-7
NEWUSER 4-22
NL for TAPE files 1-14
NOHEADING 1-16
number of blocks 3-21

-O- OCCURS parameter 1-8
on-line 7-14
report
information panel'
on-line field 7-13
on-line parameters 7-27
on-line report information 7-13
on-line report information panel 7-15, 7-19
OS 6-11
OS PDS libraries 3-27

-P- page numbering system 1-5
PAGESIZE 1-8
PANDD1 3-27-3-28
PANDD2 3-27-3-28
PANELOBJ 2-3-2-4
pansophic interactive environment 1-3, 2-1
PANVALET 1-3, 2-13, 3-24, 3-29-3-30

PANVALET libraries 1-6-1-7
Parameter Description 7-38 to 7-39
Parameter Substitution in EASYTRIEVE PLUS Programs 7-28 to 7-30
parenthesis 1-12
PARM 1-11
password 1-2, 2-16, 3-1, 3-45
PDS 1-3, 1-6, 1-13, 2-14, 3-24, 3-29-3-30
physical PIELIB 4-28
PIE 1-3, 2-1, 2-4
PIE library 1-3
PIE LIBRARY SYSTEM 2-1 to 2-16
PIEBDAM 1-3, 2-6, 2-12, 3-15, 3-17, 3-21, 3-23, 5-1
PIEBDAM and PIEVSAM 2-6
PIEBDAM PIELIB 3-21
PIEBUFSZ 6-14
PIELIB 1-3, 1-7, 1-15, 2-6, 2-11, 2-15-2-16, 3-18, 3-20, 4-4-4-6, 4-9-4-10, 4-17, 6-4, 6-7, 6-15, 6-27
PIELIB blocksize 3-21
PIELIB configuration 4-8
PIELIB Connect or Format Utility 3-14 to 3-22
PIELIB connect utility 7-42
PIELIB LIBSPACE 1-1, 1-3, 2-8, 2-12, 3-3, 3-10, 3-13-3-15, 5-1-5-3, 5-11, 7-4, 7-41
PIELIB LIBSPACE utility 7-42
PIELIB LIBSPACE utility panel 4-10, 4-15, 7-42
PIETEMP CLIST 6-7
PIETEMP EXEC 6-4-6-5
PIETEMP.CLIST 6-8-6-9
PIEVSAM 1-3, 2-6, 2-12, 3-15, 3-17-3-18, 3-21, 3-23, 5-1
POP 1-7
PRINT 1-6, 1-14, 6-28, 6-30
PRINT files 1-12
PRINT primary command 6-27, 6-29
PRINTER files 1-12
Procedures 5-2 to 5-12
PRODIREC 1-9
production 2-4, 2-13
production PIELIB 5-1-5-2
PROFILE 3-45, 7-41
PROFILE members 7-4
PROFILE NOPREVIX 2-7
program name 7-14
program type 7-14
program version 7-14
PROMODE 3-6
PROMPT mode 1-11, 1-13-1-14
PUnch files 1-12
PUSH 1-7

-Q- quotes 1-12

-R- re-connect 3-36
READ 2-5, 2-15-2-16, 3-27, 3-45, 4-24, 4-26
read-only 1-6, 2-12
read/only 2-16
record format 1-6
record size 1-6
RECORDSIZE parameter 4-19
reduce CPU usage 1-11, 1-14, 3-40
reduce I/O 1-11
reduce peak storage use 1-11
reduce storage 1-11, 1-14
reduce storage usage 3-40
reference manual 1-4
reformat 3-3
reinstallation 3-33
RENAME 2-4, 3-3, 3-10, 5-3
REPORT 1-11, 1-13, 2-3
Report Addition 7-12 to 7-14
Report Addition-Reports with Parameters 7-31 to 7-32
report administrator 7-1, 7-41
REPORT ADMINISTRATOR 7-1 to 7-73
report administrator authority 3-45
report administrator password 3-45, 7-1
report administrator profile 7-1
report administrator utilities 7-4
report administrator utility menu panel 7-1, 7-3, 7-40
report definition 2-3
report information 7-13, 7-25, 7-27
report information panel 7-25
Report Information - Reports with Parameters 7-37
Report Member Utility 7-10 to 7-11, 7-26 to 7-27
report member utility panel 7-12, 7-25-7-26
REPORT members 7-13
report name 7-7
report processing facility 3-4, 3-44
report utility panel 7-6, 7-9
response time 3-40
restore 3-13
restore operations 5-1
Restrictions in EZ/KEY B-1 to B-2
run on-line panel 6-3, 6-7, 7-19
run reports in background 7-22

-S- sample configurations 4-1
Sample Job Information Substitution 8-5 to 8-6
screen-print images 2-3
search order 4-2
Security 1-2, 7-41
SEQ 1-3, 2-14, 3-24
sequential dataset 2-7

sequential datasets 3-30, 7-20
sequential file 2-14
sequential files 1-6
sequential LIBSPACE 3-30
sequential MVS datasets 2-7
serial number 1-5
Setting Up Several Groups of Users 4-23 to 4-29
shared libraries 1-2
Sharing PIELIBs 2-15 to 2-16
Short Descriptions 7-8
SHOW 3-5, 3-9
SHOW command 3-5
signing on the first time 4-18
Site Options 3-48
size of each block 3-21
SKIP 1-7
SORT 1-11, 3-40
sorted list 1-7
source program 2-3
SPECIAL UTILITIES 7-42
SPECIAL UTILITIES 3-1 to 3-57
stacked commands 1-9
status 1-3, 2-13
storage violations 3-38
SUBMIT 1-9, 1-15, 3-43
submit expanded macros 7-23
submit for batch execution panel 7-22
sysadmin 1-2, 4-3, 4-6
sysadmin library 3-32
SYSPRINT 6-4
SYSPROC library 7-20
system administrator 1-1, 2-5
system administrator password 3-45
system administrator utilities 3-1, 3-3
system administrator utility 1-7
system administrator utility menu 1-11, 3-2, 3-7, 3-11, 3-14, 3-23, 3-31
system buffer pool 1-10, 3-4
system level 2-6
SYSTEM PIELIB 1-11, 1-14, 2-8, 2-15, 3-17, 3-31-3-33, 3-37, 3-39, 4-1-4-2, 4-8-4-9, 4-17, 4-28
system reconnect 3-3
System Reconnect Utility (CICS Only) 3-31 to 3-37
system tuning parameters 1-10, 3-4
system tuning parameters panel 3-39
system utility 5-2
system-oriented facilities 2-1
systems programmer 1-1

-T- TABLE files 1-6

tailoring CLIST 6-8
tailoring EXEC 6-4
TARGET SYSTEM default 1-13
TCAM 1-7
test 2-13
TEST mode 1-14, 3-5
TITLE 1-8, 1-13
trailer JCL 7-22
trailer JCL name 6-12, 7-23
TSO 1-2-1-3, 1-6-1-7, 1-9, 1-13, 1-15-1-16, 2-7-2-8, 2-15-2-16, 3-3, 3-19, 3-24, 3-42, 3-44, 4-9, 5-1-5-2, 6-1, 6-7-6-8, 7-8, 7-15, 7-18-7-19, 7-22
TSO CLIST 1-15, 7-19
TSO command processor 3-29
TSO dataset name 7-20
TSO dataset name prefix 1-13
TSO datasets 2-15
TSO environment 4-8
TSO Foreground Execution 6-6 to 6-9
TSO LIBSPACE 2-7
TSO LISTDS 3-30
TSO On-Line Information 7-19 to 7-21
TSO On-Line Information - Reports with Parameters 7-35 to 7-36
TSO sequential library 6-8
TSO Site Options Panel 3-56 to 3-57
TSO user PIELIBS 4-1
tuning parameters 1-14, 3-39, 3-39 to 3-47
tutorial 1-4
TUTORIAL index 1-6
TUTORIAL PF KEYS 1-16
typical configuration of PIELIB 4-2

-U- underscore in file names 1-12
update-in-place 2-16
updating the guide 1-5
USAGE 3-13
USE 2-5
USER PIELIB 3-34, 4-17, 4-19
user profile 3-1, 3-45
user tuning parameters 1-10, 3-4
user tuning parameters panel 3-39
user-oriented interface 2-1
user-profile variables 2-3
user's PROFILE PREVIX 2-7
USERID 1-1, 1-3, 2-2, 2-5, 2-7-2-9, 2-11, 3-8-3-9, 4-6, 4-9, 4-15-4-16, 4-22
USERID library 3-5
USERID PIELIB 1-13-1-14, 4-3, 4-7, 4-24, 4-26
USERID utility panel 4-21, 7-41
USERID-library 2-8

USERID/Library Utility 3-7 to 3-10
users profile 1-11
UTILITY 1-9
utility functions 7-1
utility menu panel 3-1
utility password 1-2, 1-13, 3-45

-V- variable-length 1-6
VERIFY 2-3-2-4, 2-8-2-9, 2-11, 3-13
VERIFY member 2-9
virtual storage 3-42
virtual storage constraint relief 1-14
VM 2-1, 2-7
VM directory 2-16
VM/CMS 1-3, 1-7, 2-13-2-14, 2-16
VM/CMS DCSS 1-13
VPROFILE 2-3-2-4
VSAM 1-7-1-8, 4-21
VSAM dataset 4-20
VSAM KSDS macro libraries 1-13
VSAM LIBSPACE 4-21
VSAM overhead 3-21
VSAM PIELIB 1-13, 2-16, 3-17
VSE 1-3, 2-1, 2-7, 2-13
VSE DLBL 2-6
VTAM 1-7

-W- warning messages 1-8
WRITE 2-5, 2-15, 3-45, 4-24, 4-26, 7-7

-Z- ZDATE 6-14
ZDAY 6-14
ZHOUR 6-14
ZMIN 6-14
ZMONTH 6-14
ZOPSYS 6-14
ZSEC 6-14
ZSYS 6-14
ZSYSTEM 6-14
ZTIME 6-14
ZUSER 6-14
ZUSERID 6-14
ZVERSION 6-14
ZYEAR 6-14

-3- 3330 as disk type 1-12
3380 device type 1-14

-8- 8-character descriptor 1-3
8-character identifier 1-3

(This page intentionally left blank.)