CA-EZ/KEY™

Reference Manual

Release 3.2

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SECTION 1:   GENERAL INFORMATION

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Introduction

EZ/KEY is an interactive, menu-oriented, full-screen environment that you can use to develop and maintain EASYTRIEVE PLUS programs. These programs can range from simple, straightforward reports to complex updates of files and data bases.

EZ/KEY provides continuous information about your current actions and makes assumptions about details that you have not specified. A complete syntax and semantic check is performed as each part of the program is being entered or modified.

Manuals

In addition to this Reference Manual, PANSOPHIC provides the following EZ/KEY documents.

Installation Guide - provides technical information for installing and maintaining EZ/KEY on the various operating systems.

Administrator's Guide - provides guidance for the system Administrator in charge of supporting the system and establishing procedures.

Tutorial - provides training and example applications for new and existing users.

Environment

EZ/KEY operates on the IBM 370, 30xx, 43xx, and compatible processors. You can use any 3270-compatible terminal connected to TSO or CICS in the MVS/JES2 or MVS/JES3 environments, CMS in the VM environment, or CICS in the AF2 or later version of the DOS/VSE environment.

Capabilities

Identical in all Environments

Your interface to EZ/KEY is identical in all environments. If your data center has multiple teleprocessing systems (CMS, TSO, CICS), you can easily migrate between teleprocessing systems and operating systems (VM, MVS, VSE).

Usable by Wide Spectrum of Users

EZ/KEY provides an SPF-like full-screen editor for experts; and prompts, menus, and fill-in-the-blanks data entry screens for novices. You can quickly and easily swap between these two modes.

User-Friendly

The Prompt dialog guides the novice through the most common steps in creating or modifying a program.

The Structure panel shows an overview of your entire program. You can INSERT or DELETE entire sections (such as FILE, JOB, REPORT, PROC, SORT). You can position the cursor next to any section of your program and press ENTER to go to that section of the PROMPT mode. You can also position the cursor and press the SWAP PF key to swap from FREE mode to PROMPT mode (or vice-versa) and go to that section of the program. The STRUCTURE command is the key to navigating while in the PROMPT mode. You can think of the Program Structure display as a "road map" of your program.

Consistent

EZ/KEY commands have the same meaning in all environments.

Flexible Library System

The PIE (PANSOPHIC Interactive Environment) library structure is the same in all environments (CMS, TSO, CICS). You don't need to be aware of specific types of libraries -- they all look the same to you.

EZ/KEY can access many different kinds of libraries: CMS minidisk, CMS MACLIB, OS PDS, sequential files, and PANVALET libraries. In addition, EZ/KEY has its own PIE libraries (or PIELIBs). There is one SYSTEM PIELIB. Each user normally has his or her own private library in a user PIELIB.

Under CMS, PIELIBs are BDAM-like files that are accessed using native CMS file service facilities. You can read or write on PIELIBs or minidisk files. You can read from EASYTRIEVE PLUS VSAM macro libraries, OS PDSs, and CMS MACLIB files.

Under TSO, PIELIBs can be BDAM or VSAM files. You can read and write on PIELIBs or any sequential files. You can read from EASYTRIEVE PLUS VSAM macro libraries, OS PDSs, and PANVALET libraries.

Under CICS, PIELIBs may be VSAM or BDAM files (the SYSTEM PIELIB must be VSAM). You can read or write PIELIBs. You can read from EASYTRIEVE PLUS VSAM macro libraries, OS PDSs, and PANVALET libraries. Each file must have an entry in the CICS File Control Table.

Online Assistance

Along with the printed Tutorial used for training, an extensive online HELP and Tutorial facility is available at all times. You can read through the online Tutorial like a book, or you can directly access the appropriate section from any EZ/KEY panel.

Meaningful Error Messages

Errors aren't just detected -- where possible, suggested corrective actions are provided. Error messages are temporarily inserted after each line that contains an error. Each error message is aligned under the item in the line that is incorrect.

Information Messages

> Additional information is provided for specific situations.
> Information messages are indicated by three plus signs
> ("+++") at the beginning of the message. These messages do
> not count as errors.   They usually provide more detailed
> information about a previous error.

Documentation

    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 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 Manual to document your suggestions.

    CAPS

        Capital letters indicate editor commands and EASYTRIEVE PLUS keywords.

    Lowercase

        Lowercase letters indicate variable information that you supply.

Page Numbering System

Pages in this Manual are numbered by Sections as shown below:

7-5 means Section 7, page 5

B-11 means Appendix B, page 11

Updating the Manual

When future versions of EZ/KEY are released, a replacement Manual or updates to this Manual will be provided. These updates will follow the existing page numbering system. The scheme for adding new pages is:

```
existing              new
pages                 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 incorporated into EZ/KEY are described in the Version Summary in this section. 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 Manual serial number that identifies the date of the revision. Vertical lines in the margin identify the revisions.

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:

```
EKR          03.1    -    87          12
---          ----         --          --
 |            |            |           |
Manual      Version      Year        Month
Abbreviation Number      of          of
                        Revision    Revision
```

Terminology

Some of the terms used in the EZ/KEY documentation have special meanings.

EZ/checker   - the EZ/KEY compiler invoked by the CHECK command. EZ/checker verifies the syntax and correctness of each EASYTRIEVE PLUS statement and displays messages below each error.

EZ/editor   - the EZ/KEY full-screen editor.   EZ/editor provides primary commands and line commands to enable you to create or modify your coding precisely and easily.

field   - a set of contiguous computer storage locations whose attributes are specified on the EASYTRIEVE PLUS DEFINE statement.

field-name   - the name of a data field defined in your program.

file   - a group of records whose attributes are provided on the EASYTRIEVE PLUS FILE statement.

file-name   - the unique name of a file defined in your program.

job-name   - the name of a JOB activity.

library   - a collection of members grouped together because of some common feature. For example, those members related to a certain project, or identified with a specific user.

LIBSPACE   - a "physical" unit of disk space allocation. A LIBSPACE may contain one or more libraries.

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member	– an item in an EZ/KEY library. May be an EASYTRIEVE PLUS program, a data file, a macro, etc. A member is identified by a MEMBERID, composed of:

         1. member-name – up to eight characters
         2. member-type – up to eight characters
         3. version   – three digits.

PIE	– PANSOPHIC Interactive Environment. The components of EZ/KEY that interface with the IBM operating systems (MVS, VSE, VM) and teleprocessing monitors (TSO, CICS, CMS).
PIELIB	– a custom library structure developed specifically for EZ/KEY.
plus signs	– placed in the left margin to identify facilities that will be provided in future releases of EZ/KEY.
proc-name	– the name of a procedure in a JOB or SORT activity, or associated with a REPORT.
PROFILE	– a set of parameters that control your EZ/KEY session. A default profile is established the first time you use EZ/KEY; you may modify it at any time. Profile values include CAPS, CHECK, ERROR, FORMAT, MACRO, and NULLS. The settings at the end of each session are saved for the next session.

program   – a related set of EASYTRIEVE PLUS statements. Normally, an EASYTRIEVE PLUS program consists of:

PARM statement (optional).

One or more FILE definitions (customary). Each FILE definition may contain numerous field definitions that describe fields in each record of the file.

One or more JOB or SORT activities (required). Each JOB may contain one or more REPORT definitions (optional).

record   – a collection of fields, organized in a consistent format.

report-name   – the name on a REPORT definition.

scroll   – the ability to move up and down within a list of items to view different portions of the list.

semantic check– verify the proper use of identifiers (e.g., field-name, report-name).

sort name   – the name of a SORT activity.

syntax check   – verify the proper punctuation and structure of an EASYTRIEVE PLUS statement.

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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.

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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).

- 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.

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 file 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.

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EZ/KEY Version 2.2 Summary

General Enhancements

- 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.

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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.

Syntax Checking Enhancements

- Supports the enhancements made for EASYTRIEVE PLUS Version 5.0, including new syntax for qualified field names and subscripts.

- New HELP and TUTORIAL PF KEY definitions make it easier to navigate within the 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.

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, an easy-to-use, end user oriented facility that 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 now 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 the 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)

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SECTION 2:   SYSTEM DESCRIPTION

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System Overview

EZ/KEY is a complete system for creating and maintaining EASYTRIEVE PLUS programs. It is designed to be easy to use regardless of your level of data processing knowledge or programming expertise. Two input modes (PROMPT and FREE) are designed to accommodate all levels of data processing experience. You can SWAP back and forth between the two modes as often as you like.

PF Keys

At any time during an EZ/KEY session, you may display or change current PF key settings by typing "KEYS" on the COMMAND line, and pressing ENTER. Changes to the PF key settings take effect immediately.

EZ/editor

EZ/editor is a full-screen, SPF-like editor with a complete set of profile, primary, and line commands.

Profile variables that control the appearance of your data may be changed at any time during a session. These values are saved between edit sessions in your profile.

Primary commands allow you to move around within a member being edited, and copy or move data to or from another member.

Line commands enable you to insert, delete, copy, move, and repeat individual lines or blocks of lines within a member.

Commands issued during an edit session are displayed at the left of the top line of your screen. Short error messages are displayed at the right of this line.

EZ/checker

EZ/checker is a syntax checker for the EASYTRIEVE PLUS
language.   EZ/checker interfaces with EZ/editor upon your
request. The specific services you desire and the time they
are performed are controlled by the CHECK primary edit
command and the setting of the profile variables ERROR and
CHECK. (See Section 3 for details.)

If you request EZ/checker services during an edit session,
each new or changed data line is checked for syntax and
semantic errors each time you press ENTER or any PF key. A
message is inserted under every error detected.   This
checking service is also performed for any EASYTRIEVE PLUS
statements that are copied into the member being edited.

HELP Facilities

There are several kinds of HELP available in EZ/KEY: HELP associated with error messages, HELP for an individual EASYTRIEVE PLUS statement, and HELP for an EZ/KEY panel. Most of these eventually lead into the online Tutorial.

Error Messages

If you receive a short error message in the upper right corner of the screen during an EZ/KEY session, you can press the HELP key to display a longer explanation of this error. You can press the HELP key again to enter the Tutorial at the place where information about your problem begins.

EASYTRIEVE PLUS Statements

On any edit screen you can position the cursor on an EASYTRIEVE PLUS statement, press ENTER to clear any short message, and then press the HELP PF key (PF1/PF13) to display a Tutorial screen that describes the statement. For a complex statement you may continue through the Tutorial to read all about it. When you end the HELP session, your edit screen is redisplayed.

EZ/KEY Panels

You can press HELP at any time during an EZ/KEY session. The first screen displayed describes the EZ/KEY function you are using. You can navigate around within the Tutorial until all of your questions have been answered. When you end the HELP session, your original panel is displayed.

Online Tutorial

You can select Option "T" from the Primary Selection Menu. The online Tutorial is displayed sequentially from the Introduction.

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2: SYSTEM DESCRIPTION

Using EZ/KEY

<u>Using EZ/KEY</u>

EZ/KEY has two modes to create or modify an EASYTRIEVE PLUS program:

1. PROMPT Mode - especially useful for novices. Based upon your replies to menus, EZ/KEY automatically adjusts the sequence of panels that are presented to you. You are guided through only those panels necessary to create or modify the EASYTRIEVE PLUS statements for your specific program.

2. FREE Mode - for more experienced users. A free-form panel allows you to easily code EASYTRIEVE PLUS statements.

Both modes provide the same checking facilities. You may SWAP back and forth between these modes at any time. SWAP serves two functions:

1. It provides the novice with free-form panels for coding those sections in which he feels confident.

2. It enables the expert to receive additional information about seldom-used constructs in the EASYTRIEVE PLUS language.

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How to Get Started

Getting started with EZ/KEY is easy. After you have logged onto your CMS or TSO system, type EZKEY and press ENTER.

For CICS, type EZKEY, one or more blanks, your userid, and press ENTER.

The first screen displayed is the Primary Selection Menu. You can enter "T" to invoke the Tutorial if you want to get acquainted slowly, or you can jump right into Option "1" to create or modify an EASYTRIEVE PLUS program.

Exhibit 2.1 illustrates the Primary Selection Menu.

```
PROSTART ------------------ Primary Selection Menu ------------------ EZ/KEY
COMMAND ==>                                                  USERID: userid
                                                             TIME  : 09:19:59
                                                             DATE  : 03/04/88
Select Option ===>


                    0    Program Function Key Settings
                    1    Edit an EASYTRIEVE PLUS Program
                    2    Edit any Member
                    3    Library and System Utilities
                    4    Run a Program On-Line
                    5    Submit a Program for Batch Processing
                    6    Report Processing Facility

                    T    Tutorial for EZ/KEY

                    X    Exit the EZ/KEY System




    EZ/KEY, Version X.X
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```

Exhibit 2.1: Primary Selection Menu

Creating an EASYTRIEVE PLUS Program

In PROMPT mode, EZ/KEY provides selection menus and detailed data entry panels to help the novice code an EASYTRIEVE PLUS program. Program sections are presented in the most common order of specification:

1. Library Section

2. JOB Activity

3. SORT Activity

4. PARM Specifications

In FREE mode, an open screen allows you to freely enter all of your statements.

Modifying an EASYTRIEVE PLUS Program

EZ/KEY provides a list of all EASYTRIEVE PLUS programs contained in your library. Once you select a program for modification, EZ/KEY displays the overall structure of the program from which you may select specific elements to modify. These elements include:

1. Execution Parameters (PARM).

2. File Specifications

3. SORT Activities

4. JOB Activities

5. Procedures

6. REPORT Definitions

You can choose FREE or PROMPT mode for program modifications, and you can SWAP back and forth between them during the session. The same checking facilities are provided for program modifications as for program creation.

Execution Functions

Under CMS, TSO, or CICS, you can:

- Submit a program for batch execution.

Under CMS or TSO, you can also:

- Run an EASYTRIEVE PLUS program on-line.

Library Services

A comprehensive set of utilities allows you to perform various library maintenance tasks:

- List the names of all EZ/KEY libraries.

- Enable and disable libraries.

- List the names of the members within a library and delete, rename, print, copy, move, archive, punch, disable, enable, or edit these members.

- Copy or move members to/from libraries.

Modes

The two modes are PROMPT and FREE. PROMPT mode leads you by the hand to create or modify an EASYTRIEVE PLUS program. FREE mode provides you with an open format screen so you can enter your statements any way you like. You can SWAP back and forth between these modes whenever you want.

PROMPT Mode

PROMPT mode is most useful for beginners to the EASYTRIEVE PLUS language. Each step in the development of an EASYTRIEVE PLUS program is presented in order. "Fill-in-the-blank" panels explicitly request each required or optional item of information. Further information and assistance is available via the HELP and Tutorial facilities.

As you become more familiar with portions of the EASYTRIEVE PLUS language and/or requirements of program development, you can SWAP into FREE mode to code parts of your program and SWAP back to PROMPT mode when you need more information.

Another excellent facility of PROMPT mode is to provide experienced programmers with detailed information about two of the most complex EASYTRIEVE PLUS statements -- FILE and REPORT. For example, if you receive an error message on one of these statements, you can move the cursor to that statement and SWAP into PROMPT mode. You can recode the statement on the PROMPT panel and then SWAP back to FREE mode to continue coding.

FREE Mode

Free mode is just what its name implies -- an open-format screen that lets you code your program statements freely, just like the SPF editor provided by IBM for CMS, TSO, and ICCF. Unlike SPF however, you can request the same checking facilities that are provided in PROMPT mode.

This freedom lets an experienced programmer code a program swiftly without marching through multiple screens. However, no matter how expert you are, no one can remember every detail of every language. If you want to know more about a specific EASYTRIEVE PLUS construct, move the cursor to that statement and press HELP. This displays a page of the Tutorial that describes that statement. When you end the HELP session, the edit screen is redisplayed.

SWAP Capability

> SWAP is a little more powerful than just a one-for-one transfer back and forth between FREE and PROMPT screens. Because you may move through several screens after SWAPping into the opposite mode before you want to return, EZ/KEY makes a few intelligent assumptions about where you want to be when you SWAP back. You don't return to the place you started from, but to the place you want to be.

EZ/Checker Errors

> If you request full checking services during an edit session, each new or changed data line is analyzed for errors each time you press ENTER or any PF key. A message is inserted under every error detected. You may fix errors when the messages appear, or you may choose to ignore them temporarily. This checking service is also performed for any EASYTRIEVE PLUS program copied into the member being edited.

> You can review pending errors by SWAPping to FREE mode or by pressing the REVIEW PF Key to display your entire program. Error messages appear immediately after each line that contains an error. The line number of each line that contains an error is highlighted, and the item in error is identified with a pointer ($).

> Additional information is provided by "information messages." These messages begin with three plus signs ("+++"). They are not counted as errors; these messages are inserted to provide you with more detailed information, usually about a previous error.

> At the end of the creation or modification process, you are notified if your program still has any errors. You have the option at that time of correcting them or saving the program with errors. The error messages are not saved with your program; they are regenerated the next time you edit that member with CHECK turned ON (or when you issue the CHECK command).

Scrolling

The ability to scroll up and down within a member is useful in several EZ/KEY functions, such as when you list the members in your library, when you list the structural elements in a program, or while you are editing a member.

The upper right field of any scrollable screen is the SCROLL (SC) amount. The default is (H) - half of the current screen area. This amount may be overtyped with an integer or with P (PAGE), M (MAX), E (ERROR), or C (CURSOR). The new value remains in effect for the duration of the session or until overtyped again. The SC value is saved across sessions in your profile.

MAX scrolls to the top or bottom of the member, depending on whether you pressed UP or DOWN. P scrolls UP or DOWN one page (one screen's worth). H scrolls UP or DOWN half a page. E scrolls UP or DOWN the member looking for the nearest error message. C places the line on which the cursor rests either on the bottom of the screen (if you press UP), or the top of the screen (if you press DOWN). If the cursor is not on a data line (or is on the first or last line of the screen), the display scrolls one page.-

The scroll amount is used with the UP and DOWN PF keys. The defaults are: PF7 = UP, PF8 = DOWN. PF key assignments may be changed by issuing the KEYS command and overtyping the values on the PF Key Settings panel.

When you press PF7 or PF8, the screen appears to scroll UP or DOWN the amount in the SCROLL field. You may also press PF11 to scroll RIGHT or PF10 to scroll back to the LEFT.

The amount scrolled is determined in one of two ways. You can change the value in the SCROLL field, or you can enter a value on the COMMAND line. The value in the SCROLL field remains in effect until you change it. A scroll value on the COMMAND line is effective only for the next scroll operation.

For example, you may want the scroll value to stay at P (a
full page) for most uses. However, if you want to see only
the next 10 lines, type 10 on the COMMAND line and press the
DOWN PF key (or enter DOWN 10 on the COMMAND line and press
ENTER). The portion of the member being displayed on the
screen scrolls so that the top line of your screen becomes
what was previously the 10th line.   For example,   if the
relative line number displayed as the top line is 000098 and
the bottom line is 000116, when you enter DOWN 10 the top
line becomes 000108 and the bottom line becomes 000126. This
does not change the P in the SCROLL field.

The TOP and BOTTOM commands also serve as scroll functions.
TOP displays (scrolls up to) the first page of the member,
similar to UP MAX. BOTTOM displays (scrolls down to) the
last page just as DOWN MAX does.

While you are editing an EASYTRIEVE PLUS program, scrolling
can also be used to find error messages.   Type E on the
COMMAND line.   When you press the DOWN or UP PF key, the
member is scrolled to the next (or previous) error message.
If you enter E in the SCROLL field, all scrolling operations
position the cursor and the screen to the nearest error.

Transfer Commands

A transfer command is a quick and easy way to go from one panel or function to another without having to display and enter selection criteria on intervening panels. See Appendix B for a list of the available transfer commands.

You can specify a transfer command by typing an equal sign followed by one or more selection criteria, for example: "=2.membername"

You can enter a transfer command in any input field (identified by "==>") on any panel. When you press ENTER, the effect is the same as if you had:

1.   Pressed RETURN. EZ/KEY replaces the transfer command with blanks in the input field, processes all input fields on the panel, SAVEs the member being edited (if appropriate), and transfers to PROSTART -- the Primary Selection Menu.

2.   Typed the digit between the equal sign and the first period of the transfer command into the SELECT OPTION field of PROSTART and pressed ENTER. EZ/KEY transfers to the selected panel.

3.   Typed the value between the first and second periods into the SELECT OPTION field of the selected panel.

You can also specify a transfer command when you start an EZ/KEY session. In this case, do not prefix the transfer command with an equal sign. For example:

Under CMS type:

        EZKEY 3.1

Under TSO type:

        EZKEY PARM(3.1)

Under CICS type:

        EZKEY userid 3.1

to bypass the Primary Selection Menu and go directly to the Member Utility Panel listing the members in your library.

EZ/KEY
REFERENCE MANUAL

2: SYSTEM DESCRIPTION

Program Function (PF) Keys

Program Function (PF) Keys

The definition of the PF keys resides in your library as part of your profile. Their definitions can be changed at any time from any screen by typing KEYS on the COMMAND line. Any value you can type on the COMMAND line can be assigned to a PF key. The reverse is also true -- any value assigned to a PF key can also be typed on the COMMAND line. The current definitions are saved at the end of an EZ/KEY session.

```
PROSTAT  ------------------ Current PF Key Settings ----------------- EZ/KEY
COMMAND ==>                                                USERID: STUDENT
                                                           TIME  : 15:30:24
                                                           DATE  : 12/15/83


      Defaults      Changes                 Defaults      Changes

   PF1  HELP        =                    PF13 HELP         =
   PF2  REVIEW      =                    PF14 REVIEW       =
   PF3  END         =                    PF15 END          =
   PF4  RETURN      =                    PF16 RETURN       =
   PF5  FIND        =                    PF17 FIND         =
   PF6  CHANGE      =                    PF18 CHANGE       =
   PF7  UP          =                    PF19 UP           =
   PF8  DOWN        =                    PF20 DOWN         =
   PF9  SWAP        =                    PF21 SWAP         =
   PF10 LEFT        =                    PF22 LEFT         =
   PF11 RIGHT       =                    PF23 RIGHT        =
   PF12 STRUCTURE   =                    PF24 STRUCTURE    =


Make Changes to the PF KEY settings and press ENTER.
Press END (PF3) to return to the previous panel.
```

Exhibit 2.2: Program Function Key Panel

EZ/KEY
REFERENCE MANUAL

Initial Assignments

The initial values assigned to the PF keys are:

PF1/PF13	= HELP	Displays the appropriate HELP panel.
PF2/PF14	= REVIEW	Displays the REVIEW panel (PROREVW).
PF3/PF15	= END	Saves the member and returns to the previous panel.
PF4/PF16	= RETURN	Saves the member and returns to the Primary Selection Menu.
PF5/PF17	= FIND	Repeats the current "FIND string" command.
PF6/PF18	= CHANGE	Repeats the current "CHANGE string-1 string-2" command.
PF7/PF19	= UP	Depending on the scroll value, displays the previous SC lines.
PF8/PF20	= DOWN	Depending on the scroll value, displays the next SC lines.
PF9/PF21	= SWAP	Swaps to the appropriate screen in the opposite mode (PROMPT or FREE).
PF10/PF22	= LEFT	Depending on the scroll value, scrolls the screen left SC columns.
PF11/PF23	= RIGHT	Depending on the scroll value, scrolls the screen right SC columns.
PF12/PF24	= STRUCTURE	Displays the EZ/KEY Structure panel (PROSTRUC).

EZ/KEY
REFERENCE MANUAL

2: SYSTEM DESCRIPTION

Program Function (PF) Keys

```
+-----------+-----------+-----------+
|           |           |           |
|   HELP    |  REVIEW   |   END     |
|   PF 1    |   PF 2    |   PF 3    |
|           |           |           |
 ----------- ----------- -----------
|           |           |           |
|  RETURN   |   FIND    |  CHANGE   |
|   PF 4    |   PF 5    |   PF 6    |
|           |           |           |
 ----------- ----------- -----------
|           |           |           |
|    UP     |   DOWN    |   SWAP    |
|   PF 7    |   PF 8    |   PF 9    |
|           |           |           |
 ----------- ----------- -----------
|           |           |           |
|   LEFT    |   RIGHT   | STRUCTURE |
|   PF10    |   PF11    |   PF12    |
|           |           |           |
+-----------+-----------+-----------+
```

Exhibit 2.3: Typical Program Function Keypad

PF Key Changes

Depending on the type of terminal you are using, half of the PF keys (either PF1 through PF12, or PF13 through PF24) are considered "primary". Some of the useful commands that can be assigned to the "secondary" set of PF keys are:

BOTTOM	Scrolls to the end of the member.
CANCEL	Exits without saving changes made since the last SAVE command.
CURSOR	Returns the cursor to the first input field on the screen.
KEYS	Displays the PF keys panel so you can change or verify the values.
PRINT	Appends an image of the current screen to a member named "userid LOG".
RESET	Clears pending line commands, errors, and error messages.
SAVE	Saves all changes to the member you are editing.
TOP	Scrolls to the beginning of the member.

Appendix A of this Manual lists the EZ/KEY commands and explains how they are used.

If your terminal keyboard does not have PF keys, you have two options. You can type commands on the COMMAND line, or you can assign them to imaginary PF keys and then type "PFnn" on the COMMAND line. In this case, "nn" represents the PF key number assigned to the desired command. For example, using a terminal that has no PF keys, you can type "PF3" on the COMMAND line to issue the "END" command.

You may also assign any valid transfer command to a PF key. For instance, if you assign "=x" to a PF key, you could press it from any EZ/KEY panel and exit immediately.

Appendix B lists all of the transfer commands and describes the destination for each transfer.

HELP and Tutorial Program Function (PF) Keys

The definition of the HELP and Tutorial PF keys is built into EZ/KEY. Their definitions cannot be changed.

HELP and Tutorial PF Key Assignments

The values assigned to the HELP and Tutorial PF keys are:

PF1/PF13 = HELP   Displays the PF keys for HELP and Tutorial, the Tutorial PF Keys panel (TUTKEYS).

PF2/PF14 = REVIEW   Not active.

PF3/PF15 = END   Exits the Tutorial.

PF4/PF16 = RETURN   Exits the Tutorial.

PF5/PF17 = FIND   Not active.

PF6/PF18 = TOPICS   Displays a list of the next-higher level of topics.

PF7/PF19 = UP   Displays the previous panel.

PF8/PF20 = DOWN   Displays the next panel.

PF9/PF21 = CONTENTS   Displays the Table of Contents.

PF10/PF22 = LEFT   Displays the previous panel.

PF11/PF23 = RIGHT   Displays the next panel.

PF12/PF24 = INDEX   Displays the Tutorial Index.

EZ/KEY
REFERENCE MANUAL

```
+-----------+-----------+-----------+
|           |           |           |
|   HELP    |           |    END    |
|   PF 1    |   PF 2    |   PF 3    |
|           |           |           |
| --------- | --------- | --------- |
|           |           |           |
|  RETURN   |           |  TOPICS   |
|   PF 4    |   PF 5    |   PF 6    |
|           |           |           |
| --------- | --------- | --------- |
|           |           |           |
|    UP     |   DOWN    | CONTENTS  |
|   PF 7    |   PF 8    |   PF 9    |
|           |           |           |
| --------- | --------- | --------- |
|           |           |           |
|   LEFT    |   RIGHT   |   INDEX   |
|   PF10    |   PF11    |   PF12    |
|           |           |           |
+-----------+-----------+-----------+
```

Exhibit 2.4: Tutorial Program Function Keypad

EZ/KEY
REFERENCE MANUAL

SECTION 3:   EZ/KEY EDITOR

EZ/KEY
REFERENCE MANUAL

Introduction

With EZ/editor you can do many useful things to members in your library. You can scroll up and down or right and left to display any portion of a member. You can manipulate your data by means of edit commands. For instance, you can alter how EZ/editor operates with profile commands; you can move around within the member or copy data from another member using primary commands; and you can insert, delete, copy, move, shift, overlay, tag, set bounds and columns, and repeat individual data lines with line commands.

Edit Commands

Three types of commands control edit functions:

- Profile commands (entered on the COMMAND line)

CAPS	ERROR	MACROS
CHECK	FORMAT	NULLS

- Primary commands (entered on the COMMAND line)

BOTTOM	DETAIL	PRINT	SUBMIT
CANCEL	DOWN	PROFILE	TAG
COPY	EDIT	RESET	TOP
CHANGE	END	RETURN	TSO
CHECK	FIND	REVIEW	UP
CMS	KEYS	SAVE	UTILITY
CURSOR	LOCATE	STRUCTURE	

- Line commands (entered by overtyping a relative line number)

After	Columns	Exclude	Overlay	Tag
Before	Copy	Insert	Repeat	
Bounds	Delete	Move	Shift	

EZ/KEY
REFERENCE MANUAL

Screen Format

Exhibit 3.1 illustrates a typical edit screen displaying a combination of the Bounds, Columns, and Tag Line commands, as well as the indicators resulting from a Change command (both the CHG and ERR indicators are included.) An edit screen with all these indicators and commands displayed at the same time would never occur in real usage -- this panel is for illustrative purposes only.

```
PROEDIT1  --- LEARNER.EZT(000) -------- Edit ------------------------- EZ/KEY
COMMAND ==>                                                      SCROLL ==> P
****** *************************** START OF DATA ****************************
000001 FILE PERSNL F (150)
000002 *
000003    NAME                    17  16    A
=BNDS> <                                                                    >
000005    LAST-NAME              NAME  8    A
=COLS> ----+----1----+----2----+----3----+----4----+---5----+----6----+----7--
000007    WEEKLY-PAY               94  4    P  2
000008    DEPT                     98  3    N
==CHG>    HIRE-DATE               136  6    N
000010     HIRE-MM   DATE-OF-HIRE      2    N
==ERR>     HIRE-DD   DATE-OF-HIRE +2   2    N
000012     HIRE-YY   DATE-OF-HIRE +4   2    N
000013 *
SAL       OLD-SALARY                W  4    P  2
000015    NEW-SALARY                W  4    P  2
000016    RAISE                     W  4    P  2
000017    BONUS                     W  4    P  2
000018    SERVICE                   W  2    N
DATE      CURR-DATE                 S  6    N

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

Exhibit 3.1: Typical Edit Screen

Error Messages

> The first time a panel is displayed, the panel name appears
> in the upper left corner. During the course of an edit
> session, the primary and profile commands that you issue
> will overlay that position. Short error messages overlay the
> word "EZ/KEY" in the upper right corner. If you press PF1
> (HELP) after receiving a short error message, a longer
> message is displayed on line three.

Command Line

> The second line is the COMMAND line. This is where you type
> profile and primary edit commands. If your terminal keyboard
> has a "Home" key, you can press it to return the cursor to
> the COMMAND line from anywhere on the screen. If you don't
> have a "Home" key, enter the CURSOR command to accomplish
> the same thing.

Relative Line Numbers

> A line-number area along the left margin of each data record
> is followed by the line data. The line numbers exist only
> for the convenience of EZ/editor; they are not part of the
> data. The relative line numbers change when lines are
> inserted or deleted.

Profile Commands

Profile commands may be abbreviated to the shortest unique sequence of characters. If you enter a non-unique abbreviation, you get an error message and the command isn't executed. When a profile command is issued (whether or not it's executed), the abbreviated form is displayed in the upper left-hand corner of the screen to remind you of what you just did (or tried to do).

Profile values may be changed at any time during an edit session. A high-intensity PROFILE line is displayed at the top of the screen when any profile settings are changed. This line goes away as soon as ENTER or any PF key is pressed. Profile values are saved across edit sessions in your profile.

CAPS ON/OFF

Indicates whether all data on new or changed lines should be translated to upper case. The default is CAPS ON.

When CAPS is OFF, the parameters of the CHANGE and FIND commands are processed exactly as you enter them. When CAPS is ON, the parameters of the CHANGE and FIND commands are changed to uppercase before the commands are processed.

CHECK ON/OFF

Indicates whether automatic checking of new or changed data is performed. CHECK ON causes each new or changed line to be checked every time ENTER or a PF key is pressed. Depending on the setting of ERROR, messages may be temporarily inserted after lines that contain errors. CHECK OFF disables the automatic checking and removes any error messages.

The default is CHECK ON for members with a type of EZT. All other member types default to CHECK OFF. (See EZ/checker INTERFACE later in this section for more details.)

ERROR ALL/SYNTAX/NONE

Indicates whether messages are inserted after lines that contain errors when the CHECK command is issued or while CHECK is turned ON.

The default is ERROR ALL for members with a type of EZT. All other member types default to ERROR NONE.

ERROR ALL

> If ERROR is set to ALL, messages are temporarily inserted
> after any lines that contain errors.

ERROR SYNTAX

> If ERROR is set to SYNTAX, messages are temporarily inserted
> after lines that contain syntax errors. Field name and label
> errors are not flagged.

ERROR NONE

> If ERROR is set to NONE, no message lines are inserted, but
> the errors are counted and the total number detected is
> displayed in the upper right corner of your screen. Press
> the HELP PF key to display a longer message that lists the
> error types.

FORMAT ON/OFF

> Indicates whether EZ/checker automatically inserts spaces
> and splits lines as needed in your program.

+
+
+
+
+

> With FORMAT ON (and CHECK ON or when the CHECK command is
> issued), EASYTRIEVE PLUS statements are indented to display
> the relationship of the sections;   multiple statements on a
> line are split into separate statements (one statement per
> line).

+
+
+
+
+
+
+

> For example, major statements such as FILE, JOB, and SORT
> begin in column one and all subsidiary statements are
> indented two columns.   REPORT begins in column three and all
> subsidiary statements are indented two columns. Statements
> within IF and END-IF, PROC and END-PROC, DO WHILE and END-DO
> are indented two more columns,   as appropriate to the level
> of nesting. With FORMAT OFF these services are not provided.

> The default is FORMAT ON for members with a type of EZT. All
> other member types default to FORMAT OFF.

MACRO ON/OFF

Indicates whether statements generated by macros are displayed at your terminal. The profile variable MACRO is used only when CHECK is ON or the CHECK command is issued.

With MACRO ON, the individual lines of code generated by macros are displayed so you can identify any errors which are part of the macro code. These lines of macro code cannot be deleted or changed during an EZ/KEY edit session.

If a LIST NOMACROS statement is encountered in an EASYTRIEVE PLUS program or macro, subsequent statements generated by macros are not displayed until a LIST MACROS statement is encountered.

With MACRO OFF, individual lines generated by the macro are not displayed. If any errors are detected, they are counted and a message to that effect is inserted after the macro line.

The default is MACRO ON for members with a type of EZT. All other member types default to MACRO OFF.

NULLS ON/OFF

If you want to use the keyboard INSERT key to insert characters in a data line, set NULLS ON to have EZ/editor insert trailing nulls after your data.

The default is NULLS ON.

With NULLS ON, 3270 null characters replace all but the first trailing blank in each field on the screen. However, there is one thing to watch out for with NULLS ON. If you use the cursor control keys to move to a spot on a line and type data starting at that spot, all nulls to the left of your data are deleted when you hit ENTER. Your data shifts left to the rightmost character entered on that line or to the left margin, whichever is closer. This can be very disconcerting.

With NULLS OFF, 3270 space characters are inserted as trailing blanks in each field and you don't have to worry about your data shifting over to the left. However, you must move the cursor to the right of the last character on the line and erase to end-of-field to use the insert key on that line.

Primary Commands

Primary commands may be abbreviated to the shortest unique sequence of characters. If you enter a non-unique abbreviation, you get an error message and the command isn't executed. When a primary command is issued (whether or not it's executed), the command is displayed in the upper left-hand corner of the screen to remind you of what you just did (or tried to do).

EZ/editor Any EZ/editor primary command can be assigned to a PF key. Conversely, all commands assigned to the PF keys can also be typed on the COMMAND line for execution.

BOTTOM

This command works just like DOWN MAX -- it displays the last page of the member. The following trailer line appears at the bottom of the screen:

****************** END OF DATA ******************

CANCEL

The CANCEL command allows you to exit an edit session without saving any of the changes you made. If you create a new member in an edit session and then CANCEL, the new member goes away. This allows you to recover from errors in judgement (like suddenly discovering you've been editing the wrong member) or to change your mind about the changes you've just made to a member.

However, if you have issued the SAVE command (or pressed the SAVE PF key) during this session, all changes made before that time are saved. You can only CANCEL the changes made since the last SAVE was accomplished.

CHANGE string-1 string-2 [ALL]

The CHANGE command lets you change one character string to
another.   The two strings must be separated by a blank or a
comma. If one of the strings contains one or more blanks or
commas, or begins with a character other than a letter or a
number, the string must be enclosed in delimiters.
Delimiters can be any non-alpha, non-numeric characters.
Blanks or commas not enclosed in delimiters are treated as
separators between strings.

For example:

        CHANGE '%GETCURR' '%GETDATE'

    or

        CHANGE 'Hi There' Hello

You can change only the next occurrence of the specified
string:

            CHANGE string-1 string-2

or you can change all occurrences:

            CHANGE string-1 string-2 ALL

EZ/editor searches from the cursor position to the end of
the member (within the bounds) for the specified string. If
it is not found, a message notifies you of this. If it is
found on the current screen, the cursor is placed at the
beginning of the string without scrolling. If the string is
found in a line not on the screen, the display is scrolled
until that line is the second line on the screen.

If you specify the ALL parameter on a CHANGE command,
EZ/editor starts at the beginning of the member and changes
all occurrences of the specified string located within the
bounds.

The CHANGE command issued with no parameters is treated as a
repeat CHANGE -- that is, regardless of other intervening
primary commands, the last-issued CHANGE command is repeated
to change the next occurrence of string-1 to string-2.
String-2 is cleared when a new string-1 is used on a
subsequent CHANGE or FIND command.   CHANGE does not alter
lines excluded with the X or XX line commands.

PF6/PF18 are initially set to CHANGE.

The CHANGE command searches for a matching character string within the columns specified by the bounds. The "from" string (string-1) can be equal to, longer than, or shorter than the "to" string (string-2).

If the two strings are the same length, the "to" string overlays the "from" string. If the two strings are not the same length, the data between the "from" string and the right bound is shifted as follows:

- If the "from" string is longer than the "to" string, the data is shifted to the left and trailing blanks are inserted at the right bound.

- If the "from" string is shorter than the "to" string, the data is shifted to the right and blanks are discarded at the right bound. An error indication (==ERR>) appears in the line number if EZ/editor can't find enough blanks at the right bound. In no case is data lost or discarded.

The following examples illustrate how CHANGE works within bounds.

```
=BNDS>          <                    >
000400   Test1 Test2 Test3 Test4      Test5
```

If a "change Test Retest all" command were performed on the example above, only Test3 and Test4 would be found. Test1 is entirely outside of the bounds, Test2 is partially outside of the left bound, and Test5 is outside of the right bound.

```
=BNDS>          <                    >
000400   Test1 Test2 Retest3 Retest4   Test5
```

If part of Test5 is positioned within the boundary as illustrated below, no shift takes place and an error indication is displayed.

```
=BNDS>          <                    >
==ERR> Test1 Test2 Test3 Test4      Test5
```

CHECK

>If entered with no operand (ON or OFF), CHECK immediately validates the entire program. Depending on the setting of ERROR, messages may be temporarily inserted after lines that contain errors. (See EZ/checker INTERFACE section for more detail.)

CMS

>CMS is not really an edit command, but it can be useful during an edit session, or on any panel within EZ/KEY. The rest of the command line (after the keyword CMS) is passed to CMS for execution. If the command executed by CMS issues a non-zero return code, the return code is displayed in the upper right corner of the screen.

>If EZ/KEY is installed in a DCSS (Discontiguous Shared Segment), the command can execute in the CMS transient area, the user area,   or in another DCSS.   If EZ/KEY is not installed in a DCSS, you cannot execute a command that runs in the user area. EZ/KEY inhibits execution of the command and produces the message: "Invalid SUBSET Command". Your System Administrator can tell you if EZ/KEY is executing as a DCSS.

COPY [membername [membertype [version]]]

>This command copies another member into the member you are currently editing. It is used with the Before or After line command. Type COPY in the command line and (optionally) the membername, membertype, and member version of the member to copy from.   Type "a" (after)   or "b" (before)   in the appropriate line number to indicate where the copied data should be inserted.

>If the type and version of the member you want to copy from are the same as the one you are editing, you may specify only the membername and omit the membertype and version. However, if you want to specify the membertype, you must provide the membername. Likewise,   to specify the version, you must provide both   the membername and membertype. EZ/editor assumes that the first argument is always a membername, the second is always a membertype, and the third is a version.

If you issue COPY with no arguments, another screen is
displayed that requests the identity of the member you want
to copy from. If the "from" member resides in a PANVALET
library with a control code and/or access code, issue COPY
with no parameters so you can supply the required code on
the transfer screen.

CURSOR

Returns the cursor to the first input field on the current
screen. This command functions like a HOME key.

DOWN

Depending on the value in the SCROLL field (or the value
typed on the COMMAND line), scrolls toward the bottom of the
member. See the discussion of Scrolling in Section 2.

PF8/PF20 are initially set to DOWN.

EDIT member-name [member-type [member-version]]

EDIT allows you to edit several members at the same time by
"stacking" edit sessions. While you are editing one member,
you can look at and perhaps modify another member.

On any panel within EZ/KEY, you can type "EDIT membername"
on the COMMAND line and press ENTER. "membername" can be the
name of a member in any enabled library. Optionally, you can
include the member-type and member-version.

You can do this as many times as you like -- until you run
out of storage space to stack members currently being
edited. You don't want this to happen; EZ/KEY can't cope
with such a disaster and nothing will be saved.

When you finish editing the member, press the END PF KEY to
save any changes into your PIELIB. Enter the CANCEL primary
command and press ENTER to discard the changes. The previous
panel in the "stack" is automatically reinstated after you
END or CANCEL.

END

END returns you to the previous panel. END is not really an edit command, but its effect on an edit session is important. END serves as the usual way to end an edit session. When you press END, the member you are editing is saved in your first enabled library (usually your library), and you return to the panel from which you entered the edit session. (See the discussion of the SAVE command to learn exactly when changes are written to your library and to resolve possible space problems when saving your data.)

PF3/PF15 are initially set to END.

FIND string-1

Searches within the bounds for the first occurrence of string-1. The search starts at the current cursor position. If string-1 is found on the current screen, the cursor is placed at the beginning of the string without scrolling. If string-1 is found in a line not on the screen, the display is scrolled until that line is the second line on the screen.

The FIND command issued with no parameters is treated as a repeat FIND -- that is, regardless of other intervening primary commands, the cursor is positioned to the next occurrence of string-1 specified on the most recent FIND or CHANGE command.

The FIND command searches for a matching character string that falls within the bounds.

```
=BNDS>          <                >
000400  Word1 Word2 Word3 Word4 Word5
```

If a FIND Word command were issued as part of the above example, only Word3 and Word4 would be found.

Word1 is entirely outside of the bounds, Word2 is partially outside of the left bound, and Word5 is partially outside of the right bound.

FIND does not find data in lines excluded with the X or XX line commands.

PF5/PF17 are initially set to FIND.

HELP

HELP is not an editor command, but can be used in several useful ways during an edit session, or from any EZ/KEY panel. There are several kinds of HELP available: HELP for error messages, HELP for EASYTRIEVE PLUS statements, and HELP for EZ/KEY panels.

If you receive a short error message in the upper right corner of the screen, you can press the HELP key to display a longer explanation of this error. You can press the HELP key again to enter the Tutorial at the place where information about your problem begins.

On any edit panel you can position the cursor on an EASYTRIEVE PLUS statement, press ENTER to clear any short message, and then press the HELP PF key (PF1/PF13) to display a Tutorial screen that describes the statement. For a complex statement you may continue through the Tutorial to read all about it. When you end the HELP session, your edit screen is redisplayed.

You can press HELP at any time during an EZ/KEY session. The first panel displayed describes the EZ/KEY panel you are using. You can navigate through the Tutorial until you press END or RETURN. When you press END or RETURN, your original panel is displayed.

KEYS

KEYS is not really an edit command, but it can be useful if you want to change your PF key assignments during an edit session. When you END from the PF key panel, you return to the same edit panel you left.

LEFT

Scrolls the display to the left the number of columns specified in the SCROLL field or on the COMMAND line.

PF10/PF22 are initially set to LEFT.

LOCATE

LOCATE nnnnnn

LOCATE tag

> Scrolls up or down so that relative line number "nnnnnn" or
> the data line associated with the "tag" is positioned at the
> top of the screen. If the first character of the operand is
> alphabetic, EZ/editor treats the operand as a tag.

PRINT

> PRINT is a "software" screen-print to a LOG file.
>
> This primary command appends a copy of the panel currently
> being displayed to a special member (named "userid" LOG) in
> your library. The COMMAND line is cleared before the panel
> is printed. You can PRINT as many panels into this member as
> you like during one EZ/KEY session.
>
> If this is the first PRINT command issued during an EZ/KEY
> session, the previous contents of "userid" LOG (if any) are
> replaced by a copy of the current panel. Subsequent PRINT
> commands during the same session add copies of the specified
> panels to the end of "userid" LOG.
>
> Each panel image in the LOG file is separated by two header
> lines. The first line consists of a "1" in column one,
> followed by three spaces, your USERID, the date, and the
> time that the PRINT command was executed, as follows:
>
> > 1   RUS   12/15/83   13:23:48
>
> The second line contains a dash in column one followed by
> blanks.
>
> If you want to save the contents of this file, you can
> rename it or copy it to another member either before you end
> an EZ/KEY session or before you issue a PRINT command in the
> next session.

```
┌─────────────────────────────────────────────────────────────────────┐
│ ┌───────────────────────────────────────────────────────────────────┐ │
│ │                                                                   │ │
│ │  EZ/KEY                           3:  EZ/KEY EDITOR               │ │
│ │  REFERENCE MANUAL                                                 │ │
│ │                                   Primary Commands                │ │
│ │                                                                   │ │
│ └───────────────────────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────────────────────┘
```

PROFILE

> Inserts a high-intensity PROFILE line at the top of the
> screen. This line displays the status of the CAPS, CHECK,
> ERROR, FORMAT, MACRO, and NULLS profile variables. These
> values may be changed on the COMMAND line -- the display
> changes accordingly. Profile variables are automatically
> maintained across editing sessions. The PROFILE line goes
> away as soon as ENTER or any PF key is pressed.

```
┌────────────────────────────────────────────────────────────────────────┐
│ PROFILE    --- LEARNER.EZT(000) -------- Edit ------------------------- EZ/KEY │
│ COMMAND ==>                                              SCROLL ==> P     │
│ =PROF>  CAPS OFF   CHECK ON    ERROR ALL    FORMAT ON   MACRO ON   NULLS ON │
│ ****** **************************** START OF DATA ************************** │
│ 000001 FILE PERSNL   +`                                                   │
│ 000002    F (150)                                                         │
│ 000003 *                                                                  │
│ 000004    REGION                    1    1   N                            │
│ 000005    NAME                     17   16   A                            │
│ 000006    WEEKLY-PAY               94    4   P  2                         │
│ 000007 *                                                                  │
│ 000008    ANNUAL-SALARY            W     4   P  2                         │
│ 000009    NEW-SALARY               W     4   P  2                         │
│ 000010    RAISE                    W     4   P  2                         │
│ 000011 *                                                                  │
│ 000012 JOB NAME CALC                                                      │
│ 000013    ANNUAL-SALARY = WEEKLY-PAY * 52                                 │
│ 000014    IF REGION = 1                                                   │
│ 000015      RAISE = ANNUAL-SALARY * 0.07                                  │
│ 000016      NEW-SALARY = ANNUAL-SALARY + RAISE                            │
│ 000017      PRINT SAL-RPT                                                 │
│ 000018    ELSE                              . * ELSE COMMENT              │
│                                                                          │
│ Press END (PF3) to return to the previous panel.                         │
└────────────────────────────────────────────────────────────────────────┘
```

Exhibit 3.2:   The PROFILE line display

RESET

Clears any pending line commands, removes any error messages or macro-generated lines, removes the BOUNDS and/or COLS lines, removes ==ERR> or ==CHG> indicators, redisplays all lines excluded by X or XX line commands, clears the display of tags caused by a TAG LIST command, and generally restores things to "normal". You may exit from a screen that contains pending line commands by typing RESET on the COMMAND line and hitting the END PF key.   END and RETURN do not function until pending line commands and error messages are cleared.

RETURN

RETURN transfers you to the Primary Selection Menu. RETURN is not really an edit command, but its effect on an edit session is important. RETURN serves as a way to exit an edit session. When you press RETURN, the member you are editing is saved in your first enabled library (usually your library) and you return to the Primary Selection Menu. (See the discussion of the SAVE command to learn exactly when changes are written to your library and to resolve possible space problems when saving your data.)

PF4/PF16 are initially set to RETURN.

REVIEW

REVIEW is not really an edit command, but it can be used in PROMPT mode to display the entire program. This is a read-only screen; that is, you can scroll UP and DOWN in the program to inspect or review it but you can't make any changes to it. REVIEW is especially useful to "browse" the Library section to recall the names of fields. For example, when defining JOB, SORT, or REPORT activities, REVIEW stacks the current environment and then goes to the PROREVW panel. When you press END, you return to the panel from which you entered the REVIEW command. REVIEW is available only from Option 1.

PF2/PF14 are initially set to REVIEW.

RIGHT

Scrolls the display right the number of columns specified in the SCROLL field or on the COMMAND line.

PF11/PF23 are initially set to RIGHT.

SAVE

Saves the member without leaving the edit session. (END and
RETURN save your program and exit the session.) SAVE always
writes a copy of the member being edited into the first
library in your "enabled" search list (see Option 3.2;
LIBRARY UTILITY in Section 6). The SAVE is rejected if this
library is not accessed WRITE or CREATE. A successful SAVE
issues the message:

Member Saved

If you try to SAVE into a library not accessed WRITE or
CREATE, you get the message:

Read/Only Library

There is nothing you can do to recover from this error --
your changes must be recreated after you have rearranged
your enabled library list.

If you have enlarged an existing member or created a new one
and there is not enough room in your library to hold the new
data, EZ/editor cannot SAVE your data. It sends you the sad
news:

Member Not Saved

If this happens,   issue the UTILITY command to display the
Member Utility panel. You can scroll through the list of
members in your library and delete something you don't want.
When you END from the utility screen, you are returned to
the edit screen and can reissue the SAVE.

If you run into a library space problem when you try to END
or RETURN from an edit session, you get the same message as
when a SAVE fails.   The END or RETURN command is not
executed until you provide enough space in your library to
save the new data or until you issue CANCEL.

STRUCTURE

STRUCTURE is not an edit command, but can be used in PROMPT or FREE mode to display the Program Structure Map panel (PROSTRUC). The Program Structure Map shows an overview of your entire program. From this panel, you can INSERT or DELETE entire sections (such as FILE, JOB, REPORT, PROC, SORT), or select the portion of your program to modify. STRUCTURE is available only from Option 1.

You can position the cursor under the ACTION column, on the line next to the section of your program you wish to modify, and press ENTER, or press the SWAP key to SWAP to the opposite mode while selecting the section of your program to work on.

To insert a new section, type an "I" under ACTION next to the section you want to insert after, fill in the "Insert Type" and "Insert Name" fields, and press ENTER or press the SWAP PF key.

To delete a section, type "DE" next to the section you want to delete, and press ENTER.

The STRUCTURE command is the secret to navigating in PROMPT and FREE mode. You can think of the Program Structure Map as a "road map" of your program.

SUBMIT [system-ID]

Submits the member being edited for batch execution. All necessary JCL and/or control cards must be contained in the edit member.

Under VM/CMS, you must also supply the name of the system that is to execute the program. For example, "SUBMIT MVS3" sends the edit member to the MVS3 system.

SWAP

SWAP is not an edit command, but it can be used to swap from PROMPT mode to FREE mode, or from FREE mode to PROMPT mode. Position the cursor on the statement you want to modify, and press the SWAP PF key. SWAP is available only from Option 1.

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REFERENCE MANUAL

TAG

TAG LIST

TAG DELETE label [label] ...

TAG DELETE ALL

        TAG LIST displays all tags (use the RESET command to clear the display of the tags). To erase a tag, type "TAG DELETE label", where label is a tag you have assigned.   You can erase multiple tags by listing them (separated by blanks) after TAG DELETE. Type "TAG DELETE ALL" to remove all tags.

TOP

        Equivalent to UP MAX. Positions to the TOP of the member and displays the first page.

TSO

        TSO is not an edit command, but it can be useful during an edit session, or on any panel within EZ/KEY. The rest of the command line (after the keyword TSO) is passed to TSO for execution. If the command executed by TSO issues an ABEND code, the ABEND code is displayed in the upper right corner of the screen.

        TIME is not supported.

        If EZ/KEY is not running as a Command Processor, attempting to execute a TSO command produces the message: "TSO not allowed". Your System Administrator can tell you if EZ/KEY is installed as a Command Processor.

UP

        Depending on the value in the SCROLL field (or the value typed on the COMMAND line), scrolls toward the top of the member. See the discussion of Scrolling in Section 2.

UTILITY

UTILITY is not an edit command, but it can be useful during an edit session, or on any panel within EZ/KEY. UTILITY transfers you to the Member Utility panel so you can delete one or more members from your library to make room for a new or changed member.

You can optionally specify UTILITY [option] where option is "x.y". For example:

UTILITY 3.2

UTILITY stacks the current environment and then goes to the requested panel. If not specified, the default is 3.1. When you press END, your original panel is displayed.

Line Commands

Line commands are overtyped on the relative line numbers at the left margin of each data line. These commands let you add, delete, move, copy, repeat, and exclude individual lines or blocks of lines.

Single-character line commands operate on individual lines. (D deletes one line; C copies one line.) Double-character line commands operate on blocks of lines. (DD on two different lines identifies the first and last lines of a block of lines to be deleted.)

In many cases you can append a number to the line command to indicate multiple operations of the command. For instance, R3 repeats an individual line three times and D9 deletes nine lines.

Some line commands (such as Copy and Move) require that a destination be specified with either After (A) or Before (B).

Line commands may be overtyped in any column of the relative line number. You don't need to erase the portion of the number not overtyped by the line command unless a possible ambiguity would result. For instance, if you type R3 into line number 034122, it looks like R34122 and may confuse EZ/editor. In that case, typing a blank after R3 (or erasing the rest of the line number) is a good idea.

You may enter more than one line command or set of commands before you press ENTER as long as they don't conflict and are not ambiguous. If this happens, none of the commands are executed and an error message informs you of the reason. You can issue RESET to clear all of the pending line commands, or you can change each one by overtyping it with another command or a blank.

If ERROR is set to ALL or SYNTAX, error messages may be temporarily inserted between the lines of your program. This changes the relative line numbers. The messages are not a part of your data and are never saved. They may be deleted by the RESET command. While the messages are displayed, line numbers following the messages are higher than expected. The only commands affected by this are the Copy, Move, Repeat, or Delete commands with a number appended. For instance, "D7" counts 7 lines relative to the current line, including error message lines if present.

Error message lines cannot be directly deleted, copied, or moved. The line number field is automatically skipped over by the cursor. It is possible to delete, copy, or move an error message line if you delete, copy, or move the line that the message is for. These message lines may be within the range of a CC, MM or RR block operation, but the message lines are never actually copied or moved. EZ/editor knows they are not data lines.

If error messages are present, it's a good idea to return your cursor to the COMMAND line and issue the RESET command before issuing any C, CC, M, MM, D, DD, R, or RR line commands. RESET deletes all error messages and makes the line numbers easier to reference.

EZ/editor recognizes the following line commands:

After	Copy	Move	Shift
Before	Delete	Overlay	Tag
Bounds	Exclude	Repeat	
Columns	Insert		

After

> The After (A) line command identifies the destination when data is to be moved or copied after a line in the member.
>
> ```
> 000300
> a 0400  Moved or copied data is inserted after this line
> 000500
> ```
>
> When a line or lines are to be moved or copied multiple times, you can append a number to the "A" command; the line or lines are repeated "n" times.

Before

> The Before (B) line command identifies the destination when data is to be moved or copied before a line in the member.
>
> ```
> 000300
> b 0400  Moved or copied data is inserted before this line
> 000500
> ```
>
> When a line or lines are to be moved or copied multiple times, you can append a number to the "B" command; the line or lines are repeated "n" times.

Bounds

The left and right bounds determine the columns of data used with the Overlay and Shift line commands, and the FIND and CHANGE primary commands. The bounds are always in effect, whether or not the bounds line is being displayed.

To display the column boundary definition line, overtype a line number with BOUNDS, BOUND, BNDS, or BND. The bounds may then be changed by overtyping with < to define the left bound and > to define the right bound.

```
        000300
        bounds  <                                          >
        000500
```

If you want to set the bounds in specific columns, display the COLS line just below the BNDS line.

To set more restrictive bounds, overtype the bounds definition line with a < to the right of the existing < and/or overtype a > to the left of the existing >.

To reestablish the default bounds, position the cursor to the first column of the boundary line, press the ERASE EOF key, and then press ENTER.

To remove the bounds line from the display, use the Delete line command or the RESET primary command.

Columns

Use COLS to display the columns line. For example:

```
        000300
        cols    ----+----1----+----2----+----3----+----4---    etc.
        000500
```

A digit is displayed in columns 10, 20, 30, etc. (i.e. 3 is in column 30). A + is displayed between the digits to indicate columns 5, 15, 25, etc.

To remove the columns line from the display, use the D line command or the RESET primary command.

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REFERENCE MANUAL

Copy

Use C or CC to copy one or more lines. After a line has been copied, it exists in both its original and new location.

C   - Identifies a single line to be copied.

C3 - Identifies the first of 3 (or any number) lines to be copied.

CC - Identifies the first and last lines of a block of lines to be copied.

For example:

```
        000300
        c 0400        This single line is copied.

    or

        000650
        cc 651        { This block
        000652        {
        000653        { of five lines
        000654        {
        cc 655        { is copied.
        000656
```

In all cases, you must specify a destination for the copy by either the After (A) or Before (B) command.

Delete

Use D or DD to delete one or more lines. The first and last lines of the block don't have to be on the same screen -- you can scroll up or down as far as you like to enter the second DD. If you want to delete from a given line to the end of the member, enter D99999 on the first line to be deleted and press ENTER. Alternately, enter DD on the first line to be deleted, press BOTTOM, and enter DD on the last line of the member.

D   - Identifies a single line to be deleted.

D3   - Identifies the first of 3 (or any number) lines
       to be deleted.

DD   - Identifies the first and last lines of a block of
       lines to be deleted.

For example:

```
        000300
        d 0400        This single line is deleted.
        000500

  or

        000650
        dd 651        { This block
        000652        {
        000653        { of five lines
        000654        {
        dd 655        { is deleted.
        000656
```

Exclude

Use X or XX to exclude one or more lines of data from being displayed on the screen.

X   -   Identifies a line to be excluded.

X3 -   Identifies the first of 3 (or any number) lines to be excluded.

XX -   Identifies the first and last lines of a block of lines to be excluded.

For example:

```
        000300
        x 0400          This single line is excluded.
        000500
   or

        000650
        xx 651      { This block
        000652      {
        000653      { of five lines
        000654      {
        xx 655      { is excluded.
        000656
```

Use the RESET command to redisplay excluded lines.

Insert

Use I to insert one or more lines.

    I   - a single line is to be inserted.
    I3 - 3 (or any number) lines are to be inserted.

For example:

        000600
        i 0700 - a line is to be inserted after this line
        000800

    causes

        000600
        000700
        ''''''' - the cursor is placed on the "insert" line
        000800

or

        000600
        i3 700 - 3 lines are to be inserted after this line
        000800

    causes

        000600
        000700
        ''''''' - the cursor is placed on the first "insert"
        '''''''   line
        '''''''
        001100

If you press the ENTER key without entering any data on an
insert line, the line is deleted from the screen. Once data
(even blank characters) has been entered on an insert line,
the line is assigned a relative line number. Inserted lines
contain blanks regardless of the NULLS setting.

The maximum number of lines that can be inserted is limited
to the   number of lines left on your screen. If you enter
I200, EZ/KEY inserts only as many lines as can fit on your
screen at that time.

Move

Use M or MM to move one or more lines. After a line has been moved, it will exist only in its new location.

M - Identifies a single line to be moved.

M3 - Identifies the first of 3 (or any number) lines to be moved.

MM - Identifies the first and last lines of a block of lines to be moved.

For example:

```
            000300
            m 0400        This single line is moved.

    or

            000650
            mm 651      { This block
            000652      {
            000653      { of five lines
            000654      {
            mm 655      { is moved.
            000656
```

In all cases, you must specify a destination for the move by either the After (A) or Before (B) command.

Overlay

Use the O command to indicate the target when you want to
merge lines. Overlay is used in conjunction with the M or C
line command.

O - Identifies a single line that is to be overlaid.

O3 - Identifies the first of 3 (or any number of) lines to
     be overlaid.

OO - Identifies the first and last lines of a block of lines
     to be overlaid.

For example:

         o 0400   This single line will be overlaid
      or
         oo 600   This block
         000700   of three lines
         oo 800   will be overlaid

Use the C or M line command to specify the source of the
data to be overlaid.

Move or copy with overlay can be used to merge data from one
source line onto one or more destination lines.

The following rules apply:

    -    Only the portion of the source and destination
         lines within the bounds are copied, moved,   or
         overlaid.

    -    Only blank characters are overlaid.

    -    The source line is used repeatedly until all
         destination lines are processed.

    -    Only data lines participate in the overlay
         operation. Special lines such as COLS or errors are
         ignored as both source and destination lines.

    -    If move is specified, the source line is deleted
         after the overlay operation is complete.

Example:

```
c 0300                        /*                    */
000400
o3 500          A1 = B1;
000600          A2 = B2;
000700          A3 = B3;
000800          H1 = A1 * B2;
```

result:

```
000300                        /*                    */
000400
000500          A1 = B1;      /*                    */
000600          A2 = B2;      /*                    */
000700          A3 = B3;      /*                    */
000800          H1 = A1 * B2;
```

Repeat

Use R or RR to repeat one or more lines. The first and last
lines of the block don't have to be on the same screen --
you can scroll up or down as far as you like to enter the
second RR. You can't specify a destination for this command
-- the line or lines are repeated immediately after their
original location.

R   - Identifies a single line to be repeated.

R3 - Identifies a single line to be repeated 3 (or any
      number of) times.

RR - Identifies the first and last lines of a block of
      lines to be repeated.

RR4 - Repeats a block of lines four (or any number) times.

For example:

```
          000300
          r 0400        This single line is repeated.
          000500

    or

          000650
          rr 651        { This block
          000652        {
          000653        { of five lines
          000654        {
          rr 655        { is repeated.
          000656
```

Since EZ/KEY will repeat any line or block of lines based on
the number that you specify, you must not use excessively
large numbers.   Avoid the use of repeats such as "R9999,"
since this will probably cause EZ/KEY to run out of virtual
storage. In this situation, unpredictable results may occur,
including the possibility that nothing will be saved.

Shift

Shift Right

Use) or)) to shift data right on one or more lines. Only the data within the bounds is shifted.

) – Identifies a line to be shifted right by 2 columns (the default).

)5 – Identifies a line to be shifted right by 5 columns.

)) – Identifies the first and last lines of a block of lines to be shifted right by 2 columns (the default).

))3– Identifies the first and last lines of a block of lines to be shifted right by 3 columns. The number does not need to be repeated top and bottom -- either place will do. However, if the number of columns appears top and bottom, it must be the same.

Characters shifted beyond a column boundary are discarded (with no warning message). A column boundary is specified by the boundary command.

For example:

```
000300
) 0400      This line will be shifted right 2 columns.
000500
```

or

```
)) 700      These four lines will be
000800      shifted right by 99 columns,
000900      causing all data on all
))99 0      four lines to vanish.
```

When using the shift right ")" line command, only data that
is within the bounds is considered for shifting; the data
outside of the bounds is never shifted. Characters shifted
beyond the right bound are discarded (with no warning
message).

In the example below, the bounds line is displayed so that
you can see where the bounds are set.

```
  =BNDS>           <                                          >
  )5 300 Word1  Word2  Word3  ('     ')  Word4  Word5

  results in

  =BNDS>           <                                          >
  000300 Word1          Word2  Word3  ('     ')  Word4  Word5
```

Word1 is not shifted because it is outside of the current
bounds. Word2 through Word5 is shifted right 5 columns.

The example below demonstrates a right shift of 10 columns.

```
  =BNDS>           <                        >
  )10 00  Word1  Word2  Word3  ('     ')  Word4     Word5

  results in

  =BNDS>           <                        >
  000300   Word1             Word2  Word3  ('     ') Word5
```

Word1 and Word5 are not shifted because they are outside the
bounds.

Word2, Word3, and ('   ') are shifted right 10 columns.

Word4 is shifted past the right bound and is discarded.

Shift Left

Use (or ((to shift data left on one or more lines. Only
the data within the bounds is shifted.

(- Identifies a line to be shifted left by 2 columns
     (the default).

(5 - Identifies a line to be shifted left by 5 columns.

((- Identifies the first and last lines of a block of
     lines to be shifted left   by 2 columns (the
     default).

((3- Identifies the first and last lines of a block of
     lines to be shifted left by 3 columns.   The number
     does not need to be repeated top and bottom --
     either place will do. However, if the number of
     columns appears top and bottom, it must be the
     same.

Characters shifted beyond a column boundary are discarded
(with no warning message).

For example:

```
        000300
        ( 0400       This line will be shifted left 2 columns.
        000500

   or

        (( 700       These four lines will be
        000800       shifted left by eleven columns,
        000900       causing loss of data on
        ((11 0       the first and fourth lines.
```

When using the shift left "(" line command, only data that
is within the bounds is considered for shifting; the data
outside of the bounds is never shifted. Characters shifted
beyond the left bound are discarded (with no warning
message).

The bounds are always in effect,   whether or not the bounds
line is being displayed. In the example below, the line is
displayed so that you can see where the bounds are set.

```
    =BNDS>            <                              >
    (5 300 Wordl        Word2 ('    ')  Word3   Word4

 results in

    =BNDS>            <                          >
    000300 Wordl   Word2 ('    ')  Word3    Word4
```

Wordl is not shifted because it is outside of the current
bounds. Word2 through Word4 is shifted left 5 columns.

The example below demonstrates a left shift of 10 columns.

```
    =BNDS>            <                          >
    (10 00 Wordl   Word2  Word3  ('    ')  Word4   Word5

 results in

    =BNDS>            <                          >
    000300 Wordl   rd3 ('    ')  Word4   Word5
```

Wordl is not shifted because it is outside of the bounds.
Word2 and part of Word3 are shifted past the left bound and
discarded. Word4, ('   '), and Word5 are shifted left 10
columns.

Tag

Use the tag line command to associate a label or tag with a
data line.   Type T over the leftmost digit of the relative
line number, followed by a space, followed by a tag of up to
four characters beginning with a letter. For example:

```
000325 DEPT                        98   3   N
t hire DATE-OF-HIRE               136   6   N
000327   HIRE-MM   DATE-OF-HIRE        2   N
000328   HIRE-DD   DATE-OF-HIRE 2      2   N
000329   HIRE-YY   DATE-OF-HIRE 4      2   N
t curr CURR-DATE                   5   6   N
000331   CURR-MM     CURR-DATE        2   N
000332   CURR-DD     CURR-DATE 2      2   N
```

When you press ENTER, the tag disappears.   But EZ/editor
knows it's there and can LOCATE it whenever you want to
return to that line. The tag will remain associated with its
data line even if the line is moved to another place in the
member. Tags are valid only for the current edit session --
they are not saved with the member.

The tag is used with the LOCATE primary command.   In the
example above,   you can type "L HIRE" on the COMMAND line
from any place in your member and the line containing the
field definition for DATE-OF-HIRE scrolls to the first line
of your screen. If you delete the tagged line, the tag is
also deleted.

You can place any number of tags in a member. To display all
current tags, type "TAG LIST" on the COMMAND line and press
ENTER. To erase a tag without deleting the line, type "TAG
DELETE label" on the COMMAND line, where "label" is the tag
you have assigned. You can delete multiple tags by listing
them (separated by blanks) after TAG DELETE.   Type "TAG
DELETE ALL" to remove all tags.

You can replace a tag already assigned by typing a new tag
in the line number of the tagged data line. EZ/editor issues
an error message if you try to assign the same tag to more
than one line.

Checker Interface

EZ/checker interfaces with EZ/editor when you ask to have
checking services performed. The specific services and the
time at which they are performed is determined by the CHECK
primary command and the setting of the profile variables
ERROR and CHECK.

CHECK ON

Each new or changed line is checked when you press ENTER or
any PF key.

- If ERROR is set to ALL, a message is inserted under
  every line that contains an error. All errors are
  counted, and you are notified of the total.

- If ERROR is set to SYNTAX, messages are inserted under
  any line that contains a syntax (or format)   error.
  Errors in the definition of file names, field names,
  report names, labels, etc., are not displayed, but they
  are counted and you are notified of the total.

- If ERROR is set to NONE, you are not distracted by error
  messages inserted into your program. Errors are counted
  and you are notified of the total. Press HELP to display
  the number of each kind of error.

CHECK OFF

EZ/editor becomes a full-screen, SPF-like editor. You can code or change your data without being notified of errors. The setting of ERROR, FORMAT, and MACRO is ignored.

After you finish coding, issue the ERROR ALL and CHECK commands to validate your entire program.   If errors are found, messages are inserted under every line that contains an error.   The errors are counted and the total number is displayed in the upper right corner of your screen, for example:

> 12 errors detected

If you press HELP, a longer message informs you of the number of each kind of error:

> 2 SYNTAX errors and 10 NAMES errors were found

Use the UP E or DOWN E scroll commands to locate and then correct any errors.

CHECK is initialized OFF when you edit a member whose type is other than EZT. You should normally attempt to CHECK only members that are EASYTRIEVE PLUS programs.

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SECTION 4: LIBRARY FUNCTIONS

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Introduction

An EZ/KEY library is like every library you have ever used. Each library has a name and contains groups of objects stored in a specific order. The objects in EZ/KEY libraries aren't books -- they are members. If you want to see a list of the members, just ask. The big advantage of EZ/KEY libraries over your community library is that you don't have to hunt for the object you want -- just mention it to EZ/KEY by name and its yours. EZ/KEY keeps track of where things are located and finds them whenever you want them.

All libraries are the same to EZ/KEY, but from your standpoint the libraries can be grouped into functional classes:

- Your own library.

  As an EZ/KEY user, you have a library with your name on it. The first time you call EZ/KEY, it may ask you how big a library you want for your own use. A nice round figure is 100 blocks. A library of this size will usually hold all the members you need to work on at any one time. If your System Administrator has already defined your library before you start to use EZ/KEY, you won't have to concern yourself with library size.

- Your group's libraries (if present).

  Groups of users with something in common (for example several people who are working on the same project) may have libraries with project-related names assigned to them. The project leader usually creates these libraries.

- The EZ/KEY system library.

This gives you quite a range of libraries: one of your very own that is identified by your userid, access to project and/or system libraries and, under special circumstances, access to libraries of other EZ/KEY users.

You can display a list of all the libraries that you can access. If you need to retrieve members from one of the libraries, you can "enable" it and can insert it in the list of libraries that EZ/KEY searches. EZ/KEY looks at only the enabled libraries for a member that you want. You do not have to remember which library it's in. The sequence in which libraries are enabled determines the order in which EZ/KEY searches them. Your own library must be first.

Exhibit 4.1 illustrates the Utility Menu displayed when you select Option 3 from the Primary Selection Menu.

```
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 4.1: Utility Menu

The library utilities provide six functions, represented by the six options on the Utility Selection Menu. If the System Administrator has set a utility, an administrator, or a report password, you cannot access options 2 or 4 unless you type the correct password.

1.   Member maintenance.

  •   List the names of all the members in your own PIELIB.

  •   Delete, rename, disable, enable, archive, print, punch, copy, move, submit, and edit the individual members of your PIELIB.

2.   Library maintenance.

  •   Display a list of all library names. The list is in two sections: the top section lists libraries you have currently enabled; the bottom section lists all other libraries available.

  •   Enable libraries you want to use and disable libraries you are not currently using.

  •   Select an entire library or a specified group of members from a library for maintenance or processing.

  •   Print a list of the names of all the members or a selected group of members in a library.

3.   Member copy or move.

  •   Copy and move individual members to and from libraries. If the system administrator has set a utility password, you cannot copy or move members to or from another user's library unless you type the correct password.

4.   Multiple Member Processing

  •   Delete, rename, disable, enable, archive, print, punch, copy, or move groups of members (selected by type or name) of any library.

A.   System Administrator Functions.

R.   Report Administrator Functions.

Member Utility

Option 1 on the Utility Menu displays the names of all members in your own library. You can scroll up and down this list to see all of the member names.

```
PROULFGL --------------------- Member Utility ----------- 5 members selected
COMMAND ==>                                              SCROLL ==> P
                                              LIBRARY NAME: STUDENT

ACTION   MEMBER   MEMBER   MEMB         RECORD  BLK   CREATE     UPDATE    UPDATE
RESULT   NAME     TYPE     VERS   STAT  COUNT   CNT   DATE       DATE      TIME

         LEARNER  EZT      002    D        60    6   01/28/84   02/24/84  14:16:44
         PANDEL1  JCL      010             11    1   03/17/84   04/01/84  09:23:50
         PLUMLIBR SCRIPT   004           2734  105   01/06/84   02/18/84  12:13:25
         CALIPER  COBOL    001             58    2   11/04/82   01/16/84  09:44:18
         APLGFORM STANDARD 014    A       259   14   05/22/81   05/22/81  10:18:30




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 4.2: Member Utility Panel

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 you press ENTER. The actions are processed in sequence from top to bottom of the list.

Some actions are executed immediately and some transfer to another screen. As soon as the actions are accomplished, the result of the action replaces the action name.

For actions that are executed as soon as you press ENTER (Delete, Rename, Disable, Enable, Archive, Print, Punch, and Submit), the result is displayed immediately. For actions that transfer to another screen (Copy, Move, and Edit), the result is displayed when you return from the transfer screen.

Result fields remain on the panel until all of the Member Utility functions are completed. A result may be overtyped with a new action for additional processing on the same member.

Commands

You can issue the SHOW command on the COMMAND line to "refresh" the ACTION/RESULT fields. Deleted members disappear and the result fields are cleared.

The LOCATE String command issued on the COMMAND line searches for a member name greater than or equal to the character string specified as the operand. If it is found on the current screen, the cursor is placed at the beginning of the string without scrolling. If the string is found in a line not on the screen, the display is scrolled until that line is the second line on the screen.

Archive

Archive marks a member that you want removed from your library and stored away. Members marked in this way are moved to tape by your System Administrator on a regular basis. When this action is processed, the word ARCHIVED appears in the result field. The next time you list this library or issue the SHOW command, the member marked for archival is tagged with an "A" in the STAT field. A member marked for archival is inaccessible to searches just as a disabled member is.

If you change your mind before the member is moved to tape, you can ENABLE the member to remove it from archive status.

Copy

Copy invokes the Copy/Move Utility and transfers you to another screen that requests information about where you want to copy the member to. Since you entered Copy on a line of the Member Utility panel, that MEMBERID is filled in as the FROM member on the Copy/Move Utility panel. You must then specify the TO member. Any portions of the TO MEMBERID not explicitly entered will be copied from the FROM member specification. When you return to the Member Utility panel, either COPIED or NO COPY appears in the results field of the appropriate member line.

Delete

Delete erases the member from your library. This action is irrevocable -- once a member is deleted, it cannot be recovered. For this reason the Confirm Delete panel (PROULCON) is displayed, which asks you to confirm that you do in fact want to delete the member(s). However, the Confirm Delete panel is not displayed if your System Administrator has specified "NO" for "Confirm Delete" for your site. Once deleted, the member name is highlighted and the word DELETED appears in the result field. You can't type over DELETED. This provides visibility for deleted members and prevents other actions from being attempted on a nonexistent member. The next time you list the contents of this library or issue the SHOW command, the deleted member is gone. A revocable method of member removal is the Disable action -- see below.

Disable

> Disable is a good way to temporarily put a member out of action. The member will be considered "unavailable" until this action is revoked with Enable. A disabled member remains in the library but is inaccessible. Searches for this member will continue past it and into the next enabled library. When the action is processed, DISABLED appears in the result field. The next time you list this library or issue the SHOW command, the disabled member will be flagged with a "D" in the STAT field.

Edit

> Edit invokes EZ/editor, which displays the first page of the selected member. You may then scroll through the member to make changes. When you return to the Member Utility panel, the word EDITED appears in the result field.

Enable

> Enable reverses Disable -- the member becomes accessible. The word ENABLED appears in the result field, but the "D" in the STAT field doesn't go away until the next time you list this library or issue the SHOW command.

> Enable also reverses Archive -- the member becomes accessible and the "A" goes away on the next list.

Move

> Move appears to work the same way as Copy. However, the FROM member is erased from the original location after the copy is made. When you return to the Member Utility panel from the Copy/Move Utility panel, the member name is highlighted and either MOVED or NO MOVE appears in the results field. You can't type over the message. This provides visibility for moved members and prevents you from trying to take action on a member that is no longer in the library. The next time you list this library or issue the SHOW command that member is gone.

Print

> Print sends a copy of the member to the printer. Each record is truncated or expanded to 133 characters as necessary. Page breaks occur every 55 records. Each page header contains the library name and the name of the member being printed. Print can be used only for CMS and TSO.

Punch

> Punch sends a copy of the member to the punch. Each record is truncated or expanded to 80 characters as necessary. A member identifier record is punched prior to the data records of the member. The format of the member ID record is:

> :READ   membername membertype Al ver stat mm/dd/yy hh:mm:ss

> The date and time identify when the member was sent to the punch. Punch can be used only for CMS and TSO.

Rename

> Rename assigns a new name (or new MEMBERID) to the specified member. Enter RENAME in the action field and overtype as many of the displayed components of the MEMBERID (member name, member type, member version) as you want to change. The new MEMBERID must be unique in this library.

> The word RENAMED appears in the result field and the member's new identifiers appear on the same line (rather than being moved to the proper collating sequence.) The next time you list the members in this library or issue the SHOW command, the renamed member will appear in the proper sequence.

Submit

> Submit sends a copy of the member for batch execution. Enter SUBMIT in the action field. (For CMS, you must overtype the member name with the destination batch machine ID; the machine ID must be different from the member name). When the action is processed, SUBMITTED appears in the result field and the original member-name is restored.

Library Utility

Option 2 of the Utility Menu displays a list of all libraries that you can access. The top portion lists the names of all libraries that are currently enabled. The libraries are listed in the order that they will be searched. The bottom portion lists the names of all other libraries in alphabetical order. Separating the lists is a division line.

```
PROULLG  ------------------- Library Utility ----------------------- EZ/KEY
COMMAND ==>                                                     SCROLL==> P


    ACTION          LIBRARY              ACCESS     SELECTION LIST
    RESULT          NAME        STAT     RIGHTS     NAME      TYPE

                    userid               CREATE
                    EXAMPLE              READ
                    CMS                  CREATE
    --------------- -----------  -------------------- --------  --------
                    OBJECT       D       READ
                    SYSTEM       D       READ







ACTIONS==> A After  B Before  DI Disable  EN Enable  M Move  PR Print S Select
Press END (PF3) to return to the previous panel.
```

Exhibit 4.3: Library Utility Panel

You can scroll up and down the list to display all of the entries. 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 you press ENTER.

EZ/KEY
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The actions are processed in the following sequence:

                All Selects and Prints
                Any After, Before, Move
                All Enables
                All Disables

Prints are executed immediately. Select transfers to the
Member Utility and then returns.   Move works in conjunction
with After and Before to resequence the library list.

For actions which are executed immediately, the result is
displayed immediately.

For Select, which transfers to another panel, the result is
displayed when you return to this panel.

Result fields remain on the panel until all of the Library
Utility functions are completed, or until a MOVE, ENABLE, or
DISABLE is successful. A result may be overtyped with a new
action for additional processing on the same library.

You can issue the SHOW command on the command line to
"refresh" the panel. SHOW regenerates the library list and
clears the ACTION/RESULT field.

The first library in the enabled list must be your own
library. This guarantees that it is a library to which you
have CREATE access.   Otherwise, several functions of EZ/KEY
may not work correctly. (For example, the Editor cannot SAVE
a member.)

After/Before

> After and Before are used in conjunction with Move to
> specify the order in which enabled libraries are searched.
> The library identified by Move is inserted into the library
> search list either after or before the library identified by
> After or Before. Only one of these actions may be specified
> at a time.

Disable

> Disable removes a library from the library search list and
> moves it to the list of disabled libraries. Disable is
> ignored if it is entered below the division line. Following
> a successful disable action, the entire list of libraries is
> redisplayed as if SHOW were entered on the COMMAND line.

Enable

> Enable adds a library to the end of the library search list.
> Enable is ignored if it is entered above the division line.
> Following a successful enable action, the entire list of
> libraries is redisplayed as if SHOW were entered on the
> COMMAND line.

Move

> Move is used in conjunction with After and Before to enable
> libraries. Only one Move action may be specified at a time.
>
> A library below the division line can be enabled by entering
> Move beside it and entering After or Before above the
> division line as long as your library appears first.
>
> Enabled libraries can be re-arranged by entering Move and
> Before or After above the division line. Disabled libraries
> cannot be re-arranged; they are always displayed in
> alphabetical sequence.
>
> Following a successful Move operation, the entire Library
> list will be redisplayed as if SHOW were entered on the
> COMMAND line.

Print

> Print sends to the printer a list of the names of the requested members in the selected library, regardless of whether it is enabled or not. Print can be used only with CMS and TSO.

Select

> Select invokes the Member Utility. Enter SELECT in the action field beside the library you want to access. You are transferred to the Member Utility panel for the selected library. From that panel you can perform the maintenance tasks described above in the MEMBER UTILITY section.
>
> The Print and Select actions allow the specification of a selection name and type. If the selection name and type fields are left blank, all member names are displayed or printed. To limit the display to a specific name or type, enter the requested name or type in the proper selection field. To limit the display to member names or types beginning with specific characters, enter the specific characters followed by an asterisk (*) in the proper selection field.
>
> For example:

ACTION RESULT	LIBRARY NAME	STAT	ACCESS RIGHTS	SELECTION NAME	LIST TYPE
s	CANNARE		CREATE	ca*	ezt

> This example would display the names of all members in library CANNARE whose member names begin with "CA" and whose member types are "EZT".

```
┌─────────────────────────────────────────────────────────────────────┐
│                                                                       │
│  EZ/KEY                              4:  LIBRARY FUNCTIONS             │
│  REFERENCE MANUAL                    Library Utility                  │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘
```

PIELIB Member Selection List

A list of the members of a PIELIB looks like this.

```
PROULFGL ------------------ Member Utility ------------------------ EZ/KEY
COMMAND ==>                                                SCROLL ==> P
                                                 LIBRARY NAME: CANNARE

ACTION   MEMBER   MEMBER   MEMB         RECORD  BLK   CREATE    UPDATE    UPDATE
RESULT   NAME     TYPE     VERS  STAT   COUNT   CNT   DATE      DATE      TIME

         BIGG     EZT      000            42     1   12/13/83  12/13/83  09:43:38
         CANNARE  CONNECT  000             7     1   12/01/83  12/13/83  14:09:52
         CANNARE  LIBCHAIN 000             4     1   12/01/83  12/13/83  14:09:51
         EZKEY    VPROFILE 000            58     2   12/01/83  12/13/83  14:09:50
         ISREDIT  COPY     000           108     4   12/13/83  12/13/83  13:00:44
         PIELSIDC COPY     000           327    26   12/13/83  12/13/83  13:00:30
         PROTEST  PANEL    000   D        74     3   12/08/83  12/08/83  12:31:55
         PROTEST  PANELOBJ 000   D         6     3   12/08/83  12/08/83  12:32:01
         PROULCM  PANEL    000   D       170     5   12/12/83  12/13/83  09:25:59
         PROULCM  PANELOBJ 000   D        11     4   12/12/83  12/13/83  09:26:05
         PROULLG  PANEL    000   D       481    14   12/12/83  12/12/83  10:33:38
         PROULLG  PANELOBJ 000   D        24     9   12/12/83  12/12/83  10:34:01
         PROULMS  PANEL    000   D        38     2   12/07/83  12/09/83  07:34:26

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 4.4: Member Utility Panel - PIELIB Library

```
┌──────────────────────────────────────────────────────────────────────┐
│                                                                        │
│  EZ/KEY                               4:  LIBRARY FUNCTIONS            │
│  REFERENCE MANUAL                        Library Utility               │
│                                                                        │
└──────────────────────────────────────────────────────────────────────┘
```

PANVALET Member Selection List

A list of members in a PANVALET library looks like this:

```
┌──────────────────────────────────────────────────────────────────────┐
│ PROULFGP --------------------- Member Utility  ----------129 Members Selected
│ COMMAND ==>                                              SCROLL ==> P  │
│                                             LIBRARY NAME: APPL         │
│                                                                        │
│ ACTION   MEMBER   MEMBER   MEMB         RECORD  BLK   ACCESS   UPDATE   USER │
│ RESULT   NAME     TYPE     LEVL   STAT  COUNT   CNT   DATE     DATE     CODE │
│                                                                        │
│          ADDM     DATA     1              19    1   01/28/82  02/24/82  1126 │
│          ADVMAP   OTHER    5            1146    4   03/17/81  04/01/83  1126 │
│          APLGLOGI DATA     1              90    1   01/06/82  02/15/82  1938 │
│          APLGCHP1 DATA     3             513    5   01/06/82  02/07/82  1938 │
│          APLGCHP2 DATA     3             111    1   01/06/82  02/17/82  1938 │
│          APLGCHP3 DATA     3             256    3   01/06/82  02/18/82  1938 │
│          APLGCHP4 DATA     3              96    1   01/06/82  02/18/82  1938 │
│          APLGCHP5 DATA     3             221    2   01/10/82  03/12/82  1938 │
│          BBVLIST  DATA     2             164    2   11/04/80  01/19/81  1945 │
│          DBDIDMS  OTHER    1              51    1   05/22/82  05/27/82     0 │
│          DBDTOTL  OTHER    1              44    1   05/30/82  06/26/82     0 │
│          DBDCAMS  OTHER    1              77    1   05/28/82  07/13/82     0 │
│          EDUPROG  DATA     1              90    1   12/12/83  02/15/85  1938 │
│          FROGGER  OTHER    2             177    2   11/26/83  01/09/84  1950 │
│                                                                        │
│ ACTIONS=> C Copy    ED Edit    PR Print    PU Punch    SU Submit        │
│ Press END (PF3) to return to the previous panel.                       │
└──────────────────────────────────────────────────────────────────────┘
```

Exhibit 4.5: Member Utility Panel - PANVALET Library

EZ/KEY
REFERENCE MANUAL

4: LIBRARY FUNCTIONS

Library Utility

MINIDISK Member Selection List

A list of members in a CMS MINIDISK library looks like this:

```
PROULFGM ------------------ Member Utility ------------ 15 Members Selected
COMMAND ==>                                              SCROLL ==> P
                                               LIBRARY NAME: CMS

  ACTION   MEMBER   MEMBER   MEMB  REC  RECORD  RECORD  BLK  UPDATE    UPDATE
  RESULT   NAME     TYPE     MODE  FMT  LENGTH  COUNT   CNT  DATE      TIME

           LEARNER  LISTING  A1    F      132      94   13  12/08/83  15:23:08
           LINKEZ   EXEC     A1    V       67      35    1  11/28/83  13:33:20
           LIT      SCRIPT   A1    V       80    1221   41  12/15/83  10:46:44
           LITLEARN EZT      A1    F       80      24    2  12/12/83  14:48:48
           LITTLE   EZT      A1    F       80      24    2  12/08/83  14:56:02
           LOG      EXEC     A1    V       22       4    1  12/12/83   7:58:40
           LOGOFF   EXEC     A1    V       22       4    1  12/12/83   7:58:47
           LOYAL    EZT      A1    F       80      86    7  12/14/83  15:29:48
           LOYAL    LISTING  A1    F      133      98   13  12/14/83  15:08:27
           MAT      EXEC     A1    V       23      36    1   9/16/83  10:18:53
           MAT1     MODULE   A1    V     6664       3    7   9/16/83  10:18:53
           MERLE    SCRIPT   A1    V       72     151    7  12/07/83  13:51:03
           MODI     SCRIPT   A1    V       80    1672   56  12/12/83  15:34:27
           MSTMIND  MODULE   A1    V     3856       3    4   9/16/83  10:18:55

ACTIONS=> C Copy    ED Edit    PR Print    PU Punch    SU Submit
Press END (PF3) to return to the previous panel.
```

Exhibit 4.6: Member Utility Panel - MINIDISK Library

List Members in a CMS MACLIB

EZ/KEY supports CMS MACLIBs as External LIBSPACEs. EZ/KEY does not support a Member Selection List of a Library whose type is CMSMAC. However, there is a way to get a list of members from within EZ/KEY.

Place the cursor on the command line and enter the following command:

CMS MACLIB MAP name (TERM

where "name" is the CMS filename of the MACLIB in question.

CMS lists the names of the members in the name MACLIB on the screen, followed by a MORE.../HOLDING message. Press ENTER for the next screen of member names. If you do not want to see the rest of the member names, type "HT" and press ENTER.

When the MACLIB command completes, you are returned to the EZ/KEY screen where you typed the CMS command.

If you receive the message "Invalid SUBSET Command", see your EZ/KEY Administrator. CMS commands, such as MACLIB, cannot be issued from withing EZ/KEY unless EZ/KEY is installed in a DCSS.

List Members in a PDS under CMS

EZ/KEY supports Partitioned Data Sets (PDSs) as External LIBSPACEs. EZ/KEY does not support a Member Selection List of a Library whose type is PDS. However, there is a way to get a list of members from within EZ/KEY.

Place the cursor on the command line and enter the following command:

CMS LISTDS os dataset name m (PDS

where "os dataset name" is the dataset name of the PDS with blanks rather than periods separating the levels of the name, and "m" is the filemode used to ACCESS the OS disk volume.

CMS lists the names of the members in the os dataset name library on the screen, followed by a MORE.../HOLDING message.

When the LISTDS command completes, you are returned to the EZ/KEY screen where you typed the CMS command.

If you receive the message "Invalid SUBSET Command", see your EZ/KEY Administrator. CMS commands, such as LISTDS, cannot be issued from within EZ/KEY unless EZ/KEY is installed in a DCSS.

List Members in a PDS under TSO

EZ/KEY supports Partitioned Data Sets (PDSs) as External LIBSPACEs. EZ/KEY does not support a Member Selection List of a Library whose type is PDS. However, there is a way to get a list of members from within EZ/KEY.

Place the cursor on the command line and enter the following command:

TSO LISTDS 'dsname' M

where "dsname" is the dataset name of the PDS in question, and "M" stands for MEMBERS.

TSO lists the names of the members in the dsname library on the screen, followed by *** at the bottom of the screen. Press ENTER for the next screen of member names. If you do not want to see the rest of the member names, press PA1.

When the LISTDS command completes, you are returned to the EZ/KEY screen where you typed the TSO command.

If you receive the message "TSO Not Allowed", see your EZ/KEY Administrator. TSO commands, such as LISTDS, cannot be issued from within EZ/KEY unless EZ/KEY is installed as a TSO Command Processor.

EZ/KEY
REFERENCE MANUAL

4: LIBRARY FUNCTIONS

Copy/Move Utility

Copy/Move Utility

Individual Copy/Move

Option 3 of the Utility Menu displays a panel that requests information about one FROM member and one TO member for a copy or move operation.

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

Specify Copy or Move ==>

FROM:
        Library Name ==>
         Member Name ==>
         Member Type ==>
      Member Version ==>
            Password ==>

TO:
        Library Name ==>
         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.
```

Exhibit 4.7: Copy/Move Utility Panel

If this panel is selected as Option 3 from the Utility Menu, you must provide both the FROM and TO member information. You must also enter COPY or MOVE in the Specify Copy or Move field before pressing ENTER.

If this panel is displayed as a transfer from the Member Utility function, the FROM member information is already filled in and COPY or MOVE appears in the select field. You must then specify the TO member information. Any portions of the TO MEMBERID not explicitly entered will be copied from the FROM member specification.

The FROM Password is used as an access code for PANVALET members. Data entered into this field is not displayed.

The If Same, Replace? field is a profile variable that is remembered from session to session. You may change its value any time this panel is displayed, or you can use the existing value. If its value is "YES", an existing member in the TO library with the same MEMBERID is written over. If its value is "NO", the copy or move is prohibited when the TO member already exists. The default is "NO".

If the record format and size information are entered, they will be used for the TO member. If left blank, the record format and size from the existing member in the TO library will be used. If these fields are left blank and the member doesn't exist in the TO library, a message will be displayed to prompt you for the data.

Copy

Copy copies the FROM member to the TO member. The result of the copy operation is displayed in the message area located on the upper right corner of the screen. Two copies of the same member will exist. Copy can be used to duplicate a member within one library or to copy a member from one library to another.

Copying To and From TSO and CMS

To copy into or out of a CMS file, specify CMS in the FROM or TO field as the Library Name.

To copy into or out of a TSO sequential data set, specify TSO in the FROM or TO field as the Library Name.

TSO and CMS are automatically connected for each user in each respective operating environment.

Move

Move copies the FROM member to the TO member and then erases the FROM member. The result of the Move function is displayed in the message area located on the upper right corner of the screen.

Members can be moved within one library (equivalent to a Rename) or from one library to another.

Multiple Member Processing

>Option 4 of the Utility Menu allows you to perform a variety of processing tasks on a selected group of members. You must enter the action you want, the selection criteria to identify the FROM library and the members you want, and the TO library information.

>The asterisks specify that all of the given category will be listed on the intermediate panel, to be edited for processing as you wish.

```
PROULSM   ---------------- Multiple Member Utility ---------------- EZ/KEY
COMMAND ==>

Enter Desired Action ==> COPY

FROM:
        Library Name ==> EXAMPLE
         Member Name ==> *
         Member Type ==> EZT
      Member Version ==> *

 TO:
        Library Name ==> STUDENT
         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 4.8: Multiple Member Processing Utility Panel

>The illustration above indicates a copy of all members with a type of "EZT" from the EXAMPLE PIELIB to a library named "STUDENT". When you press ENTER from this panel, an intermediate panel is displayed, as illustrated on the following page.

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4: LIBRARY FUNCTIONS

Copy/Move Utility

```
PROULED   ------------  Multiple Processing Edit Panel  ------------  EZ/KEY
COMMAND ==>                                                    SCROLL ==> P

       COPY   from  EXAMPLE  to   STUDENT

******  **************************** START OF DATA ****************************
000001 COPY    EX14P1   EZT    000 TO EX14P1   EZT    000 Y F  80
000002 COPY    EX14P10  EZT    000 TO EX14P10  EZT    000 Y F  80
000003 COPY    EX14P11  EZT    000 TO EX14P11  EZT    000 Y F  80
000004 COPY    EX14P12  EZT    000 TO EX14P12  EZT    000 Y F  80
000005 COPY    EX14P13  EZT    000 TO EX14P13  EZT    000 Y F  80
000006 COPY    EX14P14  EZT    000 TO EX14P14  EZT    000 Y F  80
000007 COPY    EX14P15  EZT    000 TO EX14P15  EZT    000 Y F  80
000008 COPY    EX14P16  EZT    000 TO EX14P16  EZT    000 Y F  80
000009 COPY    EX14P2   EZT    000 TO EX14P2   EZT    000 Y F  80
000010 COPY    EX14P3   EZT    000 TO EX14P3   EZT    000 Y F  80
000011 COPY    EX14P4   EZT    000 TO EX14P4   EZT    000 Y F  80
000012 COPY    EX14P5   EZT    000 TO EX14P5   EZT    000 Y F  80
000013 COPY    EX14P6   EZT    000 TO EX14P6   EZT    000 Y F  80
000014 COPY    EX14P7   EZT    000 TO EX14P7   EZT    000 Y F  80

Edit the data using any editor command.
Press END (PF3) to continue processing.
Type CANCEL on the COMMAND line to cancel processing.
```

Exhibit 4.9: Multiple Processing Edit Panel

You can scroll up and down this list and use line edit
commands to tailor the list to your specifications. When you
are satisfied with the list, press the END PF key to
accomplish the copy or move.

This illustration copies all the members with the desired
type (EZT) from one library to another.

The last three columns of the display are the "If Same,
Replace?", "New Record Format", and "New Record Size"
parameters, obtained from panel PROULSM. They are very
important when you are copying or moving between different
types of libraries, such as from a PIELIB to a new CMS or
TSO file.

Multiple Member Delete

With Option 4 of the Utility Menu you can delete multiple
members of a library. This is a powerful utility as well as
a dangerous one. To help prevent accidental deletion of
members, EZ/KEY displays the Confirm Delete panel shown

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below if the Confirm Delete parameter is set to "YES". If
the Confirm Delete parameter is set to "NO", the following
panel is not displayed:

```
PROULCON  --------------------- Confirm Delete --------------------- EZ/KEY
COMMAND ==>                                              SCROLL ==> H

              Delete 52 members from STUDENT?  ==>    (Yes, No)

          Type YES to delete, or NO to cancel

                  Name        Type        Version

                  EX14P1      EZT         000
                  EX14P10     EZT         000
                  EX14P11     EZT         000
                  EX14P12     EZT         000
                  EX14P13     EZT         000
                  EX14P14     EZT         000
                  EX14P15     EZT         000
                  EX14P16     EZT         000
                  EX14P2      EZT         000
                  EX14P3      EZT         000
                  EX14P4      EZT         000


Press UP (PF7) to scroll up. Press DOWN (PF8) to scroll down.
```

You can scroll up and down this list to see which members
will be deleted. HELP, UP, and DOWN are the only function
keys that are accepted on this panel. To proceed with the
deletion,   type "YES" and press ENTER.   To cancel the
deletion, type "NO" and press ENTER. When you confirm or
cancel the deletion request, EZ/KEY displays the Multiple
Processing Edit panel. If you confirm the deletion, this
panel identifies which members were deleted. If you cancel
the deletion request, you can continue to edit the displayed
information.

If EZ/KEY does not display the Confirm Delete panel when you
delete members with the Multiple Member Utility, you can
display it by setting the Confirm Delete parameter to "YES".

SECTION 5:   CMS EXECUTION FUNCTIONS

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Introduction

The EZ/KEY execution functions take all the worry out of transferring your EASYTRIEVE PLUS program from theory into practice. You have two execution options and four ways to produce reports:

- Run interactively and display the output on your terminal, send it to the printer, save it in a disk file for later browsing or printing, or browse it immediately.

- Submit the program to be executed by a batch system and send the output to the printer.

Run Interactively

The Run function is Option 4 (FOREGROUND) on the Primary
Selection Menu. Your program is executed "While-U-Wait" --
the output is produced immediately. If you wish, you can
display the output on your terminal, or you can have it
printed.

```
+-----------------------------------------------------------------------+
|  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 5.1: CMS Run On-Line Panel

Name of your Exec

Enter the name of the CMS EXEC to use to execute your
EASYTRIEVE PLUS program. Your EZ/KEY System Administrator
can supply the name of the EXEC.

Program Name

If you have just finished creating or editing a program, its
name automatically appears in this field. If this isn't the
program you want to run, overtype the displayed name. The
program must reside in an enabled library.

Program Type

If you have just finished creating or editing a program, its
type appears in this field. If this isn't the program type
you want to run, overtype the displayed name.

Version

If you have just finished creating a program, its version
number appears in this field. If this isn't the version
that you want, overtype the displayed version number with
the correct number.

Filedef Name

If you are running an EASYTRIEVE PLUS program that uses a
file specified on a FILE statement, repeat the file name
here. If you have previously supplied a file name, that name
is displayed in this field. If it isn't the one you want,
overtype the displayed name.

CMS File Name

Enter the CMS File Name of the file(s) to be processed by
your EASYTRIEVE PLUS program.

CMS File Type

If you supplied a CMS File Name, enter the corresponding CMS
File Type.

Send the Output to:

If you want to browse the output of your report, enter "B".
You can scroll UP, DOWN, LEFT, and RIGHT using PF Keys.
Press the END or RETURN PF Key to exit BROWSE.   You may
print this LISTING file by entering the following command on
the COMMAND ==> line: "CMS PRINT progname LISTING".   Note
that your CMS Library must be enabled to browse the LISTING
file. (Use utility option 3.2 to enable a library.)

If you would like to save the output in a disk file for
later browsing or printing, enter "D". The report is stored
in a CMS disk file with the same file name as the program
name and a file type of "LISTING".

If you want your output sent directly to the printer, enter
"P".   The report is printed after any listing of your
EASYTRIEVE PLUS program.

If you want to see the output directly on your terminal,
enter a "T".   When you press ENTER, the first page of your
program listing is displayed. Keep pressing the CLEAR key
until you have reviewed the rest of your EASYTRIEVE PLUS
program and the report it produced, or enter "HT" to tell
CMS to "Halt Typing" the rest of your output. If your
report looks so nice that you want a printed copy, you must
reexecute the program to produce the output again.   Change
the output destination to "P" and press ENTER.

Expand Macros

If you are running a program that uses EASYTRIEVE PLUS
macros that are stored in a PIELIB, this option permits you
to have EZ/KEY expand the macros before the program is
processed by EASYTRIEVE PLUS.   This eliminates the need to
maintain a duplicate copy of the macros in a CMS MACLIB, OS
PDS or EASYTRIEVE PLUS VSAM macro library for use by
EASYTRIEVE PLUS.

If you want EZ/KEY to expand the macros before passing your
program to EASYTRIEVE PLUS for processing, enter "YES".   If
you want your program to be passed to EASYTRIEVE PLUS
without expanded macros, allowing EASYTRIEVE PLUS to expand
the macros,   enter "NO" (this response is compatible with
previous releases of EZ/KEY).

```
┌─────────────────────────────────────────────────────────────────┐
│ ┌───────────────────────────────────────────────────────────────┐ │
│ │                                                               │ │
│ │  EZ/KEY                        5:  CMS EXECUTION FUNCTIONS     │ │
│ │                                                               │ │
│ │  REFERENCE MANUAL                                 Submit      │ │
│ │                                                               │ │
│ └───────────────────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────────────────┘
```

Submit
======

> The Submit function is Option 5 (BATCH) on the Primary
> Selection Menu. Submit sends your program to another system
> for execution.   After you have sent it, you are free to
> continue working on something else. The Header JCL, Trailer
> JCL, and EASYTRIEVE PLUS program can be in any enabled
> library.

```
┌──────────────────────────────────────────────────────────────────────┐
│ 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 ==>                                    │
│                                                                      │
│ Type the required information and press ENTER.                       │
│ Press END (PF3)  to cancel and return to the previous panel.         │
└──────────────────────────────────────────────────────────────────────┘
```

Exhibit 5.2: CMS Submit For Batch Execution Panel

Header JCL Name

> Your System Administrator has several JCL members you can
> use for a variety of different programs.   If you have
> previously SUBMITted a program for batch execution, the name
> of the header JCL member used for that submission is
> displayed in this field. You can use the same member, or you
> can overtype the name with another.   Both the program and
> JCL member(s) can reside on any enabled library. Check with
> your System Administrator to learn the JCL member names and
> how they should be used.

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5: CMS EXECUTION FUNCTIONS

Submit

Program Name

If you have just finished creating or editing a program, that name is displayed in this field. If it isn't the program you want to submit, overtype the program name with another.

Program Type

If you have just finished creating or editing a program, that type is displayed in this field. If it isn't the program type you want to submit, overtype the displayed program type with another.

Version

If you have just finished creating a program, its version automatically appears in the field. If it isn't the version that you want, overtype the displayed version number with the correct number.

Trailer JCL Name

If you need to follow the Header JCL and your source program statements with additional JCL, enter the name of a Trailer JCL member. This field is always reset to blanks.

File Name

If you are submitting an EASYTRIEVE PLUS program that uses a file coded on a FILE statement, enter that file name here.

Dataset Name

If you have previously supplied the name of an external file, that name is displayed. If you want to use another name, overtype the displayed name.

Expand Macros

If you are running a program that uses EASYTRIEVE PLUS macros that are stored in a PIELIB, this option permits you to have EZ/KEY expand the macros before the program is processed by EASYTRIEVE PLUS. This eliminates the need to maintain a duplicate copy of the macros in a CMS MACLIB, OS PDS or EASYTRIEVE PLUS VSAM macro library for use by EASYTRIEVE PLUS.

If you want EZ/KEY to expand the macros before passing your program to EASYTRIEVE PLUS for processing, enter "YES". If you want your program to be passed to EASYTRIEVE PLUS without expanded macros, allowing EASYTRIEVE PLUS to expand the macros, enter "NO" (this response is compatible with previous releases of EZ/KEY).

Modify Job Information

This information is supplied by your System Administrator and is stored in your profile. Check with the System Administrator to determine these values.

If you need to change the values of your Job information, type "YES" in this field. The Modify Job Information panel (PROEXEC3) is displayed allowing you to modify your Job information.

Destination Machine ID

Enter the name of the batch system where you want your program to run. Your EZ/KEY System Administrator can supply this information.

Execution Output

Your System Administrator can tell you how to examine the reports produced by your program.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│  EZ/KEY                          5:  CMS EXECUTION FUNCTIONS               │
│                                                                           │
│  REFERENCE MANUAL                                        Submit           │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Modify Job Information

> If you answered "YES" in the "Modify Job Information" field,
> 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 5.3: CMS Modify Job Information Panel

> The panel you see may not look exactly like this since each
> installation can customize the contents of this panel.
>
> Change or enter the information in any field that is needed
> for your batch EASYTRIEVE PLUS program. When you have
> finished, press the END PF KEY. Your batch program is
> submitted for execution.
>
> If you have no job information and you try to execute a
> batch program using the Submit For Batch Execution panel
> (PROEXEC2), this panel is displayed. Only after entering the
> required values are you allowed to exit this panel by
> pressing the END PF KEY.
>
> To cancel the batch submission, type "CANCEL" on the COMMAND
> line and press ENTER.

SECTION 6:   TSO EXECUTION FUNCTIONS

(This page intentionally left blank.)

Introduction

The EZ/KEY execution functions take all the worry out of transferring your program from theory into practice. You have two options for execution mode and four options for output:

1. Run interactively and display the output on your terminal, send the output to the printer, or save it in a disk data set for later browsing or printing, or browse it immediately.

2. Submit the program to be executed by a batch system and send the output to the printer.

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6:   TSO EXECUTION FUNCTIONS

Run Interactively

Run Interactively

The Run function is Option 4 (FOREGROUND) on the Primary
Selection Menu. Your program is executed 'While-U-Wait' --
the output is produced immediately. If you wish, you can
display the output on your terminal or you can have it
printed.

```
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 6.1: TSO Run On-Line Panel

Name of your CLIST

Enter the name of the TSO CLIST to use to execute your
EASYTRIEVE PLUS program. Your Administrator can supply the
name of a CLIST.

Program Name

> If you have just finished creating or editing a program, that name automatically appears in this field. If this isn't the program you want to run, overtype the displayed name. The program must reside in an enabled library.

Program Type

> If you have just finished creating or editing a program, that type is displayed in this field. If it isn't the program type you want to submit, overtype the program type with another.

Version

> If you have just finished creating a program, its version appears in this field. If it isn't the version that you want, overtype the displayed version number with the correct number.

File Name

> If you are submitting an EASYTRIEVE PLUS program that uses a file coded on a FILE statement, enter that file name here.

Dataset Name

> Enter the dataset name of the file to be processed by your EASYTRIEVE PLUS program. If you have previously supplied a dataset name, that name is displayed. If you want to use a different dataset, overtype the displayed name.

Send the Output to

> If you want to browse the output of your report, enter "B". You can scroll UP, DOWN, LEFT, and RIGHT using PF Keys. Press the END or RETURN PF Key to exit BROWSE. The report is stored in a sequential data set named "prefix.progname.LIST" in your TSO library. Note that your TSO Library must be "enabled" to browse this data set. (Use utility option 3.2 to enable a library.)
>
> If you would like to save the output in a disk file for later browsing or printing, enter "D". The report is stored in a sequential data set named "prefix.progname.LIST" in your TSO library.

If you want your output sent directly to the printer, enter "P". The report is printed after any listing of your EASYTRIEVE PLUS program.

If you want to see the output directly on your terminal, enter a "T". When you press ENTER, the first page of your program listing is displayed. Keep pressing the CLEAR or ENTER key until you have reviewed the rest of your EASYTRIEVE PLUS program and the report it produced. If your report looks so nice that you want a printed copy, you must reexecute the program to produce the output again. Change the output destination to "P" and press ENTER.

CLIST Type

CLISTs are sequential data sets or are stored in a SYSPROC library (PDS). If the CLIST is in a SYSPROC library enter "%", otherwise enter "EX". Your Administrator can supply this information.

Expand Macros

If you are running a program that uses EASYTRIEVE PLUS macros that are stored in a PIELIB, this option permits you to have EZ/KEY expand the macros before the program is processed by EASYTRIEVE PLUS. This eliminates the need to maintain a duplicate copy of the macros in a CMS MACLIB, OS PDS or EASYTRIEVE PLUS VSAM macro library for use by EASYTRIEVE PLUS.

If you want EZ/KEY to expand the macros before passing your program to EASYTRIEVE PLUS for processing, enter "YES". If you want your program to be passed to EASYTRIEVE PLUS without expanded macros, allowing EASYTRIEVE PLUS to expand the macros, enter "NO" (this response is compatible with previous releases of EZ/KEY).

Submit

The Submit function is Option 5 (BATCH) on the Primary
Selection Menu. This option sends your program to batch to
be executed. After you have sent it, you are free to
continue working on something else. The Header JCL, Trailer
JCL, and EASYTRIEVE PLUS program can be in any enabled
library.

```
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)




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

Exhibit 6.2:   TSO Submit For Batch Execution Panel

Header JCL Name

Your System Administrator supplies several JCL members you
can use for a variety of different programs. If you have
previously SUBMITted a program for batch execution, the name
of the Header JCL member used for that submission is
displayed in this field. You can use the same member, or you
can overtype the name with another.   The program and JCL
member(s) can reside on any enabled library. Check with your
System Administrator to learn these member names and how
they should be used.

Program Name

> If you have just finished creating or editing a program, that name is displayed in this field. If it isn't the program you want to submit, overtype the member name with another.

Program Type

> If you have just finished creating or editing a program, the type is displayed in this field. If it isn't the program type you want to submit, overtype the member type with another.

Version

> If you have just finished creating a program, its version automatically appears in the field. If it isn't the version that you want, overtype the displayed version number with the correct number.

Trailer JCL Name

> If you need to follow the Header JCL and your EASYTRIEVE PLUS program with additional JCL, enter the name of the Trailer JCL member. This field is always reset to blanks.

File Name

> If you are submitting an EASYTRIEVE PLUS program that uses a file coded on a FILE statement, enter that file name here.

Dataset Name

> Enter the dataset name of the file to be processed by your EASYTRIEVE PLUS program. If you have previously supplied a dataset name, that name is displayed. If you want to use a different dataset, overtype the displayed name.

Expand Macros

> If you are running a program that uses EASYTRIEVE PLUS macros that are stored in a PIELIB, this option permits you to have EZ/KEY expand the macros before processing by EASYTRIEVE PLUS. This eliminates the need to maintain a duplicate copy of the macros in a PDS, PANVALET library, or EASYTRIEVE PLUS VSAM macro library for use by EASYTRIEVE PLUS.

If you want EZ/KEY to expand the macros before passing your program to EASYTRIEVE PLUS for processing, enter "YES". If you want your program to be passed to EASYTRIEVE PLUS without expanded macros, allowing EASYTRIEVE PLUS to expand the macros, enter "NO" (this response is compatible with previous releases of EZ/KEY).

Job Information

This information is supplied by your data center and is stored in your profile. Check with your System Administrator to determine valid values for these fields.

If you need to change the values of your Job information, type "YES" into this field. The Modify Job Information panel (PROEXEC3) is displayed allowing you to modify your Job information.

Execution Output

Your System Administrator can tell you how to examine the reports produced by your program.

Modify Job Information

If you answered "YES" in the Modify Job Information field, 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 6.3: TSO Modify Job Information Panel

The panel you see might not look exactly like this since each installation can customize the contents of this panel.

Change or enter the information in any field that is needed for your batch EASYTRIEVE PLUS program. When you have finished, press the END PF KEY. Your batch program is submitted for execution.

If you have no job information and you try to execute a batch program using the Submit For Batch Execution panel (PROEXEC2), this panel is displayed. Only after entering the required values are you allowed to exit this panel by pressing the END PF KEY.

To cancel the batch submission, type "CANCEL" on the COMMAND line and press ENTER.

EZ/KEY
REFERENCE MANUAL

SECTION 7:   CICS EXECUTION FUNCTIONS

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Submit

> Under CICS, you may submit your EASYTRIEVE PLUS program to be executed by a batch system and send the output to the printer. After you have sent it, you are free to continue working on something else.
>
> The Submit function is Option 5 (BATCH) on the Primary Selection Menu.

```
PROEXEC2  ---------------  Submit For Batch Execution  ----------------  EZ/KEY
COMMAND ===>


Enter/Verify the Following Information:


            Header JCL Name ==>
EASYTRIEVE PLUS Program Name ==>
               Program Type ==>
                    Version ==> EZT
           Trailer JCL Name ==> 000

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)



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

Exhibit 7.1: CICS Submit For Batch Execution Panel

Header JCL Name

> Your System Administrator has several JCL members you can use for a variety of different programs. If you have previously submitted a program for batch execution, the name of the header JCL member used for that submission is displayed in this field. You can use the same member or you can overtype the name with another. Check with your System Administrator to learn these member names and how they should be used.

Program Name

> If you have just finished creating or editing a program, that name is displayed in this field. If it isn't the program you want to submit, overtype the member name with another.

Program Type

> If you have just finished creating or editing a program, the type is displayed in this field. If it isn't the program type you want to submit, overtype the member type with another.

Version

> If you have just finished creating a program, its version automatically appears in the field. If it isn't the version that you want, overtype the displayed version number with the correct number.

Trailer JCL Name

> If you need to follow the Header JCL and your EASYTRIEVE PLUS program with additional JCL, enter the name of the Trailer JCL member. This field is always reset to blanks.

File Name

> If you are submitting an EASYTRIEVE PLUS program that uses a file coded on a FILE statement, enter that file name here.

Dataset Name

> Enter the dataset name of the file to be processed by your EASYTRIEVE PLUS program. If you have previously supplied a dataset name, that name is displayed. If you want to use a different dataset, overtype the displayed name.

Expand Macros

> If you are running a program that uses EASYTRIEVE PLUS macros that are stored in a PIELIB, this option permits you to have EZ/KEY expand the macros before the program is processed by EASYTRIEVE PLUS. This eliminates the need to maintain a duplicate copy of the macros in a PANVALET library or EASYTRIEVE PLUS VSAM macro library for use by EASYTRIEVE PLUS.

If you want EZ/KEY to expand the macros before passing your program to EASYTRIEVE PLUS for processing, enter "YES". If you want your program to be passed to EASYTRIEVE PLUS without expanded macros, allowing EASYTRIEVE PLUS to expand the macros,   enter "NO" (this response is compatible with previous releases of EZ/KEY).

Modify Job Information

This information is supplied by your System Administrator and is stored in your profile.   Check with the System Administrator to determine these values.

If you need to change the values of your Job information, type "YES" in this field.   The Modify Job Information panel (PROEXEC3) is displayed,   allowing you to modify your Job information.

Execution Output

Your System Administrator can tell you how to examine the output produced by your program.

```
┌──────────────────────────────────────────────────────────────────────┐
│ ┌────────────────────────────────────────────────────────────────────┐ │
│ │                                                                      │ │
│ │  EZ/KEY                      7:   CICS EXECUTION FUNCTIONS            │ │
│ │  REFERENCE MANUAL                               Submit               │ │
│ │                                                                      │ │
│ └────────────────────────────────────────────────────────────────────┘ │
└──────────────────────────────────────────────────────────────────────┘
```

Modify Job Information

If you answered "YES" in the Modify Job Information field, 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 7.2: CICS Modify Job Information Panel

The panel you see may not look exactly like this since each installation can customize the contents of this panel.

Change or enter information in any field that is needed for your batch EASYTRIEVE PLUS program. When you have finished, press the END PF KEY.   Your batch program is submitted for execution.

If you have no job information and you try to execute a batch program using the Submit For Batch Execution panel (PROEXEC2), this panel is displayed. Only after entering the required values are you allowed to exit this panel by pressing the END PF KEY.

To cancel the batch submission, type "CANCEL" on the COMMAND line and press ENTER.

EZ/KEY
REFERENCE MANUAL

SECTION 8:   EZ/REPORT

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Introduction to EZ/REPORT

EZ/REPORT is an end-user oriented application processing facility that works in conjunction with EZ/KEY. EZ/REPORT simplifies the process of executing programs that can range from simple, straight-forward reports to complex updates of files and data bases.

EZ/REPORT provides a simple interface so that first-time users and "old hands" can immediately use the full power of EZ/KEY and EASYTRIEVE PLUS. With EZ/REPORT any computer user can run programs with little or no assistance from the data processing department.

Getting into EZ/REPORT

```
PROSTART ------------------ Primary Selection Menu  ------------------  EZ/KEY
COMMAND ==>                                              USERID: userid
                                                        TIME  : 09:16:05
                                                        DATE  : 03/04/88
Select Option ===>


                0    Program Function Key Settings
                1    Edit an EASYTRIEVE PLUS Program
                2    Edit any Member
                3    Library and System Utilities
                4    Run a Program On-Line
                5    Submit a Program for Batch Processing
                6    Report Processing Facility

                T    Tutorial for EZ/KEY

                X    Exit the EZ/KEY System




    EZ/KEY, Version X.X
    Copyright (c) 1983, 1988 Pansophic Systems, Inc.
```

Type "6" in the SELECT OPTION field and press ENTER. The
Report Processing Facility panel (EZREPORT) is displayed.

```
┌─────────────────────────────────────────────────────────────────────┐
│ ┌───────────────────────────────────────────────────────────────┐   │
│ │                                                                 │  │
│ │  EZ/KEY                                    8:  EZ/REPORT        │  │
│ │  REFERENCE MANUAL                          Using EZ/REPORT      │  │
│ │                                                                 │  │
│ └───────────────────────────────────────────────────────────────┘   │
└─────────────────────────────────────────────────────────────────────┘
```

Using EZ/REPORT

```
┌──────────────────────────────────────────────────────────────────────┐
│ EZREPORT --------------- Report Processing Facility ----------------- EZ/KEY │
│ COMMAND ==>                                                           │
│                                                                       │
│                                                                       │
│                                                                       │
│    Type REPORT NAME to run or ? for a list of Report Libraries:     │ │
│                                                                       │
│                                                                       │
│                                                                       │
│                     REPORT NAME ===>                                  │
│                                                                       │
│                                                                       │
│     Run Report ON-LINE or BATCH ===>        (O or B)                  │
│                                                                       │
│                                                                       │
│          Modify JOB Information ===> NO    (YES or NO)                │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│ Press END (PF3)  to return to the previous panel.                     │
└──────────────────────────────────────────────────────────────────────┘
```

From this panel, you can run any report for which you are
authorized.   To run a report, first type the name of the
report in the REPORT NAME field. Then, type an "O" or "B" in
the Run Report ON-LINE or BATCH field. Option "O" runs the
report on-line, meaning the report runs while you wait.
Option "B" runs the report in batch mode, which allows you
to continue using EZ/KEY and EZ/REPORT.   On-line report
execution is not available for CICS.

If you want to modify the job information for your batch
report, type "YES" in the Modify Job Information field. The
Modify Job Information panel (PROEXEC3) is displayed,
allowing you to modify your job information before the batch
report is processed.

Assume that this is the first time you are using EZ/REPORT
and you don't remember the name of the report to run.

Type a "?" in the REPORT NAME field and press ENTER. The
Report Library Utility panel (EZRPTUTL) is displayed.

Selecting a Report

```
EZRPTUTL ------------------- Report Library Utility ------------------- EZ/KEY
COMMAND ==>                                                   SCROLL ==> P


ACTION   LIBRARY                                                        REPORT
RESULT   NAME       REPORT LIBRARY DESCRIPTION                          NAME
------   --------   ------------------------------------------          -------
         userid
         EXAMPLE    EZ/KEY Example Library
         PERSONEL   Personnel Department Reports
         ACCNTING   Accounting Department Reports




ACTIONS=>  S Select Reports   I Library Information
Press END (PF3)  to return to the previous panel.
```

Two actions are allowed on the Report Library Utility panel:
Select Reports and Library Information.

Select Reports displays all reports within a library such as
PERSONEL or ACCNTING on the Report Selection panel
(EZRPTRSL). From the Report Selection panel you may run a
report or display some information about a particular
report.

The Library Information action displays information about a
library on the Report Library Information panel (EZRPTULI).

When you are uncertain of the contents of a library, use the
Select Report or Library Information actions. Type an "I"
next to the EXAMPLE library in the ACTION/RESULT column and
press ENTER. The Report Library Information panel (EZRPTULI)
is displayed.

EZ/KEY
REFERENCE MANUAL

```
EZRPTULI ---------------- Report Library Information ------------------- EZ/KEY
COMMAND ==>

Information for EXAMPLE   Report Library:
------------------------------------------------------------------------


       EXAMPLE PIELIB is distributed by Pansophic Systems, Inc.
       for the EZ/KEY and EZ/REPORT system.


       This library contains example EASYTRIEVE PLUS programs,
       CMS EXECs, JCL, and TSO CLISTs.  You may want to tailor
       some of the members provided, or add new examples to
       the EXAMPLE PIELIB, to suit your installation.




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

The Report Library Information panel (EZRPTULI)   contains
information about a library that the EZ/REPORT administrator
has entered. This panel could contain information about the
contents of the library or special announcements from the
EZ/REPORT administrator.

When you have finished reviewing the information on the
panel, press the END PF KEY.   You then return to the Report
Library Utility panel (EZRPTUTL).

EZ/KEY
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```
EZRPTUTL ----------------- Report Library Utility ----------------- EZ/KEY
COMMAND ==>                                                     SCROLL ==> P


ACTION      LIBRARY                                                     REPORT
RESULT      NAME       REPORT LIBRARY DESCRIPTION                       NAME
------      --------   -------------------------------------           ------
            userid
REVIEWED    EXAMPLE    EZ/KEY Example Library
            PERSONEL   Personnel Department Reports
            ACCNTING   Accounting Department Reports






ACTIONS=>  S Select Reports   I Report Information
Press END (PF3)  to return to the previous panel.
```

After reviewing the library information, type an "S" to
obtain a list of reports in the library. Type an "S" next to
the EXAMPLE library under the ACTION/RESULT column and press
ENTER. The Report Selection panel (EZRPTRSL) is displayed.

EZ/KEY
REFERENCE MANUAL

8:   EZ/REPORT

Selecting a Report

```
EZRPTRSL ------------------- Report Selection ---------- 11 Members Selected |
COMMAND ==>                                                   SCROLL ==> H
                                                      REPORT LIBRARY: EXAMPLE
             Modify Job Information ==> YES (YES or NO)
 ACTION       REPORT
 RESULT       NAME      REPORT DESCRIPTION
 ---------    --------   -----------------------------------------------------
              DEDUCTS    Calculates Deductions for Selected Department
              DEPTRNGE   Salary report for a range of departments
              DEPTSEL    Salary report for 1 to 4 departments
              PRIMER1    Primer Example Report 1 - Sample Report
              PRIMER2    Primer Example Report 2 - Deductions
              PRIMER3    Primer Example Report 3 - Selecting Department 911
              PRIMER4    Primer Example Report 4 - Departments 911-914
              PRIMER5    Primer Example Report 5 - Sequence
              PRIMER6    Primer Example Report 6 - Control Totals
              PRIMER7    Primer Example Report 7 - Titles and Headings
              PRIMER8    Primer Example Report 8 - Multiple Requests




 ACTIONS=>   O Run On-Line  B Run Batch  I Report Information
 Press END (PF3)  to return to the previous panel.
 Press RETURN (PF4)  to return to the Primary Selection Menu.
```

Three actions are allowed on the Report Selection panel: Run On-Line, Run Batch, and Report Information.

Option "O", Run On-Line, executes the report at your terminal while you wait. Option "B", Run Batch, executes the report in the background, allowing you to continue working while the report is running. Option "I", Report Information, displays information about a report by displaying the Report Information panel (EZRPTURI).

If you want to modify the job information for your batch report, type "YES" in the Modify Job Information field. The Modify Job Information panel (PROEXEC3) is displayed, allowing you to modify your job information before the batch report is processed.

To select any of these actions, type the action letter next to the report of your choice and press ENTER. Be sure to type the action letter in the ACTION/RESULT column.

Type an "I" next to the PRIMER1 report in the ACTION/RESULT column and press ENTER. The Report Information panel (EZRPTURI) is displayed.

```
EZRPTURI ------------------- Report Information -------------------- EZ/KEY
COMMAND ==>

Information for PRIMER1  Report:
----------------------------------------------------------------------


   This report produces a listing of all employees as well as their
   departments, employee numbers, gross pay, and net pay.

   This report is shown on Page 2 of "The EASYTRIEVE PLUS PRIMER."







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

The Report Information panel (EZRPTURI) contains information
about the function and output of a report that the EZ/REPORT
administrator has entered.

When you have finished reviewing the information on the
panel, press the END PF KEY. This returns you to the Report
Selection panel (EZRPTRSL).

```
EZRPTRSL ------------------ Report Selection --------------------- EZ/KEY
COMMAND ==>                                                    SCROLL ==> P
                                                    REPORT LIBRARY: EXAMPLE
              Modify Job Information ==> YES    (YES or NO)
  ACTION    REPORT
  RESULT    NAME        REPORT DESCRIPTION
  ------    --------    -------------------------------------------------------
            DEDUCTS     Calculates Deductions for Selected Department
            DEPTRNGE    Salary report for a range of departments
            DEPTSEL     Salary report for 1 to 4 departments
  REVIEWED  PRIMER1     Primer Example Report 1 - Sample Report
            PRIMER2     Primer Example Report 2 - Deductions
            PRIMER3     Primer Example Report 3 - Selecting Department 911
            PRIMER4     Primer Example Report 4 - Departments 911-914
            PRIMER5     Primer Example Report 5 - Sequence
            PRIMER6     Primer Example Report 6 - Control Totals
            PRIMER7     Primer Example Report 7 - Titles and Headings
            PRIMER8     Primer Example Report 8 - Multiple Requests




ACTIONS=>  O Run On-line  B Run Batch  I Report Information
Press END (PF3)  to return to the previous panel.
Press RETURN (PF4)  to return to the Primary Selection Menu.
```

After reviewing Report Information, select the report to run by typing an "O" or "B" next to the report of your choice and pressing ENTER. EZ/REPORT processes your report.

EZ/REPORT produces output in a variety of ways depending on how the EZ/REPORT administrator has set up the report. Report output can be directed to appear on the terminal, placed on disk, or printed. Each report may be set up uniquely. For more information about the reports you may run, contact your EZ/REPORT administrator.

EZ/REPORT invokes the EZ/KEY syntax checker to validate the report you are running. If there are any errors in the report, EZ/REPORT does not process it. A message indicating that errors were found is displayed. If you receive the message that errors were found in the report, please consult your EZ/REPORT administrator.

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If you are running a report that has parameters (such as the
report named DEDUCTS in the Report Library named EXAMPLE),
EZ/KEY displays the Parameter Substitution panel (EZRPTSUB)
before processing your report.

```
EZRPTSUB  -----------------  Parameter Substitution ------------------  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.
Value: 911











Enter the value of the parameter to substitute in your EASYTRIEVE PLUS program.
Use UP (PF7)  and DOWN (PF8)  to scroll the screen.
Press END (PF3)  to continue or type CANCEL to cancel.
```

DEDUCTS is a sample report provided with your EZ/KEY system.
It contains one parameter called DEPT. When you run the
DEDUCTS report, EZ/KEY displays the Parameter Substitution
panel (shown above) to prompt you for a value for DEPT. In
the example above, 911 was typed.

Some reports may require more than one Parameter
Substitution screen to display all of their parameters. When
this is the case, use the UP and DOWN PF keys to scroll
through the parameters as you enter your values.

Parameter   Substitution does   not capitalize   lowercase
alphabetic characters that you type in the value fields. If
you require uppercase characters, press the SHIFT key when
typing in each character or press the CAPS LOCK key before
typing in the value.

After typing in values for the parameters, press the END PF
KEY.

EZ/KEY checks your report to determine if there are any
errors before executing it.   If errors are found in your
report, EZ/REPORT does not process it.   Instead, EZ/KEY
displays a message indicating that errors were found.   This
may occur if   you type improper information   for the
parameters or if the   EZ/REPORT administrator has not
properly set up the report. If you continue to have problems
running a report, consult your EZ/REPORT administrator.

After you have used EZ/REPORT for some time and have become
familiar with it, you can select the report to be run from
the Report Processing Facility panel (EZREPORT).

```
EZREPORT --------------- Report Processing Facility ------------------ EZ/KEY
COMMAND ==>




  Enter REPORT NAME to run or ? for a list of Report Libraries:



                  REPORT NAME ===>


   Run Report ON-LINE or BATCH ===>        (O or B)


        Modify JOB Information ===> NO    (YES or NO)




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

To run a report directly from this panel, type the name of
the report in the REPORT NAME field and type an "O" or "B"
in the Run Report ON-LINE or BATCH field.

To modify your job information, change the value in the
Modify JOB Information field from "NO" to "YES".

After filling in the required information, press the ENTER
key, and EZ/REPORT processes the report.

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REFERENCE MANUAL

You use the Modify Job Information panel (PROEXEC3) when
modifying the Job information for your batch reports.

```
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.
```

The job information that you need may vary depending on your
installation. If you do not know what values to place in
the job information fields, please see your EZ/REPORT
administrator.

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REFERENCE MANUAL

APPENDIX A: COMMAND SUMMARY

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Commands

This Appendix provides a summary of the EZ/KEY commands. The commands are presented in three groups:

1. Commands valid at any time (general commands)
2. Commands valid on utility panels (utility commands)
3. Commands valid during an edit session (edit commands)
4. Commands valid in PROMPT or FREE mode (other commands)

SC is the value of the scroll field.

General Commands

CMS	Sends a command to CMS for execution
CURSOR	Returns the cursor to the first input field on the panel
DOWN	Displays the next SC lines of the member
EDIT	Stacks the environment and transfers to the editor to edit the specified member
END	Saves the current environment and returns to the previous panel
HELP	Displays the appropriate Tutorial panel
KEYS	Displays the PF Key settings panel
PRINT	Appends an image of the screen currently displayed to a file called "userid LOG" in your PIELIB
RETURN	Saves the current environment and returns to the Primary Selection Menu
TSO	Sends a command to TSO for execution
UP	Displays the previous SC lines of the member
UTILITY	Stacks the environment and transfers to the utility panel specified

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Utility Commands

ARCHIVE	Marks a member for removal and storage
COPY	Copies a member from one library to another
DELETE	Erases a member from a library
DISABLE	Marks a member as inaccessible
EDIT	Invokes EZ/editor
ENABLE	Reverses DISABLE and ARCHIVE
LOCATE	Scrolls to the specified line
MOVE	Moves a member from one library to another
PRINT	Sends a copy of a member to the printer
PUNCH	Sends a copy of a member to the punch
SHOW	Refreshes the ACTION/RESULT column
SUBMIT	Submits a member for batch execution

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REFERENCE MANUAL

Edit Commands

BOTTOM	Positions to the end of the member
CANCEL	Exits an edit session without saving changes
CHANGE	Changes one character string to another
CHECK	Validates your entire program
COPY	Copies another member into the member you are editing
EDIT	Allows you to edit another member while you are editing one member. You may repeat this command to go deeper into a "stack".
END	Saves changed or new data and returns to previous panel
FIND	Positions the cursor to the specified string
LEFT	Shifts display SC columns left
LOCATE	Positions to the specified line number
PROFILE	Displays current profile settings
RESET	Resets screen to "normal"
RETURN	Saves changed or new data and returns to Primary Selection Menu
RIGHT	Shifts display SC columns right
SAVE	Saves changed or new data without exiting edit session
SUBMIT	Sends the edit member to background for batch execution
TAG	Displays or deletes tags
TOP	Positions to the beginning of member
UTILITY	Transfers to the Member Utility panel

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Other Commands

REVIEW	Displays the program Read-Only
STRUCTURE	Displays the Program Structure Screen
SWAP	Swaps to the appropriate panel in the opposite mode

APPENDIX B: **TRANSPORTATION GUIDE**

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B: TRANSPORTATION GUIDE

Short-Cut Chart

Short-Cut Chart

This Appendix provides a table of short-cuts for moving through the panels in EZ/KEY. See the topic "TRANSFER COMMANDS" in Section 2 for a discussion of how to use transfer commands. The Destination is where the transfer command takes you.

Transfer Command	Destination Panel	Panel Contents
0	PROSTAT	Current PF Key Settings Panel
1	PROEDBGN	The Initial Edit-Entry Panel
1.1.new-membername	PROPED	In PROMPT Mode, creates a new EZT member and displays the Segment Selection Panel
1.1.new-membername	PROFREE	In FREE Mode, creates a new EZT member and displays the coding panel
1.2.old-membername	PROSTRUC	The Program Structure Map of the specified member
1.2.?	PRODIREC	A list of EZT members in your PIELIB on the Program Directory Panel
1.3.new-membername. program-model	PROSTRUC	The Program Structure Map of the specified program model
2	PROEDIT	The Free Mode Edit-Entry panel
2.membername [type]	PROEDIT1	Displays or creates the specified member on the Free Mode Edit Panel. If not specified, type defaults to EZT.
3	PROUTL	The Primary Utility Menu
3.1	PROULFGL	A list of the members in your library on the Member Utility Panel
3.2	PROULLG	A list of available libraries on the Library Utility Panel

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B: TRANSPORTATION GUIDE

Short-Cut Chart

Transfer Command	Destination Panel	Panel Contents
3.3	PROULCM	Individual COPY/MOVE Member Utility Panel
3.4	PROULSM	Multiple Member Processing Panel
4	PROEXECC	The Run On-Line Panel for CMS
4	PROEXECT	The Run On-Line Panel for TSO
5	PROEXEC2	The Submit For Batch Execution Panel
6	EZREPORT	The Report Processing Facility Panel
T	TUTINTRO	Introduction to the Tutorial
X	NONE	Exits EZ/KEY

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APPENDIX C: EZ/KEY MESSAGES

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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	User not authorized to use EZ/KEY.
(CICS)	The system administrator must create a user Library before a user can sign on to EZ/KEY under CICS/VS.
(CMS)	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.
(TSO)	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.

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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.

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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.

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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 or "NO" to cancel the removal request.
EZKEY026	EZ/KEY removal cancelled You replied "NO" to message EZKEY025.

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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.

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