MAX MVS/UTIL

MAX/PDF V3.4.0

User Reference Manual

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MAXimizing your performance

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Release 3.4.0 (November 2005)

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REVISIONS

Release 3.4.0: November 2005

Release 3.3.0: March 2004

- **SAVE** command allows saving results from List Data Set names function.

Release 3.2.1: August 2003

Release 3.2.0: March 2003

- New feature: File Selection List includes most ISPF type commands to process files in the UNIX file system.
- List Volumes Panel enhanced to **SORT** on volume, number of free extents, percent of free space, address, SMS or type of mount.
- Search volumes for Uncataloged data sets with full pattern matching support for both volume and data set name.
- Free Space details for volumes; can be sorted by size or address of extent.
- Point and Shoot support for DSNL.
- **FIND**, **CHANGE** and **CHANGEALL** support for DSNL.
- Job submission from MSL or DSNL.
- Faster Catalog access.
- Use of IEBCOPY to copy or move load modules.
- Simplified display for first-time user to build DSNL.

Release 3.1.0: June 2002

- Improved list catalog performance.
- Exit capability during searches across multiple volumes.
- Improved information display for load modules.
- New DSNL entry to store MAX DB2/UTIL launch variables and direct link to edit/browse using MAX DB2/UTIL.

Release 2.5.0, Level R4: November 2001

- Added additional variables to IMS PSB type DSNL entry screen:
  AGN code, DBDLIB 1-2, PSBLIB 1-2, User Loadlib, User Reslib, Up to 24 DLI data sets.

Release 2.5.0: July 2001

- Added a total count to **FIND ALL** command.
- Allow **ALL** option on **EDIT** operand when using **UPDATE ALL** command.
- Allow **RES** as an alias for **RESET** command.
- Allow changing the Project DSN where DSNLs are stored/fetched with the **CREATE** and **PROFILE** commands.

Release 2.4.0: September 2000

- New products added to the release: MAX IMS/UTIL.
- **UPDATE ALL** command added to MSL processing.
- Expanded **LIST** Volume Option provided to show additional information about the volume, including address, Mount Characteristics and file space information.
- New DSNL entry provided to store MAX IMS/UTIL launch variables. Direct link to **EDIT**, **BROWSE**, **UNLOAD**, and **LOAD** with MAX IMS/UTIL (if product is installed on your system) is also provided.

Release 1.5.4: June 1999

- During creation of a new project list (DSNL), a command of '`S *`' or '`S ALL`' has been added to allow the selection of all entries from either a catalog list or another project list to be included in the new project list.
- The MSL supports a new '`J`'ob line command. This command allows the user to submit a member for processing without first selecting the member and then entering the **SUBMIT** command.
- A new **FINDALL** command has been added to the MSL which will show all occurrences of a string through out all members in a current Member Selection List.

Release 1.5.3: November 1998

- **FINDALL** command added, to search all members in the MSL and report on all found occurrences of entered string.

Release 1.5.2: June 1998

- Y2K Compliant

Release 1.5.0: April 1998

- Allows optional use of pull-down edit panel with ISPF 4.2 or greater.
- Permits insert of data sets from the catalog into an existing DSNL.
- Provides a direct link to edit, browse, utilities or MAX Data/Util (if this product is installed on your system) from either of the data set list options.

Initial Release 1.1: October 1, 1996

- This product replaces MAX/SPF.

PREFACE

This book provides a guide and reference about the various functions of MAX/PDF for MVS. Use this book to learn and use the MAX/PDF product.

It describes:

- An introduction to the product.
- Guideline information on coding statements.
- Command syntax and descriptions.
- Command operand syntax along with the description of the operands.
- Numerous examples.
- Return code information.
- Cross reference between Commands and Operands.

Who Should Read This Book

This book is for programmers, data base administrators, system programmers, or other technical persons who perform file manipulation on PDS, SAM or VSAM data sets.

File manipulation includes record selection, modification and printing. Users are expected to have knowledge of MVS JCL, COBOL and/or PL/I.

Notational Conventions

The following notational conventions are used in this manual:

- Uppercase commands and their operand(s) should be entered as shown but need not be in upper case.
- Operand(s) shown in lower case are variables and a value should be substituted for them.
- Operand(s) shown in brackets [ ] are optional, with choices indicated by a vertical bar |. One or none may be chosen; the defaults are underscored.
- Operand(s) shown in braces { } are alternatives; one must be chosen.
- An ellipsis (...) indicates that the parameter shown may be repeated to specify additional items of the same category.

How This Book is Organized

This book contains the following chapters:

Chapter 1: Introduction to MAX/PDF
describes the need and overall benefits and uses for MAX/PDF.

Chapter 2: How to Use MAX/PDF
gives an overview of how the MAX/PDF product functions.

Chapter 3: Primary Option Menu
describes how to use the Primary Option menu.

Chapter 4: Data Set Name Facility
describes how to specify single data set names for processing.

Chapter 5: Data Set Name List Functions
describes the functionality of DSNL, and use of Primary Commands and Line Commands with DSNL.

Chapter 6: Member Selection List
describes the functionality of MSL, and use of Primary and Line Commands in MSL.

Chapter 7: File Selection List
describes the functionality of FSL, the use of Primary and Line commands to access files in the UNIX file system.

Chapter 8: Enhanced Editor Commands
describes the use of the ISPF Editor to edit files from within MAX/PDF or ISPF.

Appendix A: Security Considerations
describes the security considerations that exist in MAX/PDF.

CHAPTER 1: INTRODUCTION TO MAX/PDF

Overview

When performing work, ISPF users frequently invoke the same utilities against the same data sets. The data set navigation commands that they issue throughout the day are so consistent that greater than 90% of the keystrokes typed may be duplicated.

In addition to the keystrokes typed, users of ISPF/PDF typically have had to face a "maze of menus". A simple task, such as copying a member, may require the display of five or more panels. In an attempt to reduce the number of panels displayed, IBM created the "jump function" allowing users to bypass selected panels. In most cases, this only partially solves the problem; "jumping" suppresses one or two panels.

MAX/PDF has been designed to organize and simplify the navigation process associated with invoking utilities and working with commonly used data sets. It dramatically reduces the number of keystrokes ISPF users need to type when performing their daily work. MAX/PDF is so effective that most tasks can be performed with as few as one or two keystrokes, from a single panel!

MAX/PDF is significantly faster than ISPF because it can perform more work with fewer interactions. Productivity will increase because fewer interactions mean a reduction in the number of interruptions that user's experience. MAX/PDF improves the efficiency of ISPF/PDF, users of ISPF/PDF, and the CPU itself!

Functional Description

MAX/PDF consists of these functional areas:

- MAX/PDF Data Set and DASD utilities
- Data Set Name Facility (DSN)
- Data Set Name List (DSNL) Functions
- Member Selection List (MSL) Functions
- File Selection List (FSL) Functions
- Advanced Printing Facility
- Enhanced ISPF Editing

Primary Option Menu

The MAX/PDF Main Menu provides a window into your DASD environment. It allows you to list data sets from the catalog, by volume, or by unit name, while incorporating the use of patterns to limit the names returned. Lists of volume serial numbers or unit names can be provided. Extensive real time DASD reporting is also available. Direct access into the MAX/PDF project organizational tools (DSNL) is provided.

Data Set Name (DSN) Facility

The Data Set Name Facility (DSN) provides you with the ability to enter MAX/PDF and specify single data set names for processing without having to build or invoke a data set name list. DSN can be accessed from any Panel within ISPF. Additionally, DSN is used by MAX/PDF itself to perform the "Point & Shoot" capabilities.

DSNL (Data Set Name List) Functions

The DSNL Functions provide you with the ability to maintain customized lists of data set names that can be saved across TSO sessions and may be optionally shared among users. After you enter data set names into a DSNL, you can easily select data sets for processing with a single keystroke using the data set line number.

Data set name entries may be either a PDS or PDS concatenation, SAM, VSAM, IMS, DB2 and may contain command strings or comments. Any command string stored in the entry is passed to the functions that process the data set. In addition, TSO or ISPF functions may be inserted as DSNL entries providing a method to maintain customized personal menus. The DSNL function allows you to maintain any number of lists in any sequence you wish. Entries do not have to be in alphabetical order.

MSL (Member Selection List) Functions

To increase the effectiveness of processing partitioned data sets, also known as PDS, MAX/PDF combines all the PDS functions into one consolidated, flexible MSL. This means that virtually all the processes you want to perform on a member or members of a partitioned data set are available from a single Panel.

Using the MSL, you can perform edit, browse, print, search, delete, update, copy, and move functions on individual members, or globally across any group of members. You may invoke any or all of these functions interchangeably when using the MSL.

FSL (File Selection List) Functions

To allow for the MVS user to more easily access data in the UNIX file system, MAX/PDF supports the File Selection List. Commands are available to view and change the attributes, browse, delete, edit, link, move, create new, rename, select, touch or view a file in the UNIX file system. Ease of navigation allows the user to move through these files with an ISPF-like editor.

Advanced Printing Facility

MAX/PDF includes an Advanced Printing Facility to provide additional control over record selection and report format.

One of the major enhancements, provided by this facility includes the ability to completely control page formatting, including top, bottom, left, and right margins. Users are also able to choose character or DUMP formats.

Another enhancement gives users the option to direct output immediately to the JES output queue or to the ISPF LIST data set. The user can choose to have the data translated to upper case and/or honor ASA printer control characters in column one of the data.

Enhanced ISPF Editing

In addition to providing the MSL, MAX/PDF enhances the ISPF editor by adding several commands to increase functionality and productivity.

One enhancement is automatic space management from within the editor when space problems occur during an **END** or **SAVE**. This capability can eliminate the need to periodically compress a PDS data set as it is updated, or as members are added or deleted.

The **CUT** and **PASTE** commands allow users to copy or move data within the same edit sessions, as well as copy or move data between different sessions.

The **PRT** command allows users to print from within the editor.

The **EC** command allows for the creation of an edit macro to facilitate invoking the same ISPF **EDIT** commands across any group of members.

CHAPTER 2: HOW TO USE MAX/PDF

Accessing MAX/PDF Functions

Depending on the installation, there are four alternative methods of invoking MAX/PDF:

1. From the ISPF Primary Option Menu after adding the MAX/PDF function as a menu option.
2. From the ISPF Primary Option Menu after changing options 1 & 2 to invoke the DSN Function.
3. By typing the DSN, DSNL, or MAX/PDF Primary Commands at the command line on any ISPF panel.
4. By invoking the REXX program "MAX" as provided with the installation. This program may be invoked from the Command Line on any ISPF panel or may be specified next to data set name entry in the ISPF option 3.4.

We recommend that MAX/PDF be added as an additional option to the ISPF Primary Option Menu and that the DSN, DSNL, and MAX/PDF Primary Commands be enabled as displayed in the following figure. This integrates MAX/PDF into ISPF allowing a user to invoke the same options they are already familiar with, but with the increased functionality of MAX/PDF.

This panel shows a typical Primary Option Menu with all four potential options for accessing MAX/PDF.

```
------------------------  MAX utilities products menu  --------------------------
 OPTION  ===>

                                                          USERID    - MX10002
    1  MAX/DSN     - Browse data set                      TERMINAL  - 3278
    2  MAX/DSN     - Edit data set                        PF KEYS   - 24
    M  MAX/DSNL    - MAX Data set Name List
    V  MAX/PDF     - MAX Data set and DASD utilities
    U  Data/Util   - MAX Browse, edit and data file utilities
    I  IMS/UTIL    - MAX Browse, edit and utilities for IMS
    D  DB2/UTIL    - MAX Browse and edit for DB2









 Enter END command to return.
```

Figure 1: MAX Utilities Products Menu

When the 'V' option is chosen on the Primary Option Menu, you will access the MAX/PDF Primary Option Menu as illustrated in the figure below.

```
MAX/PDF ---------------------- Primary Option Menu --------------- MAX/PDF V320
 COMMAND ===>

 Select one of the following. Then press enter.
 ___  0. Options Profile                 6.  Project - Delete DSNL
      1. List Data set names             7.  Project - Rename DSNL
      2. List Volume details/freespace   8.  Project - List all DSNLs
      3. List Unit names                 9.  Report Volume
      4. Project - Open DSNL             10. Report Unit name
      5. Project - Create DSNL           11. List Uncataloged Data Set Names


 Specify desired level of information below.
    DSNAME LEVEL  ===>
    VOLUME SERIAL ===>
    UNIT NAME     ===>
    PROJECT NAME  ===> MAXDEVL



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```

Figure 2: Primary Option Menu

Or you may type 'DSN' at the command line on the Primary Option Menu. When you press the ENTER key, you will access the Specify A Data Set Name panel as illustrated in the figure below.

```
MCLDSN2 ------------------- SPECIFY A DATA SET NAME ------------------ MAX/PDF
 COMMAND ===>

 1 - Browse data set (default)            3 - Data set Utility
 2 - Edit data set                        4 - MAX Data/Util

 Library:
    PROJECT ===> MXS
    GROUP   ===> TEST      ===>          ===>          ===>
    TYPE    ===> TESTPDS
    MEMBER  ===>               (Blank or pattern for Member Selection List)

 Partitioned, sequential data set, or VSAM cluster:
    DATA SET NAME ===>
    VOLUME SERIAL ===>         (If not cataloged)

 PROFILE NAME     ===>

 INITIAL MACRO    ===>         LMF LOCK ===>       (YES, NO, or NEVER)

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```

Figure 3: Specify A Data Set Name panel

Optionally, you may type the DSNL (Data Set Name List) command at the command line and press the ENTER key to access a default Default DSNL panel as illustrated in the figure below.

```
DSNL=MAXQA                                                      Row 1 of 17
 COMMAND ===>                                                 SCROLL ===> CSR
 B -rowse data set   E -dit data set     Y -Data set Utility   X -MAX Data/Util
 S -elect entry      D -elete entry      I -nsert entry        C -opy entry
 A -dd after         U -pdate entry      R -epeat entry        M -ove entry
         ---------------------- DATASETS/COMMANDS ---------------------- MEMBER
 _     1 MXS.TEST.QAJOBS     -- Info about QA procedures                 QAINFO
 _     2 MXS.TEST.QA153      -- QA Jobs for V153                         ________
 _     3 MXS.TEST.QA153      -- Submit QA for V153                       RUNQA
 _     4                                                                 ________
 _     5 MXS.TEST.QA154      -- QA Jobs for V154                         ________
 _     6 MXS.TEST.QA154      -- Submit QA for V154                       RUNQA
 _     7                                                                 ________
 _     8 MXS.TEST.QA240      -- QA Jobs for V240                         ________
 _     9 MXS.TEST.QA240      -- Submit QA for V240                       RUNQA
 _    10                                                                 ________
 _    11 MXS.TEST.QAREXX     -- QA Jobs for Interpretive REXX            ________
 _    12 MXS.TEST.QAREXX     -- QA Jobs for Interpretive REXX            RUNQA
 _    13                                                                 ________
 _    14 MXS.TEST.QAJOBS     -- Compare V154 to V240                     COMPARE
 _    15 MXS.TEST.QAJOBS     -- Compare V153 to V154                     COMPARE3
 _    16 MXS.TEST.QAJOBS     -- All members in QAJOBS                    ________
 _    17 MXS.TEST.JOBS       -- Various BATCH tests                      ________
 ******************************** Bottom of data ********************************
```

Figure 4: Default DSNL panel

Primary Commands

Primary Commands generally apply to an entire DSNL or MSL. Enter primary commands at the `COMMAND ===>` prompt located in the upper left corner of a panel.

Primary Command abbreviations are indicated within parentheses in this manual, for example **(F)** for **FIND**.

Utilize the following guidelines when entering primary commands:

- Enter a blank space to separate command operands, do not use the cursor keys to achieve spacing.
- Insert or expand operands using the insert capability of your keyboard.
- You can enter multiple commands in the `COMMAND` field by entering a semi-colon between each command. This process is known as "Command Stacking" (see page 43), and is also used by ISPF. Be aware that the semicolon is the default separator for command stacking, but it can be changed to another character in ISPF, if desired.

Entering Strings

Various commands require a string of data to be supplied. In most cases, the string may either be a character string, quoted string, text string, or hexadecimal string.

For example, "`FIND test`" is a command that searches for the character string "`test`".

Quoted Strings

A quoted string always begins and ends with either single or double quotes. If you are not sure if quotes are required, use them, as they are always valid. Quotes are required when a string contains a space, comma, a single quote or double quote, is the name of a command, or starts with a numeric digit.

See the examples below. The following rules apply:

- Strings that contain single (') quotes must begin and end with double quotes.
- Strings that contain double (") quotes must begin and end with single quotes.

Otherwise, strings may start and end with either single or double quotes.

Hexadecimal Strings

Hexadecimal strings are quoted strings of hexadecimal digits preceded by or ending with the letter '`X`'.

See the examples below. Rules for hexadecimal strings are:

- A maximum of sixteen (16) hexadecimal digits (eight bytes) may be entered.
- Valid hexadecimal digits are 0-9 and A-F.
- There must be an even number of digits.

Text Strings

Text strings are quoted strings preceded by the letter 'C', and are case sensitive.

Normally, a **FIND** command performing a search for character strings is not case sensitive. For example, the string 'A' will match both 'A' and 'a'.

You should specify a text string to cause the **FIND** command to match the string exactly, including case.

Examples:

FIND	`"it's back"`	Will search for "`it's back`", in upper, lower, or mixed case.
FIND	`'it's back'`	Invalid: string contains delimiting quote.
FIND	`C"it's back"`	Will search for "`it's back`" in lower case only.
FIND	`"F0F0"X`	Will search for the hexadecimal string `F0F0`.
FIND	`"its back'`	Invalid: mismatched delimiting quotes.
FIND	`X'F0F0'`	Will search for the hexadecimal string `F0F0`.
FIND	`X'F0F`	Invalid: uneven number of hexadecimal digits.
FIND	`"FG10"X`	Invalid: invalid hexadecimal digit in string.
FIND	`X'F0F1F2F3F4F5F6F7F8'`	Invalid: hexadecimal string is too long.

Line Commands

Line commands generally apply to individual data sets in a DSNL or individual members in an MSL. Enter executable line commands to the left of the data set or member name in a list of data sets or members.

Pattern Matching

Selection patterns may be used in the member name fields of the DSN and DSNL panels and in the **ONLY** command. They are used to limit the Member Selection List to only those members that match the pattern. The following are valid pattern forms.

1. The first pattern form is one or more characters preceded by an asterisk (`*`). This pattern form will match if the characters are found in any position.
2. The second pattern form is one or more characters followed by an (`*`). This pattern form matches the characters starting in the first position. (The trailing '`*`' may be omitted from **ONLY** command patterns, but is required for DSN and DSNL member name patterns.) In addition to the '`*`' character, two other wild card characters are supported.
3. The '`!`' character may be used with both pattern forms. Each '`!`' matches one blank character.
4. The '`?`' character may only be used with the second pattern form. Each '`?`' character matches any character value. For example, the command:

   "ONLY A B* ?G*!!!"

   limits the MSL to only those members whose names begin with '`A`' or '`B`', or which contain a '`G`' as the second character, or that contain at least three blanks.

CHAPTER 3: PRIMARY OPTION MENU

Introduction

The MAX/PDF Primary Option Menu provides a window into your DASD environment. It allows you to list data sets from the catalog, by volume, or by unit name, while incorporating the use of patterns to limit the names returned.

Lists of volume serial numbers or unit names can be provided.

Extensive real time DASD reporting is also available.

Direct access into the project organizational tools (DSNL) of MAX/PDF is provided

```
MAX/PDF ---------------------- Primary Option Menu ---------------- MAX/PDF V320
 COMMAND ===>

 Select one of the following. Then press enter.
 ___  0. Options Profile                 6.  Project - Delete DSNL
      1. List Data set names             7.  Project - Rename DSNL
      2. List Volume details/freespace   8.  Project - List all DSNLs
      3. List Unit names                 9.  Report Volume
      4. Project - Open DSNL             10. Report Unit name
      5. Project - Create DSNL           11. List Uncataloged Data Set Names


 Specify desired level of information below.
    DSNAME LEVEL  ===>
    VOLUME SERIAL ===>
    UNIT NAME     ===>
    PROJECT NAME  ===> MAXDEVL



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```

Figure 5: Primary Option Menu

Field Descriptions for MAX/PDF Primary Option Menu:

COMMAND ===>: Primary commands may be entered at the COMMAND ===> line. Any of the action menu numbers may be entered as well as valid ISPF commands such as "help".

Specified Level of Information:

- a data set name or a data set name pattern.
- DASD volume name or volume name pattern.
- Full DASD unit name.
- Full DSNL project name.

Primary Option Menu Selections

0. Options Profile

Select option 0. Options Profile. The following Options Profile panel is displayed:

```
MAX/PDF ----------------------- OPTIONS PROFILE -----------------------MAX/PDF
 COMMAND ===>

 Specify the projects data set name (where DSNLs are stored/fetched).
   Project DSN. . . . : 'MAXSPF.TABLES'

 Specify the MAX installation EXEC data set name.
   Install DSN. . . . : MXS.MXRXV250.EXECS

   Pull down main menu: NO             (Yes, No)

 Specify the warning limit for volume searches.
   Warning limit. . . : 5

 Include non-dasd data sets in output of List Data set names.
   Include non-dasd.  : YES            (Yes, No)
```

Figure 6: Options Profile panel

Field Descriptions for Options Profile panel:

Project DSN: Name of the data set in which to store the DSNLs.

Install DSN: Name of the data set containing the installation EXECS for this product.

Pull down main menu: Select Yes to use main menu featuring pull-down list. Select No to use the main menu with selection list. Either menu format provides the same functions. The choice is provided to address user preference. The examples in this manual illustrate a main menu with this option set to NO.

Warning Limit: Sets the warning limit for number of volumes that can be searched before warning a user of possible time delay. This value is also used to allow the user to discontinue a search involving a large number of volumes. See option 1. List Data Set Names on page 17 and option 10. Report Unit Name on page 27.

Include non-dasd: Select Yes to show all cataloged data sets, including migrated. Select No to show only DASD data sets.

Pattern Matching

Wild card characters may be used to limit both the DSNL and/or the list of volumes either searched or presented with MAX/PDF. They are used to specify a pattern that will be matched against each data set name or volume serial number. Those items that match will be included in the panel presented.

- Valid pattern matching characters are '*' (asterisk) or '?' (question mark).
- The '*' is used to accept a match on multiple characters in its place.
- The '?' is used to accept any character in a given position, but only one position is considered for any one ?.

Note: The '?' is not valid when listing data sets from the catalog.

- These characters may be used in combination.
- When using pattern matching for DSN's, there can be no pattern matching within the high level qualifier (HQL). This is a limitation imposed by MVS (OS/390).

Examples

Note: Y indicates that the pattern matches, N indicates that is does not.

VOLSER	PATTERNS					
	*01	VOL*	????01	*0*	AB*	A?C*
VOLX01	Y	Y	Y	Y	N	N
ABC01	Y	N	N	Y	Y	Y
VOL002	N	Y	N	Y	N	N
ABL003	N	N	N	Y	Y	N

DATA SET	PATTERNS			
	TEST.*	TEST.S*	TEST.S*.DATA	TEST.S???.*[a]
TEST.SAMP.DATA	Y	Y	Y	Y
TEST.SDD.DATA	Y	Y	Y	N
TEST.SYSOUT	Y	Y	N	N
TEST.SXXX.SAM	Y	Y	N	Y

a. Pattern matching using the '?' is valid only when listing data sets on a volume, not from the catalog.

1. List Data Set Names

This selected option lists data set names from the catalog unless a volume, volume pattern, or unit name is specified in which case the data set names are listed from the specified volumes and/or unit(s).

List Data Set Names function uses the following three fields from Primary Option Menu (see *Figure 5: Primary Option Menu* on page 13), either individually or in combination.

Data Set Name: Optionally enter a fully qualified data set name or a name using pattern matching, such as `SYS3.*`.

Volume Serial: Optionally limit the search to a specific volume serial number, or enter a volume number using pattern matching.

Unit Name: Optionally limit the search by entering a full unit name. Pattern matching may not be used for unit name.

```
MAX/PDF - LISTC DSN(MXS.MXRXV240) ----------------      LINE 000001 OF 000017
 COMMAND ===>                                                SCROLL ===> CSR
 B -rowse data set   E -dit data set     U -Data set Utility   X -MAX Data/Util
   Dsname                                      Volser Dsntype  LastRC
 _ MXS.MXRXV240.CAOBJECT                       MAX003 NONVSAM
 _ MXS.MXRXV240.CAPANELS                       MAX003 NONVSAM
 _ MXS.MXRXV240.EXECS                          MAX003 NONVSAM
 _ MXS.MXRXV240.JCL                            MAX003 NONVSAM
 _ MXS.MXRXV240.LOADLIB                        MAX003 NONVSAM
 _ MXS.MXRXV240.MESSAGES                       MAX003 NONVSAM
 _ MXS.MXRXV240.OBJECT                         MAX003 NONVSAM
 _ MXS.MXRXV240.OBJECTC                        MAX003 NONVSAM
 _ MXS.MXRXV240.OBJECTR                        MAX003 NONVSAM
 _ MXS.MXRXV240.PANELS                         MAX003 NONVSAM
 _ MXS.MXRXV240.TABLES                         MAX003 NONVSAM
 _ MXS.MXRXV240.TEMPEXEC                       MAX003 NONVSAM
 _ MXS.MXRXV240.TEMPJCL                        MAX003 NONVSAM
 _ MXS.MXRXV240.TEMPLOAD                       MAX003 NONVSAM
 _ MXS.MXRXV240.TEMPOBJ                        MAX003 NONVSAM
 _ MXS.MXRXV240.TEMPPAN                        MAX003 NONVSAM
 ********************************BOTTOM OF DATA*********************************
```

Figure 7: Sample List Data Set Names from Catalog panel

```
MAX/PDF - LISTV DSN(MXS.MXRXV154) VOL(MAX003)  UNI      LINE 000001 OF 000014
 COMMAND ===>                                              SCROLL ===> CSR
 B -rowse data set   E -dit data set     U -Data set Utility   X -MAX Data/Util
   Dsname                                      Volser Dsorg Tottrks Refdt
 _ MXS.MXRXV154.CAOBJECT                       MAX003 PO    90      2001/01/24
 _ MXS.MXRXV154.CAPANELS                       MAX003 PO    75      2001/01/24
 _ MXS.MXRXV154.EXECS                          MAX003 PO    15      2001/01/24
 _ MXS.MXRXV154.JCL                            MAX003 PO    30      2001/01/24
 _ MXS.MXRXV154.LOADLIB                        MAX003 PO    210     2001/01/24
 _ MXS.MXRXV154.LPALOAD                        MAX003 PO    9       2000/12/22
 _ MXS.MXRXV154.MESSAGES                       MAX003 PO    15      2001/01/24
 _ MXS.MXRXV154.OBJECT                         MAX003 PO    90      2001/01/24
 _ MXS.MXRXV154.PANELS                         MAX003 PO    60      2001/01/11
 _ MXS.MXRXV154.TABLES                         MAX003 PO    30      2001/01/24
 _ MXS.MXRXV154.TEMPLOAD                       MAX003 PO    45      2000/11/28
 _ MXS.MXRXV154.TEMPOBJ                        MAX003 PO    90      2000/11/06
 ********************************BOTTOM OF DATA*********************************
```

Figure 8: List Data Sets from Volumes panel

A Data Set Name List may provide the following information:

VOLSER	volume serial number
Dsorg	data set organization
Tottrks	total tracks allocated
Refdt	date of last reference
Credt	creation date
Expdt	expiration date (if it specified)
Refdt	date of last reference
Recfm	record format
Lrecl	logical record length
Blksz	block size
%Used	percentage of tracks used
NoExts	number of extents
Secalloc	type of secondary allocation
Amount	amount of secondary allocation
CCHH	cylinder and head address on disk
Bgnvol	beginning VOLSER
Vol	number of volumes
Syscd	code of system on which created
Sms	system managed storage indicator
Bcs	presence/absence of BCS indicator
Reblk	reblockable indicator
Dadsm	DASDM create originated blksize
Pdse	PDSE data set indicator
LastRC	Return Code from last reference

Use the RIGHT and LEFT commands or PF keys to scroll through these fields.

To process an item in the list, enter as follows:

B	to browse data set.
E	to edit data set.
U	to transfer to the Utility Panel.
X	to process data set with MAX Data/Util (if this is installed on the system).

Volume Search Limit: When listing data sets from the VTOC across multiple volumes, the warning limit set in the Profile Panel is used to alert the user each time that specified number of volumes has been searched.

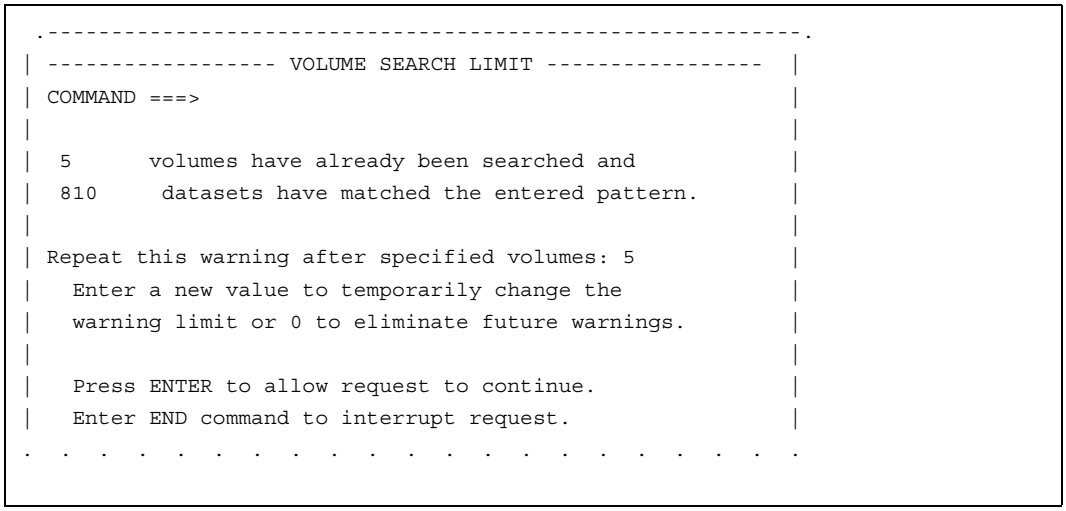

Figure 9: Volume Search Limit panel

This panel will display the number of volumes that have been searched. In addition, the total number of data sets found to meet the search criteria will be shown. The warning limit can be temporarily overridden to change the frequency of this warning panel. The value may be set to 0 (zero) to eliminate any further warnings. Changing the limit on this panel will not change the value set in the Options Profile panel.

By using the **END** command, the user can discontinue the search at this time. Data sets having met the search criteria to this point will be displayed.

2. List Volume Names

This option lists DASD volume names currently online to the system and uses the following two items from the Primary Option Menu (see *Figure 5: Primary Option Menu* on page 13):

Volume Serial: Optionally limit the search to a specific volume serial number or enter a series of volume numbers, using pattern matching such as MAX*.

Unit Name: Optionally limit the search by entering a full unit name. Pattern matching may not be used for unit name.

```
MAX/PDF ---------------------- Primary Option Menu -------------------- MAX/PDF
.-------------------------------------------------------------------------------.
| MAX/PDF - LIST DSN() VOL(MAX*)  UNIT()                VOL 000001 OF 000008  |
| COMMAND ===>                                             SCROLL ===> CSR   |
| use  RIGHT | LEFT for more data.                                              |
| enter SORT with column name to resort the data.   Press END to exit.         |
| Total Cyl: 21.2 K               Total Free Cyl: 14.9 K                       |
| S -elect Volume to display data sets.                                        |
| F -show FREE space detail for volume.                                        |
|   Volume Addr SMS Mounted %Free FreeXt  TotCYL FreeCYL Contig                |
| _ MAXBKP 012A NO  PRIVATE  40.3      2    2656    1071   1071                |
| _ MAXSMS 0127 YES PRIVATE  99.9      1    2656    2654   2654                |
| _ MAX001 0121 NO  STORAGE  70.7      4    2656    1877   1875                |
| _ MAX002 0122 NO  STORAGE  70.7      9    2656    1878   1868                |
| _ MAX003 0123 NO  STORAGE  61.5     12    2656    1633   1541                |
| _ MAX004 0124 NO  STORAGE  60.2     10    2656    1599   1579                |
| _ MAX005 0125 NO  STORAGE  59.7     10    2656    1585   1576                |
| _ MAX006 0126 NO  PRIVATE  99.8      1    2656    2653   2653                |
| ********************************BOTTOM OF DATA********************************* |
|                                                                              |
|                                                                              |
|                                                                              |
|                                                                              |
'-------------------------------------------------------------------------------'
```

Figure 10: Sample List Volume Names panel

The List Volume Names panel provides the address, SMS control indicator, type of mount and extensive space information. The primary panel returned provides space information in cylinders. Use RIGHT to view the same information in tracks, RIGHT again to view in bytes. Use LEFT to return to tracks or cylinders.

Use the **SORT** command to reorder the fields on this panel. The fields can be sorted by volume, address, SMS, type of mount, percent of free space or number of free extents. To resort the fields enter the **SORT** command with the appropriate column name. For example, to resort the data by percentage of free space, enter: SORT %Free at the command prompt and press ENTER. The display will be presented in the order of percentage of free space on the volume. To resort to the original sequence, sort the fields by volume serial number.

To view a list of data sets on one of the volumes, enter an 'S' to select the volume, the list of data sets will be returned. (See option 1. List Data Set Names).

Enter an 'F' next to any volume to obtain a list of all the free extents on that volume. The list is initially presented in order by address. This list may be sorted in sequence of largest freespace to smallest freespace. To toggle between the different sort sequences, type **SORT** on the command line and press ENTER.

```
MAX/PDF ---------------------- Primary Option Menu -----------
.-- .-------------------------------------------------. ----
| M | MAX/PDF - VOLUME FREE SPACE           Row 1 of 31 | OL 0
| C | COMMAND ===>                    SCROLL ===> PAGE  |    S
| u | Enter SORT to sort by size of extent.             |
| T | Press END to exit.                                |
| S | FREE space for MAX001                             |
| F |  Rel Track: Num Tracks:  Beg CCHH:  End CCHH:     |
|   |       1323          12   00580003   0058000E      | onti
| _ |       1473           3   00620003   00620005      |   39
| f |       1479           6   00620009   0062000E      |    6
| _ |       2033           1   00870008   00870008      |    3
| _ |       2036           4   0087000B   0087000E      |
| _ |       2268          12   00970003   0097000E      |
| _ |       3705           9   00F70000   00F70008      |    8
| * |       4353          12   01220003   0122000E      | ****
|   |       4462           8   01290007   0129000E      |
|   |       6566           1   01B5000B   01B5000B      |
|   |       7140          30   01DC0000   01DD000E      |
|   |       7485         105   01F30000   01F9000E      |
|   |       7770         135   02060000   020E000E      |
|   |       7935          15   02110000   0211000E      |
|   |       7965          18   02130000   02140002      |
'-- '-------------------------------------------------' ----
```

Figure 11: Volume Free Space panel

3. List Unit Names

This option lists all defined DASD unit names as well as how many devices are defined to each unit name. The unit names include device types, such as 3390; and esoterics, such as SYSALLDA.

No input is required to obtain a unit name list.

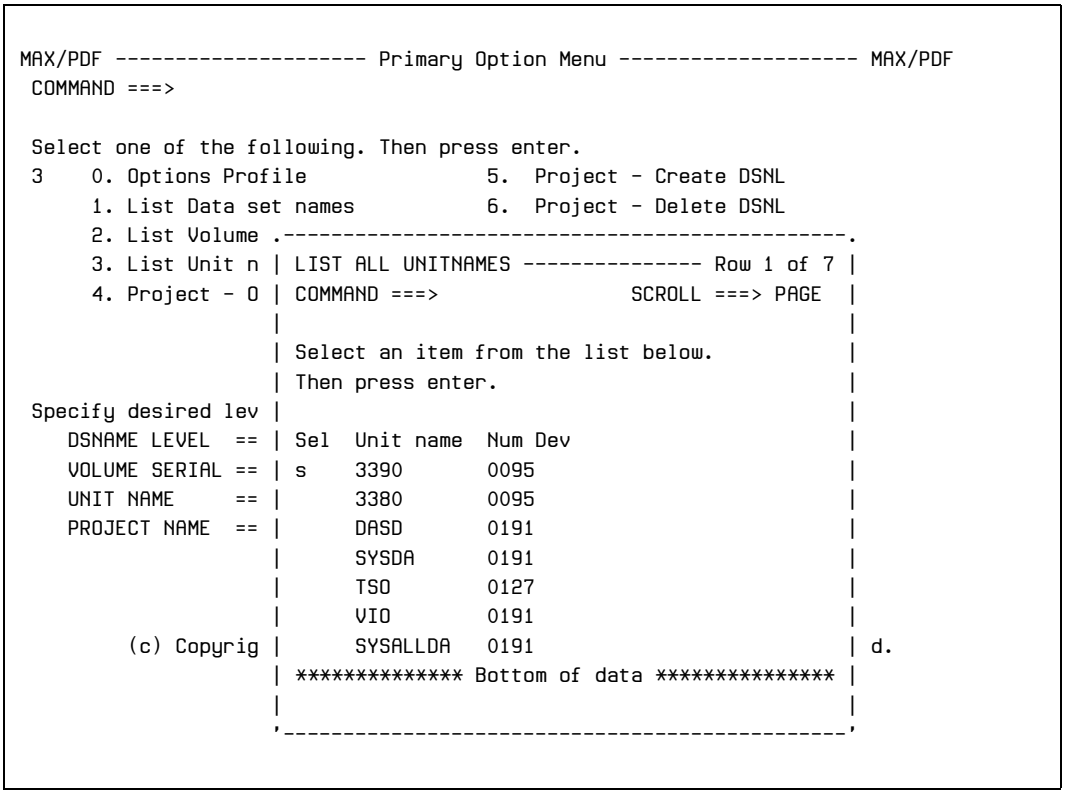

Figure 12: Sample List Unit Names panel

To select an item from the list enter '/' or 'S'.

4. Open DSNL
5. Create DSNL
6. Delete DSNL
7. Rename DSNL
8. List All DSNLs

The MAX/PDF Primary Option Menu allows a user to:

- Create a DSNL (option 4).
- Delete a DSNL (option 5).
- Rename a DSNL (option 6).
- List all DSNLs, (option 7).
- List (open) a specific DSNL, (option 8).

For complete information about the Project (DSNL) function of MAX/PDF, refer to "*Chapter 4:Data Set Name Facility*" on page 33.

The DSNL (Data Set Name List) feature of MAX/PDF is an excellent organizational tool. This feature allows you to create lists of data sets that are commonly used together, and give each list a meaningful name. These lists are saved across sessions and can be shared by multiple users. Data sets may be listed in any order you wish, and do not have to be alphabetical by data set name.

Here is an example of how you might use the DSNL feature.

When a project is started, you would Create a new list, giving it the name of the project, such as '`PAYNEW`', for conversion to your new payroll system. You would then add the names of the related data sets for that project to the list. This could include source, link, and JCL libraries along with test data files. Comments in the list can help to further identify the data set usage. Members of the group that are working on the project would need only remember the DSNL list name to quickly locate necessary information. In addition, a given data set name may appear in more than one DSNL, if appropriate.

The DSNL feature of MAX/PDF has several Primary Commands available for maintaining and accessing the project lists. These commands can be entered directly from the `COMMAND` line as discussed in "*Chapter 5:Data Set Name List Functions*" on page 39.

In addition, the MAX/PDF Primary Option Menu allows direct access to the most commonly used primary commands of the Project (DSNL) feature.

Options 4 through 8 are provided to maintain and access the lists and require the following field:

Project Name: Enter the project (DSNL) name to be processed, up to 8 characters.

Option 4, Project - Open DSNL: This option will make the list for the project name entered available. Data sets in the project list can now be processed using any of the DSNL line commands (see Line Commands on page 42). This option is the default option for the Primary Option Menu if only the Project name is entered on the lower portion of the panel. Enter only the project name, then press ENTER to access the list.

Option 5, Project - Create DSNL: This option allows you to create a new DSNL using the project name supplied. For complete information on the creation of a new DSNL, see "*Chapter 5:Data Set Name List Functions*" on page 39.

Option 6, Project - Delete DSNL: This option is available to delete a list by entering the list name into the Project name field. A panel will be displayed to confirm the **DELETE** request.

Option 7, Project - Rename DSNL: This option is available to rename an existing list. A panel will be displayed requesting the entry of a new name.

Option 8, Project - List all DSNLs: This option will provide a list of all DSNL names that a user can access. From this list, a DSNL can be selected to be opened and used for processing.

9. Report Volume

This option displays detailed information concerning space utilization for a specific volume.

The Report Volume option uses the following field from the Primary Option Menu:

Volume Serial: A specific volume serial number must be specified.

```
.-------------------------------------------------------------------------------.
 | TABLE OF CONTENTS FOR VOLUME=MAX003 ---------------------------- Row 1 of 17 |
 | COMMAND ===>                                                  SCROLL ===> PAGE  |
 |                                                                                 |
 | Information                                                                     |
 | DEVICE NUMBER.................: 0128                                         |
 | DEVICE TYPE...................: 3380                                         |
 | SMS MANAGED...................: NO                                           |
 | MOUNTED.......................: STORAGE                                      |
 | DEVICE CAPACITY...............: 630,243,900                                  |
 | TOTAL FREE SPACE..............: 96,661,136                                   |
 | Largest contiguous free space.: 13,530,660                                   |
 | Percent free..................: 15.3                                         |
 | Free extents..................: 25                                           |
 | Cylinder capacity.............: 712140                                       |
 | Cylinders per device..........: 885                                          |
 | Total free cylinders..........: 134                                          |
 | Largest contiguous free cyls..: 19                                           |
 | Track capacity................: 47476                                        |
 | Tracks per cylinder...........: 15                                           |
 | Total free tracks.............: 2036                                         |
 | Largest contiguous free trks..: 285                                          |
 | ****************************** Bottom of data ******************************* |
 '-------------------------------------------------------------------------------'
```

Figure 13: Sample Report Volume panel

10. Report Unit Name

This option displays detail information concerning space utilization for a collection of data sets and volumes specified for a Unit Name.

The Report Unit Name option uses the following three fields from the Primary Option Menu:

`Data Set Name`: Optionally enter a fully qualified data set name, or a name using pattern matching.

`Volume Serial`: Optionally limit the search to a specific volume serial number or a series of volume numbers using pattern matching.

`Unit Name`: Optionally limit the search by entering a full unit name.

```
.-------------------------------------------------------------------------------.
| REPORT UNIT NAME ------------------------------------------- Row 1 of 30 |
| COMMAND ===>                                                SCROLL ===> PAGE  |
|                                                                               |
| Information                                                                   |
| Dataset pattern specified.....: (all Datasets included)                       |
| Volume pattern specified......: (all Volumes included)                        |
| Unit name specified...........: 3380                                          |
| Total selected devices........: 8                                             |
| Total online..................: 8                                             |
| Total mounted as PRIVATE......: 3                                             |
| Total mounted as STORAGE......: 5                                             |
| Total space...................: 5.0 Gig.                                      |
| Total free space..............: 1.6 Gig.                                      |
| Total free cylinders..........: 2.2 K                                         |
| Total free tracks.............: 34.2 K                                        |
| Largest contiguous space......: 484.2 Meg.                                    |
| Largest contiguous cylinders..: 680                                           |
| Largest contiguous tracks.....: 10.2 K                                        |
| Total data sets...............: 690                                         |
| Total data set extents........: 758                                           |
| Total data sets DSORG=DA......: 2                                             |
| Total data sets DSORG=PS......: 193                                           |
'-------------------------------------------------------------------------------'
 .-------------------------------------------------------------------------------.
 | REPORT UNIT NAME ------------------------------------------- Row 19 of 30 |
 | COMMAND ===>                                                SCROLL ===> PAGE  |
 |                                                                               |
 | Information                                                                   |
 | Total data sets DSORG=PO......: 388                                           |
 | Total data sets DSORG=VS......: 70                                            |
 | Total data sets DSORG=NONE....: 37                                            |
 | Total space for data sets.....: 3.4 Gig.                                      |
 | VOLUME=DSNV01 MOUNT=PRIVATE SPACE=000080,000003,000003/000080,000000          |
 | VOLUME=PMB001 MOUNT=STORAGE SPACE=000276,000076,000032/000149,000000          |
 | VOLUME=MAX001 MOUNT=STORAGE SPACE=000172,000068,000022/000156,000000          |
 | VOLUME=MAX002 MOUNT=STORAGE SPACE=000249,000044,000022/000037,000000          |
 | VOLUME=MAX003 MOUNT=STORAGE SPACE=000134,000026,000025/000019,000000          |
 | VOLUME=IMSV01 MOUNT=PRIVATE SPACE=000680,000017,000003/000680,000005          |
 | VOLUME=MAX004 MOUNT=STORAGE SPACE=000597,000066,000017/000569,000000          |
 | VOLUME=MAX005 MOUNT=PRIVATE SPACE=000073,000005,000002/000073,000000          |
 | ****************************** Bottom of data ******************************* |
 '-------------------------------------------------------------------------------'
```

Figure 14: Report Unit Name panel

For each volume searched, the type of mount and space is provided at the bottom of the panel.

Format for space is:

SPACE= aaaaaa,bbbbbb,cccccc/dddddd,eeeeee where:
aaaaaa = total # of free cylinders
bbbbbb = total # of additional free tracks
cccccc = total # of free extents
dddddd = number of cylinders in largest free extent
eeeeee = number of additional tracks in largest free extent

Volume Search Limit: When Report Unit Name searches across multiple volumes, the warning limit set in the Options Profile panel is used to alert the user each time that specified number of volumes has been searched.

```
-------------------------------------------------------------.
------------------ VOLUME SEARCH LIMIT -----------------  |
COMMAND ===>                                              |
                                                          |
 10     volumes have been included in this                |
        report to this point.                             |
                                                          |
Repeat this warning after specified volumes: 5            |
  Enter a new value to temporarily change the             |
  warning limit or 0 to eliminate future warnings.        |
                                                          |
  Press ENTER to allow request to continue.               |
  Enter END command to interrupt request.                 |
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 15: Report Unit Name: Volume Search Limit panel

This panel will display the number of volumes that have been searched. The warning limit can be temporarily overridden to change the frequency of this warning panel. The value may be set to '0' (zero) to eliminate any further warnings. Changing the warning limit on this panel will not change the limit set in the Options Profile panel.

By using the **END** command, the user can discontinue the search at this time. Information accumulated to this point will be displayed.

11. List Uncataloged Data Set Names

This option allows you to search across a single or multiple volumes and return a list of data sets that are not recorded in the catalog.

The List Uncatalog Data Sets option uses the following fields from the Primary Option Menu:

Data Set Name: Optionally enter a fully qualified data set name or a name using pattern matching, such as SYS3.*.

Volume Serial: Optionally limit the search to a specific volume serial number of a series of volume numbers using pattern matching.

Note that the number of data sets on a volume in combination with the number of volumes that are searched can cause the task to run for an extended period of time.

For example: A search was performed on a volume 'PMBO01' and the following list of data sets was found not to be in the catalog.

```
MAX/PDF - UNCAT DSN() VOL(PMBO01)  UNIT() --------      LINE 000001 OF 000011
 COMMAND ===>                                              SCROLL ===> CSR
 B -rowse data set   E -dit data set     U -Data set Utility   X -MAX Data/Util
   Dsname                                      Volser Dsorg Tottrks Refdt
 _ MXS.TEST.NOCAT                              PMBO01 PS    2       2003/01/24
 _ MXSMS.TEST.KSDS.DATA                        PMBO01 VS    1       2002/05/07
 _ MXSMS.TEST.KSDS.INDEX                       PMBO01 VS    1       2002/05/07
 _ MXT.MXRXV250.LOADLIB                        PMBO01 PO    15      2001/06/29
 _ P390.ISPF.PROFILE                           PMBO01 PO    2       2002/03/19
 _ REXX.TEST.DSNL                              PMBO01 PO    5       2002/02/27
 _ SYS03051.T132533.RA000.DSN1WLM1.R0100890    PMBO01 NONE  10
 _ SYS03069.T082722.RA000.DSN1WLM1.R0100069    PMBO01 NONE  10
 _ SYS03069.T082722.RA000.DSN1WLM1.R0100076    PMBO01 NONE  10
 _ SYS1.VTOCIX.PMBO01                          PMBO01 PS    15
 _ UCAT.PMBO01.CATINDEX                        PMBO01 VS    1
 ********************************BOTTOM OF DATA*********************************
 use  UP | DOWN to scroll.  RIGHT | LEFT for more data.  Press END to exit.
```

Figure 16: List Uncataloged Data Sets panel

Volume Search Limit: When List Uncataloged Data Set Names searches across multiple volumes, the warning limit set in the Options Profile panel is used to alert the user each time that the specified number of volumes has been searched.

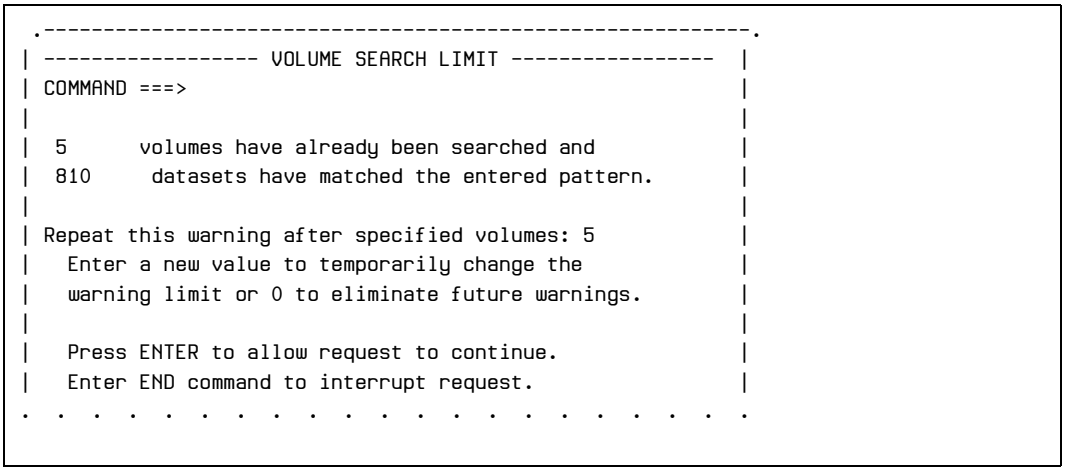

Figure 17: List Uncataloged Data Set Names: Volume Search Limit panel

This panel will display the number of volumes that have been searched and the number of data sets found to that point. The warning limit can be temporarily overridden to change the frequency of this warning panel. The value may be set to 0 (zero) to eliminate any further warnings. Changing the warning limit on this panel will not change the limit set in the Options Profile panel.

By using the END command, the user can discontinue the search at this time. All uncataloged data sets found to this point will be displayed.

CHAPTER 4: DATA SET NAME FACILITY

Introduction

The DSN facility provides you with the ability to enter MAX/PDF and specify single data set names for processing without having to build or invoke a DSNL.

The DSN facility can be accessed from any Panel within ISPF by typing DSN on the command line. Additionally, DSN is used by MAX/PDF itself to perform the **Point & Shoot** functions.

```
MCLDSN2 ------------------- SPECIFY A DATA SET NAME ------------------ MAX/PDF
 COMMAND ===>

 1 - Browse data set (default)            3 - Data set Utility
 2 - Edit data set                        4 - MAX Data/Util

 Library:
    PROJECT ===> MXS
    GROUP   ===> TEST      ===>          ===>          ===>
    TYPE    ===> TESTPDS
    MEMBER  ===>               (Blank or pattern for Member Selection List)

 Partitioned, sequential data set, or VSAM cluster:
    DATA SET NAME ===>
    VOLUME SERIAL ===>         (If not cataloged)

 PROFILE NAME     ===>

 INITIAL MACRO    ===>         LMF LOCK ===>       (YES, NO, or NEVER)

        (c) Copyright MAX SOFTWARE LLC 1995 - 2003. All rights reserved.
```

Figure 18: Specify A Data Set Name panel

Field Descriptions for the Data Set Name Panel:

COMMAND ===>: Primary commands may be entered at the COMMAND ===> line. At the command line, select one of the following command options:

1 - Browse data set (default) 3 - Data set Utility

2 - Edit data set 4 - MAX Data/Util

Library: Same format and use as on ISPF panels.

Partitioned, Partitioned, sequential data set, or VSAM cluster: Same as ISPF, except VSAM has been added.

PROFILE NAME: The name of a particular edit profile to be in effect during this edit session. The profile controls edit modes such as **CAPS**, **NUMBER**, etc., and special definitions lines such as **MASK**, **TABS**, etc.

INITIAL MACRO: The name of an initial macro. An "initial macro" is executed after data is read, but before the data is displayed for edit. This feature, which is intended to be used in conjunction with "Edit Macros" is described in the "IBM ISPF Edit & Edit Macros" manual.

LMF LOCK: The Editor will check the lock status of each member selected if you have 'YES' in the LOCK field and it is found in a controlled library concatenated after your private library. If the member has been locked by someone else, Edit will display a panel saying so.

Otherwise, Edit will lock it to prevent someone else from editing it. Changed members can be unlocked with the Move/Copy utility Promote function.

If you enter 'NO' or 'NEVER' in the LOCK field, the lock status is not checked, and the member is edited, but not locked. The 'NO' will be changed back to 'YES' automatically after the edit session. The 'NEVER' will remain so that future edits also will not lock until you change the value to 'YES'.

Point & Shoot Capabilities

The DSN facility supports **Point & Shoot** capabilities. To utilize this capability, you may:

- Type DSN on the command line, position the cursor anywhere within a data set name, and press the ENTER key. Pressing the ENTER key will display the Specify A Data Set Name panel where the user can specify browse, edit, or utility functions for the data set selected.
- Type DSN;B, DSN;E or DSN;U on the command line, position the cursor anywhere within a data set name, and press the ENTER key. Pressing the ENTER key will bypass the display of the Specify A Data Set Name panel, and directly bring the data set up in browse, edit or utility mode, respectively, as specified.

A DSN command may be assigned to a PF (program function) key, in which case the user may position the cursor anywhere within a data set name, and press the PF key previously assigned. Pressing the PF key will display the Specify A Data Set Name panel where the user can specify browse, edit, or utility functions for the data set selected.

A DSN sub command such as E, B or U may be assigned along with a DSN to a PF key, in which case the user may position the cursor anywhere within a data set name. Then press the PF key previously assigned. Pressing the PF key will bypass the display of the Specify A Data Set Name panel, and cause the data set to be processed directly in the mode specified in the sub-command.

DSN Options

Enter the desired option to the right of the COMMAND ===> prompt located in the upper left corner of the panel.

Normally, the default command is set to **Browse**. However, a default command of either Browse or Edit may also be set by passing the DFLTCMD= parameter as either B, or E, respectively when this function is invoked as an ISPF function. The current default command is noted on the DSN Panel. (See the Panel Examples as shown in the Installation Manual).

```
MAX/PDF ------------------- SPECIFY A DATASET NAME ------------------- MAX/PDF
 COMMAND ===>

 1 - Browse data set (default)            3 - Data set Utility
 2 - Edit data set                        4 - MAX Data/Util
```

Figure 19: Specify a Data Set Name options panel

As displayed above, the following options are discussed in this section:

```
1 - Browse data set (default)            3 - Data set Utility
2 - Edit data set                        4 - MAX Data/Util
```

1 – Browse data set (default)

The results of selecting the **BROWSE** option depend upon the type of data set selected. If the selected data set is a partitioned data set (PDS) or PDS concatenation, then the MAX/PDF Member Selection List (MSL) is displayed, and the default Line Command is **BROWSE**.

A member name or member name pattern may be entered along with the partitioned data set name.

- If a full member name is entered, ISPF Browse will be invoked on that member without entering the MSL.
- If a member name pattern is entered, that pattern is used to select the members in the MSL.
- If the selected data set is not a partitioned data set (PDS) or PDS concatenation, the ISPF browse is invoked.
- If the data set cannot be processed by the ISPF Browse, (such as in the case of a VSAM data set), a panel will be presented giving the user the option of browsing the data set using MAX Data/Util. (This requires installation of the MAX Data/Util product).

2 – Edit data set

The result of selecting the **EDIT** option depends upon the type of data set selected. If the selected data set is a partitioned data set (PDS) or PDS concatenation, then the MAX/PDF MSL is displayed and the default Line Command is **EDIT**.

A member name or member name pattern may be entered along with the partitioned data set name.

- If a full member name is entered, ISPF Edit will be invoked on that member without entering the MSL.
- If a member name pattern is entered, that pattern is used to select the members in the Member Selection List.
- If the selected data set is not a partitioned data set (PDS) or PDS concatenation, the ISPF editor is invoked.
- If the data set cannot be processed by the ISPF Editor, (such as VSAM data sets, SAM files containing records longer than 255 bytes or a SAM file with an extremely large number of records), a panel will be presented giving the user the option of editing the data set using MAX Data/Util. (This requires installation of the MAX Data/Util product).

3 – Data Set Utility

To select the Utilities Panel, type the number '3', or single letter 'U' on the Command Line. The following table lists utility functions are available on the Utilities Panel:

A	Allocate
C	Catalog
X	Compress
D	Delete
I	Information
R	Rename
U	Uncatalog

4 – MAX Data/Util

MAX Data/Util is a related product for processing data type files that are SAM, or VSAM containing data that may optionally be mapped using copybooks. As noted previously, this product will handle SAM files that cannot be processed with the ISPF editor. MAX Data/Util provides a complete set of data manipulation utilities including:

- Browse
- Edit
- Copy/Extract
- Update
- IDCAMS functions
- Record mapping
- Selection criteria, etc., for processing data files
- Compare

Note: This option requires installation of the MAX Data/Util product.

CHAPTER 5: DATA SET NAME LIST FUNCTIONS

Introduction

The DSNL is unique to MAX/PDF. It can be thought of as a "Project Organizer" that allows a user to organize their work in the manner which is most natural for them.

In addition, it provides for faster and more efficient navigation within ISPF/PDF.

The DSNL eliminates the need to continually enter data set names at each ISPF function. By using the DSNL, you are not required to remember data set names or to repeatedly perform **LISTCAT** or **LISTVTOC** operations. A DSNL is maintained for each user and is saved across TSO sessions.

You can create and maintain multiple DSNLs to allow further grouping of data sets by function. With this capability, you can, for example, group all data sets used when developing a CICS application, or group all data sets for installation of a vendor product. If appropriate, a given data set name may appear in multiple DSNLs.

```
DSNL=MAXQA in MAXSPF.TABLES                                      Row 1 of 20
 COMMAND ===>                                                SCROLL ===> CSR
 B -rowse data set   E -dit data set     Y -Data set Utility   X -MAX Data/Util
 S -elect entry      D -elete entry      I -nsert entry        C -opy entry
 A -dd after         U -pdate entry      R -epeat entry        M -ove entry
         ---------------------- DATASETS/COMMANDS ---------------------- MEMBER
 _     1 MXS.TEST.QAJOBS     -- Info about QA procedures                 QAINFO
 _     2 MXS.TEST.QA153      -- QA Jobs for V153                         ________
 _     3 MXS.TEST.QA153      -- Submit QA for V153                       RUNQA
 _     4 MXS.TEST.QAFILE                                         CBHDR   ________
 _     5                                                                 ________
 _     6 MXS.TEST.QA154      -- QA Jobs for V154                         ________
 _     7 MXS.TEST.QA154      -- Submit QA for V154                       RUNQA
 _     8 MXS.TEST.QAPANELS/MXS.TEST.QAMESG/MXS.TEST.QAEXECS              ________
 _     9                                                                 ________
 _    10 MXS.TEST.QA240      -- QA Jobs for V240                         ________
 _    11 MXS.TEST.QA240      -- Submit QA for V240                       RUNQA
 _    12 MXS.TEST.QA240      -- Submit QA for V240                       TEST*
 _    13                                                                ________
 _    14 MXS.TEST.QAREXX     -- QA Jobs for Interpretive REXX            ________
 _    15 MXS.TEST.QAREXX     -- QA Jobs for Interpretive REXX            RUNQA
 _    16                                                                ________
 _    17 MXS.TEST.QAJOBS     -- Compare V154 to V240                     COMPARE
 _    18 MXS.TEST.QAJOBS     -- Compare V153 to V154                     COMPARE3
```

Figure 20: Data Set Name List panel

The following explains the various fields on the Sample DSNL Panel, which could have been invoked by entering MAXQA as Project name, and selecting option `4` on the MAX/PDF Primary Option Menu:

The first line displays information on the current DSNL; you can have more than one DSNL, but this panel will display one at a time. The PDS in which the DSNL is stored is also displayed.

Primary commands may be entered at the `COMMAND ===>` field.

Next are the available functions that can be used.

- The numbers (1- 18) to the left of the DSNL indicates the number of the data set, data set and member combination, or commands.
- Line Commands may be entered in the column to the left of the DSNL entry numbers. For example, **E** for Edit.
- The three data set names separated by a '/' as shown in DSNL entry #8,
  __ 8 MXS.TEST.QAPANELS/MXS.TEST.QAMESG/MXS.TEST.QAEXECS
  indicate that the three data sets are to be logically concatenated.
- The text string in entry #6:
  __ 6 MXS.TEST.QA154 –QA Jobs for V154
  is an example of a description added to explain the contents of the DSNL entry.
- The text string '`CBHDR`' shown to the right of DSNL entry #4 indicates that a COBOL copybook is to be used when this entry is selected.
- The entry area on the right side of DSNL entry #12 shown with `TEST*` in it shows an example of selecting a pattern of members from a partitioned data set.

The functions shown above are established when entries are added to the DSNL or when they are updated once they exist in the DSNL.

Data Set Name List Commands

Primary Commands

You can issue primary commands at the `COMMAND ===>` prompt.

C	change a value to a new value
CA	change all occurrences of a value to a new value
COPY	copies a DSNL into the current DSNL
CREATE	creates a new DSNL
DELETE	deletes a DSNL
F	find the next entry that contains the value
LISTCAT	displays a list of data sets from the OS catalog
MOVE	moves a DSNL into the current DSNL
PROFILE	lists all DSNLs that you may process
RC	repeat the previous **CHANGE** command
RESET	clears any pending Line Commands
RF	repeat the previous **FIND** command
dsnl name	switches to and displays another DSNL name

See DSNL Primary Commands on page 45 for detailed descriptions of these primary commands.

Line Commands

Line Commands are issued to the left of the data set entry you want to process.

A	add an entry after another entry (used with M or C)
B	browse an entry in the list
C	copy an entry within the list
D	delete an entry from the list
E	edit an entry
I	insert an entry after another entry
J	submit a member to the JES queue for processing
M	move an entry
R	repeat an entry
S	select an entry for processing
U	update an entry
X	MAX Data/Util is selected if product is installed MAX IMS/UTIL is selected if IMS entry and product installed MAX DB2/UTIL is selected if DB2 entry and product installed
Y	Data Set Utility

See Line Commands Used in DSNL on page 54 for detailed descriptions of the above line commands.

Creating and Maintaining the DSNL

A DSNL is created using the **CREATE** primary command. For information on procedures for creating a DSNL, refer to the CREATE Primary Command description.

Individual DSNL entries are added or changed by using the **(I)nsert** or **(U)pdate** line commands. For information on and procedures for maintaining a DSNL, refer to the Line Command descriptions contained in the following section.

Using the Data Set Name List

A unique feature of MAX/PDF is the row numbers to the left of each data set entry in the list. *Figure 20: Data Set Name List panel* on page 39, showing the MAXQA DSNL, contains 18 data set entries. These data set entries are numbered so that they may be identified and processed by actual name or by number.

The numbering of the data set entries provides users with various methods of using the DSNL to select a data set for processing:

One method is to type a line command to the left of the data set entry, then press ENTER.

A second method of accessing a data set is to specify in the command field, the data set number displayed to the left of the data set. This would produce the same result as typing an 'S' next to the data set.

Additionally, you could select a data set and specify edit by typing the edit command next to the number entered in the command field.

For example, typing the characters '6E' on the command line would process the sixth entry from the DSNL directly, bringing the data set up immediately in Edit mode. This same technique can be used for entering any of the line commands as primary commands.

Point and Shoot is also available for selecting an entry in the DSNL. Move the cursor to the line of the entry that you want to access and press the ENTER key.

Command Stacking

As you become familiar with your own DSNLs, you will probably find that you have memorized the list number of the most frequently referenced of your data sets. Using the ISPF capability of "command stacking", you can access your data sets directly from the Primary Option Menu.

In the following example, we stack the command 'DSNL' to run the MAX/PDF DSNL, followed by the number '9' to select the ninth data set in the DSNL for processing. This feature allows you to process any data set in the list without displaying any intervening panels, by entering only few keystrokes.

```
Menu  Utilities  Compilers  Options  Status  Help
 ------------------------------------------------------------------------------
                           ISPF Primary Option Menu
 Option ===> dsnl;9

 0  Settings      Terminal and user parameters            <     Calendar     >
 1  MAX/Brow      MAXREXX  Display source data               January   2001
 2  MAX/Edit      MAXREXX  Change source data             Su Mo Tu We Th Fr Sa
 3  Utilities     Perform utility functions                  1  2  3  4  5  6
 4  Foreground    Interactive language processing         7  8  9 10 11 12 13
 5  Batch         Submit job for language processing     14 15 16 17 18 19 20
 6  Command       Enter TSO or Workstation commands      21 22 23 24 25 26 27
 7  Dialog Test   Perform dialog testing                 28 29 30 31
 8  LM Facility   Library administrator functions
 9  IBM Products  IBM program development products       Time . . . . : 09:13
 10 SCLM          SW Configuration Library Manager       Day of year. :   025
 I  IMS/UTIL      MXRXV240 IMS DataBase Utilities
 M  MAX/DSNL      MAXREXX  Data Set Name List
 U  MAX/DUTL      MAXREXX  Data file utilities
 V  MAX/PDF       MAXREXX  Dataset and DASD utilities
 S  SDSF          Spool Display and Search Facility


 Enter X to Terminate using log/list defaults
```

Figure 21: Command Stacking panel

DSNL Primary Commands

Primary commands generally apply to an entire DSNL. Enter primary commands at the `COMMAND ===>` prompt located in the upper left corner of a panel utilizing the following guidelines:

Enter a blank space to separate command operands. Do not use the cursor keys to achieve spacing.

Insert or expand operands using the insert mode of your keyboard.

Optionally, enter multiple commands in the `COMMAND` line by entering a semicolon (`;`) between each command. This process is known as "Command Stacking".

The following primary commands are discussed in this section:

C (Change)
CA (Change All)
COPY
CREATE
DELETE
F (Find)
LISTCAT
MOVE
PROFILE
RC (Repeat Change)
RESET
RF (Repeat Find)
View Another Data Set Name List

C (Change)/CA (Change All)

Use the **C** command to change the next occurrence of a string that is found in the DSNL. Use the **CA** command to change every occurrence of a string in the entire DSNL.

The commands have the following format:

C	**fromstring tostring**
C	**fromstring tostring**
C	**fromstring tostring**
CA	**fromstring tostring**
CA	**fromstring tostring**
CA	**fromstring tostring**
C	(note that a **C** with no data will repeat the prior **C** command)

Operand Definitions

fromstring is the search string. The **fromstring** can be a quoted (case sensitive) or unquoted (case insensitive) string. If the **fromstring** contains embedded blanks, then it must be quoted. If the **fromstring** contains single quotes, then it must be quoted using double quotes. If the **fromstring** contains double quotes, then it must be quoted using single quotes.

tostring will appear in the case that it was entered. However, if the value is a data set name, the editing will force it to uppercase. If the **tostring** contains embedded blanks, then it must be quoted. If the **tostring** contains single quotes, then it must be quoted using double quotes. If the **tostring** contains double quotes, then it must be quoted using single quotes.

The **C** command will look at all of the values that comprise an entry in the DSNL, although some of the values may not be visible. It will begin with the entry currently positioned at the top of the panel. If a match is found, the **fromstring** will be changed to the **tostring** and the entry will be positioned to the top of the panel. Every occurrence of the value in that entry will be changed.

The **CA** command will look at every value in every entry of the DSNL. It will look at values that may not be visible on the panel. If a match is found, the **fromstring** will be changed to the **tostring** and the search will continue. Upon completion, the DSNL will be positioned to the first entry in the DSNL.

If no match is found, the DSNL will remain positioned as it was and a message will be returned noting that the value could not be found.

COPY

With the **COPY** command, you can copy an existing DSNL into the DSNL you are viewing. The copied DSNL is inserted after the location you specify with the **A** (Add after) line command (see Line Commands Used in DSNL). The copied list remains unchanged.

The **COPY** command has the following format:

COPY dsnlname

In the above command, **dsnlname** is a 1 to 8 character name of an existing DSNL.

CREATE

You can create a new DSNL by using the **CREATE** command.

The **CREATE** command has the following format:

CREATE dsnlname

In the above command, **dsnlname** is a 1 to 8 character name of a DSNL.

Upon execution of this command, the **CREATE** a Project Data Set Name List panel is displayed, allowing you to create a new DSNL using a combination of several different methods to retrieve data set names and include them in the new DSNL.

If END is pressed upon initial entry, a DSNL is created with one null entry.

Option 4 allows you to change the project DSN where DSNLs are stored.

The following example shows the result of entering a CREATE NEWDSNL command, to create a new DSNL named NEWDSNL in MAXSPF.TABLES.

```
MAX/PDF --------- CREATE A PROJECT DATA SET NAME LIST     0 ENTRIES IN NEWDSNL
 COMMAND ===>

 Projects data set name (where DSNLs are stored/fetched).
   PROJECT DSN. . . . : MAXSPF.TABLES

 Specify the data set name(s) to include in the new PROJECT DSNL=NEWDSNL

 Select one of the following. Then press Enter.
 _   1 - Select data sets from Catalog
     2 - Select data sets from another DSNL list
     3 - Insert an Entry directly
     4 - Change Project DSN where DSNLs are stored

 Enter a high level qualifier (option 1), or DSNL name (option 2) below:
  DSNAME LEVEL, or DSNL    ===>


  Press END to display newly created DSNL.
  Enter CANCEL to return without creating DSNL.
```

Figure 22: **CREATE** a Project Data Set Name List panel

When the panel is initially displayed, enter an 'S' line command for each entry you want to include in the new DSNL.

The following panel displays the result of specifying option 1 - Select data sets from catalog as well as specifying a high level qualifier in the **CREATE DSNL** function.

```
------------------------- INSERT ENTRIES FROM CATALOG---------------- IDC3012I
 COMMAND ===>                                                SCROLL ===> CSR
 S -elect entries that you want inserted into  DSNL=NEWDSNL  .
   -------------------------------- DATASETS --------------------------COBOL
 _ MXS.MAXPDF.EXECS
 S MXS.MAXPDF.JCL
 _ MXS.MAXPDF.MESSAGES
 S MXS.MAXPDF.PANELS
 _ MXS.MAXPDF.TABLES
 ******************************** Bottom of data ********************************
```

Figure 23: Create Selection List panel

In this example, the second and fifth entries in the list were selected to be added by placing S (as indicated by arrows) next to them, then pressing ENTER.

DELETE

Use the **DELETE** command to eliminate an existing DSNL.

The **DELETE** command has the following format:

DELETE dsnlname

In the above command, **dsnlname** is a 1 to 8 character name of an existing DSNL.

If you delete the DSNL you are viewing, a **PROFILE** command display is shown for you to select another DSNL to view. See the **PROFILE** command for additional information.

Before any **DELETE** is processed, an additional panel is displayed to confirm the request.

Note: Deleting a DSNL will not delete the data sets in the list.

F (Find)

Use the **F** command to position to the next occurrence of the string to the top of the panel.

The **F** command has the following format:

F string
F string
F (entered with no data will repeat the prior find command)

Operand Definitions

string can be a quoted (case sensitive) or unquoted (case insensitive) string. If **string** contains embedded blanks, then it must be quoted. If **string** contains single quotes, then it must be quoted using double quotes. If **string** contains double quotes, then it must be quoted using single quotes.

The **F** command will look at all of the values that comprise an entry in the DSNL, although some of the values may not be visible. If a match is found, the entry will be positioned to the top of the panel. If no match is found, the DSNL will remain positioned as it was and a message will be returned noting that the value could not be found.

LISTCAT

With the **LISTCAT** command, you can display a list of data sets from the OS catalog.

The **LISTCAT** command has the following format and/or aliases:

LISTCAT	**XXXX.XXXX full qualifier**
LISTCAT	**XXXX.XXX* partial qualifier**
LISTC	"
LC	"

In the above command, **qualifier** is any high level data set name qualifier. If you omit the qualifier, a panel appears where you can enter it. **LISTCAT** supports both full and partial qualifiers. The high order qualifier, however, must always be fully specified. This is an MVS requirement.

The following example panel displays the result of entering a `LC MXS.MXRXTEST` DSNL command.

```
LISTCAT=MXS.                                                    IDC0002I
 COMMAND ===>                                                SCROLL ===> CSR
 B -rowse data set   E -dit data set   Y - Data set Utility   X - MAX Data/Util
 S -elect entry      C -opy entry
         ------------------ DATASETS ------------------
 _     1 MXS.MXRXTEST.BIGLRECL
 _     2 MXS.MXRXTEST.FLEET
 _     3 MXS.MXRXTEST.KSDS
 _     4 MXS.MXRXTEST.SAM
 ****************************** Bottom of data ********************************
```

Figure 24: **LISTCAT** Primary Command in DSNL panel

MOVE

Use the **MOVE** command to move the contents of an existing DSNL into the DSNL you are viewing. It is inserted after the location specified with the **A** line command and its name is deleted from the list of available DSNLs, upon successful execution of this command.

The **MOVE** command has the following format:

MOVE	**dsnlname**

In the above command, **dsnlname** is a 1 to 8 character name of an existing DSNL.

PROFILE

The **PROFILE** command displays a list of all DSNLs currently available to the user.

The **PROFILE** command has the following format:

PROFILE

Upon entry, a panel is displayed allowing you to change the Project DSN where DSNLs are stored. The last 10 Project DSNs used are also displayed and may be selected by placing an 'S' next to one of them. Upon entry, a list of all DSNLs currently available in that Project DSN is then displayed.

There are three line commands that are specific to the **PROFILE** command and made available to users after the **PROFILE** command list has been displayed. These commands are:

D (Delete) - Line Command
R (Rename) - Line Command
S (Select) - Line Command

The following example panels display the results of the **PROFILE** command in MAX/PDF DSNL.

The current Project DSN of MAXSPF.TABLES is displayed for confirmation or change.

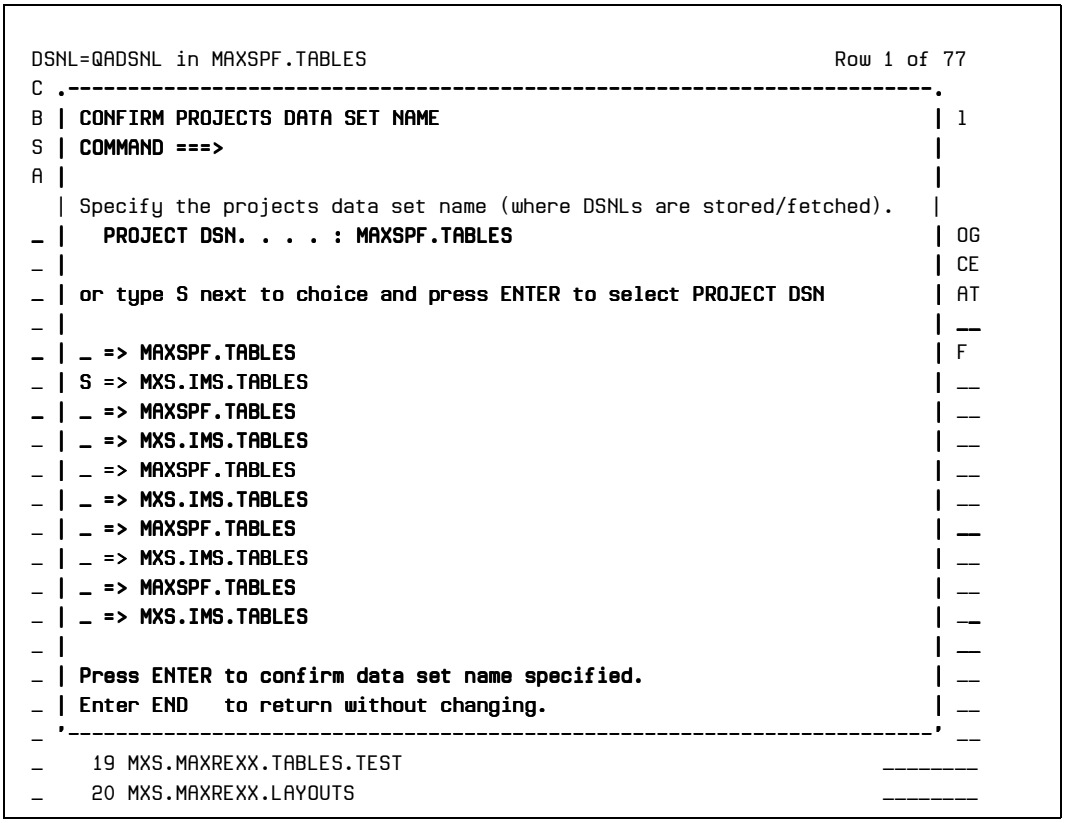

Figure 25: **PROFILE** Project DSN Confirmation panel

Entry of an 'S' next to MAX.IMS.TABLES selects it as the new Project DSN whose profile is displayed as follows:

```
LIST ALL DSNLs in MXS.IMS.TABLES                                  Row 1 of 65
 COMMAND ===>                                                  SCROLL ===> CSR
 S -elect for processing            D -elete                         R -ename
   NAME    MSG            -- CREATED --    -- CHANGED --      CUR   MOD USER
 _ BENCH
 _ BYTEME
 _ CAV240
 _ CA154
 _ CK4
 _ CMVS
 _ DB2
 _ IBMREXX
 _ IMS
 _ IMSTRIAL
 _ IMS61
 _ JANDSNL
 _ LDCT
 _ MAKEREL
 _ MARTEMP
 _ MARTEST
 _ MAXDEVL
 _ MAXGML
 _ MAXPROJ
```

Figure 26: **PROFILE** Primary Command in DSNL panel

The following three primary commands (**DELETE**, **RENAME**, **SELECT**) are **PROFILE** sub-commands and can only be entered after you issue the **PROFILE** command.

DELETE

To **DELETE** a DSNL, type the single letter 'D' in the command area to the left of the data set. When you press the ENTER key, the DSNL is deleted.

Note: Deleting a DSNL will not delete the data sets in the list.

RENAME

To **RENAME** a DSNL, type the single letter 'R' in the command area to the left of the data set. A panel is then displayed requesting the new name for the data set.

SELECT

To **SELECT** a DSNL for processing, type the single letter 'S' in the command area to the left of the data set. Press the ENTER key and the data set name list is presented.

RC (Repeat Change)

Use the **RC** command to position to the next occurrence of the string entered in the previous **C** command and make the change as was entered.

RC

No data string is entered with this command. The repeat change will repeat the previous **C** (change) command

RESET

The **RESET** command clears any outstanding **COPY** command, pending **A** (Add after) line commands, as well as any **ADD PENDING** or **COPY** pending commands.

The **RESET** command has the following format and/or aliases:

RESET
RES

RF (Repeat Find)

Use the **RF** command to position to the next occurrence of the string found by a prior **F** command that has been positioned to the top of the panel.

The **RF** command has the following format:

RF

No data string is entered with this command. The Repeat find will find the data that was entered for the prior **FIND** command.

View Another Data Set Name List

To view a specific DSNL, type the name of the DSNL at the command prompt.

This command has the following format:

dsnlname

In the above command, the **dsnlname** specified is the 1 to 8 character name of an existing DSNL.

Line Commands Used in DSNL

Line commands generally apply to individual data set entries in a DSNL. Enter Line Commands to the left of a data set name entry. The command will effect only the entry next to it.

The following Line Commands are discussed in this section:

A (Add after)
B (Browse)
C (Copy)
D (Delete)
E (Edit)
I (Insert)
J (submit a Job) Submit a member to the JES queue from this data set
M (Move)
R (Repeat)
S (Select)
U (Update)
X MAX Data/Util, MAX DB2/UTIL, or MAX IMS/UTIL
Y (Utilities Commands)

A (Add after)

The **A** (Add after) command is used with primary commands to move or copy entire DSNLs, or with line commands to move or copy DSNL entries.

Typing an `A` in the command area to the left of a specified entry inserts the copied or moved DSNL or DSNL entry after that position in the list.

B (Browse)

To browse a DSNL entry, type the single letter B in the command area to the left of the data set.

The results of the **B** (Browse) command depend upon the type of data set selected. If the selected data set is a partitioned data set (PDS) or PDS concatenation, then the MAX/PDF MSL is displayed and the default line command is browse.

If the selected data set is not a partitioned data set (PDS) or PDS concatenation, the ISPF browse is invoked. If the data set cannot be processed by the ISPF Browse (such as in the case of a VSAM data set), MAX Data/Util is invoked. (This requires installation of the companion MAX Data/Util product). If the entry is IMS type, MAX IMS/UTIL is invoked (product must be installed to use). If the entry is DB2 type, MAX DB2/UTIL is invoked (product must be installed to use).

C (Copy)

To copy a DSNL entry, type the single letter 'C' in the command area to the left of the DSNL entry to be copied and type an 'A' to the left of the DSNL entry indicating the target location.

Press the ENTER key and the entry with the 'C' is copied after the target location marked with the 'A'.

D (Delete)

To delete a DSNL entry, type the single letter 'D' in the command area to the left of the entry. A confirmation panel will be presented showing the complete detail for the requested entry before the entry is actually removed from the list.

Deleting a DSNL entry will not delete the data set. To delete a data set from disk, use the Utilities command D (Delete) on page 70.

E (Edit)

To edit a DSNL entry, type the single letter 'E' in the command area to the left of the data set. The results of the **E** (Edit) line command depend upon the type of data set selected. If the selected data set is a partitioned data set (PDS) or PDS concatenation, then the MAX/PDF MSL is displayed. The default line command is Edit.

If the data set cannot be processed by the ISPF editor (such as in the case of a VSAM data set, a SAM file containing records longer than 255 bytes, or an extremely large SAM file), MAX Data/Util will be invoked. (This requires installation of the companion MAX Data/Util product). If the entry is IMS type, MAX IMS/UTIL is invoked (product must be installed to use). If the entry is DB2 type, MAX DB2/UTIL is invoked (product must be installed to use).

I (Insert)

To insert a DSNL entry, type the single letter 'I' in the command area to the left of the data set where an insertion is to be made. The following panel will be displayed to provide choices of what to insert.

```
DSNL=MAXDEVL -------------- INSERT OPTIONS ------------------ USER=MX11003
 COMMAND ===>                                                 DATE=2003/03/05
                                                              TIME=11:28:21
 _   Select type entry to insert.

      1  FUNCTION  - ISPF function
                     (Menu PANEL, PROGRAM, CLIST, REXX EXEC, TSO COMMAND)

      2  DATA SET  - PDS, PDS concatenation, Sequential, or VSAM file

      3  IMS DB    - IMS/UTIL DB

      4  DB2 TABLE - DB2 Database Table

      5  UNIX File - Enter path name

      6  DSNAMES   - Select data sets from Catalog
         Enter a high level qualifer (option 6) below:
         DSNAME LEVEL  ===>

 Press ENTER to continue, or END to return.
```

Figure 27: Insert Options panel

The following display and describe each **I** (Insert) option from the panel above.

Insert: Select option 1. FUNCTION

The following panel is displayed:

```
DSNL=MX10002 ------------- INSERT FUNCTION ------------------ USER=MX10002
 COMMAND ===>                                                  DATE=2002/11/12
                                                               TIME=13:50:12
 FUNCTION - PANEL, CMD or PGM (see syntax below):
 SELECT  ===>

 Syntax:    { PANEL(panel-name) < OPT(option) >                          }
            { CMD(command) < LANG(APL) > < MODE(LINE|FSCR) >             }
            { PGM(program-name) < PARM(parameters) > < MODE(LINE|FSCR) > }
            < NEWAPPL < (application-id) >  < PASSLIB > | < NEWPOOL >  >
 Specify Description to appear in DSNL:
DESCRIPTION ===>
 LIBDEF data sets:                                    STACK/COND/UNCOND/volser
 ISPLLIB ===>                                              ===>
 ISPMLIB ===>                                              ===>
 ISPPLIB ===>                                              ===>
 ISPSLIB ===>                                              ===>
 ISPTABL ===>                                              ===>
 ISPTLIB ===>                                              ===>
         ===>                                              ===>
         ===>                                              ===>
         ===>                                              ===>

 GO process data sets/cmds;  END return with updates;  CANCEL return no updates
```

Figure 28: Insert Function panel

In this example, the program ISPYXDR has been entered with the description of `Dialog Test`.

Field Descriptions:

`COMMAND ===>`: Primary commands may be entered at the command line.

`SELECT ===>`: The target of a valid ISPF SELECT function should be entered following the `SELECT ===>`. The function should be a panel, a TSO command or a program. The syntax is shown below the entry field.

DESCRIPTION ===>: Text may be entered to explain the function. It will be displayed on the DSNL entry line. If nothing is entered, the function will be displayed on that line.

LIBDEF Data Sets: Use LIBDEF to define the application level libraries that will be in effect while the application is running.

ISPLLIB===>: Load module library.

ISPMLIB===>: Message library.

ISPPLIB===>: Panel library.

ISPSLIB===>: Skeleton library.

ISPTABL===>: Table output library.

ISPTLIB===>: Table input library.

STACK/COND/UNCOND/volser:

STACK: Use this application level library regardless of the existence of an application level library being previously defined. Restore any prior allocations upon completion of using these libraries. This option is the default.

COND: Use this application level library only if no application level library was previously defined.

UNCOND: Use this application level library regardless of the existence of an application level library previously defined.

Volser: Enter the volume serial number for USER DEFINED data sets. (See the following.)

USER DEFINED Data Sets: Following the LIBDEF statements are fields available to enter up to 3 user defined data sets to be allocated and used by the Function, Command or Program. Enter the DDNAME in front of the arrow and the Data Set name following the arrow. If the data set is not in the catalog, enter the Volser under the column STACK/COND/UNCOND/volser:

Insert: Select option 2. DATA SET

and the following Insert Entry panel is displayed. In this example, the data set

MAX001.MAXTEST.EXECS

has been entered.

```
DSNL=MAXDEVL -------------- INSERT ENTRY -------------------- USER=MX10002
 COMMAND ===>                                                 DATE=1999/11/02
 A - Allocate new data set    C - Catalog data set            TIME=10:09:25
 R - Rename entire data set   U - Uncatalog data set
 D - Delete entire data set   I - Data set information   X - Compress data set
 *** Delete name with ERASE EOF - overtype to make changes ***

 _   DSN ===> MAX001.MAXTEST.EXECS                        VOLSER ===>
              PDS concatenations to the entry listed above
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
 _   DSN ===>                                            VOLSER ===>
  MEMBER ===>
COMMANDS ===>
DESCRIPTION ===>
              COBOL Copybook data set and member name ----*
     DSN ===>                                            VOLSER ===>
  MEMBER ===>
 GO process datasets/cmds;  END return with updates;  CANCEL return no updates
```

Figure 29: Insert Data Set panel

The utility functions shown at the top of the Insert Entry Panel may be used with all DSNs shown on the Insert Entry Panel.

Field Descriptions:

COMMAND ===>: Primary commands may be entered at the command line.

DSN ===>: Data set names may be entered on the lines indicated with a DSN ===>. Up to nine data sets may be specified for each DSNL entry; concatenating all data sets specified.

VOLSER ===>: If a data set is not cataloged, the volume serial number must be entered to the right of the data set name after the VOLSER ===>, to uniquely locate and identify the data set.

MEMBER ===>: A member name or pattern may be entered in this field to select a specific member to be edited or browsed or to select a subset of members to be included in the Member Selector List.

COMMANDS ==>: Commands may be entered in this field that will be automatically executed when this entry is selected. Alpha commands bypass the menu and are invoked immediately.

DESCRIPTIONS ===>: A text string may be entered following the DESCRIPTIONS ===> to explain the contents of the DSNL entry.

COBOL Copybook data set and member name —*

The data set name of the library containing the Cobol copybook member shown below may be entered in this field.

The member name of a Cobol copybook may be entered in this field. The presence of a Cobol Copybook data set name and member name specifies that a COBOL copybook will to be used to display information from a SAM or VSAM file when this entry is selected for browse or edit.

Insert: Select option 3. IMS DB

and the following entry panel is displayed:

```
DSNL=TESTIMS ---------------- INSERT IMS DB ----------------- USER=MX11005
COMMAND ===>                                                  DATE=2001/11/06
                                                              TIME=16:44:10
END  to return with updates  CANCEL to return no updates  GO process IMS/UTIL
DOWN to scroll forward       UP     to scroll backward
                                                                 More:     +
SPECIFY PSB PANEL VARIABLES
IMSID        ===> IMS1________
PSB NAME     ===> DFSSAM03
PCB/DBD NAME ===> #1______       (*=Display DB PCB selection list)
IMS RUN MODE ===> DLI            (BMP, DLI)
MAPPING DSN  ===> 'MXS.IMS.COPYLIB'_______________________________
MAPPING MEM  ===> DI21PARC
COMMANDS     ===> ________       (Alpha command is invoked immediately)
DESCRIPTION  ===> IMS/UTIL DFSSAM03/DBPCB01 - DLI MODE_____________________

PROFILE VARIABLES UPDATED
AGN CODE     ===> ________       (BMP run mode only)
DBDLIB 1     ===> 'IMS.DBDLIB'_____________________________________
DBDLIB 2     ===> _____________________________________________
PSBLIB 1     ===> 'IMS.PSBLIB'_____________________________________
PSBLIB 2     ===> _____________________________________________
User LOADLIB ===> _____________________________________________
User RESLIB  ===> _____________________________________________

DLI ALLOCATIONS   DDNAME       DATASET NAME
DB DSN 1     ===> DI21PART     'IMS.DI21PART'_____________________________
DB DSN 2     ===> DI21PARO     'IMS.DI21PARO'_____________________________
DB DSN 3     ===> ________     _____________________________________________
DB DSN 4     ===> ________     _____________________________________________
   ETC.
DB DSN 24    ===> ________     _____________________________________________..
```

Figure 30: Insert IMS DB panel

MAX IMS/UTIL parameters to process `PSB=DFSSAM03  PCB=#1` in `IMSID=IMS1` and DLI run mode have been entered. Upon selection, these and any other entries will be passed to MAX IMS/UTIL for processing.

Field Descriptions:

`COMMAND ===>`: Primary commands may be entered at the command line.

`IMSID ===>`: IMS subsystem ID to connect.

`PSB NAME ===>`: PSB name to process.

PCB NAME ===>: PCB name or relative database PCB number.

IMS RUN MODE ===>: BMP or DLI (offline batch).

MAPPING DSN ===>: The data set name of the library containing the COBOL/PL/I copybook mapping criteria member shown below may be entered in this field.

MAPPING MEM ===>: The member name of a COBOL/PL1 copybook mapping criteria that will be used to display IMS segments in formatted mode. Specify DEFAULT to request default mapping criteria.

COMMANDS ===>: MAX IMS/UTIL menu commands may be entered in this field that will automatically be executed when this entry is selected. Alpha commands bypass the MAX IMS/UTIL menu and are invoked immediately.

DESCRIPTION ===>: A text string may be entered to explain the DSNL entry.

AGN Code ===>: The one-to-eight character group name for inter-region communication security. This value becomes the AGN parameter which is passed to the IMS DFSRRC00 program when initiated to edit, unload, or load database segments in BMP mode. The logged on user must be authorized to use the specified application group name.

DBDLIB 1,2 ===>: The name of up to two partitioned data sets containing standard DBD load modules defined for each IMS database to be accessed. These load modules are produced from the standard output of the IMS DBDGEN process.

PSBLIB 1,2 ===>: The name of up to two partitioned data sets containing standard PSB load modules defined for each IMS database to be accessed. These load modules are produced from the standard output of the IMS PSBGEN process.

User LOADLIB ===>: The name of a partitioned data set (DSORG=PO) that is concatenated second to the TASKLIB data set list.

User RESLIB ===>: The name of an authorized IMS RESLIB partitioned data set that is concatenated third to the TASKLIB data set list. The data set is also concatenated to the DFSRESLB ddname for DLI run mode.

DLI ALLOCATIONS ===>: The DDname and data set name of up to 24 IMS Database data sets to be allocated when running in DLI mode.

Insert: Select option 4. DB2 TABLE

and the following insert entry panel is displayed:

```
DSNL=MX10002 --------------- INSERT DB2 TABLE --------------- USER=MX11002
 COMMAND ===>                                                  DATE=2003/01/29
                                                               TIME=14:21:49
 SPECIFY DB2 PANEL VARIABLES
 OWNER ID        ===> ________          (Wild cards (% or _) may be used)
 TABLE/VIEW NAME ===> ____________________________________________________
                      ____________________________________________________
                      ________________  (Wild cards (% or _) may be used)
 DB2 SUBSYSTEM   ===> ____

 INITIAL DISPLAY ===> FORMATTED__       (Formatted, Horizontal)
 CRITERIA DSN    ===> ____________________________________________________
 CURRENT SQLID   ===> ________
 COMMANDS        ===> ________          (Alpha command is invoked immediately)
 DESCRIPTION     ===> ____________________________________________________

 GO process DB2 table;  END return with updates;  CANCEL return no updates
```

Figure 31: Insert DB2 Table panel

MAX DB2/UTIL parameters to process `DB2 TABLE = SYSIBM.LOCATIONS` in `subsystem = DSN1` have been entered. Upon selection, these and any other entries will be passed to MAX DB2/UTIL for processing.

Field Descriptions:

`COMMAND ===>`: Primary commands may be entered at the command line.

`OWNER ID ===>`: High-level qualifier of DB2 table. Use the '`%`' wildcard when any number of characters can be substituted. Use one or more '`_`' wildcards when a single character can be substituted.

`TABLE/VIEW NAME ===>`: DB2 Table or View name. Use the '`%`' wildcard when any number of characters can be substituted. Use one or more '`_`' wildcards when a single character can be substituted.

`DB2 SUBSYSTEM ===>`: DB2 subsystem ID to connect.

`INITIAL DISPLAY ===>`: Initial display format to use (Formatted, Horizontal).

`CRITERIA DSN ===>`: The optional data set and/or member name in parentheses containing previously saved selection criteria. If member name is not specified, a member list is displayed for selection.

`CURRENT SQLID ===>`: Optional user ID passed to DB2. Blank defaults to log on user ID.

`COMMANDS ===>`: Menu option to be passed to MAX DB2/UTIL when entry is selected. Alpha commands bypass the MAX DB2/UTIL menu and are invoked immediately.

`DESCRIPTION ===>`: A text string may be entered to explain the DSNL entry.

Insert: Select option 5. UNIX File

This option allows you to display a directory in the UNIX file system or a file in the UNIX file system.

```
DSNL=MX10002 --------------- INSERT UNIX FILE --------------- USER=MX11002
 COMMAND ===>                                                 DATE=2003/01/22
                                                              TIME=11:53:30
 Enter UNIX file name... /u




 COMMANDS        ===>                    (Alpha command is invoked immediately)
 DESCRIPTION     ===>

 GO process UNIX file;  END return with updates;  CANCEL return no updates
```

Figure 32: Insert UNIX File panel

Field Descriptions:

UNIX file name ===>: Enter the directory or a complete File name to be viewed.

COMMANDS ===>: Menu option to be passed to the UNIX File display system when the option is selected.

DESCRIPTION ===>: a text string may be entered to explain the DSNL entry.

On the previous panel, the directory description '/U' was entered. When this entry is selected, the directory will be presented as follows:

```
 FSL /u                                                          MAX/PDF VNNN
COMMAND ===>                                                  SCROLL ===> PAGE
A - ttributes    B - rowse    D - elete    E - dit    V - iew
  Message Permissions User    Group Size    Last modified    File name
_          drwx------ MX11002 SYS1  8192 2003/01/13 08:56:34 ./
_          drwxr-xr-x MX11002 SYS1  8192 2003/01/21 14:16:10 ../
_          drwxr-xr-x MX11002 SYS1  8192 2003/01/22 11:55:16 dbond/
_          drwxr-xr-x MX11002 SYS1  8192 2002/11/13 16:21:59 ibmuser/
_          drwxr-xr-x MX11002 SYS1  8192 2000/10/31 15:32:58 open1/
_          drwxr-xr-x MX11002 SYS1  8192 2000/10/31 15:33:04 open2/
_          drwxr-xr-x MX11002 SYS1  8192 2000/10/31 15:33:08 open3/
_          drwxr-xr-x MX11002 SYS1  8192 2000/10/31 15:33:14 p390/
****************************** Bottom of data ********************************
```

Figure 33: View UNIX File panel

Insert: Select option 6. DSNAMES

With associated high level qualifier(s) and a list of data set names from the catalog will be presented. On the Insert Options panel, the high level qualifier(s) for the data sets to be listed must be entered.

For example, if you enter `MXS.MXRXV153` in the DSNAME LEVEL field on the Insert Options panel, the following panel will be presented. If you had entered only `MXS` as a high level qualifier, likely a longer list of data set names would be displayed.

```
------------------------- INSERT ENTRIES FROM CATALOG---------------- IDC3012I
 COMMAND ===>                                                SCROLL ===> CSR
 S -elect entries that you want inserted into  DSNL=MAXDEVL  .
   -------------------------------- DATASETS -------------------------COBOL
 _ MXS.MXRXV153.EXECS
 _ MXS.MXRXV153.JCL
 _ MXS.MXRXV153.LOADLIB
 _ MXS.MXRXV153.LPALOAD
 _ MXS.MXRXV153.MESSAGES
 _ MXS.MXRXV153.OBJECT
 _ MXS.MXRXV153.OBJECTC
 _ MXS.MXRXV153.OBJECTR
 _ MXS.MXRXV153.PANELS
 _ MXS.MXRXV153.TABLES
 _ MXS.MXRXV153.TEMPLOAD
 ******************************** Bottom of data ********************************
```

Figure 34: Insert Entries from Catalog panel

Enter ‘`S`’ to select the entry or entries to be inserted into the DSNL list.

Line Command Descriptions

J (submit a Job)

To submit a member of a data set to the JES job queue, enter a 'J' in the command area to the left of the DSNL entry for the data set that contains the member. Type the member name into the MEMBER field to the right of the data set name. Press the ENTER key. The member will be submitted to the JES job queue for processing.

M (Move)

To move a DSNL entry, type the single letter 'M' in the command area to the left of the DSNL entry to be moved and an 'A' to the left of the DSNL entry that indicates the target location. When you press the ENTER key, the entry with the 'M' is moved after the target location marked with the 'A'.

R (Repeat)

To repeat a DSNL entry, type the letter 'R' in the command area to the left of the entry to be repeated. The DSNL Insert Entry panel is displayed allowing you to make changes to the newly created entry.

S (Select)

To select a DSNL entry for processing, type the single letter 'S' in the command area to the left of the data set.

The results of the **S (Select)** line command depend upon the data set selected. If the entry selected is a partitioned data set (PDS) or PDS concatenation, a MSL is displayed. If the selected entry is a VSAM or sequential file and MAX Data/Util has been installed, MAX Data/Util is invoked. If this selected entry is IMS, MAX IMS/UTIL is invoked (product must be installed). If this selected entry is DB2, MAX DB2/UTIL is invoked (product must be installed).

Point & Shoot is available to select an entry from the DSNL for processing. Position the cursor to the entry in the DSNL and press the ENTER key. This will be the same as entering an 'S' to select the entry for processing.

U (Update)

The **U (Update)** line command is used to update/change a DSNL entry. You issue this command by typing the letter 'U' in the command area to the left of the DSNL entry. When you press the ENTER key, an Update Entry panel is displayed.

X (MAX Data/Util)

MAX Data/Util is a related product for processing data type files; that is, files that are SAM, or VSAM, that contain data which may optionally be mapped using copybooks. MAX Data/Util provides a complete set of data manipulation utilities including: **BROWSE**, **EDIT**, **COPY/EXTRACT**, **UPDATE**, **IDCAMS**, **COMPARE**, **RECORD MAPPING**, **SELECTION CRITERIA**, etc. for processing data files. (This requires installation of the MAX Data/Util product). If IMS type, MAX IMS/UTIL is invoked (if product is installed). If DB2 type, MAX DB2/UTIL is invoked (if product is installed).

Y (Utilities Commands)

The Data Set Utilities panel is similar to other MAX/PDF panels, allowing a choice of many actions from a single panel. Data sets are entered at the "DSN" prompts. The panel is invoked by entering 'Y' to the left of a data set name listed in a DSNL is shown below.

Any of the line commands **A**, **R**, **D**, **C**, **U**, **I** or **X** can be issued to the left of the data set names. This gives you the opportunity to perform any of these functions on any data set(s) displayed on the following panel.

```
DSNL=MAXDEVL ------------ DATASET UTILITIES ----------------- USER=MX10001
 COMMAND ===>                                                 DATE=2000/10/11
                                                              TIME=12:45:57
 A - Allocate new data set               C - Catalog data set
 R - Rename entire data set              U - Uncatalog data set
 D - Delete entire data set              I - Data set information
 X - Compress data set

 *** Enter utility option next to the dataset below ***

 _   DSN ===> MXS.TEST.PDS2                                 VOLSER ===>
              PDS concatenations to the entry listed above
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
 _   DSN ===>                                               VOLSER ===>
```

Figure 35: Data Set Utilities panel

The following section describes the utility functions that are available when using the MAX/PDF Data Set Utilities panel.

Enter utilities commands to the left of a data set name entry. The command will affect only the entry next to it.

The following utilities commands, as displayed in the previous figure, are discussed in this section:

A (Allocate)
C (Catalog)
D (Delete)
X (Compress)
I (Information)
R (Rename)
U (Uncatalog)

A (Allocate)

To allocate a new data set, first type the name of the new data set next to `DSN ===>`, then, the single letter '`A`' in the command area to the left of the data set. A panel is displayed which requests the attributes for the new data set.

Note: If you want to model the attributes of the new data set after an existing data set you should start by displaying the attributes of that data set with the **I (Information)** command.

```
Menu  RefList  Utilities  Help
 ------------------------------------------------------------------------------
                            Allocate New Data Set
 Command ===>
                                                                        More:     +
 Data Set Name  . . . : MXS.TEST.NEWPDS

 Management class . . .                (Blank for default management class)
 Storage class  . . . .                (Blank for default storage class)
  Volume serial . . . . MAX003         (Blank for system default volume) **
  Device type . . . . .                (Generic unit or device address) **
 Data class . . . . . .                (Blank for default data class)
  Space units . . . . . CYLINDER       (BLKS, TRKS, CYLS, KB, MB, BYTES
                                        or RECORDS)
  Average record unit                  (M, K, or U)
  Primary quantity  . . 1              (In above units)
  Secondary quantity    1              (In above units)
  Directory blocks  . . 0              (Zero for sequential data set) *
  Record format . . . . FBA
  Record length . . . . 121
  Block size  . . . . . 8107
  Data set name type  : PDS            (LIBRARY, HFS, PDS, or blank)  *
                                       (YY/MM/DD, YYYY/MM/DD
  Expiration date . . .                 YY.DDD, YYYY.DDD in Julian form
```

Figure 36: **A(llocate)** New Data Set panel

C (Catalog)

To catalog a data set, type the single letter 'C' in the command area to the left of the data set. You must specify the VOLSER where the data set resides to catalog a data set.

X (Compress)

To compress a data set, type the single letter 'X' in the command area to the left of the data set. No confirmation panel is displayed.

Note: You cannot compress VSAM data sets with this command.

D (Delete)

To delete an entire data set from disk, type the single letter 'D' in the command area to the left of the data set. A confirmation panel is displayed before the data set is deleted. Once the data set is deleted, there is no way to undelete the data set.

Note: You cannot delete VSAM data sets with this command.

I (Information)

To display data set information, type the single letter 'I' in the command area to the left of the data set. A panel showing the attributes of the data set is displayed.

Note: You cannot display information on VSAM data sets with this command.

The following panel is presented as a result of using the **I (Information)** utilities command in MAX/PDF.

```
Data Set Information
 Command ===>

 Data Set Name  . . . : MXS.TEST.PDS2

 General Data                          Current Allocation
  Volume serial . . . : MAX004          Allocated cylinders : 1
  Device type . . . . : 3380            Allocated extents . : 1
  Organization  . . . : PO              Maximum dir. blocks : 25
  Record format . . . : FB
  Record length . . . : 80
  Block size  . . . . : 3120           Current Utilization
  1st extent cylinders: 1               Used cylinders  . . : 1
  Secondary cylinders : 0               Used extents  . . . : 1
                                        Used dir. blocks  . : 1
  Creation date . . . : 2000/10/11      Number of members . : 0
  Referenced date . . : 2000/11/02
  Expiration date . . : ***None***
```

Figure 37: **I(nformation)** Utilities Command panel

R (Rename)

To rename an entire data set, type the single letter '`R`' in the command area to the left of the data set. A panel is displayed requesting the new name for the data set.

Note: You cannot rename VSAM data sets with this command.

U (Uncatalog)

To uncatalog a data set, type the single letter '`U`' in the command area to the left of the data set. No confirmation panel is displayed. Once the data set is uncataloged, the only information remaining in the system about it will be in the VTOC of the VOLSER where it resides, if it exists.

Note: You cannot uncatalog VSAM data sets with this command.

CHAPTER 6: MEMBER SELECTION LIST

Introduction

Although the MAX/PDF MSL may be similar in appearance to the ISPF Member List, it contains several important differences.

To increase the effectiveness of processing partitioned data sets, MAX/PDF combines all the PDS functions into one consolidated panel. The following example panel is a typical MSL that appears when a partitioned data set, that is not a load library, is selected from a DSNL.

```
MSL MXS.MXRXV154.EXECS/MXS.MXRXV154.JCL                          Row 30 of 92
 COMMAND ===>                                                  SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME     MSG   LIB VVMM  CREATED    CHANGED          CUR   INIT  MOD   ID
 _ COPYBOOK         2 0109 1996/01/25 1997/05/30 06:48 22    12          MX10002
 _ DATAUTIL         1 0110 1993/10/01 1996/08/08 08:14 6     8           MX10001
 _ DSCB1            1 0106 1995/06/05 1995/09/28 15:41 44    15          MX10001
 _ DSCB3            1 0101 1995/09/28 1995/12/02 11:46 12    12          MX10001
 _ DSCB4            1 0104 1995/06/05 1995/06/07 13:19 26    26          MX10001
 _ FILETRN          1 0107 1997/01/06 1998/03/06 14:49 106   91          MX11002
 _ HELPRCMP         1 0114 1994/03/28 1998/11/23 16:05 194   16          MX11002
 _ HELP4CMP         1 0101 1998/04/02 1998/11/18 10:03 53    53          MX11002
 _ LIBEXIT1         1 0113 1994/04/26 1997/06/17 08:15 185   39          MX10002
 _ LIBEXIT2         1 0106 1994/08/17 1997/06/17 08:16 138   185         MX10002
 _ LIBEXIT3         1 0101 1996/07/26 1997/06/17 08:16 128   128         MX10002
 _ MAX              1 0120 1999/05/13 2000/11/03 13:08 205   188         MX10003
 _ MAXDFLTS         2 0115 1998/09/14 1999/08/24 09:10 116   7     110   MX11002
 _ MAXEXIT1         1 0112 1994/02/14 1999/11/24 10:45 46    38    1     MAXBAT
 _ MAXFTCMP         2 0127 1998/09/24 1999/11/24 10:46 157   218   159   MAXBAT
 _ MAXFTCM2         2 0101 1998/10/21 1999/11/24 10:46 156   156   1     MAXBAT
 _ MAXFTJCL         2 0123 1998/04/29 1999/11/24 10:46 218   49    220   MAXBAT
 _ MAXFTJC2         2 0102 1998/06/09 1999/11/24 10:46 214   214   179   MAXBAT
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 38: Sample MAX/PDF Member Selection List panel

When the partitioned data set selected from the DSNL is a load library, the following panel is displayed.

```
MSL MXS.MXRXV310.LOADLIB                                        Row 2 of 45
 COMMAND ===>                                                 SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 I - load module information       M - ove          R - ename          X - clude
   NAME     MSG    LIB SIZE     TTR    ALIAS-OF AC AM  RM ----- ATTRIBUTES -----
 _ MAXBAT           1 00062020 000E0F          00 31  31             RN RU
 _ MAXDUTIL         1 0005F328 002306          00 31  31             RN RU
 _ MAXIBAT          1 000620F8 005008          00 31  31             RN RU
 _ MAXIBATO         1 00003430 004F12          00 31  31             RN RU
 _ MAXIEDBO         1 00002258 004F09          00 31  31             RN RU
 _ MAXIEDBR         1 0003E638 004819          00 31  31             RN RU
 _ MAXILEXT         1 00003FC8 004807          00 31  31             RN RU
 _ MAXILINK         1 000014F8 004812          00 31  31             RN RU
 _ MAXITSO          1 00062028 005A0C          00 31  31             RN RU
 _ MAXIUTIL         1 00040E40 004107          00 31  31             RN RU
 _ MAXIVP           1 000053D8 003414          00 31  31             RN RU
 _ MAXLOADN         1 00001430 002D06          00 31  31             RN RU
 _ MAXRRC00         1 00002288 004710          00 31  31             RN RU
 _ MAXTSO           1 00062008 00180F          00 31  31             RN RU
 _ MAXUDA           1 00000B68 00350A          00 31  31             RN RU
 _ MAXVTOC          1 0001F6B0 002D0F          00 31  31             RN RU
 _ MAXXREF          1 00010BE8 00300D          00 31  31             RN RU
 _ MCPIDCMS         1 0000FFA8 000C09          00 24  24             RN RU
 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
```

Figure 39: Sample MAX/PDF Member Selection List panel for a Load Library

Field Descriptions for the MSL Panel:

Member Selection List: The first line of the MSL displays the library name and the current position.

Primary Commands Field: The second line of the MSL displays the command field and the scroll amount field. Applicable to MAX/PDF Member Selection List, there are three types of line commands:

Primary Commands

Line Commands (Line commands can also be used as primary commands.)

Global Utility Commands

The following tables are summarized lists of these commands.

Primary Command	Description
BACK	reestablishes a listing after a **FIND**, **ONLY** or **DUPLICATE**
DL	sets a default line command (when using select)
DUP (Duplicate)	displays duplicate member names when processing
EC or ECMD (Edit Command)	prepares the edit macro
E (Edit)	edits a member with the enhanced editor (invalid for a load library)
FIND	searches all members in the current MSL for specified string(s)
FINDF	finds the first member that contains specified string(s)
LST	prints member names and statistics of current list
ONLY	limits list to members chosen by column values
OPP (Opposite)	displays members not selected by **FIND**, **ONLY** or **DUPLICATE**
PROFILE	displays profile options in effect
PRT	prints the contents of members in the current list
RESET/ALL	rebuilds the MSL from the disk
RESET	reestablishes a listing after **FIND**, **ONLY**, **DUPLICATE** or exclude (**X**)
SHOW	displays additional member information
SORT	sorts members by column(s) specified
SRCHLIM	limits the range of records to be searched in each member
SRCHMAX	sets the maximum number of records searched

See "*MSL Primary Commands*" on page 82 for detailed descriptions for these commands.

Line Command	Description
B (Browse)	browse a member
C (Copy)	copy a member
D (Delete)	delete a member
E (Edit)	edit a member with the enhanced editor (invalid for load library)
F (Find)	display last find command records
J (submit a Job)	submit a member to the JES queue
M (Move)	move a member
P (Print)	print a member
R (Rename)	rename a member
S (Select)	select a member (not displayed)
V (View)	view a member (invalid for load library)
X (eXclude)	exclude a member from the list

These line commands are issued to the left of the member you want to process or may be issued as primary commands.

See "*MSL Line Commands*" on page 96 for detailed descriptions of the line commands listed above.

Global Utility Command	Description
COPY ALL	copies all the members in the current list
DELETE ALL	deletes all the members in the current list
EDIT ALL	edits all the members in the current list
FIND	searches all members in the current MSL for specified strings
FINDALL	find and show all occurrences of a specified string in current MSL
MOVE ALL	moves all the members in the current list
UPDATE ALL	allows update of all members in the current list (either in batch or online)

These primary commands allow global processing of a group of members. The group may be the entire member list or a subset of the list that was created using the **FIND**, **ONLY**, **DUPLICATE** or exclude (**X**) commands.

See "*MSL Global Utility Commands*" on page 101 for detailed descriptions of these commands.

Using the Member Selection List

To demonstrate some of the features of the MSL, an example will be used where we will globally edit a select group of members in our list.

Using the Global Utility Commands

The example below will show the use of the primary commands **EDIT ALL** and **ECMD**, as well as the line command **X**.

1. As a first step, we will type an 'X' next to each member we want to exclude from the list and enter ECMD on the command line to prepare to enter an edit macro.

```
MSL MXS.MXRXV154.EXECS/MXS.MXRXV154.JCL                          Row 30 of 92
 COMMAND ===> ECMD                                              SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME      MSG   LIB VVMM  CREATED    CHANGED          CUR   INIT  MOD   ID
 x COPYBOOK         2 0109 1996/01/25 1997/05/30 06:48 22    12          MX10002
 x DATAUTIL         1 0110 1993/10/01 1996/08/08 08:14 6     8           MX10001
 x DSCB1            1 0106 1995/06/05 1995/09/28 15:41 44    15          MX10001
 _ DSCB3            1 0101 1995/09/28 1995/12/02 11:46 12    12          MX10001
 _ DSCB4            1 0104 1995/06/05 1995/06/07 13:19 26    26          MX10001
 x FILETRN          1 0107 1997/01/06 1998/03/06 14:49 106   91          MX11002
 _ HELPRCMP         1 0114 1994/03/28 1998/11/23 16:05 194   16          MX11002
 _ HELP4CMP         1 0101 1998/04/02 1998/11/18 10:03 53    53          MX11002
 _ LIBEXIT1         1 0113 1994/04/26 1997/06/17 08:15 185   39          MX10002
 _ LIBEXIT2         1 0106 1994/08/17 1997/06/17 08:16 138   185         MX10002
 _ LIBEXIT3         1 0101 1996/07/26 1997/06/17 08:16 128   128         MX10002
 _ MAX              1 0120 1999/05/13 2000/11/03 13:08 205   188         MX10003
 _ MAXDFLTS         2 0115 1998/09/14 1999/08/24 09:10 116   7     110   MX11002
 _ MAXEXIT1         1 0112 1994/02/14 1999/11/24 10:45 46    38    1     MAXBAT
 _ MAXFTCMP         2 0127 1998/09/24 1999/11/24 10:46 157   218   159   MAXBAT
 _ MAXFTCM2         2 0101 1998/10/21 1999/11/24 10:46 156   156   1     MAXBAT
 _ MAXFTJCL         2 0123 1998/04/29 1999/11/24 10:46 218   49    220   MAXBAT
 _ MAXFTJC2         2 0102 1998/06/09 1999/11/24 10:46 214   214   179   MAXBAT
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 40: Excluding Members with the **X** Line Command

2. Next, we issue the edit commands that are to be performed on the group. The edit command in our example changes all occurrences of text within the selected files from '`dsname`' to '`dsn`'.

```
MSL MXS.MXRXV154.EXECS/MXS.MXRXV154.JCL                EDIT COMMANDS REQUIRED
 COMMAND ===>
 Specify valid edit commands and their maximum acceptable return code.
 For example: C FLD-NAME1 FLD-NAME2 ALL                                   4
              END                                                         0
 EDIT COMMAND                                                          MAX RC
 x all_____________________________________________________________     __
 c dsname dsn all__________________________________________________     __
 end_______________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 ___________________________________________________________________     __
 Press ENTER to return with edit commands activated,
 or type END to return without activating
 . . . . . .
```

Figure 41: Issuing ISPF Edit Commands

3. In the final step, we issue the primary command **EDIT ALL**. This command edits our list of members as a group. The change command that was entered in the preceding Specify Edit Commands panel will be performed on each member in the selected list.

```
MSL EC-PENDING/MXS.MXRXV154.EXECS/MXS.MXRXV154.JCL                Row 1 of 92
 COMMAND ===> edit all                                          SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME      MSG   LIB VVMM  CREATED    CHANGED          CUR   INIT  MOD   ID
 _ ASMDUXT1          2 0176 1995/10/05 2001/01/25 10:06 436   386         MX10002
 _ ASMIRXFU          2 0123 1997/01/20 2001/01/25 10:06 83    196   80    MX10002
 _ ASMLCK4           2 0113 1995/10/19 1999/11/24 10:46 57    42    4     MAXBAT
 _ AUTHBATP          2 0117 1996/01/25 1999/11/24 10:46 63    41    6     MAXBAT
 _ AUTHBATT          2 0109 1997/01/06 1999/11/24 10:46 47    44    4     MAXBAT
 _ AUTHBTPR          2 0122 1997/07/02 1999/11/24 10:46 51    15    4     MAXBAT
 _ AUTHBTTR          2 0105 1997/10/30 1999/11/24 10:46 52    47    4     MAXBAT
 _ AUTHDUTL          2 0125 1994/02/11 1999/11/24 10:46 57    23    4     MAXBAT
 _ AUTHMAXX          2 0103 1999/06/04 1999/09/07 15:56 82    97          MX10002
 _ AUTHMPDF          2 0120 1993/01/11 1999/11/24 10:46 57    25    4     MAXBAT
 _ AUTHMREX          2 0102 1998/06/25 1999/11/24 10:46 53    58    4     MAXBAT
 _ AUTHMXCM          2 0119 1997/07/02 1999/11/24 10:46 56    15    4     MAXBAT
 _ AUTHMXRT          2 0104 1997/10/07 1999/11/24 10:46 29    25    1     MAXBAT
 _ AUTHRCMP          2 0120 1994/06/09 1999/11/24 10:46 48    25    4     MAXBAT
 _ AUTHRSQL          2 0123 1993/11/01 1999/11/24 10:46 42    23    4     MAXBAT
 _ AUTHRVSM          2 0126 1993/01/11 1999/11/24 10:46 42    25    4     MAXBAT
 _ AUTHTRIL          2 0111 1996/11/01 1999/11/24 10:46 63    53    4     MAXBAT
 _ AUTHTRL1          2 0109 1997/07/02 1999/11/24 10:46 59    53    6     MAXBAT
 _ AUTHTRL2          2 0129 1996/11/01 1999/11/24 10:46 54    53    5     MAXBAT
```

Figure 42: Issuing the **EDIT ALL** Command

After entering `EDIT ALL`, all changes are made to the members. The MSL statistics are updated to reflect the changes made as shown below.

```
MSL MXS.BATUTIL.EXECS                                          Row 1 of 183
 COMMAND ===>                                                SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME     MSG    LIB VVMM  CREATED    CHANGED          CUR   INIT  MOD   ID
 _ $REXASM  UN-CHGD 1 0108 1998/02/20 1998/10/19 15:45 39    210   6     MX10002
 _ $VRASM   UN-CHGD 1 0105 2000/03/02 1999/09/02 11:05 62    290   62    MX10002
 _ ACHKENQS EDITED  1 0105 1996/03/19 2001/01/25 10:14 372   438   45    MX10002
 _ AMASPZAP UN-CHGD 1 0105 1998/09/09 1999/09/10 10:36 12    14          MX10001
 _ AMBLIST  UN-CHGD 1 0182 1996/03/20 2000/08/24 11:10 15    20          MX10002
 _ AMBLIXX  UN-CHGD 1 0181 1996/03/20 1999/10/06 07:02 15    20          MX11002
 _ ASMRT2   UN-CHGD 1 0100 2000/07/28 2000/07/28 13:11 30    30          MX11002
 _ ASMTXIT  UN-CHGD 1 0107 1999/09/17 1999/09/28 12:37 317   274         MX10002
 _ AUSTTEST UN-CHGD 1 0101 1999/09/23 1999/09/23 06:28 20    16          MX10002
 _ BATCHCMP UN-CHGD 1 0103 1998/10/28 1998/10/28 15:51 133   38          MX10002
 _ BATCOP25 UN-CHGD 1 0101 2001/01/23 2001/01/23 17:10 27    27          MX11002
 _ BATCOP32 UN-CHGD 1 0122 2000/06/09 2000/11/07 16:34 95    93    79    MX11002
 _ BATIMS   UN-CHGD 1 0154 1999/12/10 1999/10/29 13:57 105   22          MX11002
 _ BATIMSH  UN-CHGD 1 0102 1999/09/18 1999/10/30 08:45 96    105         MX11002
 _ BATIMSP  UN-CHGD 1 0106 1999/09/11 1999/10/30 08:42 84    78          MX11002
 _ CALINK   UN-CHGD 1 0100 1999/09/28 1999/09/28 14:20 399   399         MX10002
 _ CMPLTT01 UN-CHGD 1 0102 1999/08/30 1999/09/29 12:05 42    40          MX11002
 _ CNTRLCDS UN-CHGD 1 0102 1997/02/03 1997/02/03 12:23 53    44          MX11002
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 43: Results of Global Edit example

MSL Primary Commands

Enter primary commands at the COMMAND ===> prompt located in the upper left corner of a display panel, utilizing the following guidelines:

- Enter a blank to separate command operands, do not use the cursor keys for spacing.
- Insert or expand operands using the INSERT feature of your keyboard.
- Enter multiple commands in the COMMAND field by entering a semicolon between each command. This process is known as "Command Stacking" (see page 43 for further information).

BACK

The **BACK** command displays the MSL as it was prior to the last **FIND**, **ONLY** or **DUP** commands. You can enter this command at any time following a **FIND**, **ONLY** or **DUP** command. It may be entered once for each time a **FIND**, **ONLY** or **DUP** command is entered.

The command may also be entered as **BACK ALL**. When the **ALL** option is used, the MSL is displayed, as it was prior to all **FIND**, **ONLY** and **DUP** commands.

Note: The **BACK** command is not valid following a **BACK ALL**, **REFRESH/ALL** or **RESET** command.

The **BACK** command has the following format:

BACK [ALL]

DL

The **DL** (Default Line) command sets the default line command. This command will automatically be invoked whenever a **S** (Select) line command or primary command is entered to select a member for processing.

The **DL** command defaults to **B** (Browse) unless you specify another command. You can set the command to **B** (Browse), **E** (Edit), **F** (Find), **P** (Print), or **X** (eXclude). The default line command remains in effect until another default is set, or until exiting from the MSL process.

The **DL** command has the following format:

DL command

Operand Definitions

command is either **E** (Edit), **B** (Browse), **P** (Print), **F** (Find), **X** (eXclude).

DUP (Duplicate)

The **DUP** (Duplicate) command displays any duplicate member names found in the current Partitioned Data Set (PDS) concatenation. Member names that are not duplicated are excluded from the current display, but can be re-established using the **ALL** command.

The **DUP** (Duplicate) command has the following format:

DUP

EC or ECMD (Edit Command)

The **ECMD** command saves a series of ISPF/PDF primary edit commands. Normally, the last command in the series should be **END**. The saved commands are passed to the editor for processing when an **E** (Edit) command is invoked for a member, group of members or PDS. An **ECMD** command remains in effect until you enter another **ECMD** command. You can reset the **ECMD** command by specifying **ECMD OFF**.

You can have the **ECMD** command repetitively invoked on all members in the current list (global editing) by issuing the **EDIT ALL** command after the **ECMD** command has been entered.

The **ECMD** command has the following format and/or aliases:

ECMD	**[OFF]**
EC	**"**

The following example panel is shown demonstrate the **EC** command in the MSL.

```
MSL MXS.BATUTIL.EXECS                                  EDIT COMMANDS REQUIRED
 COMMAND ===>
 Specify valid edit commands and their maximum acceptable return code.
 For example: C FLD-NAME1 FLD-NAME2 ALL                                  4
              END                                                        0
 EDIT COMMAND                                                       MAX RC
 c DSNAME DSN ALL                                                     __
 end                                                                  __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 ____________________________________________________________________ __
 Press ENTER to return with edit commands activated,
 or type END to return without activating
 . . . . . .
```

Figure 44: **ECMD** Primary Command panel

E (Edit)

To edit a member in the MSL, type the single letter 'E' in the command area to the left of the entry. Any commands specified with the **ECMD** will be executed on the member. If there is no **ECMD** in effect, the member will be displayed, and you will be in EDIT mode.

% (EXECUTE CLIST or REXX EXEC)

The **%** (EXECUTE CLIST or REXX EXEC) command allows processing of the current member selection list by a user-written CLIST or REXX EXEC.

The **%** (EXECUTE CLIST or REXX EXEC) command has the following format:

```
%          name
```

Operand Definition

name is a valid CLIST or REXX EXEC name contained in a library concatenated to SYSPROC, or a REXX EXEC in a library concatenated to SYSEXEC.

Note: CLIST member 'FILETRN' is provided in the MAX/PDF EXEC library as a sample. This CLIST will prepare PC file transfer control records for copying members to a PC.

FIND

The **FIND** command searches every member in the current selection list and displays only those members containing at least one of the specified strings. The first seventy bytes of the first record containing the specified string are displayed to the right of the member name.

The **FIND** command has the following format and/or aliases:

```
FIND       string [string...] [begin col] [end col]
F          "
```

Operand Definitions

string can be a character, quoted string, text string or hexadecimal string.

begin col is any number not greater than the length of the record in which the search for the character string is to begin. If no **end col** is specified, then the **begin col** is the only column searched.

end col is any number not greater than the length of the record in which the search for the character string will end. The **end col** cannot be less than the **begin col**.

Note: One set of begin and end columns can be specified for each **FIND** command. The entire record will be searched when no begin or end columns are specified.

The following example shows the result of entering a '`F doc`' command.

```
MSL MXS.BATUTIL.EXECS                                          Row 174 of 183
 COMMAND ===>                                                 SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME     MSG    LIB *---------------------FOUND RECORD--------------------*
 _ TEST0918 FOUND    1 //* DOC: TEST SHORT DATA STRINGS
 _ TEST30A  FOUND    1 //* DOC: TEST ALL TYPES OF DATA STRINGS
 _ TEST6B   FOUND    1 //* DOC: TEST X DATA PROBLEM
 _ TSOBATCH FOUND    1 //* DOC: INVOKE A COMMAND PROCEDURE IN BATCH
 _ TSTEXIT2 FOUND    1 //*  DOC:  ASSEMBLE AND LINK THE RECORD EXIT FOR PASSING
 _ VBSBIG   FOUND    1 //* DOC: MAKE A BIG FILE
 _ VSAMALIA FOUND    1 //* DOC:  ASSIGN AN ALIAS NAME TO A DATASET
 _ VSAMDEF  FOUND    1 //* DOC:  THIS JOB CREATES A SAMPLE KSDS DATA SET FOR MA
 _ VSAMLIST FOUND    1 //* DOC:  ASSIGN AN ALIAS NAME TO A DATASET
 _ XREFJOB  FOUND    1 //* DOC: THE PURPOSE OF THIS JOB IS TO CREATE A CROSS RE
 ******************************** Bottom of data ********************************
```

Figure 45: **FIND** Primary Command in MSL panel

FINDF

The **FINDF** command searches members in the current selection list and displays the first member containing at least one of the specified strings. The **FINDF** command differs from the **FIND** command because the search stops when a member containing the specified string is found.

The **FINDF** command has the following format and/or aliases:

FINDF **string [string...] [begin-col] [end-col]**
FF **"**

Operand Definitions.

string can be a character string, quoted string, text string or hexadecimal string.

begin col is any number not greater than the length of the record in which the search for the character string is to begin. If no **end col** is specified, the **begin col** is the only column searched.

end col is any number not greater than the length of the record in which the search for the character string will end. The **end col** cannot be less than the **begin col**.

Note: One set of begin and end columns can be specified for each **FINDF** command. The entire record will be searched when neither beginning nor ending columns are specified.

LST

The **LST** command prints the current MSL. This command differs from the **PRT** command in that **LST** only prints a list of member names and corresponding statistics.

The **LST** command has the following format:

LST

ONLY

The **ONLY** command displays an MSL with member names that contain a pattern string within a specified column.

The **ONLY** command has the following format and/or aliases:

ONLY **[column_name] string [string...]**
O **"**

Operand Definitions

column_name is an optional column heading name (the default is `NAME`). Valid column headings are `NAME`, `MSG`, `LIB`, `VV.MM (VV)`, `CREATED (CRE)`, `CHANGED (CHA)`, `CUR`, `INIT`, `MOD`, `ID`, `FOUND`, `TTR`, `ALIAS-OF (ALIAS)`, `SIZE`, `AC`, `ATTRIBUTES (ATTR)`, `AM`, and `RM`.

string must be a character string, quoted string or pattern. See "*Entering Strings*" on page 9 for more information about patterns.

For example, to see only load modules with an `AMODE=24`, enter: `'ONLY AM 24'`.

OPP (Opposite)

Use this command to show the list of members not selected in a list that was produced as a result of using **DUPLICATE**/**FIND**/**ONLY**.

The **OPP** command has the following format:

OPP

PROFILE

The **PROFILE** command displays a panel showing options in effect for processing this MSL.

The **PROFILE** command has the following format:

PROFILE

The following panel is an example of the use of the **PROFILE** command in MAX/PDF.

```
MSL MXS.BATUTIL.EXECS   ------------------------------------------------------
 COMMAND ===>

 Passed commands      ===>
 Default line command ===> B             (valid: B, E, F, P, V, X)
 Maximum search lines ===> 50000         (0 = no limit)
 Member search start  ===> 1             (1 = start search from first record)
 Member search limit  ===> 0             (0 = search remainder of each member)
 Space management     ===> NO            (Yes or No)
 Pull down edit menu  ===> NO            (Yes or No)


 END to return to Member Selection List with changes.
```

Figure 46: **PROFILE** Command panel

Field Descriptions for PDS Profile Panel:

Passed commands: This field displays the passed commands from the DSNL entry.

Default line command: This field displays the default line command from the DSNL entry, or specified by the **DL** primary command.

Maximum search lines: This field displays the maximum search lines specified by the **SRCHMAX** primary command.

Member search start: This field displays the start search on a record as specified by the **SRCHLIM** primary command.

Member search limit: This field displays the maximum search lines allowed within each member as specified by the **SRCHLIM** primary command.

Space management: Select YES to utilize, or select NO to disable the ISPF space manager on **END** or **SAVE**.

Pull down edit menu: Select YES to use the edit panel with pulldown menus for command processing (valid with ISPF 4.2 or greater). Select NO not to use the pulldown command menu panel.

PRT

The **PRT** command prints the contents of members in the current MSL.

The **PRT** command has the following format:

PRT

The following panel is displayed as a result of entering the **PRT** command in MAX/PDF.

```
--------------------------- PRINT OPTIONS ----------------------------------
 COMMAND ===>

 SYSOUT dataset options                  Page definition
 --------------------------              --------------------------
 SYSOUT CLASS    ===> X                  PAGE SIZE      ===> 60
 DESTINATION     ===> ________           LINE SIZE      ===> 121
 FORM            ===> _____              TOP MARGIN     ===> 1
 FCB             ===> _____              LEFT MARGIN    ===> 1
 OR ISPF LIST    ===> N         (Y/N)

 Report options
 --------------------------
 FORMAT          ===> CHAR      (CHAR/DUMP)
 HEADINGS        ===> Y         (Y/N)
 FOLD            ===> N         (Y/N) Translate lower case to upper case
 TREAT AS ASA    ===> N         (Y/N)

 Special function
 --------------------------
 ONLY FOUND      ===>           (Y/N) Select only records from last find COMMAND

 Press ENTER to print or END to terminate.
```

Figure 47: **PRT** Command in MSL panel

Print Options

SYSOUT Data Set Options	Description
SYSOUT Class	Any valid JES SYSOUT Class.
DESTINATION	May be any valid JES specified destination.
FORM	Any four-character form identification.
FCB	Indicates the form control buffer to be used.

Page Definitions	Description
PAGE SIZE	Defines the number of lines that will be printed on a page before a page eject takes place. Specify a zero to indicate no page ejection.
LINE SIZE	Defines the length of a line on the page. A data record longer than the line size wraps to the next line.
TOP MARGIN	Specifies the first line on the page where printing will begin following a page eject.
LEFT MARGIN	Specifies the column, from the left side of the page where printing will begin.

Report Options	Description
FORMAT	`CHAR` causes the data records to be printed in character format. `DUMP` causes a hexadecimal printout of the data records.
HEADINGS	Specifies whether or not headings will appear at the top of a page. When printing memos or documentation, it may be desirable not to include headings.
FOLD	Specifies whether lower case characters will be converted to uppercase.
TREAT AS ASA	Specifies whether or not the characters in column one of the data records are to be treated as ANSI (formerly ASA) characters.

Special Function	Description
ONLY FOUND	Specifies whether to print only the records selected with the last **FIND** command.

RESET or ALL

This command reloads the MSL from disk. It can be used when another user has added members to the partitioned data set and you want to see those members in your MSL, since they are normally left in memory. The command may also be entered as `ALL` for compatibility with prior releases.

If the MSL does not need to be reloaded from disk, the **RESET** command can be used to remove the effects of **FIND**, **ONLY**, **DUP** and **X** (exclude) commands.

The **RESET** command has the following formats and/or aliases:

RESET
RES
ALL

REV or CON or OPP

The **REV/CON/OPP** (Reverse, Conversely, Opposite) command displays the members not selected by the previous **FIND**, **ONLY**, or **DUP** primary commands. The command is generally used to show the opposite condition.

The command has the following format and/or aliases:

REV
CON
OPP

SHOW

The **SHOW** command toggles the current MSL between the Member Statistics panel, the Found Record panel, and the Load Module Attributes display.

The **SHOW** command has the following format and/or aliases:

SHOW
SH

The following 3 panels display the formats the **SHOW** command toggles through.

```
MSL MXS.BATUTIL.EXECS/MXS.TEST.MAAPDS                          Row 19 of 314
 COMMAND ===>                                                 SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME      MSG   LIB VVMM  CREATED    CHANGED          CUR   INIT  MOD   ID
 _ BATCOP32        1 0122 2000/06/09 2000/11/07 16:34 95    93    79    MX11002
 _ BATIMS          1 0154 1999/12/10 1999/10/29 13:57 105   22          MX11002
 _ BATIMSH         1 0102 1999/09/18 1999/10/30 08:45 96    105         MX11002
 _ BATIMSP         1 0106 1999/09/11 1999/10/30 08:42 84    78          MX11002
 _ BLDMAP          2
 _ CALINK          1 0100 1999/09/28 1999/09/28 14:20 399   399         MX10002
 _ CALOAD          2 0101 1999/10/19 1999/10/19 10:20 139   139         MX10002
 _ CBMAP01         2
 _ CBOCCUR1        2 0127 1996/05/04 2000/10/03 14:24 12    26          MX10002
 _ CBOCCUR2        2 0120 1996/05/04 2000/08/29 11:37 14    26          MX10002
 _ CBOCCUR3        2 0105 1999/09/04 2000/08/29 11:35 13    19          MX10002
 _ CBOCCUR4        2 0100 2000/08/29 2000/08/29 14:41 14    14          MX10002
 _ CBSAMP1         2
 _ CMPLTT01        1 0102 1999/08/30 1999/09/29 12:05 42    40          MX11002
 _ CNTRLCDS        1 0102 1997/02/03 1997/02/03 12:23 53    44          MX11002
 _ COBOLPGM        1 0102 2000/10/02 2000/12/19 11:22 69    67          MX11002
 _ CONTROL         1 0100 2000/11/22 2000/11/22 08:16 1     1           MX10002
 _ CONVGCB2        2 0103 1999/03/04 2000/08/29 14:59 52    47          MX10002
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 48: **SHOW** Primary Command in MSL panel: Member Statistics

```
MSL MXS.BATUTIL.EXECS/MXS.TEST.MAAPDS                          Row 100 of 314
 COMMAND ===>                                                 SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME     MSG    LIB *----------------------FOUND RECORD---------------------*
 _ MAPCOPY  FOUND    2 /* DOC: DATA/UTIL MAPPING CRITERIA VNNN */
 _ MAPMULT  FOUND    2 /* DOC: DATA/UTIL MAPPING CRITERIA VNNN */
 _ MAPMULT2 FOUND    2 /* DOC: DATA/UTIL MAPPING CRITERIA VNNN */
 _ MAXDFLTS FOUND    1 //*  DOC:  ASSEMBLE AND LINK THE INSTALLATION DEFAULTS F
 _ MXLOAD   FOUND    2 //* DOC: UNLOADS THE MAX PRODUCT FILES FROM THE INSTALLA
 _ NEWPANEL FOUND    2 /* DOC: MAX/PDF - MSL EDIT COMMAND(S) FAILED CONFIRMATIO
 _ REFORMAT FOUND    1 /* DOC: DATA/UTIL REFORMAT CRITERIA VNNN */
 _ REXCMPL  FOUND    1 //* DOC: USE MAX RX/COMPILER TO COMPILE A REXX PGM INTO
 _ RFMT01   FOUND    2 /* DOC: DATA/UTIL REFORMAT CRITERIA V153 */
 _ RFMT02   FOUND    2 /* DOC: DATA/UTIL REFORMAT CRITERIA V153 */
 _ RUNTT00  FOUND    1 //* DOC: INVOKE A COMMAND PROCEDURE IN BATCH
 _ RUNTT002 FOUND    1 //* DOC: INVOKE A COMMAND PROCEDURE IN BATCH
 _ RXCMPLJ1 FOUND    1 //* DOC: USE MAX I-COMPILE A REXX PGM INTO A LOAD MODULE
 _ RXCMPLJ2 FOUND    1 //* DOC: USE MAX RT-COMPILE A REXX PGM INTO A LOAD MODUL
 _ RXCMPLJ3 FOUND    1 //* DOC: USE MAX RT-COMPILE A REXX PGM INTO A LOAD MODUL
 _ SAMDEF   FOUND    1 //* DOC:  THIS JOB CREATES A SAMPLE SAM DATASET FOR USER
 _ SAMPJOB  FOUND    1 //* DOC: UNLOAD SELECTED DATABASE RECORDS
 _ SAVECOMP FOUND    2 * DOC: DATA/UTIL COMPARE CRITERIA, VNNN
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 49: **SHOW** Primary Command in MSL panel: Found Record(s)

```
MSL MXS.MXRXV310.LOADLIB                                        Row 2 of 45
 COMMAND ===>                                                 SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 I - load module information       M - ove          R - ename          X - clude
   NAME     MSG    LIB SIZE     TTR    ALIAS-OF AC AM  RM ----- ATTRIBUTES -----
 _ MAXBAT           1 00062020 000E0F          00 31  31             RN RU
 _ MAXDUTIL         1 0005F328 002306          00 31  31             RN RU
 _ MAXIBAT          1 000620F8 005008          00 31  31             RN RU
 _ MAXIBATO         1 00003430 004F12          00 31  31             RN RU
 _ MAXIEDBO         1 00002258 004F09          00 31  31             RN RU
 _ MAXIEDBR         1 0003E638 004819          00 31  31             RN RU
 _ MAXILEXT         1 00003FC8 004807          00 31  31             RN RU
 _ MAXILINK         1 000014F8 004812          00 31  31             RN RU
 _ MAXITSO          1 00062028 005A0C          00 31  31             RN RU
 _ MAXIUTIL         1 00040E40 004107          00 31  31             RN RU
 _ MAXIVP           1 000053D8 003414          00 31  31             RN RU
 _ MAXLOADN         1 00001430 002D06          00 31  31             RN RU
 _ MAXRRC00         1 00002288 004710          00 31  31             RN RU
 _ MAXTSO           1 00062008 00180F          00 31  31             RN RU
 _ MAXUDA           1 00000B68 00350A          00 31  31             RN RU
 _ MAXVTOC          1 0001F6B0 002D0F          00 31  31             RN RU
 _ MAXXREF          1 00010BE8 00300D          00 31  31             RN RU
 _ MCPIDCMS         1 0000FFA8 000C09          00 24  24             RN RU
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 50: **SHOW** Primary Command in MSL panel: Load Module Attributes

SORT

The **SORT** command sorts the current MSL into the sequence you specify. Specify the sequence by entering one or two column heading names.

The **SORT** command has the following format:

SORT **[name1] [name2]**

Operand definitions

name1 and
name2 are optional column heading names (the default is NAME).

Valid column headings are:

```
AC     ALIAS-OF (ALIAS)ATTRIBUTES (ATTR)
CREATED (CRE)CHANGED (CHA)CUR
FOUND  INIT             ID
LIB    MOD              MSG
NAME   TTR              SIZE
VV.MM(VV)AM             RM
```

For example, to sort by user ID within changed DATE, enter:

SORT CHA ID

SRCHLIM

The **SRCHLIM** command allows you to limit which records will be searched in each member by subsequent **FIND**, **FINDF** and **FIND ALL** commands.

The **SRCHLIM** command has the following format and/or aliases:

SRCHLIM [starting-record] [record-count]
SL "

Operand definitions

starting-record is a number specifying relative record number of the first record to be searched in each member. Records before this number will not be searched. Specify `1` (or `0`) to start the search at the beginning of each member.

record-count is a number specifying the number of records that will be searched in each member once the **starting-record** has been read. Specify `0` to cause entire remainder of each member to be searched once the **starting-record** has been read.

Note: If both **starting-record** and **record-count** are omitted, all records of each member will be searched. If only one number is specified, that number is assumed to be **record-count** and **starting-record** is assumed to be `1`.

SRCHMAX

The **SRCHMAX** command prevents lengthy, uncontrolled searches. This is done by checking the number of records searched against the **SRCHMAX** value in effect during the search. You will be prompted to confirm continuation of the search each time the number of records specified by the **SRCHMAX** has been reached. This number of records may be set to any value desired. The default value is `50000`.

The **SRCHMAX** command has the following format and/or aliases:

SRCHMAX [nnnnnn]
SM "

The **SRCHMAX** value may also be set on the **PROFILE** panel.

MSL Line Commands

These line commands may be entered as primary commands.

Enter line commands to the left of a member name. The command will affect only the entry for which the line command was entered.

The line commands entered in the `Primary Command` field have the following format:

command member-name [number]

Operand Definitions

command	is one of the valid line commands
member-name	is a valid member name. When used with **C** (Copy), **M** (Move), or **R** (Rename), this is the **from-name**.
number	is the data set concatenation number of **member-name** if a PDS concatenation is currently being processed.

The functions of each line command are explained below.

B (Browse)

To browse a member in the MSL, type the single letter '`B`' in the command area to the left of the member name.

C (Copy)

To copy a member in the MSL, type the single letter '`C`' in the command area to the left of the member name to be copied. Press the ENTER key. Another panel appears to prompt you for the output data set and copy options.

D (Delete)

To delete a member in the MSL, type the single letter '`D`' in the command area to the left of the entry. A panel will be displayed requesting confirmation of the delete.

E (Edit)

To edit a member in the MSL, type the single letter '`E`' in the command area to the left of the entry. Any commands specified with the **ECMD** will be executed on the member. If there is no **ECMD** in effect, the member will be displayed, and you will be in **EDIT** mode.

F (Find)

To find specified strings in a member in the MSL, type the single letter F in the command area to the left of the entry.

Note: A **FIND** primary command must be entered before an **F** (Find) line command is issued in order to supply the "search for" strings. For example, to find occurrences of 'SYS1', enter the primary command FIND SYS1, and put an **F** beside each member in the MSL to be searched for the text 'SYS1'. The members containing the "search for" string will then be presented, one at a time, in browse mode. Press PF 3 (END) to bring up each new member.

I (Information about load module)

To display/print summary or detail information about a load module member in the MSL, type the single letter 'I' in the command area to the left of the entry. Press the ENTER key. Another panel prompts you for the output format options. Information such as CSECT name, Dates and Attributes will be presented.

J (submit a Job)

To submit a member to the JES job queue, type a 'J' into the member selection field and press ENTER. The job will be submitted for processing.

M (Move)

To move a member in the MSL, type the single letter 'M' in the command area to the left of the entry. Press the ENTER key and a panel appears to prompt you for the output data set and copy options.

P (Print)

To print a member in the MSL, type the single letter 'P' in the command area to the left of the entry.

The following panel is displayed as a result **P** (Print) MSL line command in MAX/PDF.

```
--------------------------- PRINT OPTIONS -----------------------------------
 COMMAND ===>

 SYSOUT dataset options                  Page definition
 ----------------------------            ----------------------------
 SYSOUT CLASS    ===> X                  PAGE SIZE      ===> 60
 DESTINATION     ===> ________           LINE SIZE      ===> 121
 FORM            ===> _____              TOP MARGIN     ===> 1
 FCB             ===> _____              LEFT MARGIN    ===> 1
 OR ISPF LIST    ===> N         (Y/N)

 Report options
 ----------------------------
 FORMAT          ===> CHAR      (CHAR/DUMP)
 HEADINGS        ===> Y         (Y/N)
 FOLD            ===> N         (Y/N) Translate lower case to upper case
 TREAT AS ASA    ===> N         (Y/N)

 Special function
 ----------------------------
 ONLY FOUND      ===>           (Y/N) Select only records from last find COMMAND

 Press ENTER to print or END to terminate.
```

Figure 51: **Print** Line Command panel in MAX/PDF

The following page defines the print options that are available.

Print Options

SYSOUT Data Set Options	Description
SYSOUT Class	Any valid JES SYSOUT Class.
DESTINATION	May be any valid JES specified destination.
FORM	Any four character form identification.
FCB	Indicates the form control buffer to be used.

Page Definitions	Description
PAGE SIZE	Defines the number of lines that will be printed on a page before a page eject takes place. Specify a zero to indicate no page ejection.
LINE SIZE	Defines the length of a line on the page. A data record longer than the line size wraps to the next line.
TOP MARGIN	Specifies the first line on the page where printing will begin following a page eject.
LEFT MARGIN	Specifies the column, from the left side of the page where printing will begin.

Report Options	Description
FORMAT	'CHAR' causes the data records to be printed in character format. 'DUMP' causes a hexadecimal printout of the data records.
HEADINGS	Specifies whether or not headings will appear at the top of a page. When printing memos or documentation, it may be desirable not to include headings.
FOLD	Specifies whether or not lower case characters will be converted to uppercase.
TREAT AS ASA	Specifies whether or not the characters in column one of the data print control records are to be treated as ANSI (formerly ASA) characters.

Special Function	Description
ONLY FOUND	Specifies whether to print only the records selected with the last **FIND** command.

R (Rename)

To rename a member in the MSL, type the single letter 'R' in the command area to the left of the entry. A panel will be displayed prompting for the new member name.

V (View)

To view a member in the MSL, type the single letter 'V' in the command area to the left of the entry. This command allows you to either browse or edit a member without accidentally changing the physical member. Edit commands are fully functional except for the **SAVE** and **END** commands that prompt you to confirm saving any changes made during the edit session.

X (eXclude)

To exclude an MSL entry from the current MSL, type the single letter '**X**' in the command area to the left of the entry. This command does not physically delete the member from the data set, but suppresses displaying the member in the MSL currently being viewed .

MSL Global Utility Commands

The following pages are detailed descriptions of the global utility commands used in MSL.

COPY ALL

The **COPY ALL** command is used to copy all members in the current MSL to a specified output data set.

The **COPY ALL** command has the following format:

COPY ALL

The following panel displays the result of entering the '`COPY ALL`' MSL command.

```
MSL COPY FROM MXS.TEST.MAAPDS2
 COMMAND ===>

            COPY ALL MEMBERS IN THE CURRENT MEMBER SELECTION LIST

 SPECIFY "TO" DATA SET BELOW.

 TO PARTITIONED OR SEQUENTIAL DATA SET:
    DATA SET NAME ===> mxs.test.pds2
    VOLUME SERIAL ===>              (If not cataloged)

 "TO" DATA SET OPTIONS:
   IF PARTITIONED, REPLACE LIKE-NAMED MEMBER  ===> NO      (YES or NO)
   IF SEQUENTIAL, "TO" DATA SET DISPOSITION   ===> OLD     (OLD or MOD)
   SPECIFY PACK OPTION FOR "TO" DATA SET      ===>         (YES, NO or blank)
   COPY AND LOCK MEMBER                       ===>         (YES, NO or blank)

    Press ENTER to perform copy request.
    Enter END command to cancel copy request.
```

Figure 52: **COPY ALL** Primary Command in MSL panel

DELETE ALL

The **DELETE ALL** command is used to delete all members in the current MSL. After you issue the command, a panel appears which confirms the **DELETE ALL** command.

The **DELETE ALL** command has the following format:

DELETE ALL

Note: The **DELETE ALL** command deletes all members in the current MSL.

EDIT ALL

The **EDIT ALL** command repetitively invokes the edit function on all members in the current MSL, beginning with the first member. Use this command with the **ECMD** command to perform a series of edit commands across a collection of members.

This command can be used with the **ECMD** command to perform "global editing" as explained in "*EC or ECMD (Edit Command)*" on page 83.

The **EDIT ALL** command has the following format:

EDIT ALL

Note: The **EDIT ALL** command invokes the editor once for each member in the current MSL. This command can cause significant CPU resource utilization, depending on the number of members in the current selection list and the size of the members. Resource utilization can be minimized by first excluding from the series of members any to which the **EDIT ALL** command need not apply.

Note: The **ECMD** edit command can be used in conjunction with **EDIT ALL** processing. The **ECMD** may be entered to modify the active list of **EDIT** commands. The **ECMD** command may be useful to terminate **EDIT ALL** processing.

FIND

The **FIND** command searches every member in the current selection list and displays only those members containing at least one of the specified strings. The first seventy bytes of the first record containing the specified string are displayed to the right of the member name.

The **FIND** command has the following format and/or aliases:

FIND	**string [string...] [begin-col] [end-col]**
F	**"**

Operand Definitions

string can be a character, quoted string, text string or hexadecimal string.

begin-col is any number not greater than the length of the record in which the search for the character string is to begin. If no **end-col** is specified, then the **begin-col** is the only column searched.

end-col is any number not greater than the length of the record in which the search for the character string will end. The **end-col** cannot be less than the **begin-col**.

Note: One set of begin and end columns can be specified for each **FIND** command. The entire record will be searched when no begin or end columns are specified.

The following example shows the result of entering a '`F doc`' command.

```
MSL MXS.BATUTIL.EXECS                                          Row 1 of 183
 COMMAND ===>                                                SCROLL ===> CSR
 B - rowse        F - ind          C - opy          D - elete          P - rint
 E - dit          V - iew          M - ove          R - ename          X - clude
   NAME     MSG    LIB *----------------------FOUND RECORD--------------------*
 _ $REXASM  FOUND    1 //* DOC: ASSEMBLE A REXX PROGRAM WITH IBM COMPILER
 _ $VRASM   FOUND    1 //* DOC: THIS JOB IS USED TO REPLACE AN OBJECT MODULE IN
 _ AMASPZAP FOUND    1 //* DOC: DUMP A CSECT
 _ AMBLIST  FOUND    1 //* DOC: PROVIDE AMBLIST OUTPUT
 _ AMBLIXX  FOUND    1 //* DOC: PROVIDE AMBLIST OUTPUT
 _ ASMBAT   FOUND    1 //* DOC: THIS JOB ASSEMBLES MAXBAT INTO DEVELOPMENT LIBR
 _ ASMDUXT1 FOUND    1 //*  DOC:  ASSEMBLE AND LINK THE RECORD EXIT FOR INSERTI
 _ ASMIVP   FOUND    1 //* DOC: USE MAX I-COMPILE TO COMPILE MAXIVP PROGRAM
 _ ASMJOB   FOUND    1 //*  DOC:  ASSEMBLE AND CREATE AN OBJECT MODULE
 _ ASMPROD3 FOUND    1 //* DOC: THIS JOB ASSEMBLES SOME OF THE ALC RUNTIME CODE
 _ ASMPROJ  FOUND    1 //* DOC: THIS JOB IS USED TO REPLACE AN OBJECT MODULE IN
 _ ASMTXIT  FOUND    1 //*  DOC:  ASSEMBLE AND LINK TEST EXITS FOR TESTING ALL
 _ BATCHCMP FOUND    1 //* DOC:  THIS JOB WILL WILL DEMONSTRATE A COMPARE USING
 _ BATCOP25 FOUND    1 //* DOC: TEST JCL IF/CHANGE
 _ BATCOP32 FOUND    1 //* DOC: PERFORMANCE ISSUE IF / MOVE / MOVE AT UNITRIN >
 _ BATIMS   FOUND    1 //* DOC: TEST ALL TYPES OF DATA STRINGS
 _ BATIMSH  FOUND    1 //* DOC: TEST ALL TYPES OF DATA STRINGS
 _ BATIMSP  FOUND    1 //* DOC: TEST ALL TYPES OF DATA STRINGS
```

Figure 53: **FIND** Primary Command in MSL panel

FINDALL

The **FINDALL** command searches every member in the current selection list and displays a report showing the result of this search. The report shows all members searched along with every occurrence of the found string in each member where it is found.

The **FINDALL** command has the following format and/or aliases:

FINDALL **string [begin-col] [end-col]**
FA **"**

Operand Definitions

string can be a character, quoted string, text string, or hexadecimal string.

begin-col is a number not greater than the length of the record in which the search for the character string is to begin. If no **end-col** specified, the **begin-col** is the only column searched.

end-col is a number not greater than the length of the record in which the search of the column in the character string will end. The **end-col** cannot be less than the **begin-col**.

Note: One set of begin and end columns can be specified for each **FINDALL** command. The entire record will be searched when neither beginning nor ending columns are specified.

The following example shows the result of entering a '`FA UNIT`' command.

```
BROWSE - SYS01100.T154119.RA000.MX10002.R0102803 --- LINE 00000000 COL 001 080
 COMMAND ===>                                                 SCROLL ===> CSR
********************************* Top of Data ***********************************
 LISTING OF DATA SET -MXS.BATUTIL.EXECS($REXASM)    LMD=1998/10/19
   ***  NUMBER OF RECORDS FOUND = 0
 LISTING OF DATA SET -MXS.BATUTIL.EXECS($VRASM)    LMD=1999/09/02
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))                          00180004
//SYSUT4   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))                          00190004
//SYSUT1   DD  DSN=&&SYSUT1,UNIT=VIO,SPACE=(1700,(600,100))            01510004
//SYSUT2   DD  DSN=&&SYSUT2,UNIT=VIO,SPACE=(1700,(300,50))             01520004
//SYSUT3   DD  DSN=&&SYSUT3,UNIT=VIO,SPACE=(1700,(300,50))             01530004
//SYSIN    DD  DSN=&&SYSIN,UNIT=VIO,SPACE=(9000,(1000,50)),            01540004
   ***  NUMBER OF RECORDS FOUND = 6
 LISTING OF DATA SET -MXS.BATUTIL.EXECS(ACHKENQS)    LMD=2001/01/25
*   CONVERT INPUT PARAMETER INTO .01 SECOND UNITS FOR STIMER          * 17000000
         MH     R4,=H'100'             CONVERT TO .01 SECOND UNITS      17700000
   ***  NUMBER OF RECORDS FOUND = 2
 LISTING OF DATA SET -MXS.BATUTIL.EXECS(AMASPZAP)    LMD=1999/09/10
   ***  NUMBER OF RECORDS FOUND = 0
 LISTING OF DATA SET -MXS.BATUTIL.EXECS(AMBLIST)    LMD=2000/08/24
   ***  NUMBER OF RECORDS FOUND = 0
 LISTING OF DATA SET -MXS.BATUTIL.EXECS(ASMBAT)    LMD=2001/04/10
//         UNIT=SYSDA,SPACE=(CYL,(2,1,3)),                           00351024
//SYSUT1   DD   DSN=&&SYSUT1,UNIT=VIO,SPACE=(1700,(600,100))          00380000
```

Figure 54: **FINDALL** Primary Command in MAX/PDF MSL panel

MOVE ALL

The **MOVE ALL** command is used to move all members in the current MSL to a specified output data set. The moved members are deleted from the input data set.

The **MOVE ALL** command has the following format:

MOVE ALL

Note: If the record length of the output data set is less than any one of the input data sets, you will be warned that a truncation may result. You can also specify to replace existing members with the same name in the output data set.

The following panel is displayed as the result of entering a 'MOVE ALL' command.

```
MSL MOVE FROM MXS.TEST.MAAPDS2
 COMMAND ===>

            MOVE ALL MEMBERS IN THE CURRENT MEMBER SELECTION LIST

 SPECIFY "TO" DATA SET BELOW.

 TO PARTITIONED OR SEQUENTIAL DATA SET:
    DATA SET NAME ===> mxs.test.testlib2
    VOLUME SERIAL ===>              (If not cataloged)

 "TO" DATA SET OPTIONS:
   IF PARTITIONED, REPLACE LIKE-NAMED MEMBER  ===> NO      (YES or NO)
   IF SEQUENTIAL, "TO" DATA SET DISPOSITION   ===> OLD     (OLD or MOD)
   SPECIFY PACK OPTION FOR "TO" DATA SET      ===>         (YES, NO or blank)
   MOVE AND LOCK MEMBER                       ===>         (YES, NO or blank)

    Press ENTER to perform move request.
    Enter END command to cancel move request.
```

Figure 55: **MOVE ALL** Primary Command in MSL panel

UPDATE ALL

The **UPDATE ALL** command is used to update all members in the current MSL. The update can optionally be "JCL" knowledgeable if the data to be changed is JCL. The update can be performed either online or in batch mode. A preview of the changed data is an option to allow for verification of results prior to actually changing the data.

The **UPDATE ALL** command has the following format:

UPDATE ALL

The following panel appears in response to entering the 'UPDATE ALL' command:

```
MSL MXS.BATUTIL.EXECS                                          Row 1 of 185
 COMMAND ===> update all                                     SCROLL ===> CSR
 B .-------------------------------------------------------------------------.
 E | MSL UPDATE MXS.BATUTIL.EXECS                                            |
   | COMMAND ===>                                                            |
 _ |                                                                         |
 _ |        UPDATE 185 MEMBERS IN THE CURRENT MEMBER SELECTION LIST          |
 _ |                                                                         |
 _ | Specify options:                                                        |
 _ |   SOURCE FORMAT          ===> TEXT    (TEXT, JCL)                       |
 _ |   UPDATE EVERY OCCURANCE ===> NO      (Yes, No)                         |
 _ |                                                                         |
 _ | Update, submit, or verify request:                                      |
 _ |   ACTION REQUEST         ===> VERIFY  (Verify-preview changes only)     |
 _ |                                       (Update-process changes)          |
 _ |                                       (Submit-build MAX/BATCH job)      |
 _ |     PREVIEW COUNT        ===> 20      (0=preview all records per member)|
 _ |                                                                         |
 _ |                                                                         |
 _ |   Press ENTER to perform request.                                       |
 _ |   Enter END command to cancel request.                                  |
 _ '-------------------------------------------------------------------------'
 _ BATIMSH          1 0106 1999/09/18 2001/02/01 10:56 26    105         MX10002
```

Figure 56: **UPDATE ALL** Primary Command in MSL panel

Enter the following options:

SOURCE FORMAT:

- Enter TEXT for text data changes.
- Enter JCL for 'safe JCL' changes; use with members that contain JCL statements.

UPDATE EVERY OCCURRENCE:

- Enter YES to generate operands that will update every occurrence of the value found in each statement.
- Enter NO to update only the first occurrence found in each statement.

ACTION REQUEST:

- Enter VERIFY to preview the changes prior to actually making the changes.
- Enter UPDATE to process the changes online.
- Enter SUBMIT to build a batch job for submission to perform the changes in batch mode.

PREVIEW COUNT:

- Use this count to limit the number of records per member to preview prior to making the changes.

After making the above selections, press ENTER and the following panel will be presented.

```
MSL SELECT/CHANGE MXS.MXRXV154.JCL
 COMMAND ===>
 Press ENTER to select and change records, or END to return without selecting.
 Valid commands: SAVE, COPY.
 Valid CONDitions are: EQ, NE, GT, GE, LT, LE  or LENGTH of scan.
 BEGIN COND/   DATA                                                  And/Or
       LENGTH
                                                                More:     +
 1____  0____  DSNAME_____________________________________________   ___
 Change to:    DSN_____________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
 _____  _____  _____________________________________________________   ___
 Change to:    _____________________________________________________
```

Figure 57: UPDATE ALL

On the panel shown, an update was requested that would search from 'begin Col 1', for the remainder of the record (length=0) for the character string 'DSNAME'. If found, the string would be changed to the value 'DSN'.

The criteria entered to do the update can be saved and used again in a later session. To save the select and change criteria, enter SAVE on the COMMAND ===> line.

The following panel will appear to prompt for the data set name, and optionally member name, in which to save the criteria.

```
MSL SELECT/CHANGE MXS.BATUTIL.EXECS
 C .-------------------------------------------------------------------------.
 P | MSL - SAVE SELECT CRITERIA                                              | .
 V | COMMAND ===>                                                           |
 V |                                                                         |
 B | Specify "TO" data set below.                                            | /Or
   |                                                                         |
   | To partitioned or sequential data set:                                  | +
 1 |    DATA SET NAME ===> MXS.TEST.SAVELIB(CHNGCRIT)                        | D
 C |    DESCRIPTION   ===> MXS.BATUTIL.EXECS                                 |
 _ |    VOLUME SERIAL ===>             (If not cataloged)                    | _
 C |                                                                         |
 _ | "TO" data set options:                                                  | _
 C |   IF PARTITIONED, REPLACE LIKE-NAMED MEMBER  ===> NO     (Yes, No)      |
 _ |                                                                         | _
 C |    Press ENTER to perform save request.                                 |
 _ |    Enter END command to cancel save request.                            | _
 C '-------------------------------------------------------------------------'
 _____  _____  ____________________________________________________________   ___
 Change to:    ____________________________________________________________
 _____  _____  ____________________________________________________________   ___
 Change to:    ____________________________________________________________
 _____  _____  ____________________________________________________________   ___
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
```

Figure 58: Save Criteria panel

In a later session, the select and change criteria can be retrieved by entering COPY on the COMMAND ===> line.

The following panel will be presented. Enter the data set name, and optionally the member name, where the criteria was saved and the selection criteria will be returned in the Select/Change panel.

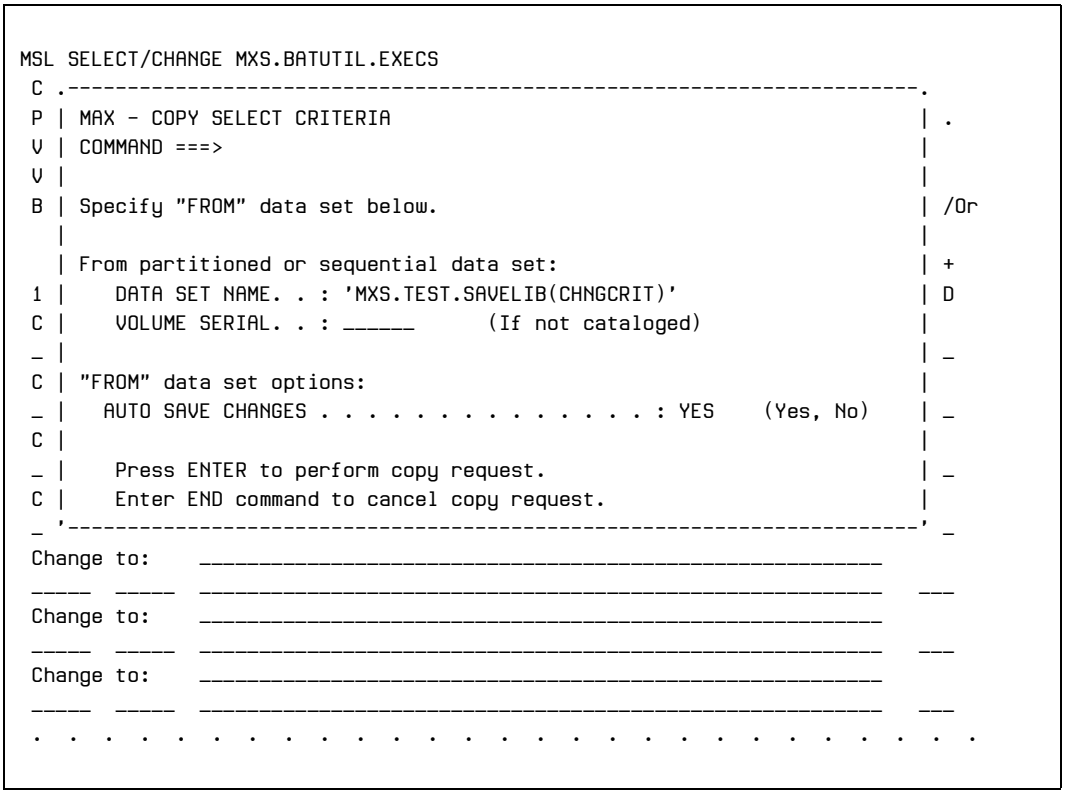

Figure 59: Select/Change panel

CHAPTER 7: FILE SELECTION LIST

Introduction

The File Selection List (FSL) has been designed to allow an MVS user to access files in the UNIX File System using a utility with a similar look and feel to ISPF. The UNIX File system, including HFS, zFS and NFS files and directories can be processed via the FSL. A TSO/ISPF terminal user can edit, browse, and search files within the File Selection List

The starting directory and an optional file name pattern are passed to the FSL from the DSNL facility. The FSL program builds an initial File Selection List for subsequent processing. MAX/PDF combines all of the functions into one consistent panel and allows for ease of use and navigation through the UNIX file system. A typical FSL panel appears as follows.

```
 FSL /                                                          MAX/PDF V320
COMMAND ===>                                                 SCROLL ===> PAGE
A - ttributes    B - rowse    C - opy      D - elete    E - dit    L - ink
M - ove          N - ew       R - ename    T - ouch     V - iew    X - clude
  message Permissions User     Group    last Modified    File name           >
_          drwxr-xr-x OMVSKERN SYS1  2003/03/14 11:38:43 . (current)
_          drwxr-xr-x OMVSKERN SYS1  2003/03/14 11:38:43 .. (parent)
_          drwxr-xr-x OMVSKERN SYS1  2002/11/10 19:48:28 .../
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 $SYSNAME -> $SYSNAME/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 $VERSION -> $VERSION/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 bin -> $VERSION/bin/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 dev -> $SYSNAME/dev/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 etc -> $SYSNAME/etc/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 lib -> $VERSION/lib/
_          -rwxrwxrwx OMVSKERN SYS1  2003/02/12 15:36:45 marcia.tab
_          -rwxrwxrwx OMVSKERN SYS1  2003/02/21 09:13:21 marcia.xml
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 opt -> $VERSION/opt/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 samples -> $VERSION/sa
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 tmp -> $SYSNAME/tmp/
_          drwxr-xr-x OMVSKERN SYS1  2003/03/10 11:47:56 u/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 usr -> $VERSION/usr/
_          lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 var -> $SYSNAME/var/
_          drwxr-xr-x OMVSKERN SYS1  2000/05/03 07:06:27 web/
_          -rw-rw-rw- OMVSKERN SYS1  2003/02/20 15:20:07 MARCIA.XML
```

Figure 60: File Selection List panel

Among the entries on this panel, you can find additional directories, links (both external and symbolic) and files.

If you select another directory, such as:

```
S           drwxr-xr-x OMVSKERN SYS1  2003/03/10 11:47:56 u/
```

and press the ENTER key, you will see the contents of that directory.

```
 FSL /u                                                          Row 1 of 9
COMMAND ===>                                                 SCROLL ===> PAGE
A - ttributes    B - rowse    C - opy      D - elete    E - dit    L - ink
M - ove          N - ew       R - ename    T - ouch     V - iew    X - clude
  message Permissions User     Group    last Modified    File name
_         drwxr-xr-x OMVSKERN SYS1  2003/03/10 11:47:56 . (current)
_         drwxr-xr-x OMVSKERN SYS1  2003/03/14 11:38:43 .. (parent)
_         drwx------ OMVSKERN SYS1  2003/03/24 12:25:02 dbond/
_         drwxr-xr-x OMVSKERN SYS1  2002/11/13 16:21:59 ibmuser/
_         drwxrw-rw- OMVSKERN SYS1  2003/03/18 10:24:51 mx10003/
_         drwxr-xr-x OMVSKERN SYS1  2000/10/31 15:32:58 open1/
_         drwxr-xr-x OMVSKERN SYS1  2000/10/31 15:33:04 open2/
_         drwxr-xr-x OMVSKERN SYS1  2000/10/31 15:33:08 open3/
_         drwxr-xr-x OMVSKERN SYS1  2000/10/31 15:33:14 p390/
****************************** Bottom of data ********************************
```

Figure 61: Next level of directory shown by MAX/PDF File Selection List panel

Note that at the top of the panel, you can see the path you have taken to get to this directory. To return to the prior directory, simply use the END key. Also note that this panel can be scrolled LEFT and RIGHT so that all allowable fields can be viewed.

Profile

Dynamic Screen Presentation

The FSL panel is extremely dynamic. The fields can be viewed in any order and any number of fields can be viewed. Enter PROFILE in the COMMAND field of the FSL panel and pressing the ENTER key, the following panel will be presented.

```
MAX PDF ------------------ UNIX FILE PROFILE OPTIONS ----------------- MAX PDF
COMMAND ===>
Press ENTER to update profile, END to exit or use RESET command for defaults.
Press DOWN  to scroll forward, UP  to scroll backward.
                                                                More:     +

File List Fields. . . . . . . . . . . . . . . . PUGMF
  F  File Name. . . . . . . Show link-to name YES        (Yes or No)
  U  Owning user. . . . . . Show as name. . . YES        (Yes or No)
  G  Owning group . . . . . Show as name. . . YES        (Yes or No)
  P  Permissions and type
  S  Size or node number
  T  Type of file
  D  Data format
  I  Coded Character Set ID (CCSID)
  E  Executable module information
  L  Links
  R  Date/time file was created
  M  Date/time of last modification
  C  Date/time of last status change
  A  Date/time of last access
  B  Date/time of last backup

File List Sequence Field. . . . . . . . . . . F          (See field IDs above)
     Ascending/Descending . . . . . . . . . . A          (A or D)

Confirm emptying of regular file. . . . . . . YES        (Yes or No)
Confirm delete of regular file. . . . . . . . YES        (Yes or No)
Confirm delete of special file. . . . . . . . YES        (Yes or No)
Confirm delete of non-empty directory . . . . YES        (Yes or No)

Terminal code page (ISPF override). . . . . . DEFAULT    (DEFAULT,CP870,CP838)
```

Figure 62: FSL Profile panel

The above panel shows all of the options in the Profile.

The following fields can be chosen to be displayed and the order of display can be determined by the user. Fields that can be displayed on the FSL panel are:

File Name: This field shows the name of the file. By default, any of the following may be appended to the file name:

(current)	indicates the current directory
(parent)	indicates the parent directory
/	indicates a directory
|	indicates a named pipe
@	indicates a symbolic link
&	indicates an external link
->	for a symbolic or external link, the linked-to name will follow

Enter YES or NO in the Show link-to name field to determine if the file name field will include the link and type indicators.

The File Name field is designated the letter 'F'.

Owning user: This field is User ID of the owner of the file. The User ID is stored as a number. By default, the User ID number is translated to and displayed as the corresponding UNIX login ID (name). The User ID can be displayed as the number value. If the number corresponds to more than one login ID, it is unpredictable which login ID will be displayed.

Enter YES in the Show as name field and the user ID will be translated to a user name. If you enter NO, the owning user ID will be displayed as the number.

The Owning user field is designated the letter 'U'.

Owning group: This field is Group ID of the owner of the file. The Group ID is stored as a number. By default, the Group ID number is translated to and displayed as the corresponding UNIX group name. The User ID can be displayed as the number value. If the number corresponds to more than one group name, it is unpredictable which group name will be displayed.

Enter YES in the Show as name field and the owning group ID will be translated to a group name. If NO is entered, the owning group ID will be displayed as the number.

The Owning group field is designated the letter 'G'.

Permissions and type: The permissions field is 10 characters, consisting of 4 groups of letters. The first letter indicates the file type (if it is not a regular file) as follows:

c	character device
e	external link
p	named pipe
d	directory
l	symbolic link

The next 3 groups consist of 3 letters each and indicate the permissions for the owning user, the owning group and all other users respectively. The letter codes in each group are:

r	read permission
w	write permission
x	execute permission

For a directory, x indicates that the directory may be searched.

For example: drwxr-x--x indicates that the file is a directory, that the owning user has read, write and search permissions, users in the owning group can read and search but not write and all other users can only search.

The x position in each permission group may display as a different letter, depending on other file "mode" settings as follows:

First x	The first x position will be displayed as 'S' if the "setuid" mode is set and the file is not executable by the owning user or as 's' if the file is set for both "setuid" and is executable by the owning user.
Second x	The second x position will be displayed as 'S' if the "setgid" mode is set and the file is not executable by the owning group or as 's' if the file is set for both "setgid" and is executable by the owning group.
Third x	The third x position will be displayed as 'T' if the "sticky" mode is set and the file is not executable by others or as 't' if the files is set for both "sticky" and is executable by others.

The Permissions and type field is designated the letter 'P'.

Size or node number: The 'Size' field on the file selection list is the size of the file in bytes. For a character device, this field displays the node number instead of the file size.

The Size or node number field is designated the letter 'S'.

Type of file: The 'Type' field on the file selection list contains one of the following, identifying the file type:

dev	character device
dir	directory
ext	external link
file	regular file
link	symbolic link
pipe	named pipe

The Type of file field is designated the letter 'T'.

Data format: The 'Data' field on the file selection list will contain one of the following, identifying the text or binary format of the data within the file:

----	unknown (not set)
bin	binary data (not text)
nl	text lines ending with a new-line character
cr	text lines ending with a carriage-return character
lf	text lines ending with a line-feed character
crlf	text lines ending with a carriage-return and line-feed character
crnl	text lines ending with a carriage-return and new-line character
lfcr	text lines ending with a line-feed and carriage-return character

The field will be displayed in uppercase if the file has been marked as containing pure text.

The Data format field is designated the letter 'D'.

Coded Character Set ID (CCSID): The 'ccsId' field on the file selection list shows the Coded Character Set ID for the file if one has been defined. The CCSID identifies the code page for the characters in the file, thus identifying if the file contains EBCDIC, ASCII or UNICODE characters. z/OS 1.2 or later is required for this field to be set and to contain valid information.

The Coded Character Set ID field is designated the letter 'I'.

Executable module information: The Executable module information, 'Exec', field on the file selection list is 4 characters, displaying settings for executable modules.

Any of the following letter indicator codes may be shown:

l	shared library
n	No SHAREAS
a	APF authorized
p	Program Control Facility (PCF)

The Executable Module Information field is designated the letter 'E'.

Links: The 'Links' field on the file selection list shows the number of hard links that exist for the file. Each physical UNIX file can have one or more names (hard links). These names are much like PDS member aliases. Once a file is created, additional names can be created in the same file system. The physical file is not deleted until all names have been deleted.

Hard links are different from symbolic links. Symbolic links are special files that contain the name of another file. Symbolic links can refer to file in other file systems and are not deleted when the referenced file is deleted.

The Links field is designated the letter 'L'.

Date/time file was created: The date/time the file was created field can be displayed on the file selection list.

All date/time fields are displayed in the format: YYYY/MM/DD HH:MM:SS where the '/' is the ISPF date field separator and ':' is the ISPF time field separator.

The date and time is stored as a UTC value, but displayed using the system's time zone offset. This offset may not be the same as your local time zone. Date/time fields display as '---' if the information is unavailable.

The Date/time file was created field is designated the letter 'R'.

Date/time of last modification: The date/time of the last modification can be displayed on the file selection list.

All date/time fields are displayed in the format: YYYY/MM/DD HH:MM:SS where the '/' is the ISPF date field separator and ':' is the ISPF time field separator.

The date and time is stored as a UTC value, but displayed using the system's time zone offset. This offset may not be the same as your local time zone. Date/time fields display as '---' if the information is unavailable.

The Date/time of last modification field is designated the letter 'M'.

Date/time of last status change: This field is the date/time when the file status was last changed.

All date/time fields are displayed in the format: YYYY/MM/DD HH:MM:SS where the '/' is the ISPF date field separator and ':' is the ISPF time field separator.

The date and time is stored as a UTC value, but displayed using the system's time zone offset. This offset may not be the same as your local time zone. Date/time fields display as '---' if the information is unavailable.

The Date/time of last status change field is designated the letter 'C'.

Date/time of last access: This field is the date/time when the file was last accessed.

All date/time fields are displayed in the format: YYYY/MM/DD HH:MM:SS where the '/' is the ISPF date field separator and ':' is the ISPF time field separator.

The date and time is stored as a UTC value, but displayed using the system's time zone offset. This offset may not be the same as your local time zone. Date/time fields display as '---' if the information is unavailable.

The Date/time of last access field is designated the letter 'A'.

Date/time of last backup: This field is the date/time when the file was last backed up.

All date/time fields are displayed in the format: YYYY/MM/DD HH:MM:SS where the '/' is the ISPF date field separator and ':' is the ISPF time field separator.

The date and time is stored as a UTC value, but displayed using the system's time zone offset. This offset may not be the same as your local time zone. Date/time fields display as '---' if the information is unavailable.

The Date/time of last backup field is designated the letter 'B'.

Use of the File Selection List Fields

The above listed fields are used to determine the contents of the display and the sequence of the information in the display. For example, the initial panel, was in the order of 'PUGMF' showing: Permissions, User Group, last Modified and file name. The detail was shown in ascending sequence by File Name.

```
 MAX PDF ------------------ UNIX FILE PROFILE OPTIONS ----------------- MAX PDF
 COMMAND ===>
 Press ENTER to update profile, END to exit or use RESET command for defaults.
 Press DOWN  to scroll forward, UP  to scroll backward.
                                                                More:     +

 File List Fields. . . . . . . . . . . . . . . . PUGMF
   F  File Name. . . . . . . Show link-to name YES        (Yes or No)
   U  Owning user. . . . . . Show as name. . . YES        (Yes or No)
   G  Owning group . . . . . Show as name. . . YES        (Yes or No)

. . . . . .


 File List Sequence Field. . . . . . . . . . . . F          (See field IDs above)
      Ascending/Descending . . . . . . . . . . . A          (A or D)
```

Figure 63: FSL Profile Panel Options panel

```
 FSL /                                                          MAX/PDF V320
COMMAND ===>                                                  SCROLL ===> PAGE
A - ttributes    B - rowse    C - opy      D - elete    E - dit    L - ink
M - ove          N - ew       R - ename    T - ouch     V - iew    X - clude
  message Permissions User     Group    last Modified    File name           >
_         drwxr-xr-x OMVSKERN SYS1  2003/03/14 11:38:43 . (current)
_         drwxr-xr-x OMVSKERN SYS1  2003/03/14 11:38:43 .. (parent)
_         drwxr-xr-x OMVSKERN SYS1  2002/11/10 19:48:28 .../
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 $SYSNAME -> $SYSNAME/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 $VERSION -> $VERSION/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 bin -> $VERSION/bin/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 dev -> $SYSNAME/dev/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 etc -> $SYSNAME/etc/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 lib -> $VERSION/lib/
_         -rwxrwxrwx OMVSKERN SYS1  2003/02/12 15:36:45 marcia.tab
_         -rwxrwxrwx OMVSKERN SYS1  2003/02/21 09:13:21 marcia.xml
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 opt -> $VERSION/opt/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 samples -> $VERSION/sa
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 tmp -> $SYSNAME/tmp/
_         drwxr-xr-x OMVSKERN SYS1  2003/03/10 11:47:56 u/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 usr -> $VERSION/usr/
_         lrwxrwxrwx OMVSKERN SYS1  2002/11/10 19:48:28 var -> $SYSNAME/var/
_         drwxr-xr-x OMVSKERN SYS1  2000/05/03 07:06:27 web/
_         -rw-rw-rw- OMVSKERN SYS1  2003/02/20 15:20:07 MARCIA.XML
```

Figure 64: Resulting FSL Detail panel

By simply changing the order of the fields and/or the sequence of the primary field, the data can be viewed in an entirely different format.

```
File List Fields. . . . . . . . . . . . . . . UGMTPF
   F  File Name. . . . . . . Show link-to name YES       (Yes or No)
   U  Owning user. . . . . . Show as name. . . YES       (Yes or No)
   G  Owning group . . . . . Show as name. . . YES       (Yes or No)

 File List Sequence Field. . . . . . . . . . . T         (See field IDs above)
      Ascending/Descending . . . . . . . . . . A         (A or D)
```

Figure 65: FSL NEW Profile Options panel

The options were changed to a new display User Group, last Modified, Type, Permissions and File name. The order was requested to be ascending sequence by Type.

```
FSL /                                                          Row 1 of 21
 COMMAND ===>                                                SCROLL ===> PAGE
 A - ttributes    B - rowse    C - opy      D - elete    E - dit    L - ink
 M - ove          N - ew       R - ename    T - ouch     V - iew    X - clude
   message User     Group    last Modified    Type Permissions File name       >
 _         OMVSKERN SYS1  2003/03/24 13:50:16 dir   drwxr-xr-x . (current)
 _         OMVSKERN SYS1  2003/03/24 13:50:16 dir   drwxr-xr-x .. (parent)
 _         OMVSKERN SYS1  2002/11/10 19:48:28 dir   drwxr-xr-x .../
 _         OMVSKERN SYS1  2003/03/10 11:47:56 dir   drwxr-xr-x u/
 _         OMVSKERN SYS1  2003/03/24 14:11:15 dir   drwxr-xr-x web/
 _         OMVSKERN SYS1  2002/11/10 19:48:30 dir   drwxr-xr-x P390/
 _         OMVSKERN SYS1  2002/10/11 10:09:28 dir   drwxr-xr-x V1R4M0/
 _         OMVSKERN SYS1  2003/02/12 15:36:45 file  -rwxrwxrwx marcia.tab
 _         OMVSKERN SYS1  2003/02/21 09:13:21 file  -rwxrwxrwx marcia.xml
 _         OMVSKERN SYS1  2003/02/20 15:20:07 file  -rw-rw-rw- MARCIA.XML
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx $SYSNAME -> $SYSN
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx $VERSION -> $VERS
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx bin -> $VERSION/b
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx dev -> $SYSNAME/d
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx etc -> $SYSNAME/e
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx lib -> $VERSION/l
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx opt -> $VERSION/o
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx samples -> $VERSI
 _         OMVSKERN SYS1  2002/11/10 19:48:28 link  lrwxrwxrwx tmp -> $SYSNAME/t
```

Figure 66: Resulting FSL Detail panel

Additional Options on the Profile Panel:

Confirm emptying of regular file: This determines if a confirmation panel will be displayed when the **N (new)** command is issued for a non-empty regular file. Enter YES to have the confirmation panel displayed, NO to bypass the confirmation panel.

Confirm delete of regular file: This determines if a confirmation panel will be displayed when the **D (delete)** command is issued for a regular file. Enter YES to have the confirmation panel displayed, NO to bypass the confirmation panel.

Confirm delete of special file: This determines if a confirmation panel will be displayed when the **D (delete)** command is issued for an empty directory or any other file other than a regular file. Enter YES to have the confirmation panel displayed, NO to bypass the confirmation panel.

Confirm delete of non-empty directory: This determines if a confirmation panel will be displayed when the **D (delete)** command is issued for a directory that contains files or subdirectories. Enter YES to have the confirmation panel displayed, NO to bypass the confirmation panel.

Terminal code page (ISPF override): Setting this to other than DEFAULT overrides the ISPF terminal setting for the set of displayable characters and the uppercase and lowercase letters.

Primary Commands on Profile Screen

Command	Description
ENTER	Update profile.
END	Exit.
RESET	Return all fields to default values.
DOWN	Scroll forward.
UP	Scroll backward.

Using the File Selection List

The following fields appear on the File Selection List panel.

FSL: The first line of the FSL displays the path of the directories taken to get to the current display.

COMMANDS: The second line of the FSL displays the command field and the scroll amount field. Applicable to the MAX/PDF File Selection List, there are two types of commands:

Primary Commands: Commands entered that will perform a task on the entire selection list.

Line Commands: Commands entered that perform a task on an individual file or directory.

The following tables are summarized lists of these commands.

Primary Command	Description
FILE	Searches for files with a matching name.
FIND	Searches regular files in the current FSL for the specified string.
FINDALL	Searches regular files in the current file selection list for the specified string.
FINDSUB	Searches regular files in the current FSL and all subdirectories for the specified string.
PROFILE	Displays the current set of options and allows you to change them.
REFRESH	Reloads the file selection list from the displayed directory.
RESET	Redisplays the file selection list.
REV/OPP/CON	Redisplays the file selection list.
SORT	Sorts the current file selection list by the specified field.

Line Command	Description
A	Attributes
B	Browse
C	Copy
D	Delete
E	Edit
L	Link
M	Move
N	New
R	Rename
S	Select
T	Touch
V	View
X	Exclude from FSL

FSL Primary Commands

Enter primary commands at the `COMMAND ===>` prompt located in the upper left corner of the display panel utilizing the following guidelines:

- Enter a blank to separate command operands, do not use the cursor keys for spacing
- Insert or expand operands using the **INSERT** feature of your keyboard
- Enter multiple commands in the `COMMAND` field by entering a semicolon between each command. This process is known as "Command Stacking".

FILE

The **FILE** command searches for file names that match a file name pattern, starting with a specified directory and including all subdirectories. If any matching names are found, a list of the file names will be displayed, allowing you to browse, edit or view the files.

The **FILE** command has the following format:

COMMAND ===> FILE file-name

The `file-name` can contain a directory name, causing the search to be started at that directory. If specified, the directory name can be absolute (starting with a '`/`') or relative to the current File Selection List directory. If no directory is included in the file name pattern, the search starts are the current File Selection List directory.

The `file-name` can include wild-card characters in the file name pattern. The '`*`' character matches zero or more characters. The '`?`' character matches any single character.

Note: Starting the search from the root directory can require considerable time since tens of thousands of files will be searched.

FIND

The **FIND** command searches regular files in the current file selection list for the specified strings. Excluded files are searched and the resulting file selection list will include all files in which the strings were found. Thus, you can exclude all files before issuing the **FIND** command to see a list of only those files containing the string.

The **FIND** command has the following format:

COMMAND ===> FIND XXX XXX ... **(Where XXX is a string)**

The string can be a quoted string, a hexadecimal string or a text string.

Quoted Strings

A quoted string begins and ends with single quotes (') or double quotes ("). The use of quotes is always valid. Quotes are required when a string:

- Contains a command, space, comma, single quote or double quote.
- Begins with numerics.

Normal ISPF syntax rules for quoted strings must be followed:

- Strings that contain single quotes must begin and end with double quotes.
- Strings that contain double quotes must begin and end with single quotes.
- Otherwise, strings may start and end with either single or double quotes.

Sample quoted strings:

`"IT'S BACK"`	Valid: `-->IT'S BACK<--`
`'IT'S BACK'`	Invalid: String contains delimiting quote
`"IT'S BACK'`	Invalid: Mismatched delimiting quotes

HEX Strings

A HEX string is a quoted string of hexadecimal digits preceeded or ending with an `X`.

Valid HEX strings:

`X'F0F0'`

`"F0F0"X`

- A maximum of sixteen hexadecimal digits can be entered for one string. (eight bytes)
- Valid hexadecimal digits are `'0,1,3,4,5,6,7,8,9,A,B,C,D,E,F'`.
- There must be an even number of digits.

Invalid HEX strings:

`X'F0F'`	Uneven number of digits
`'FG10'X`	Invalid hexadecimal digit
`'F0F1F2F3F4F5F6F7F8F9'X`	Hexadecimal string is too long
`X'F0F0"`	Mismatched quotes

Text Strings

Usually, the **FIND** command performs a case insensitive search for character strings. For example, `FIND A` will match both the upper and lower case letter `A`. To have a case sensitive search performed, a text string must be used. A text string is a quoted string preceeded by a '`C`'. Normal quoted string syntax rule must be followed.

Valid text strings:

```
C'This'
c"That's all folks"
```

Invalid text strings:

`C'That's all folks'`	String contains delimiting quote
`c"This'`	Mismatched delimiting quotes

FINDALL

The **FINDALL** command works like the **FIND** command, except that instead of just updating the file selection list, it also displays a list of all files and lines in which the strings were found. You can browse, edit or view any of the listed files.

The format of the **FINDALL** command is:

COMMAND ===> FINDALL XXX XXX ... (Where XXX is a string)

The string can be a quoted string, a hexadecimal string or a text string.

Quoted Strings

A quoted string begins and ends with single quotes (`'`) or double quotes (`"`). The use of quotes is always valid. Quotes are required when a string:

- Contains a command, space, comma, single quote or double quote.
- Begins with numerics.

Normal ISPF syntax rules for quoted strings must be followed:

- Strings that contain single quotes must begin and end with double quotes.
- Strings that contain double quotes must begin and end with single quotes.
- Otherwise, strings may start and end with either single or double quotes.

Sample quoted strings:

`"IT'S BACK"`	Valid: `-->IT'S BACK<--`
`'IT'S BACK'`	Invalid: String contains delimiting quote
`"IT'S BACK'`	Invalid: Mismatched delimiting quotes

HEX Strings

A HEX string is a quoted string of hexadecimal digits preceeded or ending with an X.

Valid HEX strings:

```
X'F0F0'

"F0F0"X
```

- A maximum of sixteen hexadecimal digits can be entered for one string. (eight bytes)
- Valid hexadecimal digits are '0,1,3,4,5,6,7,8,9,A,B,C,D,E,F'.
- There must be an even number of digits.

Invalid HEX strings:

`X'F0F'`	Uneven number of digits
`'FG10'X`	Invalid hexadecimal digit
`'F0F1F2F3F4F5F6F7F8F9'X`	Hexadecimal string is too long
`X'F0F0"`	Mismatched quotes

Text Strings

Usually, the **FIND** command performs a case insensitive search for character strings. For example, `FIND A` will match both the upper and lower case letter A. To have a case sensitive search performed, a text string must be used. A text string is a quoted string preceeded by a 'C'. Normal quoted string syntax rule must be followed.

Valid text strings:

```
C'This'

c"That's all folks"
```

Invalid text strings:

`C'That's all folks'`	String contains delimiting quote
`c"This'`	Mismatched delimiting quotes

FINDSUB

The **FINDSUB** command works like the **FIND** command, except that the search includes not only the file in the current File Selection List directory, but also the files in all subdirectories of the current directory. If the current File Selection List is based on a file name pattern (e.g., '`*.xml`'), that pattern will also be used to select files in the subdirectories. A list of the file names containing the specified strings will be displayed, allowing you to browse, edit or view the files.

The format of the **FINDSUB** command is:

COMMAND ===> FINDSUB XXX XXX ... (Where XXX is a string)

The string can be a quoted string, a hexadecimal string or a text string.

Quoted Strings

A quoted string begins and ends with single quotes (`'`) or double quotes (`"`). The use of quotes is always valid. Quotes are required when a string:

- Contains a command, space, comma, single quote or double quote.
- Begins with numerics.

Normal ISPF syntax rules for quoted strings must be followed:

- Strings that contain single quotes must begin and end with double quotes.
- Strings that contain double quotes must begin and end with single quotes.
- Otherwise, strings may start and end with either single or double quotes.

Sample quoted strings:

`"IT'S BACK"`	Valid: `-->IT'S BACK<--`
`'IT'S BACK'`	Invalid: String contains delimiting quote
`"IT'S BACK'`	Invalid: Mismatched delimiting quotes

HEX Strings

A HEX string is a quoted string of hexadecimal digits preceeded or ending with an X.

Valid HEX strings:

```
X'F0F0'

"F0F0"X
```

- A maximum of sixteen hexadecimal digits can be entered for one string. (eight bytes)
- Valid hexadecimal digits are '0,1,3,4,5,6,7,8,9,A,B,C,D,E,F'.
- There must be an even number of digits.

Invalid HEX strings:

`X'F0F'`	Uneven number of digits
`'FG10'X`	Invalid hexadecimal digit
`'F0F1F2F3F4F5F6F7F8F9'X`	Hexadecimal string is too long
`X'F0F0"`	Mismatched quotes

Text Strings

Usually, the **FIND** command performs a case insensitive search for character strings. For example, `FIND A` will match both the upper and lower case letter A. To have a case sensitive search performed, a text string must be used. A text string is a quoted string preceeded by a 'C'. Normal quoted string syntax rule must be followed.

Valid text strings:

```
C'This'

c"That's all folks"
```

Invalid text strings:

`C'That's all folks'`	String contains delimiting quote
`c"This'`	Mismatched delimiting quotes

PROFILE

The **PROFILE** command displays the current set of options and allows you to change them. Any options that would change the display of the current file selection list will cause the list to be redisplayed using the new options. For instance, if you change the fields to be displayed for each file, the list will be reformatted using the new set of fields.

The format of the **PROFILE** command is:

COMMAND ===> PROFILE

Details on the Profile are in section "*Profile*" on page 113.

REFRESH

The **REFRESH** command reloads the file selection list from the displayed directory. All excluded files are included in the refreshed list.

The format of the **REFRESH** command is:

COMMAND ===> REFRESH

RESET

The **RESET** command redisplays the file selection list, including any excluded files and clearing the line command area.

The format of the **RESET** command is:

COMMAND ===> RESET

REV/OPP/CON

The **REV** command redisplays the file selection list, including any excluded files and excluding any included files. This is generally used to show the opposite condition after excluding all files and then invoking the **FIND** command.

The format of the **REV** command is:

COMMAND ===> REV (OPP and CON are aliases)

SORT

The **SORT** command sorts the current file selection list by the specified field. The sort field is specified by entering the field ID after the **SORT** command. By default, the field is sorted in ascending order, but you can cause the field to be sorted in descending order by following the field ID with a D . If no field ID is specified, a panel will be presented, listing the possible field IDs. The sort field must be one of the displayed fields, as specified on the FSL Profile panel.

The format of the **SORT** command is:

COMMAND ===> SORT [field [A|D]]

The valid field IDs are the capitalized letter in the field heading.

FSL Line Commands

These line commands may be entered as primary commands.

Line commands may be entered in the `Primary Command` field. These include line commands to **BROWSE**, **COPY**, **DELETE**, **EDIT**, **MOVE**, **RENAME** and other actions. '`S`' invokes the function that the default line command has been set to.

The syntax for using line commands as primary commands is:

COMMAND ===> E fffffffff

Operand Definitions

E	is a valid line command
fffffffff	is a file name

If the file name appears in the current file selection list, even if it is excluded, the effect is the same as entering the line command next to the file. If the file name is not in the current file selection list, the command is executed directly on that file. Only the **E** (edit) and **N** (new) commands may be used with a file name that does not exist. The **B** (browse), **E** (edit), **V** (view) and **X** (exclude) commands may be used with a file name pattern that includes the '`*`' and/or '`?`' characters.

A (Attributes)

Enter an 'A' to the left of the file to display or change the file attributes. A panel will be displayed, listing the file's attributes and allowing you to change them. For a symbolic link, only the owning user and group can be changed.

```
 .-------------------------------------------------------------------------------.
| MAX PDF -------------------- UNIX FILE ATTRIBUTES -------------------- MAX  |
| COMMAND ===>                                                                  |
| Press ENTER to update file attributes.                                        |
| Press DOWN  to scroll forward, UP to scroll backward.                         |
|                                                                        More:  |
| File name . . . . . . . . . . . . : marcia.tab                                |
| Size. . . . . . . . . . . . . . . : 227                                       |
| Links . . . . . . . . . . . . . . : 1                                         |
| Owning user . . . . . . . . . . . . OMVSKERN (UID=0)                          |
| Owning group. . . . . . . . . . . . SYS1     (GID=0)                          |
|                                                                               |
| User Permissions:                                                             |
|    Read . . . . . . . . . . . . . . YES   (Yes or No)                         |
|    Write. . . . . . . . . . . . . . YES   (Yes or No)                         |
|    Execute. . . . . . . . . . . . . YES   (Yes or No)                         |
| Group Permissions:                                                            |
|    Read . . . . . . . . . . . . . . YES   (Yes or No)                         |
|    Write. . . . . . . . . . . . . . YES   (Yes or No)                         |
|    Execute. . . . . . . . . . . . . YES   (Yes or No)                         |
| Other User Permissions:                                                       |
|    Read . . . . . . . . . . . . . . YES   (Yes or No)                         |
|    Write. . . . . . . . . . . . . . YES   (Yes or No)                         |
|    Execute. . . . . . . . . . . . . YES   (Yes or No)                         |
|                                                                               |
| Coded Character Set ID (CCSID)  . .       (not supported)                     |
| Pure text . . . . . . . . . . . . .       (not supported)                     |
| Data format . . . . . . . . . . . . 0     (0=unknown,  1=binary,              |
|                                            2=nl,   3=cr,   4=lf,              |
|                                            5=crlf, 6=lfcr, 7=crnl)            |
| Executable module information:                                                |
|    SETUID . . . . . . . . . . . . . NO    (Yes or No)                         |
|    SETGID . . . . . . . . . . . . . NO    (Yes or No)                         |
|    Sticky . . . . . . . . . . . . . NO    (Yes or No)                         |
|    Shared Library . . . . . . . . .       (not supported)                     |
|    No Shared Address Space. . . . . NO    (Yes or No)                         |
|    APF (AC=1) . . . . . . . . . . . NO    (Yes or No)                         |
|    Program Controlled . . . . . . . NO    (Yes or No)                         |
'-------------------------------------------------------------------------------'
```

Figure 67: UNIX File Attributes panel

When the **A** (attributes) command is used for a file, this panel is displayed, allowing you to view and change the file's attributes. The panel may be scrolled up and down to see all of the attributes. The attributes are:

File name: name

Size: size

Links: links

These are unmodifiable fields showing the file name, size in bytes or character device node, and the number of hard links to the file.

Owning user: _____ (UID=uid)

Owning group: _____ (GID=gid)

These show the owning user and group IDs, both as names and numbers. Enter new user or group ID names to change the file ownership.

User Permissions:

Read: ___ (Yes or No)

Write: ___ (Yes or No)

Execute: ___ (Yes or No)

Group Permissions:

Read: ___ (Yes or No)

Write: ___ (Yes or No)

Execute: ___ (Yes or No)

Other User Permissions:

Read: ___ (Yes or No)

Write: ___ (Yes or No)

Execute: ___ (Yes or No)

These show the permissions for the file. There is a group of read, write and execute permissions for the owning user, users of the owning group and all other users. For a directory, the "Execute" permission is shown and "Search" and allows users to search the directory.

Executable module information:

SETUID: ___ (Yes or No)

SETGID: ___ (Yes or No)

Sticky: ___ (Yes or No)

Shared Library: ___ (Yes or No)

No Shared Address Space: ___ (Yes or No)

APF (AC=1): ___ (Yes or No)

Program Controlled: ___ (Yes or No)

These show the special attributes which may be set for executable modules. Special permissions are required to change most of these attributes. See your UNIX manuals for more information.

B (Browse)

Enter a 'B' to the left of the file to be browsed. When a file is selected for browse, the **OBROWSE** command is invoked for the file. When a directory is selected for browse, a list of the files in the directory is displayed and the 'S' line command is set to 'B'.

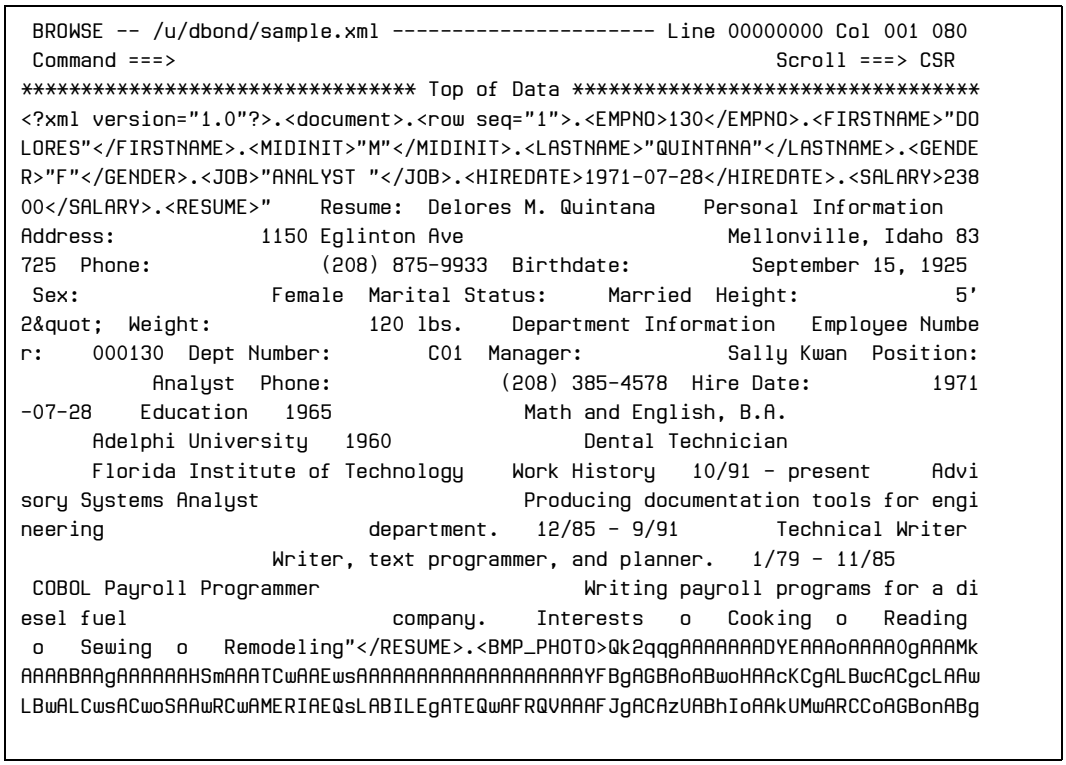

Figure 68: UNIX File Browse panel

C (Copy)

Enter a 'C' to the left of the file to be copied. Only files, directories and symbolic links to files or directories can be copied. Copying a symbolic link copies the linked-to file or directory, not the symbolic link file. Copying a directory causes the entire contents of the directory structure to be copied to another existing directory.

When the **C** (copy) command is used for a file, this panel is displayed, allowing you to enter the name of the target file. The target file name must be absolute, starting with a '/'.

```
MAX ------------------------------ COPY FILE ------------------------------ MAX
 COMMAND ===>
 Press ENTER to copy the file or END to exit.

 Replace existing file. . . . . NO    (Yes or No)
                                                                      More:     +
 /marcia.tab
```

Figure 69: UNIX File COPY panel

You also have the option of specifying to replace the target file name with the selected file if the target file already exists.

When the **C** (copy) command is used for a directory, this panel is displayed, allowing you to enter the name of the target directory. The target directory name must be absolute, starting with a '/'.

```
MAX --------------------------- COPY DIRECTORY --------------------------- MAX
COMMAND ===>
Press ENTER to copy the contents of the directory or END to exit.
Warning: The entire contents of the directory will be copied to the target
         directory, including any subdirectories and their contents.  Any
         files in the target directory with the same names as files in the
         source directory will be replaced.
                                                                    More:     +
/u
```

Figure 70: UNIX File COPY Directory panel

The entire contents of the source directory will be copied to the target directory, automatically replacing any like-named files. The copy is performed recursively, copying any subdirectories of the source directory as well as their contents.

D (Delete)

Enter a 'D' to the left of the file to be deleted. Any type of file can be deleted using the **D** command. If a symbolic or external link is selected for deletion, only the link is deleted, not the file that the link points to. By default, you will be prompted to confirm that the file is to be deleted. You can disable the confirmations via the **PROFILE** options. If you delete a directory, all of the files and directories within the directory will be deleted.

If in the FSL Profile panel, you requested confirmation on deletes, a panel similar to the following will appear.

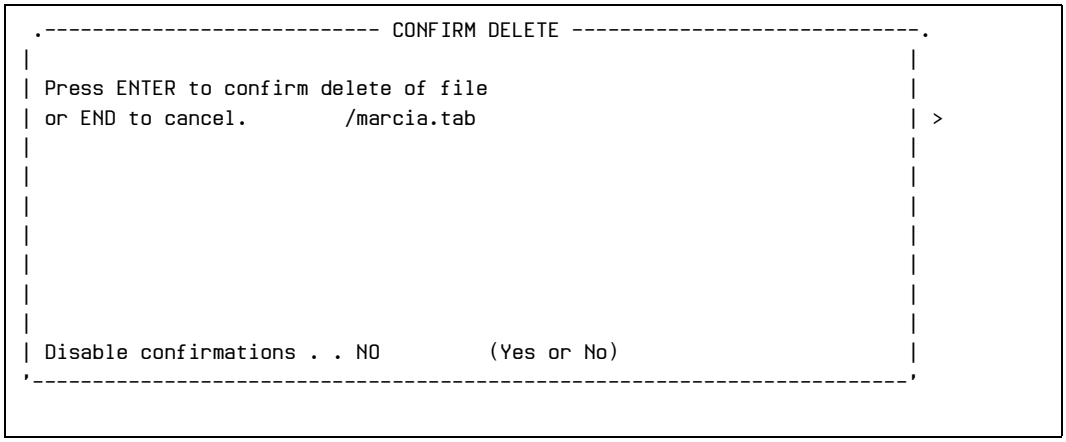

Figure 71: FSL Delete Confirmation panel

E (Edit)

Enter an 'E' to the left of the file to be edited. When a file is selected for edit, the **OEDIT** command is invoked for the file. When a directory is selected for edit, a list of the files in the directory is displayed and the 'S' line command is set to 'E'.

```
File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help
-------------------------------------------------------------------------------
EDIT       /MARCIA.TAB                                    Columns 00001 00072
Command ===>                                                Scroll ===> CSR
****** ****************************** Top of Data ********************************
==MSG> -CAUTION- Data contains invalid (non-display) characters. Use command
==MSG>           ===> FIND P'.' to position cursor to these
==MSG> -Warning- The UNDO command is not available until you change
==MSG>           your edit profile using the command RECOVERY ON.
000001 PARTROOT 02 AN960C10                WASHER                  STANINFO
000002 PARTROOT 02 CK05CW181K              CAPACITOR               STANINFO
000003 PARTROOT 02 CSR13G104KL             KR1J50KS                STANINFO
000004 PARTROOT 02 JAN1N976B               DIODE CODE-A            STANINFO
000005 PARTROOT 02 MS16995-28              SCREW                   STANINFO
000006 PARTROOT 02 N51P3003F000            SCREW                   STANINFO
000007 PARTROOT 02 RC07GF273J              RESISTOR                STANINFO
000008 PARTROOT 02 106B1293P009            RESISTOR                STANINFO
000009 PARTROOT 02 250236-001              CAPACITOR               STANINFO
000010 PARTROOT 02 250237-031              Electric Thingie        STANINFO
000011 PARTROOT 02 250239                  TRANSISTOR              STANINFO
000012 PARTROOT 02 250241-001              CONNECTOR               STANINFO
000013 PARTROOT 02 250794                  RESISTOR                STANINFO
000014 PARTROOT 02 250796                  SWITCH                  STANINFO
000015 PARTROOT 02 250891                  SERVO VALVE             STANINFO
```

Figure 72: FSL UNIX EDIT panel

L (Link)

Enter an 'L' to the left of a file to be linked to or to the left of a symbolic link to update the link to be created. If you use the L command for a symbolic or external link, a panel will be displayed showing the link information and allowing you to change it. When the **L** (link) command is used for a symbolic link, this panel is displayed, allowing you to update the linked-to name. Symbolic links are the names of other UNIX files. The linked-to name may be either absolute, starting with a '/' or relative to the directory containing the symbolic link.

```
MAX ----------------------------- UPDATE LINK ----------------------------- MAX
COMMAND ===>
Press ENTER to update the link or END to exit.
                                                                      More:     +
Symbolic link to:
$VERSION/
```

Figure 73: Create Symbolic Link panel

If you use the 'L' command on any other file, a panel will be displayed allowing you to enter the name of the new link file. When the **L** (link) command is used for a regular file or directory, this panel is displayed allowing you to create a link to the file or directory. You can choose to create either a symbolic or hard link and you must enter an absolute or relative path name for the new link.

A hard link is a new name for the same physical file. Hard link names must be in the same file system as the physical file. The physical file is not deleted until all hard links are deleted, including the original file name.

```
MAX ----------------------------- CREATE LINK ----------------------------- MAX
 COMMAND ===>
 Press ENTER to create the link or END to exit.
                                                                      More:     +
 Link type. . . . 1   1 Symbolic link
                      2 Hard link

 Link from new name:
 /MARCIA.TAB
```

Figure 74: Create Link panel

M (Move)

Enter an 'M' to the left of the file to be moved. Only regular files and symbolic links can be moved. When the **M** (move) command is used for a file, this panel is displayed, allowing you to to enter the new file name. The file can be moved to any name, even to a new directory. The new file name must be absolute, starting with a '/'. If new file name is within the same file system as the original file name, the file will be renamed. You also have the option of specifying to replace the new file name with the selected file if the new file already exists.

```
MAX -------------------------- MOVE/RENAME FILE -------------------------- MAX
 COMMAND ===>
 Press ENTER to move or rename the file or END to exit.

 Replace existing file. . . . . NO    (Yes or No)
                                                                    More:     +
 /marcia.xml
```

Figure 75: MOVE/RENAME panel

N (New)

Enter an 'N' to the left of a file to be emptied or to the left of a directory into which a new file is to be created. By default, you will be prompted to confirm that a file is to be emptied. You can disable this confirmation via the **PROFILE** options. If the **N** command is used on a directory, a panel will be displayed allowing you to enter the new file name and many of the file attributes.

When the **N** (new) command is used for a directory, this panel is displayed, allowing you to create a regular file, subdirectory or external link within the selected directory.

```
MAX --------------------------- CREATE NEW FILE ------------------------- MAX
COMMAND ===>
Press ENTER to create the file or END to exit.
                                                                  More:     +
New file, directory or external link name:




New file type. . . . . . . . . . 1   1 Regular file
                                     2 Directory
                                     3 External link
User Permissions:
   Read . . . . . . . . . . . . . . YES   (Yes or No)
   Write. . . . . . . . . . . . . . YES   (Yes or No)
   Execute/search . . . . . . . . . NO    (Yes or No)
Group Permissions:
   Read . . . . . . . . . . . . . . YES   (Yes or No)
   Write. . . . . . . . . . . . . . NO    (Yes or No)
   Execute/search . . . . . . . . . NO    (Yes or No)
Other User Permissions:
   Read . . . . . . . . . . . . . . NO    (Yes or No)
   Write. . . . . . . . . . . . . . NO    (Yes or No)
   Execute/search . . . . . . . . . NO    (Yes or No)
Other User Permissions:
   Read . . . . . . . . . . . . . . NO    (Yes or No)
   Write. . . . . . . . . . . . . . NO    (Yes or No)
   Execute/search . . . . . . . . . NO    (Yes or No)

Link-to name. . . .

Within directory:
/.../
```

Figure 76: Create New File panel

You must enter the name and select the type of the new file, directory or link. The file name should not contain the '/' character since the new file, directory or link will be created within the selected directory.

You can also set the initial permissions for the new file, directory or link. For an external link, the initial permissions are ignored and you must enter the link-to name, which is normally a data set name or load module name.

Once you create the file, you can change other attributes by selecting the file with the **A** (attributes) line command.

R (Rename)

Enter an 'R' to the left of the file to be renamed. Any type of file may be renamed, but the target name must be within the same file system. You can use the **M** (move) command to rename a regular file to a different file system.

When the **R** (rename) command is used for a file, this panel is displayed, allowing you to enter the new file name. The file can be renamed to any name within the original file's file system. It may even be renamed to a different directory. The new file name must be absolute, starting with a '/'.

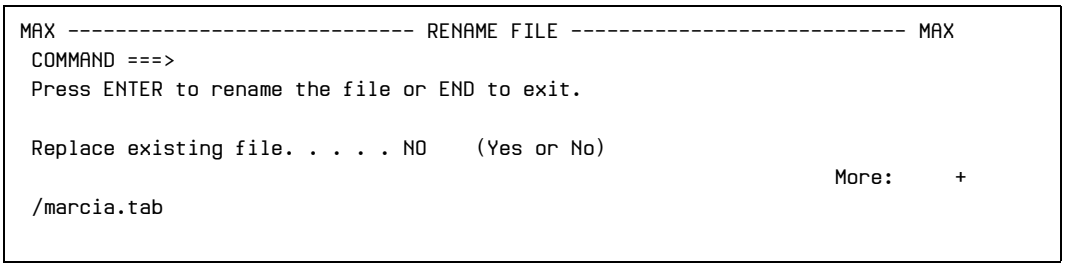

Figure 77: Rename File panel

You also have the option of specifying to replace the new file name with the selected file if the new file already exists.

To "rename" a regular file or symbolic link to a new file system, use the **M** (move) command.

S (Select)

Enter an 'S' to the left of the file to be selected. Selecting a file with **S** is exactly the same as selecting the file using the default line command (**B**, **E** or **V**). The default line command is the command used to select the directory containing the listed file. When a directory is selected, a list of the files in the directory is displayed.

T (Touch)

Enter a 'T' to the left of the file to be touched. When a file is "touched", the file's modification date and time is updated to the current date and time. The **T** command is only valid for regular files.

V (View)

Enter a 'V' to the left of the file to be viewed. When a file is selected for viewing, you will be prompted for the record length. Once you enter the record length, the file will be browsed as if it contained fixed-length records of the specified size. When a directory is selected for viewing, a list of the files in the directory is displayed and the 'S' line command is set to 'V'.

X (eXclude)

Enter an 'X' to the left of the file to be excluded from the file selection list. Excluded files will reappear if the **RESET** primary command is used, if a **FIND** command finds a string in the file, or if the **REV, OPP or CON** command is used to exclude all unexcluded files and to list all excluded files.

CHAPTER 8: ENHANCED EDITOR COMMANDS

Summary

Several commands and facilities have been added to the ISPF editor. They are available to users when editing files either from within MAX/PDF, or from within ISPF, if MAX/PDF is installed.

The following enhanced editor commands are discussed in this section:

CUT
EC (EDIT COMMAND)
PASTE
PRT (PRINT)
VIEW

Note: All enhanced editor commands are issued as primary commands in the command field.

CUT

The **CUT** command is used to write line(s) to a temporary file (cut buffer) that is stored in your ISPF profile for later inclusion into the same or another file by the **PASTE** edit command.

To specify the line(s) to be put into the temporary file, use:

Line commands **C** or **CC** to copy line(s)

Line commands **M** or **MM** to move line(s).

If you specify a parameter of **R** (Replace), any previously cut lines (in the cut buffer) that have not yet been pasted will be replaced with the newly selected lines. If you do not specify this parameter, the selected lines will be appended after any previously cut lines that have not yet been pasted.

The **CUT** command has the following format:

CUT [R] [number]

Operand Definitions

Specifying '**R**' will replace any previously cut lines in the buffer.

You must specify '**number**' when cutting more than 500 lines with one command. The command below illustrates cutting 1,000 lines.

```
CUT        1000
```

Note: When the block of lines being cut begins on one panel and ends on another panel, you must specify the line commands first, and then issue the **CUT** command.

Note: Within MAX/PDF, **CUT** and **PASTE** may be used to either copy or move one or more lines of text, whereas in most PC software, functions of the same name are used only to move text.

PASTE

The **PASTE** command is used to write line(s) from the temporary file (cut buffer) created from a previous **CUT** command into the file currently being edited.

Use the **A** (After) or **B** (Before) line commands to specify where the cut data is to be inserted.

If you specify **K** (Keep), the cut lines will remain so they can be processed with another **PASTE** command (see **CUT** command for an example).

If you do not specify this parameter, the cut data will be deleted from the buffer upon completion of the paste command.

The **PASTE** command has the following format:

```
PASTE      [K]
```

Operand Definition

'**K**' keeps the cut data in the buffer for a subsequent paste.

Note: If line truncation occurs, the cut lines will not be deleted. This can occur when line(s) are cut from a data set that has a larger record length than the data set where the lines are being pasted.

The following series of panels illustrate the use of **CUT** & **PASTE** commands in MAX/PDF.

In this example, the user "cuts" several lines of text from one member, LAYOUT1, and "pastes" them into another member, LAYOUT2.

```
EDIT------ MXS.TEST.MAAPDS(LAYOUT1) - 01.18---------------------- 12 APPENDED
 COMMAND ===> cut                                          SCROLL ===> CSR
 ****** ***************************** Top of Data ******************************
 ==MSG> -CAUTION- Profile changed to CAPS ON (from CAPS OFF) because the
 ==MSG>           data does not contain any lower case characters.
 ==MSG> -Warning- The UNDO command is not available until you change
 ==MSG>           your edit profile using the command RECOVERY ON.
 000001 000100 01  TESTSAM1-FILE.
 000002 000200     05  KEY,KEY,KEY,KEY-FIELD               PIC X(09).
 000003 000200     05  KEY,KEY,KEY,KEY-INDICATOR           PIC X(01).
 cc0004 000200     05  DATA-AREA.
 000005 000200       10  NAMED                  PIC X(35).
 000006 000200       10  ADDRRESS               PIC X(35).
 000007 000200       10  CITY                   PIC X(20).
 000008              10  STATE                  PIC X(02).
 000009              10  ZIP-CODE               PIC X(05).
 000010              10  PHONE-FIELD.
 000011                  15  AREA-CODE          PIC X(05).
 000012                  15  FILLER             PIC X.
 000013                  15  PHONE-NUMBER       PIC X(08).
 000014              10  CONTACT-NAME           PIC X(32).
 cc0015              10  CONTACT-TITLE          PIC X(25).
 000016 000200     05  DATA-AREA-2.
```

Figure 78: **CUT** Enhanced Editor Command panel, 1 of 3

Lines 4 through 15 are selected to be "cut" by typing the line command CC at the beginning and end of the block of lines. When the user presses the ENTER key, the cursor will position to the command line for convenience in entering the command.

Having specified with line commands the line(s) to be cut, the user types CUT on the command line and presses the ENTER key. When the user presses the ENTER key, the records are copied to the CUT buffer and the message '12 CUT' or '12 APPENDED' (if records already in CUT buffer) is displayed in the upper-right corner of the panel.

The user now returns to the MSL by pressing the END key. The user enters an 'E' to the left of the desired member (MEM2) to select the member. When the user presses the ENTER key, the selected member is displayed for editing as shown in the next figure.

The user specifies a destination for the "cut lines" with a line command, types PASTE on the command line, and presses the ENTER key.

In the figure below, the user has indicated that the “cut” lines are to be “pasted” after line 000028 by typing an ‘A’ as the first character on line 00028. When the user presses the ENTER key, the 12 “cut” lines will be “pasted” (inserted) after line 00028 as shown in the next figure.

```
EDIT------ MXS.TEST.MAAPDS(LAYOUT2) - 01.11-------------- COLUMNS 00001 00072
 COMMAND ===> paste                                          SCROLL ===> CSR
 000019 000200       10  NAMED2                PIC X(35).
 000020 000200       10  ADDRRESS2             PIC X(35).
 000021 000200       10  CITY2                 PIC X(20).
 000022              10  STATE2                PIC X(02).
 000023              10  ZIP-CODE2             PIC X(05).
 000024              10  PHONE-FIELD.
 000025                  15  AREA-CODE2        PIC X(05).
 000026                  15  FILLER2           PIC X.
 000027                  15  PHONE-NUMBER2     PIC X(08).
 a00028              10  CONTACT-NAME2         PIC X(32).
 ****** **************************** Bottom of Data ****************************
```

Figure 79: **CUT** Enhanced Editor Command panel, 2 of 3

The figure below displays the results of the preceding **CUT** & **PASTE** operation with the 12 "pasted" lines shown as lines 000029-00039 in LAYOUT2.

```
EDIT------ MXS.TEST.MAAPDS(LAYOUT2) - 01.12------------------------- 36 PASTED
 COMMAND ===>                                                 SCROLL ===> CSR
 000019 000200       10  NAMED2                PIC X(35).
 000020 000200       10  ADDRRESS2             PIC X(35).
 000021 000200       10  CITY2                 PIC X(20).
 000022              10  STATE2                PIC X(02).
 000023              10  ZIP-CODE2             PIC X(05).
 000024              10  PHONE-FIELD.
 000025                  15  AREA-CODE2        PIC X(05).
 000026                  15  FILLER2           PIC X.
 000027                  15  PHONE-NUMBER2     PIC X(08).
 000028              10  CONTACT-NAME2         PIC X(32).
 000029 000200     05  DATA-AREA.
 000030 000200       10  NAMED                 PIC X(35).
 000031 000200       10  ADDRRESS              PIC X(35).
 000032 000200       10  CITY                  PIC X(20).
 000033              10  STATE                 PIC X(02).
 000034              10  ZIP-CODE              PIC X(05).
 000035              10  PHONE-FIELD.
 000036                  15  AREA-CODE         PIC X(05).
 000037                  15  FILLER            PIC X.
 000038                  15  PHONE-NUMBER      PIC X(08).
 000039              10  CONTACT-NAME          PIC X(32).
 . . . . . .
```

Figure 80: **CUT** Enhanced Editor Command panel, 3 of 3

ECMD (Edit Command)

The **ECMD** command is used to define and save a series of one or more ISPF/PDF primary edit commands. The saved commands are passed to the editor for processing when an **E** (Edit) command is invoked for a member, group of members or PDS. An **ECMD** command remains in effect until you enter another **ECMD** command. You can reset the **ECMD** command by specifying **ECMD OFF**. Normally, the last edited command in a series would be **END** to save the result of the edit commands.

You can have the **ECMD** command repetitively invoked on all members in the current list (global editing) by issuing the **EDIT ALL** command after the **ECMD** command has been entered.

The **ECMD** command has the following format and/or aliases:

ECMD [OFF]
EC "

The Edit Command Entry panel appears as a result of entering the 'EC' command in the MSL.

```
MSL MXS.TEST.MAAPDS                                    Enter required field
 COMMAND ===>
 Specify valid edit commands and their maximum acceptable return code.
 For example: C FLD-NAME1 FLD-NAME2 ALL                                  4
              END                                                        0
 EDIT COMMAND                                                       MAX RC
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 ____________________________________________________________________   0
 Press ENTER to return with edit commands activated,
 or type END to return without activating
 . . . . . .
```

Figure 81: **ECMD** Primary Command panel

PRT

The **PRT** command is used to print the contents of the SAM data set or PDS member currently being edited or viewed.

If you specify a parameter of **ALL**, any excluded lines will print along with the non-excluded lines. If you do not specify this parameter, only the non-excluded lines will print.

The **PRT** command has the following format:

PRT **[ALL]**

Operand Definition

ALL will print all lines in the member including those that have been previously excluded from the display.

A Print Options panel will be presented allowing you to select the print options.

The following example displays the result of entering the **PRT** Enhanced Editor command in MAX/PDF.

```
--------------------------- PRINT OPTIONS -----------------------------------
 COMMAND ===>

 SYSOUT dataset options                  Page definition
 ---------------------------             ---------------------------
 SYSOUT CLASS    ===> X                  PAGE SIZE      ===> 60
 DESTINATION     ===> ________           LINE SIZE      ===> 121
 FORM            ===> _____              TOP MARGIN     ===> 1
 FCB             ===> _____              LEFT MARGIN    ===> 1
 OR ISPF LIST    ===> N         (Y/N)

 Report options
 ---------------------------
 FORMAT          ===> CHAR      (CHAR/DUMP)
 HEADINGS        ===> Y         (Y/N)
 FOLD            ===> N         (Y/N) Translate lower case to upper case
 TREAT AS ASA    ===> N         (Y/N)

 Special function
 ---------------------------
 ONLY FOUND      ===>           (Y/N) Select only records from last find COMMAND

 Press ENTER to print or END to terminate.
 . . . . . .
```

Figure 82: **PRT** Enhanced Editor Command panel

Print Options

SYSOUT Data Set Options	Description
SYSOUT Class	Any valid JES SYSOUT class.
DESTINATION	May be any valid JES specified destination.
FORM	Any four character form identification.
FCB	Indicates the form control buffer to be used.

Page Definitions	Description
PAGE SIZE	Defines the number of lines that will be printed on a page before a page eject takes place. Specify a zero to indicate no page ejection.
LINE SIZE	Defines the length of a line on the page. A data record longer than the line size wraps to the next line.
TOP MARGIN	Specifies a location of the first line where printing will begin following a page eject.
LEFT MARGIN	Specifies the column, from the left side of the page where printing will begin.

Report Options	Description
FORMAT	`CHAR` causes the data records to be printed in character format. `DUMP` causes a hexadecimal printout of the data records.
HEADINGS	Specifies whether or not headings will appear at the top of a page. When printing memos or documentation, it may be desirable not to include headings.
FOLD	Specifies whether or not lower case characters will be converted to uppercase.
TREAT AS ASA	Specifies whether or not the characters in column one of the data print control records are to be treated as ANSI (formerly ASA) characters.

Special Function	Description
ONLY FOUND	Specifies whether to print only the records selected with the last **FIND** command.

V (View)

To **VIEW** a member in the MSL, type the single letter 'V' in the command area to the left of the entry. This command allows you to either browse or edit a member without accidentally changing the physical member. Edit commands are fully functional except for the **SAVE** and **END** commands that prompt you to confirm saving any changes made during the edit session.

APPENDIX A: SECURITY CONSIDERATIONS

The MAX MVS/UTIL product honors all standard security interfaces. For example, if a user attempts to use the product to update a data set to which they have been denied access, the following screen will appear:

```
ICH408I USER(your_userid ) GROUP(xyz     ) NAME(####################)
  SYS1.SAMPLIB CL(DATASET ) VOL(Z4RES1)
  INSUFFICIENT ACCESS AUTHORITY
  FROM SYS1.* (G)
  ACCESS INTENT(UPDATE )  ACCESS ALLOWED(READ   )
IEC150I
913-38,IFG0194E,your_userid,ISPFPROC,ISP14273,0A80,Z4RES1,SYS1.SAMPLIB
***
```

Figure 83: Security considerations panel

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