# CA File Master™ Plus

## ISPF User Guide

### Release 9.1.00

# CA Technologies Product References

CA File Master™ Plus

CA Librarian®

CA Panvalet®

# Documentation Changes

The following documentation updates have been made since the last release of this documentation:

- General updates were made throughout this document to improve clarity and usability.

# Contact CA Technologies

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# Chapter 1: Introduction

CA File Master Plus is a full function z/OS and file/data management product that provides enhanced capabilities for sequential, partitioned, and VSAM (including IAM) files in an online ISPF interface, Eclipse-based user interface, and through batch commands.

CA File Master Plus provides a set of powerful and easy-to-use tools for manipulating z/OS data files. Many of the functions support specified record filter/selection criteria and allow data to be displayed and modified using COBOL or PL/I copybooks.

This section contains the following topics:



## Functional Description

CA File Master Plus contains online and batch file and data management functions. The online functions include:

- Data set browsing and editing
- Data set, library, and VTOC utility functions
- Printing of data set contents
- Searching data sets for character strings
- Updating data sets, including PDS
- Definition and support of record filter/selection criteria
- Definition and support of record layouts from COBOL or PL/I copybooks and record reformatting control parameters
- Viewing and modification of data records using record layout formats defined by COBOL or PL/I copybooks
- Reformatting data from one format to another
- Comparing files
- Defining/managing/referencing groups/lists of commonly used data set names
- Copying files

**Note:** For more information about batch file and data management functions, see the *CA File Master Plus Batch Reference Guide.*

## General Product Features

The following features are available for all screens in the online interface:

- Wildcard DSNs with subsequent DSN selection screen
  - Specific DSN wildcard masks can be disallowed by updating user exit CAWAWDSN
- Wildcard specification of member name with a subsequent screen of member name directory from which to select
- Specification of data set group/list names in DSN fields
- Sorting member name directory by any column
- Fully qualified or relative GDG data set names
- Extensive screen and field level help

# Audience

This guide is for programmers, database administrators, system programmers, or other technical persons who are responsible for managing or manipulating data when working with applications in the mainframe testing and production environments. You are expected to be familiar with the z/OS ISPF and batch environments.

This guide helps you implement and use CA File Master Plus facilities. This guide also addresses the concerns of CA File Master Plus administrators and users who are implementing CA File Master Plus.

# Notation Conventions

This guide uses the following conventions:

- Terms and concepts that appear in *italic* are being introduced for the first time.
- Text that appears in **bold** conveys important information.

## Command Notations

The following conventions are used to illustrate command syntax:

- Commands that appear in **bold** should be typed exactly as shown.
- Commands are shown in all CAPITALS.
- Commands, libraries, and syntax displayed on the screen are shown in **monospace bold** font.

- Lines of code are shown in **monospace bold** font.
- Commands that appear in **bold itali***c* require you to supply a value.
- Uppercase, **BOLD** names are required.
- Parameters in brackets [ ] are optional with selections separated by a vertical bar |.
- Parameters in braces { } are sets of alternatives separated by a vertical bar |. Choose one of the alternatives.

A parameter can be a single word or set of parameters grouped by brackets or parentheses (part of the command syntax). An example follows:

```
COMMANDNAME
        [AN OPTIONAL CLAUSE. IF USED, EVERYTHING WITHIN THE BRACKETS IS REQUIRED]
        {YOU MAY USE ANY OR ALL OF THE ITEMS IN THESE BRACKETS IN THIS ORDER}
        |
        {OR YOU MAY USE ANY OF THESE ITEMS IN THESE BRACKETS [WITH AN OPTION] }
        (THE ITEMS IN THESE BRACKETS MAY BE REPEATED MULTIPLE TIMES)
```

# Chapter 2: Using CA File Master Plus

This section contains the following topics:



## Help

Screen-level and field-level help provide all of the assistance needed to perform the various screen functions. Use the help facility to get more information about each screen without referring to a manual. Screen-level help describes the concepts and the diversified uses of each screen and its associated fields.

To access screen-level help, type HELP or use the PF1 key at the command line.

Field-level help is available for most fields. To access field-level help, position the cursor at the field and type the F1 key.

An extended help message is available for each error or informational message that appears on the top right corner of the screen. If the action required to correct an error is not apparent, type the F1 key to display the diagnostic information that you need.

## Wildcard Selection

CA File Master Plus supports the use of wildcards in the selection of data set names and members. Specific DSN wildcard masks can be disallowed by updating user exit CAWAWDSN.

CA File Master Plus supports the standard ISPF wildcards.

## Select DSN to Resolve Wildcarded DSN

The Select DSN to Resolve Wildcarded DSN screen opens when you type a wildcarded DSN in any of the DSN fields. A list of the DSNs that match the wildcarded specification displays on this screen. Selecting the DSN replaces the wildcarded DSN.

**Follow these steps:**

1. Type a wildcarded data set in any of the DSN fields. Use the standard ISPF wildcards: *, **, and %.

   The Select DSN for Edit Data Set screen opens. This screen displays the name of each data set that matches the wildcard criteria, the volume serial that contains each data set, and the file type of each file. The file type values are as follows:

   **CLUSTER**

   VSAM Cluster

   **DATA**

   VSAM Data Component

   **INDEX**

   VSAM Index Component

   **NONVSAM**

   Non-VSAM

   **GDS**

   Generation data set

   **GDG**

   Generation data group

   **PATH**

   VSAM path

   **AIX**

   VSAM Alternate Index

   **ALIAS**

   Alias

   **CAT**

   User catalog

2. Type **S** next to the DSN you want to select, and press Enter.

**Note:** You can optionally browse or edit any of the non-VSAM data sets from the Resolve Wildcarded DSN screen using the ISPF browse/edit functions. To browse or edit a non-VSAM data set, specify either B (to browse) or E (to edit) next to a DSN.

## Select a Member from the Member Directory

When you type a wildcarded member name in any of the member fields, the Member Directory displays a list of the members in the library that match the wildcarded entry.

**Follow these steps:**

1. Type a wildcarded or blank member name. Use an asterisk (*) to represent any number of characters with any value. Use a percent sign (%) to represent one character of any value.

   The Select Member to Process From screen opens.

2. Specify **S** next to the member you want to select, and press Enter.

   The selected member name replaces the blank or wildcarded member name on the screen from which the member name directory was requested.

   **Note:** You can use the SORT command to locate of the member you want from the Select Member to Process From list. Sort the directory by any of the columns in the directory by typing SORT *XXX* or SORT *XXX Y* where *XXX* is one of the column literals and *Y* is A for ascending or D for descending. For example, SORT CREATED sorts the directory in descending order of Created, and SORT ID A sorts the directory in ascending order of User ID. The command L or LOC followed by a value positions to the first member directory entry whose sort sequence field is greater than or equal to the specified value.

# Record Layouts

Record layouts are used for those functions where field-level processing is required, such as:

- Browsing and editing of data sets using a formatted view that displays the data for individual fields
- Formatted printing of data records
- Reformatting data records
- Specifying filters (selection criteria) using conditions that evaluate field values

To use a record layout, define either the library and member name of a COBOL or PL/I record layout member or a custom layout.

**Note:** For more information about record layouts, see the chapter "Record Layouts."

# Filters

CA File Master Plus supports cataloged and uncataloged filters.

**Cataloged Filters**

Cataloged filters are defined using Option 5 (Define and Update Selection Criteria) from the CA File Master Plus Main Menu. Define filtering using criteria such as record counts, keys, selection limit, search limit, and filter condition. The cataloged selection criteria are saved to your selection criteria parm PDS. To use a cataloged filter, specify the member name of the cataloged filter in the selection criteria member field of the processing screen.

**Uncataloged Filters**

For simple filters that are not to be reused, specify the filter condition in the selection criteria field of the processing screen. The field-level help provides the syntax information you need to define an improvised filter.

You can perform many of the CA File Master Plus utility functions either online or in batch. Screens that you use to request these functions have an execution mode field at the bottom of the screen. The three choices for execution mode are as follows:

- O—Perform the request online
- S—Generate and submit JCL to perform the request
- E—Edit the JCL generated to perform the request

**Note:** To get the most value from CA File Master Plus, continue through the remaining pages of the Main Menu screen-level help. There are concepts explained in the next few pages that help you exploit the features of CA File Master Plus. Before using CA File Master Plus, select Option 0 and define the setup parameters and parameter data sets that you are using.

You must specify a filter or selection criteria when processing involves selected data records from a file or selected members from a library. The processing screens that support filters include the following:

- Browse
- Edit
- Copy
- Search
- Update
- Compare
- Print

**Note:** For more information about filters, see the chapter "Filters."

# Display DSN Lists

The Display DSN Lists screen displays a list of DSN lists that are defined in your default DSN list data set, option 0.3.

**To display the DSN lists**

1. Select option D from the Main Menu to request a directory of DSN lists.

   The DSN Lists screen displays a directory of DSN lists.

2. Type one of the following characters in the field next to one or more data sets to perform and action.

   **S**

   Selects and displays the DSN's contents

   **U**

   Updates the DSN list's contents

   **I**

   Inserts a new DSN list

   **Note:** The new DSN list is placed within the list in ascending order.

   **D**

   Deletes the selected DSN list

   The specified action is completed. If you have entered a character in more than one field, the actions take place starting with the first DSN on the list.

3. Use the F3 to perform the next action when you have when completing more than one action.

# Display DSN List Data Sets

You can view the following information on the User DSN List Dataset screen:

- DSN List PDS
- DSN List
- Description
- A list of the data sets that are in the DSN

**Follow these steps:**

1. Select option D from the Main Menu or in any DSN field.
2. Type **S** next to the DSN list you want to select, and press Enter.

   The Use DSN List Dataset screen displays a list of the data sets that are in the selected DSN list and other information associated with the DSN list.

# Confirm Member Delete

The Confirm Member Delete screen displays when you have selected to delete a library member. Press Enter to proceed with the delete or type CANCEL or END to cancel the member delete request.

**Note:** To prevent the member delete confirmation screen from displaying, do one of the following:

- Type N in the Confirm Member Delete? field in the Processing Defaults screen, Option 0.1.
- Type N in the Confirm subsequent member deletes? field on the Confirm Member Delete screen.

# Confirm Data Set Delete

The Confirm Data Set Delete screen displays when you have selected to delete a data set. Press Enter to proceed with the delete or type CANCEL or END to cancel the data set delete request.

**Note:** To prevent the member delete confirmation screen from displaying, type N in the Confirm Member Delete? field in the Processing Defaults screen, Option 0.1.

# Rename Data Sets

Use the Data Set Rename screen to specify a new name for a data set. Over-type the old data set name with the new data set name. Press Enter to perform the rename. To cancel the rename request, use the CANCEL or END command.

# Override Print Output Control

You can print a data set to any printer configured for your mainframe environment. Set the default values in the Print Output Control Parms screen. Use the Override Print Control screen to set different print values for an individual print command. The Override Print Control screen displays when you submit a request to print a data set or member.

**Note:** You must have the Confirm Print Class & Destination? parameter field set to Y in the Processing Defaults and Jobcard screen, Option 0.1. Change the parameter field to N to prevent the Override Print Control screen from displaying.

**Follow these steps:**

1. Enter the name of the data set that you want to print on the Print Data Set screen and press Enter.

   The Override Print Control screen displays.

2. Update any of the following fields:

   SYSOUT class

   Specifies the one-position Sysout class to which the print will be routed. This parameter field corresponds to the SYSOUT= JCL parameter.

   Number of copies

   Specifies the number of print copies requested. This parameter field corresponds to the COPIES=JCL parameter.

   **Values**: 1 - 255

   Destination printer

   Specifies the printer ID of a local or remote printer to which print will be routed. Printer IDs are usually in one of the following formats: Rnnnn, RMnnnn, or RMTnnnn, where nnnn is the one-to four-digit remote printer ID.

   This parameter field corresponds to the DEST= JCL parameter.

   External JES node & Userid at JES node

   Specifies an external JES node and the user ID at the JES node to route print output to a specified user ID within an external node. These fields operate like the DEST=(*nnnnnn*,*uuuuuu*) JCL parameter where *nnnn* is JES node ID and *uuuuuu* is a user ID.

Sysout writer name

Specifies the member name of the writer when you want the print to be processed by a Sysout writer program. A Sysout writer program is a started task that controls each output record and performs user-defined processing to manipulate and route the print file.

This parameter field corresponds to the SYSOUT=(*c*,*wwwwww*) JCL parameter where *c* is the Sysout class and *wwwwww* is the name of the Sysout writer program.

Print data set name

Specifies the data set name to which the print will be routed. The print job is then routed to the specified data set instead of being written to a Sysout class.

**Note:** If you select this option, you must also specify the Data set disposition value.

Data set disposition

Specifies the destination data set disposition when print job is routed to a specified data set. Specify one of the following values:

- NEW—Create a new data set
- SHR—Overlay an existing data set
- MOD—Copy to the end of an existing data set

3. Press Enter.

The print request is processed using the specified values. Your default values remain unchanged.

# Chapter 3: Main Menu

The CA File Master Plus Main Menu is the first menu displayed when you open the default installation option FM. Use the Main Menu, to navigate to all application functions.

**Note:** The default option used to launch the application is FM, but this can be changed during installation.

This section contains the following topics:



## Setup

Use the Setup menu to maintain your personal CA File Master Plus defaults. You can set the following default values:

- Jobcard information, used when submitting batch jobs from within the application
- Print defaults
- Parameter files, used when referencing DSN lists, selection criteria, reformat controls, and custom record layouts
- DSN list members
- Change log parameters

# Browse and Edit

Use the browse and edit functions to manage the content of sequential, VSAM, and partitioned data sets online. The browse and edit functions display data in character, hex, and record format based on a specified COBOL or PL/I copybook or a custom layout. You can also use selection criteria to display specific data sets and records. Record filter or selection criteria can be predefined or specified as needed when you use the browse and edit function. You can also specify whether you want to browse the data set in view or browse mode.

**Note:** For more information about displaying data sets and record, see the chapter "Record Layouts (see page 26)."

**Note:** For more information about selection criteria, see the chapter "Filters (see page 239)."

# Utility Functions

The following list describes the CA File Master Plus utility functions.

**Library Utility**

List, browse, edit, delete, rename, and print members of a library

**Data Set Utility**

Create, list browse, edit, delete, rename, catalog and uncatalog, and print data sets

**Copy Utility**

Copy data sets and members

**VTOC Utility**

Display volume serial information and list data sets contained within specified volumes

**PDS Utilities**

Locate partitioned data set that contain a specified member name, compress a PDS, update PDS allocations, and recover overlaid or deleted members

**VSAM Utility**

Display VSAM data set information, build alternate indexes, define VSAM clusters or indexes based on an existing model data set

**Search Utility**

Locate records within a data set or member that match specified selection criteria

**Update Utility**

Locate and change records within a data set that match specified selection criteria

**Data Set Compare Utility**

Compare the contents of two data sets or members

**Data Set Reformat Utility**

Reformat data sets according to your specifications

**Environment Utilities**

Display the current ISPF environment, the current system hardware and software configuration, and the DASD unit configuration

**Note:** For more information about utility functions, see the chapter "Utility Functions (see page 99)."

# Data Set Print

The data set print utility allows online generation and submission of batch JCL to print data sets and members.You can optionally use selection conditions and criteria to identify the records that you want to print. You can also optionally use use a layout to display the contents of the data set or member in a specified format.

# Record Filter and Selection Criteria

The browse, edit, copy, search, update, compare, and print functions support selecting library members and data records using filters. Filters consist of selection conditions and compound conditions called selection criteria. You define conditions that compare field values to other field values or literal values. You can also select records based on the maximum number of records to which selection criteria are evaluated, maximum number of records selected, and record selection interval (a specified number of records selected then a specified number of records skipped). Store and reuse these selection criteria or dynamically specify conditions on the main screen of any feature or utility that supports filtering.

Store record filter and selection criteria in a product SELECT parameter file for reuse by supported product functions or between users.

For more information about selection criteria and examples of valid syntax, see the chapter "Filters."

# Record Layouts

You can use record layouts to customize how data sets and records are displayed in the browse, edit, search, update, and reformat utilities. Layouts specify what information to display and the format in which to display it. You can define how data sets and members are displayed using ordinary layouts and using custom layouts. You can also view record layouts to show the position, length, and format of each field in the record layout.

**Note:** For more information about record layouts, see the chapter "Record Layouts (see page 249)."

# DSN Lists

You can use the DSN List feature to maintain custom lists of data set names and then refer to them by their DSN List member name in any Data Set Name field in the application. Use this feature to use the application's functions on data sets that you commonly use. You can share DSN lists or create personal DSN lists.

**Note:** For more information about DSN Lists, see the chapter "DSN List Directory."

# Optional Line Commands

You can customize CA File Master Plus at installation to enable line commands that you can use to bypass the Main Menu. Type one of the following commands at the prompt to launch the specified function from any ISPF data set list.

**FM1**

Data Set Browse

**FM2**

Data Set Edit

**FM31**

Library Utility

**FM310**

Data Set Compare

**FM311**

Data Set Reformat

**FM32**

Data Set Utility

**FM33**

Copy Utility

**FM361**

Locate PDSs with Specified Member

**FM362**

Compress PDS

**FM363**

Update PDS Allocation

**FM364**

Recover Overlaid or Deleted Members

**FM37**

VSAM Utility

**FM38**

Search Utility

**FM39**

Update Utility

**FM4**

Print Data Set

**FM6**

Record Layout

# Chapter 4: Setup and Processing Parameters

This chapter describes how you can set up parameters that affect processing of CA File Master Plus. The initial defaults are defined by your system administrator by updating the values in CAWAOPTS during installation.

This section contains the following topics:



## Set Up Processing Parameters

Before you use CA File Master Plus, you must set up the processing parameters. Use the Setup and Processing Parameters screen to specify these parameters, Option 0. Set default values for each of the five options.

**Default**

Defines the processing control parameters and the job statement to use for application jobs and ISPF functions.

**Print**

Defines the sysout class and the print destination for print output.

**Parm Files**

Defines and updates the processing parameter PDSs and processing parameter members.

**DSN Lists**

Defines lists of commonly used data set names to process during data set selection.

**Change Log**

Defines the parameters of the editor's change log.

# Define Processing Defaults and Job Statements

You can customize CA File Master Plus to define several control parameters and job statements that are used when submitting batch jobs. The initial defaults are defined by your system administrator by updating the values in CAWAOPTS during installation.

**Note:** CA Technologies recommends setting the processing default parameters and specifying the job statement before performing other CA File Master Plus functions.

**Follow these steps:**

1. Open the Setup and Processing Parameters screen.
2. Select DEFAULT from the menu, Option 0.1 from the main menu.

   The Processing Defaults and Jobcard screen opens.
3. Complete the following fields:

   **Confirm data set deletes?**

   Set this value to N to process data set deletes without confirmation.

   **Values:** Y, N

   **Confirm member deletes?**

   Set this value to N to process member deletes without confirmation.

   **Values:** Y, N

   **Use '=' to jump within CA product?**

   Set this value to Y to use = to navigate within CA File Master Plus. Set this value to N to use = to navigate to ISPF functions.

   **Values:** Y, N

   **Example**: When this value is Y and the command =3.1 is typed, the application jumps to the Library Utility. When this value is N, the same command jumps to ISPF's Option 3.1.

   **Userid prefix for backup PDS?**

   Set this value to Y to specify that DSNs generated for backup or recovery contain the user's User ID as the first node.

   **Values:** Y, N

   **Note:** For more information about the backup and recovery files that are affected by this parameter, see the chapter "PDS Utilities Submenu (see page 134)."

**Confirm print class & destination?**

Set this value to Y to display a confirmation screen when requesting an online print and before submitting a batch job that requests a print. The confirmation screen shows the Sysout class and the destination parameters that have been defined using the Print Output Control Parms screen.

**Values:** Y, N

**Example**: With a value of Y, each time a print is requested, the confirmation screen opens allowing you to override the Sysout class and destination for the current output. With a value of N, all print output is routed to the Sysout class and destination that is defined in the Print Output Control Parms screen.

**DASD Unit Name**

Specifies the initial value for the generic unit name when allocating new workspace data sets. These data sets are allocated on volumes associated with the specified unit.

**Default:** SYSDA

**Note:** To control the volumes on which work space data sets are allocated, the DASD unit name or the SMS storage class must be specified (but not both).

**SMS Storage Class**

Specifies the initial value for the SMS storage class used for the allocation of new SMS-managed data sets.

**Note:** To control the volumes on which work space data sets are allocated, the DASD unit name or the SMS storage class must be specified (but not both).

**Size in cylinder**

Specifies the number of cylinders for the maximum size of workspace data sets allocated by the application.

Enter a value of zero to specify an unlimited maximum size.

**Job information**

Specifies one to four lines of JCL control statements that is added to the beginning of any online-generated batch jobs. Blank lines for lines 2, 3 and 4 of the job statement specification are ignored when generating JCL.

# Define Print Output Control Parameters

You can define the default parameters that control print destinations using the Print Output Control Parms screen. When you print a data set or member, the application uses the default values specified on this screen to process the print request. You can view and override the defaults specified here on the print confirmation screen.

**Follow these steps:**

1. Select SETUP from the Main Menu.

   The Setup and Processing Parameters screen opens.

2. Select Print from the menu, Option 0.2 from the main menu.

   The Print Output Control Parms screen displays.

3. Complete the following fields:

   SYSOUT class

   Specifies the one-position Sysout class to which the print will be routed. This parameter field corresponds to the SYSOUT= JCL parameter.

   Number of copies

   Specifies the number of print copies requested. This parameter field corresponds to the COPIES=JCL parameter.

   **Values**: 1 - 255

4. Specify values for one of the following print destination options.

   Destination printer

   Specifies the printer ID of a local or remote printer to which print will be routed. Printer IDs are usually in one of the following formats: Rnnnn, RMnnnn, or RMTnnnn, where nnnn is the one-to four-digit remote printer ID.

   This parameter field corresponds to the DEST= JCL parameter.

   External JES node & Userid at JES node

   Specifies an external JES node and the user ID at the JES node to route print output to a specified user ID within an external node. These fields operate like the DEST=(*nnnnnn*,*uuuuuu*) JCL parameter where *nnnn* is JES node ID and *uuuuuu* is a user ID.

   Sysout writer name

   Specifies the member name of the writer when you want the print to be processed by a Sysout writer program. A Sysout writer program is a started task that controls each output record and performs user-defined processing to manipulate and route the print file.

   This parameter field corresponds to the SYSOUT=(*c*,*wwwwww*) JCL parameter where *c* is the Sysout class and *wwwwww* is the name of the Sysout writer program.

   Print data set name

   Specifies the data set name to which the print will be routed. The print job is then routed to the specified data set instead of being written to a Sysout class.

   **Note:** If you select this option, you must also specify the Data set disposition value.

Data set disposition

Specifies the destination data set disposition when print job is routed to a specified data set. Specify one of the following values:

- NEW—Create a new data set
- SHR—Overlay an existing data set
- MOD—Copy to the end of an existing data set

5. Press Enter.

   The print defaults are saved with the specified values.

# Define and Update Processing Data Sets

Use the Define and Update Processing Data Sets screen to specify the default DSNs fro the following data sets:

- DSN lists
- Selection criteria
- Reformat control
- Custom record layouts

Initial default parameters are specified by the system administrator during installation using values from CAWAOPTS.

**Follow these steps:**

1. Select SETUP from the Main Menu.

   The Setup and Processing Parameters screen opens.

2. Select PARM FILES from the menu, option 0.3 from the main menu.

   The Define & Update Processing Parms screen displays.

3. Type S (select to update) in any of the fields before the data set name.

   The following screens display for each of the selected data sets when you press Enter..

   **DSN Lists**

   DSN Lists, Option D

   **Note:** For more information about the DSN Lists screen, see the chapter "DSN List Directory."

   **Selection Criteria**

   Selection Criteria

   **Note:** For more information about the Selection Criteria screen, see the chapter "Filters (see page 239)."

   **Reformat Control**

   Data Set Reformat

   **Note:** For more information about the Data Set Reformat screen, see the section "Data Set Reformat (see page 226)" in chapter "Utility Functions."

   **Custom Rec Layouts**

   Record Layout

   **Note:** For more information about the Record Layout screen, see the chapter "Record Layouts (see page 249)."

4. Type A (allocate new PDS) in any of the fields before the data set name when you press Enter.

   The Allocate New Parm PDS screen displays.

   **Note:** For more information about the Allocate New Parm PDS screen, see "Allocate New Parm PDS (see page 35)."

   **Note:** You can perform one of these actions on as many of the parm fields as you want.

5. Press Enter to perform the specified action. Use the F3 to perform the next action when you have when completing more than one action.

   The action is completed as noted in steps 3 and 4.

## Allocate New Parm PDS

You can allocate a new parm PDS by selecting A on the Define & Update Processing Parms screen. When you specify A and press return, the Allocate New Parm PDS screen displays. Specify the name of the data set that you want to allocate, and select the allocation option.

**Note:** If you specify option 2 or 3 in the Allocation Options field, you must specify a data set in the Copy From PDS field.

# DSN List

You can display a list of members in your DSN list PDS using the DSN List Member Directory screen, Option 0.4. Each member of the DSN list PDS contains a list of DSNs that you can reference by the member name. When select this option, the application displays the contents of the DSN list identified in the Define and Update Processing Data Sets screen. You can use this screen to update and delete DSN list members. You can also insert a new data set into the DSN list.

**Note:** For more information about DSN Lists, see the chapter "DSN List Directory."

# Define Change Log Parameters

Use the Change Log Parameters Screen to define the processing parameters that affect the change log data set within CA File Master Plus.

**Follow these steps:**

1. Select SETUP from the Main Menu.

   The Setup and Processing Parameters screen opens.

2. Select Change Log from the menu, option 0.5 from the main menu.

   The Change Log allocation parameters screen displays.

3. Specify either the volume serial or the generic unit name.

   **Volume serial**

   Specifies a new change log file on a specific volume

   **Generic unit name**

   Specifies a generic unit name used to allocate a new change log data set

4. Specify the number of cylinders allocated for the primary and secondary change log data sets. The default allocations are set by your system administrator.

   **Valid values**: 0 through 99999999

   **Note:** You cannot activate the change log feature if this value is zero.

# Chapter 5: Browsing Data Sets

This chapter describes how Use the Browse function to view the contents of sequential files, VSAM files, and partitioned data sets. You can apply selection criteria to specify certain records to display. You can view the data set in hexadecimal, character, single-record, and multi-record format.

When displaying the contents of a data set using the Browse command, use *Browse mode* to view the data set without allowing any changes. Use *View mode* if you want to make changes to the data set during your session. You cannot save the changes to the open data set, but you can save the changes to a new data set or to an existing one that is not open. To make changes and save them to the open data set, use the Edit command.

**Note:** For more information about the Edit command, see the chapter "Editing Data Sets (see page 45)."

This section contains the following topics:



## Browse Data Sets

Use the Browse Data Set screen to browse sequential files, VSAM files, and partitioned data sets. You can use selection criteria to specify certain records to display. You can view the data set in hexadecimal, character, single-record, and multi-record format.

**Follow these steps:**

1. Select BROWSE from the Main Menu screen, Option 1.

   The Browse Data Set screen opens:

2. Specify the data set that you want to browse. Complete the Data set name, member name, and volume fields as needed. Only specify the volume serial number if the data set you want to browse is uncataloged.

   **Note:** You can enter a fully qualified data set and member name or a wildcarded data set name and member name. If you enter a wildcarded data set name, the Select DSN panel displays. Select the data set you want to browse and press Enter to return to the Browse Data Set screen. If you enter a wildcarded member name, or if you leave the member name blank when you have specified the name of a partitioned data set, the Select Members to Process panel displays. Select the member that you want to browse and press Enter. The specified member displays using the options specified on the Browse Data Set screen.

3. (Optional) Specify the record layout data set and member that you want to use if you want a formatted display. Specify a layout PDS but leave the member field blank to view a directory of members in the layout data set.

   **Note:** You must specify a layout if you want to view records in single-record or multi-record format.

   **Note:** You can use the Selection Criteria Condition screen to build conditions for the layout by the field names defined in the record layout. To display this screen, specify a data set and member and then use the LAYOUT command. After the data set is displayed you can use the MAP command to modify selection conditions for the record layout.

4. (Optional) Specify the selection criteria member or any individual selection conditions that you want to use to identify the records to display.

5. Specify one of the following display modes:

   **C**

   Character mode

   **S**

   Single-record Format

   **M**

   Multi-record Format

   **Note:** You can switch between display modes by entering CHAR, SF, or MF on the command line once the data set displays.

6. Specify one of the following browse modes:

   **V**

   View—You can make changes but cannot save them to the open data set

   **B**

   Browse—You cannot make any changes

   **Note:** You can switch between browse modes by entering either of these values on the command line once the data set displays.

   **Tip:** Use Browse mode for browsing very large data sets.

7. Press Enter to process the browse command.

   If you specified Single (S) or Multi (M) record formatted mode and the layout member contains multiple layouts, a list of the available layouts displays. Select the layout that you want to use in the edit session.

   **Note:** You can change or add any conditions and update the inclusion or omission of fields when the layout displays. At any time after the session has started, and in any display mode, the MAP command can be used to display the current layouts.

   The contents of the data set displays.

## Select Members to Process

To browse a PDS member, enter the name of the PDS and the name of the member that you want to browse. If you enter a wildcarded member name or if you leave the member name field blank, the Select Member to Process panel displays. The Select Member to Process panel displays a list of the members in the PDS that meet the wildcard criteria. If the member name field was left blank, the Select Member to Process panel displays a list of all members in the specified PDS. Select the member that you want to browse and press Enter to browse the member.

**Follow these steps:**

1. Select BROWSE from the Main Menu screen, Option 1.

   The Browse Data Set screen displays.

2. Specify the name of the PDS that contains the member that you want to browse.
3. Specify a wildcarded member name or leave the member name field blank, and press Enter.

   The Select Member To Process screen displays a list of the PDS members that meet the wildcard criteria you specified. If you left the member name field blank, the Select Member To Process screen displays a list of all members in the PDS.

4. Use any of the following commands to locate a member:

   LOCATE ***value***

   Positions to the first member in the directory whose sort sequence field is greater than or equal to the specified value.

   For example, when the directory list is sorted by the Name column, LOCATE ABC positions the member list to the first member in the list whose member name is greater than or equal to the name ABC.

   **Note:** You can use the abbreviation L for the LOCATE command.

   MEMBER '***value'***

   Specifies additional member selection criteria. This command reduces the current member list to only those members that contain records that match the specified value. Use successive MEMBER commands to further reduce the current member list.

   For example, MEMBER 'ABC' reduces the member list to only those members that contain the characters ABC in one of their records. A subsequent MEMBER 'XYZ' command reduces the member list to only those members that contain the characters ABC and XYZ.

   S ***member***

   Selects a member from the data set for processing. The member does not have to be in the current member list to be selected.

SORT ***column***

Sorts the directory by any of the columns in the directory. You can also specify whether to sort a column in ascending or descending order by specifying an A or D after the column value.

For example, the command SORT CREATED sorts the directory in descending order of Created date and SORT ID D sorts the directory in descending order of User ID.

5. Type an S (for select) next to the member that you want to browse and press Enter.

   The contents of the member displays on the screen.

## Formatting Modes

When you open a Browse or Edit session, you specify one of the following formatting modes:

- C—Character
- S—Single-record format
- M—Multi-record format

You can switch from one formatting mode to another in an open browser or edit session by entering one of the following values:

- CHAR—Character mode
- SF—Single-record format
- MF—Multi-record format

### Character Mode

Use the CHAR command from a browse session to display records in character mode. Character mode displays the record in character format as it appears in the file. You can also use the HEX ON command to view the record data in hex.

### Example

The following example shows a record displayed in character mode:

```
Browse YOUR.FILE                                          Columns 00001 00072
COMMAND ===>                                               SCROLL ===> CSR
****** ***************************** Top of Data ****************************
000001  1234567XXXXXXXXXXXXXXX                          ab12345 6789
000002  7654321YYYYYYYYYYYYYYY                            00000 0000
000003  9999999ZZZZZZZZZZZZZZZ                            00000 0000
****** **************************** Bottom of Data ***************************
```

## Single-Record Format

Use the SF command from a browse session to display records in Single-record format. Single-record format displays one record at a time, showing the field name on the left of the screen and the data values on the right. You can also use the HEX ON command to view the record data in hex.

Single-record format displays the following fields:

Record Number

Displays the relative record number within the file

Record Length

Displays the length of the displayed record

Record Layout

Displays the name of the record layout that defines the format of the current view

Field Name

Contains the field level number and field name with indentation to indicate the hierarchy of the fields

The indentation rules for the field name column are as follows:

- The indention amount is 2 when the entire name of each field fits within the space provided.
- The indention amount is 1 when the previous rule is not true and when the entire name of each field fits within the space provided.
- The indention amount is 0 when both of the previous rules are not true.
- Table index values will overwrite the rightmost characters of the field name if the field name and table index values cannot fit in the space provided.

Pos

Displays the starting position of the field within the record

Format

Displays the data-type indicator followed by either the number of digits or characters allowed for the field as defined by the field definition.

Valid data-type indicators are as follows:

| | | | |
|---|---|---|---|
| B—Binary | C—Alphanumeric (EBCDIC) | F—Floating point | N—Any numeric field (EBCDIC) |
| P—Packed | S—Signed | U—Alphanumeric (UTF-16) | D—Any numeric field (UTF-16) |

Value

Displays the formatted data as defined by the field definition.

The following rules apply to single-record formatted mode:

- You must specify a layout when opening the Browse session.
- Record data that is not in the proper format as defined by the layout is displayed in X'xxxx' format in the value column.
- Line commands are not available in single-record formatted mode.
- UP and DOWN commands scroll through the fields within a single record.
- LEFT and RIGHT commands scroll through the previous and next records.
- TOP and BOTTOM commands display the first and last data records.
- You can use the MF and CHAR primary commands to switch to multi-record or character mode.

## Example

The following example shows a record displayed in single-record format:

```
Record Number: 1      Record Length: 300   Record Layout: CUSTREC
   Field                              Pos  Format Value
01 CUST-RECORD                          1     300
  05 CUST-CUSTOMER-NUM                  1 N     9 123456789
  05 CUST-CUSTOMER-TYPE-CODE           10 C     2 AA
  05 CUST-ACCT-OPENED-DATE             12 N     6 10101
  05 CUST-DOB                          18 N     6 70450
  05 CUST-1ST-TRANSACTION-DATE         24       6
    10 CUST-1ST-TRANSACTION-MM         24 N     2 08
    10 CUST-1ST-TRANSACTION-DD         26 N     2 31
    10 CUST-1ST-TRANSACTION-YY         28 N     2 1
  05 CUST-CURRENT-BAL                  30 P   9.2 100000.00
  05 CUST-ORIG-BAL                     36 P   9.2 90000.00
  05 CUST-PAYMENT-AMT                  42 P   9.2 0.00
  05 CUST-PAYMENT-PERIOD               48 N     2 30
  05 CUST-NAME                         50 C    25 JANE SMITH
  05 CUST-ADDR-1                       75 C    30 55 MAIN STREET
  05 CUST-ADDR-2                      105 C    30
  05 CUST-CITY                        135 C    20 SPRINGFIELD
  05 CUST-STATE                       155 C     2 MA
  05 CUST-ZIP-CODE                    157 C    10 02345-6789
  05 CUST-COUNTY-CODE                 167 N     3 1
  05 CUST-DELIQENCY-CODE              170 C     1 A
  05 CUST-AGENT-ID                    171 N     5 12345
  05 CUST-PAID-TO-DATE                176 N   9.2 10000.00
```

## Multi-Record Format

Use the MF command from a browse session to display records in Multi-Record format. Multi-Record format displays multiple records at once in a columnar display. Each column displays the field names at the top followed by a formatted display of the values in that field. You can also use the HEX ON command to view the record data in hex.

The following rules apply to multi-record formatted mode:

- You must specify a layout when opening the Browse session.
- A page break is inserted when the format changes from layout to another as specified in custom layout rules. Press F8 to display the next set of records.
- Record data that is not in the proper format as defined by the layout is displayed in X'xxxx' format in the value column.
- Numeric data is right justified in the field column.
- Character data is left justified in the field column.
- UP and DOWN commands scroll through the previous or next records.
- LEFT and RIGHT commands scroll through the field names for the record on the current screen.
- TOP and BOTTOM commands display the first and last data records.
- You can use the SF and CHAR primary commands to switch to single-record or character mode.

## Example

The following example shows a data set in multi-record format.

```
Browse  TEST.CUSTREC                              Columns 00001 00160
COMMAND ===>
          CUST     CUST CUSTOMER  CUST ACCT   CUST     CUST 1ST
      CUSTOMER NUM   TYPE CODE   OPENED DATE  DOB   TRANSACTION MM
      N 9          C 2           N 6         N 6    N 2
      1----------- 10----------- 12--------- 18---- 24------------
****** ******************************* Top of Data *****************
000001         2000 AA                  10101  70450              8
000002        20002 BB                  20189  20467              3
000003        20003 CC                  40102  70778              4
000004        20010 AB                  40101  10166              7
000005        20029 XX                  50102 120166              2
000006        20049 YY                  60602  70450              1
000007        40000 ZZ                  83001  71983              3
000008        40000 BX                 110199  72816              9
000007        40000 ZZ                 083001  071983             3
000008        40000 BX                 110199  072816             9
```

The field names are displayed as column headings. The field names in this example are CUST-CUSTOMER-NUM, CUST-CUSTOMER-TYPE-CODE, CUST-ACCT-OPENED-DATE, CUST-DOB, and CUST-1ST-TRANSACTION-MM. Hyphens in field names are removed in the display.

The field format and length are displayed below the field name. The CUST-CUSTOMER-NUM field in this example has a format and length of N 9, indicating a numeric field of up to 9 digits. The CUST-CUSTOMER-TYPE-CODE field has a format and length of C 2, indicating a character field of up to 2 characters.

The field position is displayed below the field format and length. The value of CUST-CUSTOMER-NUM field in this example is at position 1 in the record. The value of CUST-CUSTOMER-TYPE-CODE is at position 10.

# Locate Fields in Formatted Mode

Use the F xxxxx FIELD command to display a specific field in the current record when in single-record or multi-record formatted mode.

The following example positions the current record to the next field whose field name contains the characters DOB.

```
F 'DOB' FIELD
```

# Browse Primary and Line Commands

When you look through a data set in browse mode, primary and line commands that modify data are not supported in Browse mode. Use View mode to enable the commands.

**Note:** For a description of the primary and line commands available while browsing a data set, see the chapter "Editing Data Sets (see page 45)."

# Chapter 6: Editing Data Sets

This section contains the following topics:



## Edit Data Sets

Use the Edit Data Set screen to edit sequential files, VSAM files, and partitioned data sets. You can use selection criteria to specify certain records to display. You can view the data set in hexadecimal, character, single-record, and multi-record format.

**Follow these steps:**

1. Select EDIT from the Main Menu, option 2.

   The Edit Data Set screen opens.

2. Specify the data set that you want to edit. Complete the Data set name, Member name, and Volume fields as needed. Only specify the volume serial number if the data set you want to edit is uncataloged.

   **Note:** You can enter a fully qualified data set and member name or a wildcarded data set name and member name. If you enter a wildcarded data set name, the Select DSN panel displays. Select the data set you want to edit and press Enter to return to the Edit Data Set screen. For more information about specifying a member name, see the topic, "Select Member to Process (see page 47)."

3. (Optional) Specify the record layout data set and member that you want to use if you want a formatted display. Specify a layout PDS but leave the member field blank to view a directory of members in the layout data set.

   **Note:** You must specify a layout if you want to view records in single-record or multi-record format.

   **Note:** You can use the Selection Criteria Condition screen to build conditions for the layout by the field names defined in the record layout. To display this screen, specify a data set and member and then use the LAYOUT command. After the data set is displayed you can use the MAP command to modify selection conditions for the record layout.

4. (Optional) Specify the selection criteria member or any individual selection conditions that you want to use to identify the records to display.

5. Specify one of the following display modes:

   **C**

   Character mode

   **S**

   Single-record Format

   **M**

   Multi-record Format

   **Note:** You can switch between display modes by entering CHAR, SF, or MF on the command line once the data set displays.

6. Type Y in the Change Log field if you want to activate the change log for the edit session. To activate the change log, you must have defined the change log parameters in the Setup and Processing Parameters screen, option 0.5

   Type N if you do not want to log changes made during the edit session.

   **Note:** This option appears as protected it if your CA File Master Plus administrator has set the change log feature to remain activated.

7. Press Enter to process the edit command.

   If you specified Single (S) or Multi (M) record formatted mode and the layout member contains multiple layouts, a list of the available layouts displays. Select the layout that you want to use in the edit session.

**Note:** You can change or add any conditions and update the inclusion or omission of fields when the layout displays. At any time after the session has started, and in any display mode, the MAP command can be used to display the current layouts.

The contents of the data set display in edit mode.

## Select Members to Process

To edit a PDS member, enter the name of the PDS and the name of the member that you want to edit. If you enter a wildcarded member name or if you leave the member name field blank, the Select Member to Process panel displays. The Select Member to Process panel displays a list of the members in the PDS that meet the wildcard criteria. If the member name field was left blank, the Select Member to Process panel displays a list of all members in the specified PDS. Select the member that you want to edit and press Enter to edit the member.

**Follow these steps:**

1. Select EDIT from the Main Menu screen, Option 2.

   The Edit Data Set screen displays.

2. Specify the name of the PDS that contains the member that you want to edit.
3. Specify a wildcarded member name or leave the member name field blank, and press Enter.

   The Select Member To Process screen displays a list of the PDS members that meet the wildcard criteria you specified. If you left the member name field blank, the Select Member To Process screen displays a list of all members in the PDS.

4. Use any of the following commands to locate a member:

   LOCATE ***value***

   Positions to the first member in the directory whose sort sequence field is greater than or equal to the specified value.

   For example, when the directory list is sorted by the Name column, LOCATE ABC positions the member list to the first member in the list whose member name is greater than or equal to the name ABC.

   **Note:** You can use the abbreviation L for the LOCATE command.

MEMBER '***value'***

Specifies additional member selection criteria. This command reduces the current member list to only those members that contain records that match the specified value. Use successive MEMBER commands to further reduce the current member list.

For example, MEMBER 'ABC' reduces the member list to only those members that contain the characters ABC in one of their records. A subsequent MEMBER 'XYZ' command reduces the member list to only those members that contain the characters ABC and XYZ.

S ***member***

Selects a member from the data set for processing. The member does not have to be in the current member list to be selected.

SORT ***column***

Sorts the directory by any of the columns in the directory. You can also specify whether to sort a column in ascending or descending order by specifying an A or D after the column value.

For example, the command SORT CREATED sorts the directory in descending order of Created date and SORT ID D sorts the directory in descending order of User ID.

5. Type an S (for select) next to the member that you want to edit and press Enter.

   The contents of the member displays on the screen.

## Formatting Modes

When you open a Browse or Edit session, you specify one of the following formatting modes:

- C—Character
- S—Single-record format
- M—Multi-record format

You can switch from one formatting mode to another in an open browser or edit session by entering one of the following values:

- CHAR—Character mode
- SF—Single-record format
- MF—Multi-record format

## Character Mode

Use the CHAR command from an edit session to display records in character mode. Character mode displays the record in character format as it appears in the file. You can also use the HEX ON command to view the record data in hex.

## Example

The following example shows a record displayed in character mode:

```
Edit YOUR.FILE                                              Columns 00001 00072
COMMAND ===>                                                  SCROLL ===> CSR
****** ****************************** Top of Data ****************************
000001  1234567XXXXXXXXXXXXXXX                              ab12345 6789
000002  7654321YYYYYYYYYYYYYYY                                00000 0000
000003  9999999ZZZZZZZZZZZZZZZ                                00000 0000
****** ***************************** Bottom of Data ***************************
```

## Single-Record Format

Use the SF command from an edit session to display records in single-record format. Single-record format displays one record at a time, showing the field name on the left of the screen and the data values on the right. You can also use the HEX ON command to view the record data in hex.

Single-record format displays the following fields:

Record Number

Displays the relative record number within the file

Record Length

Displays the length of the displayed record

Record Layout

Displays the name of the record layout that defines the format of the current view

Field Name

Contains the field level number and field name with indentation to indicate the hierarchy of the fields

The indentation rules for the field name column are as follows:

- The indention amount is 2 when the entire name of each field fits within the space provided.
- The indention amount is 1 when the previous rule is not true and when the entire name of each field fits within the space provided.
- The indention amount is 0 when both of the previous rules are not true.
- Table index values will overwrite the rightmost characters of the field name if the field name and table index values cannot fit in the space provided.

Pos

Displays the starting position of the field within the record

Format

Displays the data-type indicator followed by either the number of digits or characters allowed for the field as defined by the field definition.

Valid data-type indicators are as follows:

| | | | |
|---|---|---|---|
| B—Binary | C—Alphanumeric (EBCDIC) | F—Floating point | N—Any numeric field (EBCDIC) |
| P—Packed | S—Signed | U—Alphanumeric (UTF-16) | D—Any numeric field (UTF-16) |

Value

Displays the formatted data as defined by the field definition.

The following rules apply to single-record formatted mode:

- You must specify a layout when opening the Edit session.
- You can display or modify the data in the Value column using field-level editing rules based on the field format.
- Record data that is not in the proper format as defined by the layout is displayed in X'xxxx' format in the value column.
- Invalid data is allowed only if you type it as X'xxxx'.
- Line commands are not available in single-record formatted mode.
- UP and DOWN commands scroll through the fields within a single record.
- LEFT and RIGHT commands scroll through the previous and next records.
- TOP and BOTTOM commands display the first and last data records.
- You can use the INSERT, DELETE, and REPEAT primary commands to add, delete, and repeat records.
- You can use the MF and CHAR primary commands to switch to multi-record or character mode.

## Example

The following example shows a record displayed in single-record format:

```
Record Number: 1      Record Length: 300   Record Layout: CUSTREC
   Field                               Pos  Format Value
01 CUST-RECORD                           1     300
  05 CUST-CUSTOMER-NUM                   1 N     9 123456789
  05 CUST-CUSTOMER-TYPE-CODE            10 C     2 AA
  05 CUST-ACCT-OPENED-DATE              12 N     6 10101
  05 CUST-DOB                           18 N     6 70450
  05 CUST-1ST-TRANSACTION-DATE          24       6
    10 CUST-1ST-TRANSACTION-MM          24 N     2 08
    10 CUST-1ST-TRANSACTION-DD          26 N     2 31
    10 CUST-1ST-TRANSACTION-YY          28 N     2 1
  05 CUST-CURRENT-BAL                   30 P   9.2 100000.00
  05 CUST-ORIG-BAL                      36 P   9.2 90000.00
  05 CUST-PAYMENT-AMT                   42 P   9.2 0.00
  05 CUST-PAYMENT-PERIOD                48 N     2 30
  05 CUST-NAME                          50 C    25 JANE SMITH
  05 CUST-ADDR-1                        75 C    30 55 MAIN STREET
  05 CUST-ADDR-2                       105 C    30
  05 CUST-CITY                         135 C    20 SPRINGFIELD
  05 CUST-STATE                        155 C     2 MA
  05 CUST-ZIP-CODE                     157 C    10 02345-6789
  05 CUST-COUNTY-CODE                  167 N     3 1
  05 CUST-DELIQENCY-CODE               170 C     1 A
  05 CUST-AGENT-ID                     171 N     5 12345
  05 CUST-PAID-TO-DATE                 176 N   9.2 10000.00
```

## Multi-Record Format

Use the MF command from an edit session to display records in Multi-Record format. Multi-Record format displays multiple records at once in a columnar display. Each column displays the field names at the top followed by a formatted display of the values in that field. You can also use the HEX ON command to view the record data in hex.

The following rules apply to multi-record formatted mode:

- You must specify a layout when opening the Edit session.
- A page break is inserted when the format changes from layout to another as specified in custom layout rules. Press F8 to display the next set of records.
- You can display or modify the data in field columns using field-level editing rules based on the field format.
- Record data that is not in the proper format as defined by the layout is displayed in X'xxxx' format in the value column.
- Invalid data is allowed only if you type it as X'xxxx'.
- Numeric data is right justified in the field column.
- Character data is left justified in the field column.
- UP and DOWN commands scroll through the previous or next records.
- LEFT and RIGHT commands scroll through the field names for the record on the current screen.
- TOP and BOTTOM commands display the first and last data records.
- You can use the SF and CHAR primary commands to switch to single-record or character mode.

## Example

The following example shows a data set in multi-record format.

```
Edit  TEST.CUSTREC                              Columns 00001 00055
COMMAND ===>
          CUST     CUST CUSTOMER  CUST ACCT   CUST     CUST 1ST
       CUSTOMER NUM   TYPE CODE   OPENED DATE  DOB   TRANSACTION MM
       N 9          C 2           N 6         N 6    N 2
       1----------- 10----------- 12--------- 18---- 24------------
****** ***************************** Top of Data *****************
000001         2000 AA                  10101  70450              8
000002        20002 BB                  20189  20467              3
000003        20003 CC                  40102  70778              4
000004        20010 AB                  40101  10166              7
000005        20029 XX                  50102 120166              2
000006        20049 YY                  60602  70450              1
000007        40000 ZZ                  83001  71983              3
000008        40000 BX                 110199  72816              9
000007        40000 ZZ                 083001  071983             3
000008        40000 BX                 110199  072816             9
```

The field names are displayed as column headings. The field names in this example are CUST-CUSTOMER-NUM, CUST-CUSTOMER-TYPE-CODE, CUST-ACCT-OPENED-DATE, CUST-DOB, and CUST-1ST-TRANSACTION-MM. Hyphens in field names are removed in the display.

The field format and length are displayed below the field name. The CUST-CUSTOMER-NUM field in this example has a format and length of N 9, indicating a numeric field of up to 9 digits. The CUST-CUSTOMER-TYPE-CODE field has a format and length of C 2, indicating a character field of up to 2 characters.

The field position is displayed below the field format and length. The value of CUST-CUSTOMER-NUM field in this example is at position 1 in the record. The value of CUST-CUSTOMER-TYPE-CODE is at position 10.

# Locate Fields in Formatted Mode

Use the F xxxxx FIELD command to display a specific field in the current record when in single-record or multi-record formatted mode.

The following example positions the current record to the next field whose field name contains the characters DOB.

```
F 'DOB' FIELD
```

# Manage Files with the Change Log

The change log records all changes made to a data set or member during an edit session. You can enable the change log for a session on the Edit Data Set screen.

**How to Use the Change Log**

1. Define the change log parameters
2. Enable the Change Log for an Edit Session
3. Process the Change Log
4. (Optional) Print the Change Log

## Define Change Log Parameters

Use the Change Log Parameters Screen to define the processing parameters that affect the change log data set within CA File Master Plus.

**Follow these steps:**

1. Select SETUP from the Main Menu.

   The Setup and Processing Parameters screen opens.

2. Select Change Log from the menu, option 0.5 from the main menu.

   The Change Log allocation parameters screen displays.

3. Specify either the volume serial or the generic unit name.

   **Volume serial**

   Specifies a new change log file on a specific volume

   **Generic unit name**

   Specifies a generic unit name used to allocate a new change log data set

4. Specify the number of cylinders allocated for the primary and secondary change log data sets. The default allocations are set by your system administrator.

   **Valid values**: 0 through 99999999

   **Note:** You cannot activate the change log feature if this value is zero.

## Enable the Change Log

Enable the change log for any edit session using the Edit Data Set screen. The change log will record all changes for that session.

To enable the change log, specify Y in the Change log field on the Edit Data Set panel.

When the data set opens in edit mode, the display shows "Edit - Logging" to indicate that the change log is enabled.

**Note:** For more information about the Edit Data Set panel, see Edit Data Sets (see page 45).

## Process the Change Log

After you have completed an edit session with the change log enabled, the Change Log Data Set Processing panel displays. Use this panel to specify how to process the current change log and optionally update the settings for the next edit session.

**Follow these steps:**

1. Exit the edit session.

   The Change Log Data Set Processing panel displays:

2. Specify the following processing dispositions:

   **Print current log?**

   Y–The Change Log data set is printed according to the specifications in the Change Log Dataset Print Options screen.

   N–The Change Log data set is not printed.

   **Delete current log?**

   Y–The Change Log data set is deleted.

   N–The Change Log data set is not deleted.

   **New log name in next session?**

   Y–A new Change Log data set is allocated in the next edit session. When the new data set is allocated and the ONL_CLOGDSN definition contains the %LOGN variable, the LOG number nnnnnnn is incremented by 1 in the data set name. If the ONL_CLOGDSN definition contains the %TIME variable, then the new data set is allocated using the new time.

   N–The current Change Log data set name is used in the next edit session.

   **Note:** For more information about the ONL_CLOGDSN parameter, see "Customize Options" in the Installation Guide. Options that are enforced at installation cannot be changed on the Change Log Processing screen.

3. Enter a description of changes made during the edit session in the Description of Change field. You can enter three lines of up to 60 characters each. Each line displays as a separate line in the change log report.

4. Press Enter.

   The change log is processed as specified.

   **Note:** You can also type CANCEL to exit the Change Log Data Set Processing panel.

## Print the Change Log

You can print the contents of the change log data set using one of the following methods:

- Specify Y to Print current log? on the Change Log Data Set Processing panel after logging an Edit session.
- Use the PRINTLOG batch command.

# Edit Commands

The CA File Master Plus data editor supports both primary and line commands to perform data searching and manipulation during your edit session. Type a primary command at the command prompt, and the command is performed on an entire data set. Type a line command at the six position record sequence or line command field, and the command is performed on a single line or a block of lines.

## Primary Commands

This section describes the primary commands. Type a primary command at the command prompt to perform the command on an entire data set.

### AUTOSAVE

Automatically saves a data set when the END command is processed during an edit session. If autosaving is off, you must specify the SAVE command to save any changes made during an edit session. To retain the value of AUTOSAVE between edit sessions, use the PROFILE command.

Syntax:

```
AUTOSAVE    [ON | OFF]
```

### BOTTOM

Jumps to the last line of the data set.

Alias: B

## BOUNDS

Sets the left and right boundaries, or margins, for subsequent commands.

Syntax:

```
BOUNDS [lmargin rmargin]
       [?]
```

Syntax description:

***lmargin***

Column number for left boundary.

**Default:** Position 1

***rmargin***

Column number for right boundary.

**Default:** The last record position

***?***

Displays the current BOUNDS setting

**Note:** When you do not specify parameters, the BOUNDS command resets the left and right margins to their default values.

To view the current BOUNDS setting, type the line command BNDS on any line.

Alias: BNDS, BND

## BROWSE

Switches the current edit session to a browse session. If you made any record changes during the edit session, you are prompted to save or cancel the changes before switching to a browse session.

## CANCEL

Terminates an edit session without saving any changes made since the last save command.

Alias: CAN

## CAPS

Turns CAPS on or off in the current edit session. To retain the CAPS value between edit sessions, use the PROFILE command.

Syntax:

```
CAPS    [ON|OFF]
```

## CHANGE

Changes one string to another. For more details on changing to or from strings of different length, see Change Command "From" and "To" Character Strings of Different Lengths (see page 61).

**Note:** If you are editing a PDS member, you can use the PDSCHG command to set the mode for the CHANGE command.

Syntax:

```
CHANGE
   fromstr     tostr
   [FIRST|LAST|NEXT|PREV|ALL]
   [WORD|PREFIX|SUFFIX|CHAR]
   [label1 label2]
   [lcol  rcol]
   [X|NX]
```

Syntax Description:

***fromstr***

Specifies the *from* string. Enter a string in one of the following formats:

**Character**

(C'ccc')

**Text**

(T'ccc')

**Hex**

X'xx'

**Packed-decimal expression**

PLn'vvv' or P'y'

**UTF-16 Character**

(UC'ccc')

**UTF-16 Text**

(UT'ccc')

**Note:** For more information on specifying a packed-decimal expression, see Rules for Finding Packed Strings on the FIND Command (see page 69).

***tostr***

Specifies the *to* string. Enter a string in one of the following formats:

**Character**

(C'ccc')

**Text**

(T'ccc')

**Hex**

X'xx'

**Packed-decimal expression**

PLn'vvv' or P'y'

**UTF-16 Character**

(UC'ccc')

**UTF-16 Text**

(UT'ccc')

**FIRST**

Starts search at the beginning of the data set, and locates and changes the first occurrence of *fromstr*.

**LAST**

Starts search at the end of the data set, and locates and changes the last occurrence of *fromstr*.

**NEXT**

Starts from the current cursor position, and locates locates and changes the next occurrence of *fromstr*.

**PREV**

Starts from the current cursor position, and locates and changes the previous occurrence of *fromstr*.

**ALL**

Changes all occurrences of *fromstr*.

**WORD**

Changes only complete words in the *fromstr.*

**PREFIX**

Changes only words that begin with the *fromstr.*

**SUFFIX**

Changes only words that end with the *fromstr.*

**CHAR**

Changes the *fromstr* in any part of a word.

***label1***

Specifies the start point in a range of lines to which the CHANGE command is applied.

***label2***

Specifies the end point in a range of lines to which the CHANGE command is applied.

***lcol***

Specifies the leftmost column in which *fromstr* can appear. If *rcol* is not also specified, *fromstr* must begin in *lcol*.

***rcol***

Specifies the rightmost column in which *fromstr* can appear.

**X**

The CHANGE command is only applied to excluded lines.

**NX**

The CHANGE command is note applied to excluded lines.

Alias: C, CHG

## Change Command "From" and "To" Character Strings of Different Lengths

The *from* and *to* character strings can be different lengths when you use change commands. The change command functions in one of the following ways, depending on the type of data set and the **PDSCHG** profile setting for PDS members.

**For all sequential or VSAM data sets, or PDS members with the PDSCHG value set to DATA**

When the *to* character string is shorter than the *from* character string, columns to the right of the *from* string are shifted left and fill characters are added to the end within the bounded CHANGE area. A pop-up window displays in which you can specify a different fill character.

When the *to* character string is longer than the *from* character string, columns to the right of the *to* string are shifted right and excess characters at the end are truncated within the bounded CHANGE area.

**For PDS members with PDSCHG value set to ISPF**

When the *to* character string is shorter than the *from* character string, subsequent bytes until the next two consecutive blanks are moved to the left by the number of bytes equal to the difference in lengths.

When the *to* character string is longer than the *from* character string, multiple consecutive blanks are eliminated until the number of blanks eliminated equals the difference in lengths.

## CHAR

Switches the display mode to character.

## COLS

Displays or removes a stationary ruled column header immediately below the command line.

Syntax:

```
COLS     [ON|OFF]
```

Alias: COL

## COPY

Copies records from another data set into your EDIT or VIEW session.

The COPY primary command accepts no arguments but must be accompanied by an A or B line command to identify the target location for the copy. Specify an A on a line to insert records after that line. Specify a B on a line to insert records before that line.

The COPY command prompts you for the name of the data set (and optionally the member and volume serial number) that contains the records that you want to copy. You can use section criteria to limit the records to copy.

Copy selected records directly into your EDIT or VIEW session or choose to preview the selected records before completing the copy operation. If you choose the preview option, the selected records are displayed in a new edit session for a temporary data set. You can modify, insert, or delete records. Press PF3 to copy the modified record set into your original edit session.

## COUNTS

Displays the number of records currently displayed, total records in the file, and the total records selected if you have specified selection criteria.

Alias: COUNT

## CREATE

Copies the specified records to a new data set or PDS member. If you do not use the C or CC line commands to specify which records to select during the CREATE function, all records being edited or viewed are copied. If you used a filter or selection criteria, only those records that match the selection criteria are copied. This command is only available in edit mode.

Syntax:

```
CREATE  dsn | dsn(member) | member
```

Syntax Description:

**dsn**

Specifies the name of the sequential data set into which the selected records are copied. The new data set allocation panel displays and the sequential data set is created as specified.

**dsn(*member*)**

Specifies the name of a member to create in an existing PDS into which the selected records are copied. The specified member cannot already exist.

**member (optional)**

Specifies the name of a member into which the selected records are copied. The specified member cannot already exist. This syntax is only valid when viewing or editing a PDS, and the new member is created in that data set. Use the REPLACE command to copy to an existing member.

Alias: CRE

## DELETE

Deletes records from the top of the edit display. You can delete a single record or a number of records.

You can also delete only excluded or non-excluded lines, specifying ALL lines or a range using labels.

Syntax:

```
DELETE

   [number] | [X|NX ALL | label1 label2]
```

Syntax Description:

**number**

Specifies the number of records to delete.

**Default:** 1

**ALL**

Specifies that all excluded or non-excluded records will be deleted.

**label1**

Specifies the first end point in a range of records to which the DELETE command is restricted. Use labels only with X or NX.

**label2**

Specifies the second end point in a range of records to which the DELETE command is restricted. Use labels only with X or NX.

**X**

Specifies that only excluded records will be deleted.

**NX**

Specifies that only non-excluded records will be deleted.

Alias: DEL

## DOWN

Moves the current line position toward the end of the data set when in character or multiple-record display mode. Moves the current column position toward the end of the record when in single-record display mode.

Syntax:

```
DOWN        [number | MAX | PAGE | CSR | HALF | DATA]
```

Syntax Description:

***number***

Specifies the number of lines or columns to scroll forward.

**MAX**

Jumps to the last line in the data set or last column in the record when in single-record format.

**PAGE**

Scrolls forward one screen length.

**CSR**

Makes the line containing the cursor the first line displayed on the screen.

**HALF**

Scrolls forward half of the screen length.

**DATA**

Scrolls forward so that the last visible line becomes the first visible line.

## DSINFO

Displays the following information for the open data set:

- Data set organization
- Data set definition
- Component allocation
- Allocation parameters
- SMS information
- Activity dates

## EDIT

Switches current browse session to an edit session.

## END

Terminates the edit or browse session.

Alias: RETURN

## EXCLUDE

Excludes lines that match a pattern or string. Contiguous excluded lines are displayed as a single line of dashes.

Syntax:

```
EXCLUDE
   fromstr
   [FIRST|LAST|NEXT|PREV|ALL
   [WORD|PREFIX|SUFFIX|CHAR]
   [label1 label2]
   [lcol  rcol]
```

Syntax Description:

***fromstr***

Specifies the *from* string. Enter a string in one of the following formats:

**Character**

(C'ccc')

**Text**

(T'ccc')

**Hex**

X'xx'

**Packed-decimal expression**

P'ppp'

PL'vvv'

**UTF-16 Character**

(UC'ccc')

**UTF-16 Text**

(UT'ccc')

**FIRST**

Starts searching at the beginning of the data set and excludes the first occurrence of *fromstr*.

**LAST**

Starts searching at the end of the data set and excludes the last occurrence of *fromstr*.

**NEXT**

Starts from the current cursor position, and excludes the next occurrence of *fromstr*.

**PREV**

Starts from the current cursor position, and excludes the previous occurrence of *fromstr*.

**ALL**

Excludes all occurrences of *fromstr*.

**WORD**

Excludes only complete words in the *fromstr.*

**PREFIX**

Excludes only words that begin with the *fromstr.*

**SUFFIX**

Excludes only words that end with the *fromstr.*

**CHAR**

Excludes the *fromstr* in any part of a word.

***label1***

Specifies the start point in a range of lines to which the EXCLUDE command is applied.

***label2***

Specifies the end point in a range of lines to which the EXCLUDE command is applied.

***lcol***

Specifies the leftmost column in which *fromstr* can appear. If *rcol* is not also specified, *fromstr* must begin in *lcol*.

***rcol***

Specifies the rightmost column in which *fromstr* can appear.

Alias: X

## FIND

Locates data or fields.

Syntax:

```
FIND
   fromstr
   [FIRST|LAST|NEXT|PREV|ALL]
   [WORD|PREFIX|SUFFIX|CHAR|FIELD]
   [label1 label2]
   [lcol  rcol]
   [X|NX]
```

Syntax Description:

***fromstr***

Specifies the *from* string. Enter a string in one of the following formats:

**Character**

(C'ccc')

**Text**

(T'ccc')

**Hex**

X'xx'

**Packed-decimal expression**

P'ppp'

PL'vvv'

**UTF-16 Character**

(UC'ccc')

**UTF-16 Text**

(UT'ccc')

**FIRST**

Starts search at the beginning of the data set, and locates the first occurrence of *fromstr*.

**LAST**

Starts search at the end of the data set, and locates the last occurrence of *fromstr*.

**NEXT**

Starts from the current cursor position, and locates the next occurrence of *fromstr*.

**PREV**

Starts from the current cursor position, and locates the previous occurrence of *fromstr*.

**ALL**

Locates all occurrences of *fromstr*.

**WORD**

Locates only complete words in the *fromstr.*

**PREFIX**

Locates only words that begin with the *fromstr.*

**SUFFIX**

Locates only words that end with the *fromstr.*

**CHAR**

Locates the *fromstr* in any part of a word.

**FIELD**

Locates the *fromstr* in any part of a field name when displaying formatted records.

***label1***

Specifies the start point in a range of lines to which the FIND command is applied.

***label2***

Specifies the end point in a range of lines to which the FIND command is applied.

***lcol***

Specifies the leftmost column in which *fromstr* can appear. If *rcol* is not also specified, *fromstr* must begin in *lcol*.

***rcol***

Specifies the rightmost column in which *fromstr* can appear.

**X**

Only excluded lines should be searched.

**NX**

Excluded lines should not be searched.

Alias: F

## Rules for Finding Packed Strings on the FIND Command

Use one of the following formats to find a packed string using the FIND command.

**F P'v' [ss [ee]]**

**'v'**

Specifies a value of 1 to 31 numeric digits.

The following conditions apply:

- When you specify a '+' before a value or when you do not specify a sign, the FIND command searches for a positive packed string.
- When you specify a '-' before a value, the FIND command searches for a negative packed string.

**ss ee (optional)**

Specifies the starting and ending columns for the search. The following conditions apply:

- When you do not specify a starting column, the FIND command locates the first occurrence of the *v* value in any packed decimal field of valid length in the record. A valid length is 1-16 packed bytes or 1-31 packed decimal digits.
- When you specify a starting column but not an ending column, the FIND command searches only in the starting column.

**F PLn['vvvvv'][ss ee]**

**n**

Specifies an integer value in the range 1-16 representing the length of the packed field.

**'vvvvv'**

Specifies the numeric value to search for. This value must be twice the specified length minus 1, and is limited to 31 digits in length.

**ss ee (optional)**

Specifies the starting and ending columns for the search. The following conditions apply:

- When you do not specify a starting column, the FIND command locates the first occurrence of the *v* value in any packed decimal field of valid length in the record. A valid length is 1-16 packed bytes or 1-31 packed decimal digits.
- When you specify a starting column but not an ending column, the FIND command searches only in the starting column.

**Examples:**

```
F P'0' 21
```

Finds packed zero of any valid length at column 21.

```
F P'0'
```

Finds packed zero of any valid length anywhere in the record.

```
F P'00000'
```

Finds five packed zeros anywhere in the record.

```
F P'-1' 30
```

Finds packed -1 of any valid length at column 30.

```
F PL5'0' 10
```

Finds five packed zeros at column 10.

```
F PL3'0'
```

Finds three packed zeros anywhere in the record.

```
F PL2 10
```

Finds any valid 2-byte packed number at column 10.

```
F PL16
```

Finds any valid 16-byte packed number anywhere in the record.

## FINDLIM

Sets the number of records to search when using the FIND command in the current edit or browse session. Use the PROFILE command to retain the FINDLIM value between edit sessions.

Syntax:

```
FINDLIM     [50000 | number ]
```

Syntax Description:

**number**

Limits the number of subsequent records searched when using the FIND command. Valid values are 0 – 99999999. A value of 0 means that there is no limit to the number of records that are searched.

## FLIP

Flips (or reverses) the EXCLUDE status of all lines in the data set. Lines that were not excluded will be excluded and lines that were excluded will not be excluded.

## HELP

Invokes the HELP processor.

## HEX

Turns HEX mode on or off in the current edit or browse session. Use the PROFILE command to retain the HEX value between edit sessions.

Syntax:

```
HEX     [ON|OFF]
```

## HILITE

Turns FIND or CHANGE highlighting on or off in the current edit or browse session when in character mode. The HILITE command is ignored in single-record and multi-record formats. Use the PROFILE command to retain the HILITE value between edit sessions.

Syntax:

```
HILITE     [ON|OFF]
```

```
Alias:  HI, HILIGHT
```

## INSERT

Inserts a new record immediately after the record at the top of the screen. When in character mode, a record containing all blanks is inserted. When in single-record or multiple-record formatted mode, the inserted record is initialized using the field-name data types as defined in the record layout.

Alias: I

## IOEXIT

Calls a user-written exit program. Enter the exit program command in the Edit entry panel before the Edit session starts. IOEXIT is not recognized within an Edit session.

Syntax:

```
IOEXIT     'EXITNAME'
```

Syntax Description:

**EXITNAME**

Specifies the name of the exit program that the editor will call.

## KEY

Unlocks or locks (unprotects or protects) the key of the first VSAM KSDS record at the top of the screen key field. The key field can be modified when unprotected and cannot be modified when protected. All key fields are initially displayed protected. Use this command to switch the current protection setting. In single-format mode, the KEY command unlocks or locks the key of the current record.

Alias: K

## LEFT

In character or multi-record mode, the LEFT command scrolls the view one screen to the left toward position 1. In single-record mode, the LEFT command scrolls the view up one screen toward the beginning of the file.

Syntax:

```
LEFT     [number | MAX|PAGE|CSR|HALF|DATA]
```

Syntax Description:

***number***

Single-record format–Specifies the number of records to scroll up.

Multi-record and character format–Specifies the number of positions to scroll to the left.

**Note:** In multi-record format, the view scrolls so that fields remain whole. If the specified value would cause the view to scroll to a position in the middle of a field, that field will display in full in the view. The only time a field is split is if it is too long to fit on one screen.

**Default:**

- In multi-record and character format the default is the number of lines determined by the Scroll value.
- In single-record format the default is 1.

**MAX**

Sets the column or record position to the beginning of the line or file.

**PAGE**

Scrolls one full screen or record to the left.

**CSR**

Makes the column under the cursor the leftmost displayed column when the cursor is on a data line.

**HALF**

Scrolls half of the screen width to the left when in character or multi-record display modes. Scrolls one record left when in single-record formatted mode.

**DATA**

Scrolls one screen to the left so that the leftmost visible column becomes the rightmost column position.

**Note:** The LEFT command functions in the same way as the PREV command. The two commands are interchangeable.

## LOCATE

Jumps directly to a record.

Syntax:

```
LOCATE    lnum | label  | key-value KEY | kwd
          [FIRST|LAST|NEXT|PREV|KEY]
```

Syntax Description:

***lnum***

Displays the numeric line number.

***label***

Displays a previously defined label.

***key value***

Displays a full or partial VSAM key field value. Hex values (X'value') and UTF-16 character values (UC'value') are also supported.

**KEY**

Jumps to the record with a key value GTEQ the *key_value*. The KEY parameter is only valid for keyed files.

***kwd***

Specify one of the following commands:

**CHANGE**

Jumps to record with line CHANGE attribute

**COMMAND**

Jumps to record with line COMMAND attribute

**ERROR**

Jumps to record with ERROR attribute

**FIRST**

Jumps to the first record with the requested attribute with *kwd*.

**LAST**

Jumps to the last record with requested attribute with *kwd*.

**NEXT**

Jumps to the next record with the requested attribute with *kwd*.

**PREV**

Jumps to the previous record with the requested attribute with *kwd*.

Alias: L, LOC

## MAP

Displays a screen that identifies the current layout or lists the layouts in the custom layout. You can use this command to change layout conditions.

You can also use the MAP command to take the following actions:

- Specify a record offset value at the layout level in a custom layout (CRL).
- Designate a layout field as the start of the description for a data record using line action LS.

The results of the MAP command vary based on the type of layout used in the current session.

**Copybook containing a single layout**

The MAP command displays the layout. You can update the conditions to exclude or apply conditions to the fields. The updated conditions are applied to the data set when you exit the Layout Entry Field Update screen.

**Copybook containing multiple layouts**

The MAP command displays a list of the layouts in the copybook. You can update the conditions to exclude or apply conditions to the fields. The updated conditions are applied to the data set when you exit the Layout Selection screen.

**Custom layout member**

The MAP command displays a list of the layouts. Select a layout to display the current exclusions and conditions and to optionally update the conditions. The updated conditions are applied to the data set when you exit the Custom Record Layout Member Update screen. You cannot insert or delete a layout from the CRL or save any changes to the CRL.

## Specify Record Offset Value Using MAP Command

You can specify a record offset value at the layout level in CRL using the MAP command.

**Follow these steps:**

1. Type MAP on the command line from an edit or browse session.

   The Custom Record Layout Member Update screen opens.

2. Type the line action S on any layout member.

3. Press Enter.

   The Layout Entry Field Update screen opens.

4. Specify a new record offset value in the Record Offset Value field.

5. Press Enter.

   A new value is set for this updated layout member only.

**Note:** Specify a 0 (zero) in the record offset field or leave the field blank to reset the record offset value.

## Set Layout Start Using MAP Command

Using the MAP command, you can indicate the field in a layout that the editor considers the start of the data record's description.

**Follow these steps:**

1. Type MAP at the command line from an edit or browse session where you have specified a custom layout or a copybook with multiple layouts.

   The results of the MAP command vary based on the type of layout used in the current session.

   **Copybook containing multiple layouts**

   The MAP command displays the Layout Selection screen.

   **Custom layout member**

   The MAP command displays the Custom Record Layout Member Update screen.

2. Type S on any layout member.

3. Press Enter.

   The Layout Entry Field Update screen opens.

4. Type LS in any field.

5. Press Enter.

   The selected field is identified as the layout start, and the editor recognizes this field as the start of the data record's description.

The following rules and restrictions apply when using the layout start command (LS):

- The LS action at the first field is ignored when there is no layout start defined. Otherwise, the previous layout start specification is reset.
- The LS action is allowed at the first occurrence only when a layout contains OCCURS definitions.
- S/SS line actions are not allowed above an existing layout start specification.
- The LS action should precede the first field with selection conditions.

## MF

Displays records in multi-record formatted mode using the layout data set and member specified when you opened the session.

## NEXT

Moves the current column position toward the record's last position when in character or multi-record formatted mode. Moves the current file position toward the end of the file when in single-record formatted mode.

Syntax:

```
NEXT    [number|PAGE|CSR|DATA|HALF]
```

Syntax Description:

***number***

Single-record format–Specifies the number of records to scroll down.

Multi-record and character format–Specifies the number of positions to scroll to the right.

**Note:** In multi-record format, the view scrolls so that fields remain whole. If the specified value would cause the view to scroll to a position in the middle of a field, that field will display in full in the view. The only time a field is split is if it is too long to fit on one screen.

**Default:**

- In multi-record and character format the default is the number of lines determined by the Scroll value.
- In single-record format the default is 1.

**PAGE**

Scrolls one screen-width or record to the right.

**CSR**

Makes the column under the cursor the rightmost displayed column when the cursor is on a data line.

**DATA**

Scrolls one screen to the right so that the rightmost visible column becomes the leftmost column position.

**HALF**

Scrolls half of the screen width to the right when in character or multi-record display modes. Scrolls one record right when in single-record formatted mode.

Alias: N

**Note:** The NEXT command functions in the same way as the RIGHT command. The two commands are interchangeable.

## NULLS

Specifies how to display blanks in data records during the current edit session. Use the PROFILE command to retain the NULLS value between edit sessions.

Syntax:

```
NULLS  [ON | OFF | STD | FULL]
```

Syntax Description:

**ON**

Trailing blanks at the end of the data are written as one blank and nulls.

**OFF**

Trailing blanks at the end of the data are written to the panel as blanks.

**STD**

Trailing blanks at the end of data are written as one blank and nulls.

**FULL**

All trailing blanks at the data are written as nulls.

**Default:** STD

## NUMEXT

Controls the number of digits allowed in a binary or packed field when the physical field size is larger than the number of digits specified in the COBOL or PL/I picture clause. Use the PROFILE command to retain the NUMEXT value between edit sessions.

Syntax:

```
NUMEXT     [OFF | ON]
```

## PDSCHG

Sets the mode for the CHANGE command in the current edit session when editing a PDS member and changing to and from strings of different lengths. Use the PROFILE command to retain the PDSCHG value between edit sessions.

Syntax:

```
PDSCHG  [D|DATA | I|ISPF]
```

Syntax Description:

**D|DATA**

Line data is shifted left or right as needed when the length of the *to* string differs from the length of the *from* string.

**I|ISPF**

Line data is shifted left or right as needed within the regions bounded by multiple blanks when the length of the *to* string differs from the length of the *from* string. The rules for shifting are the same as those for ISPF. When shifting cannot be completed, the line is marked with ERROR.

## PREV

Moves the current column position toward the record's position 1 when in character or multi-record formatted mode, and moves the current file position toward the beginning of the file when in single-record formatted mode.

Syntax:

```
PREV    [number|PAGE|HALF|CSR|DATA]
```

Syntax Description:

***number***

Single-record format–Specifies the number of records to scroll up.

Multi-record and character format–Specifies the number of positions to scroll to the left.

**Note:** In multi-record format, the view scrolls so that fields remain whole. If the specified value would cause the view to scroll to a position in the middle of a field, that field will display in full in the view. The only time a field is split is if it is too long to fit on one screen.

**Default:**

- In multi-record and character format the default is the number of lines determined by the Scroll value.
- In single-record format the default is 1.

**PAGE**

Scrolls one full screen or record to the left.

**HALF**

Scrolls half of the screen width to the left when in character or multi-record display modes. Scrolls one record left when in single-record formatted mode.

**CSR**

Makes the column under the cursor the leftmost displayed column when the cursor is on a data line.

**DATA**

Scrolls one screen to the left so that the leftmost visible column becomes the rightmost column position.

Alias: P

**Note:** The PREV command functions in the same way as the LEFT command. The two commands are interchangeable.

## PROFILE

Displays and updates the current profile settings or switches to a different profile.

Syntax:

```
PROFILE    [name]
```

Syntax Description:

***name***

Specifies the name of the profile to be loaded and displayed. The DEFAULT profile is used if no profile name is specified.

**Autosave**

Controls whether outstanding updates are saved when the END command is specified.

**Caps**

Controls the upper/lower case of inserted alphabetic data.

**Findlim**

Controls the maximum number of records searched during a FIND command.

**Hex**

Controls how data is displayed in CHAR, SF, or MF modes.

**Hilite**

Controls the highlighting of FIND command target data in character mode only.

**Nulls**

Controls the value for trailing blanks at the end of data.

**Numext**

Controls the number of digits allowed in a binary or packed field when the physical field size is larger than the number of digits specified in the COBOL or PL/I picture clause.

**PdsChg**

Controls the shifting of data for a CHANGE command when editing a PDS member.

**Stats**

Controls whether ISPF statistics are generated for partitioned data set members.

Alias: PRO, PROF

## RCHANGE

Repeats the most recent CHANGE command.

## REPEAT

Repeats the record that appears at the top of the screen.

Alias: R

## REPLACE

Copies records to an existing or new data set or member. If you do not use the C or CC line commands to select records for the REPLACE function, all records being edited or viewed are copied. If you used a filter or selection criteria, only those records that match the selection criteria are copied. This command is valid in view and edit mode.

Syntax:

```
REPLACE  dsn | dsn(member) | member
```

Syntax Description:

**dsn**

Specifies the name of a sequential data set into which the selected records are copied. The new data set allocation panel displays if the data set does not exist.

**dsn(*member*)**

Specifies the name of a PDS member into which the selected records are copied.

**Note:** The REPLACE command fails if the parameter is dsn(member) and the data set does not exist.

***member*** **(optional)**

Specifies the name of a new or existing member into which the selected records are copied. This syntax is only valid when viewing or editing a PDS. Specify the name of a new member to create a new member.

ALIAS: REPL

## RESET

Resets selected processing options and status conditions.

Syntax:

```
RESET     ALL
          LAB | LABELS
          CMD | COMMAND
          ERR | ERROR
          C | CHG | CHANGE
          X | EX | EXCLUDED
          SPEC | SPECIAL
          F | FIND
          range
```

Syntax Description:

**ALL**

Resets all options.

**LAB or LABELS**

Removes line labels.

**CMD or COMMAND**

Clears pending line commands.

**ERR or ERROR**

Removes ERROR flags.

**CHG, C, or CHANGE**

Removes CHG flags.

**X, EX, or EXCLUDED**

Resets exclude status.

**SPEC or SPECIAL**

Removes all SPECIAL lines (MASK, COLS, TABS, BNDS).

**F or FIND**

Clears all FIND highlights.

**range**

A line range specified as a start label and end label. Only lines within the specified range are reset.

Alias: RES

**Default:** ALL

## RFIND

Repeats the most recently entered FIND command or the search part of the most recent CHANGE command.

## RIGHT

Moves the current column position toward the record's last position when in character or multi-record formatted mode, and moves the current file position toward the end of the file when in single-record formatted mode.

Syntax:

```
RIGHT     [number | MAX|PAGE|CSR|HALF|DATA]
```

Syntax Description:

***number***

Single-record format–Specifies the number of records to scroll down.

Multi-record and character format–Specifies the number of positions to scroll to the right.

**Note:** In multi-record format, the view scrolls so that fields remain whole. If the specified value would cause the view to scroll to a position in the middle of a field, that field will display in full in the view. The only time a field is split is if it is too long to fit on one screen.

**Default:**

- In multi-record and character format the default is the number of lines determined by the Scroll value.
- In single-record format the default is 1.

**MAX**

Sets the column or record position to the end of the line or file.

**PAGE**

Scrolls one screen-width or record to the right.

**CSR**

Makes the column under the cursor the rightmost displayed column when the cursor is on a data line.

**HALF**

Scrolls half of the screen width to the right when in character or multi-record display modes. Scrolls one record right when in single-record formatted mode.

**DATA**

Scrolls one screen to the right so that the rightmost visible column becomes the leftmost column position.

**Note:** The RIGHT command functions in the same way as the NEXT command. The two commands are interchangeable.

## SAVE

Saves the current edit changes.

Alias: S

## SELECT

Displays record selection criteria used to browse or edit the data set or member.

## SF

Displays the record at the top of the display in single-record format mode using the layout data set and member specified when you opened the session.

## SORT

Sorts the records according to your specifications. If you do not specify operands, the records in the data set are sorted into ascending order. If the data set is VSAM, the default sort key is the key column for a KSDS, the RBA for an ESDS, and the RRN for an RRDS. Otherwise, the default sort key is the entire record.

Syntax:

```
SORT [fcol1 lcol1[A|D]]…[fcol10 lcol10[A|D]
   [KEY[A|D]]
   [X|NX|ALL]
   [label1 label2]
```

Syntax Description:

**SORT**

Sorts and displays the data according to the sort criteria.

**fcol1**

Beginning column for the sort area.

**lcol1**

Ending column for the sort area.

**A**

Sorts the records in ascending order.

**D**

Sorts the records in descending order.

**Note:** If you specify a column range but do not specify a sort order, the previously specified sort order is used.

**Default:** A

**KEY**

An alias for the column range that contains the VSAM key.

Specify up to ten sort keys. Specify each starting (*fcolx*) and ending (*lcolx*) column. You can also specify the sort order direction. When specified, a direction defaults to the most recently specified column range, and to all ranges that follow.

**X**

Only sorts excluded lines.

**NX**

Only sorts non-excluded lines.

***label1***

Specifies the beginning point in a range of lines to apply the sort.

***label2***

Specifies the ending point in a range of lines to apply the sort.

**Examples:**

```
SORT   KEY D
```

Sort on VSAM key into descending sequence

```
SORT   10 20 30 40
```

Sort on columns 10-20 and 30-40, in ascending sequence

```
SORT   10 20 D 30 40 50 60 A
```

Sort on columns 10-20 and 30-40 in descending sequence and columns 50-60 in ascending sequence

## STATS

Turns PDS STATS to either ON or OFF in the current edit session. Use the PROFILE command to retain the STATS value between edit sessions.

Syntax:

```
STATS      [ON|OFF]
```

**Default:** ON

## SUBMIT

Submits the current data set for execution.

Alias: SUB

## TOP

Jumps to the first line in the edit or browse session.

Alias: T

## UNSORT

Removes a previously applied SORT command. The records are returned to the original sequence in which they appeared at the start of the session.

## UP

Moves the current line position toward the beginning of the data set when in character or multi-record formatted mode. Moves the current column position toward the beginning of record when in single-record formatted mode.

Syntax:

```
UP        [number | MAX | PAGE | CSR | HALF | DATA]
```

Syntax Description:

***number***

Identifies the number of lines or columns to scroll up.

**MAX**

Jumps to the first line in the data set or first field in the record.

**PAGE**

Scrolls up one screen length.

**CSR**

Makes the line containing the cursor the last line displayed on the screen when the cursor is on a data line.

**HALF**

Scrolls up half of the screen length.

**DATA**

Scrolls up a full screen length.

## V

Use the V command to change the length of an existing variable length record. When you repeat (R), move (M), or copy (C) a record using a line command, the record length of the original record is used. Use the V command to modify the length of the repeated, moved, or copied record.

Follow this procedure from the Edit Data Set or Select Data Set to Process screens.

**Follow these steps:**

1. Type V on the command line or as a line command.

The Edit Length Modification screen displays.

Specify the record length and pad character.
The pad character value can be BLANK, NULL, C'c', X'xx', or U'u'.
Note: U'u' is the equivalent of the EBCDIC character 'u'.

2. Press Enter.

   The record length is set as specified. If the new length is shorter than the original length, the record is truncated to the new length.

## Line Commands

Line commands are available in edit character and multi-record formatted modes only. Specify line commands in the six-position *record sequence* field, which is located on the far left side of the edit screen. The line command can start in any position. Type only one line command for a single record sequence, but type multiple line commands on different lines on the same screen. Line commands are checked for validity before they are processed.

Remove line commands by overtyping the line command characters with spaces or by specifying the RESET primary command.

**Note:** In each of the following commands, you can replace the asterisk ('*') with a numeric value to specify a number of lines, blocks of lines, or columns upon which to perform the line command. For example, entering the line command "D 9" on line 0020 deletes lines 0020-0028, a total of 9 lines.

**A *****

Sets the target for the COPY or MOVE command; lines are inserted after the line containing the command.

**B *

Sets the target for the COPY or MOVE command; lines are inserted before the line containing the command.

**BND**

Inserts a BNDS line.

For EBCDIC fields in MF mode or for data in CHARACTER mode, the following characters can be displayed on the BNDS line:

**<**

Represents the position of the left boundary.

**>**

Represents the position of the right boundary.

**x (small x)**

Represents the position of both boundaries when they are identical.

For UTF-16 fields in MF mode (HEX OFF), the following characters can be displayed on the BNDS line:

**<**

Represents the position of the first byte of the UTF-16 char from the left boundary.

**(**

Represents the position of the second byte of the UTF-16 char from the left boundary.

**>**

Represents the position of the second byte of the UTF-16 char from the right boundary.

**)**

Represents the position of the first byte of the UTF-16 char from the right boundary.

**x (small x)**

Represents the position of identical boundaries.

**X**

Represents the position of one logical UTF-16 character.

Use these characters to overwrite the BNDS line.

**Note:** The "**(**", "**)**" and "**X**" characters can only be used within UTF-16 fields.

**BNDS**

Same as BND.

**BOUNDS**

Same as BND.

**C *n***

Sets the source of a COPY command

**CC**

Sets one end point of the range of lines to be copied.

**CHAR**

Switches the current line to character mode.

**COL**

Inserts a COLS line.

For UTF-16 fields in MF mode (HEX OFF), one character in the COLS line represents one logical character (2 bytes). The displayed symbol corresponds to the position of the first of the 2 bytes.

**=**

Used instead of '-' to represent one UTF-16 logical character.

**#**

Used instead of '+' to represent UTF-16 logical characters starting at a position that is a multiple of 5.

**0,1,2,...9**

Used to represent UTF-16 logical characters starting at a position that is a multiple of 10.

**D *n***

Deletes the line.

**DD**

Sets one end point of the range of lines to be deleted.

**F *n***

Specifies that the first *n* lines not be excluded on an excluded line range.

**I *n***

Inserts lines after the current line.

**K *

Toggle to unprotect/protect the key field for a VSAM KSDS record so the key field to be modified.

**KK**

Sets one end point of a range of lines to toggle to unprotect/protect the keyfield for a VSAM KSDS record.

**L *

Specifies that the last *n* lines not be excluded on an excluded line range.

**LC *

Changes the contents of a record to all lowercase within the boundaries set by the BOUNDS command. If no BOUNDS command was issued, the default is the entire record.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

**LCC**

Sets one endpoint of a range of lines to lowercase.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

**M *

Sets the source of a MOVE command.

**MASK**

Inserts a MASK line that will be used as a model for all inserted lines.

**MF**

Switches the current line to multi-record format mode.

**MM**

Sets one endpoint of a range of lines to be moved.

**R *

Repeats the line.

**RR *

Sets one end point of a range of lines to repeat.

**S *

Specifies that the first *n* lines be unexcluded on an excluded line range.

**SF**

Switches the line to single-record format mode.

**UC *

Changes the contents of a record to all uppercase within the boundaries set by the BOUNDS command. If no BOUNDS command was issued, the default is the entire record.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

**UCC**

Sets one end point of a range of lines to uppercase.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

**V *

Sets the length of the line. This command is only valid for data sets with variable length records.

**Note:** For more information about the V line command, see "V" in Primary commands (see page 56).

**VV**

Sets one end point of a range of lines to which the length is modified. This command is only valid for data sets with variable length records.

**X *

Excludes the line.

**XX**

Sets one end point of a range of lines to exclude.

**) *

Shift right within the boundaries set by the BOUNDS command. If no BOUNDS command was issued, the default is the entire record.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

**)) *

Sets one end point of a range of lines to be shifted right.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

**( ***

Shift left.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

**(( ***

Sets one end point of a range of lines to be shifted left.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

**> ***

Data shift right within the boundaries set by the BOUNDS command. If no BOUNDS command was issued, the default is the entire record.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

The field definition determines the binary value of a blank character: EBCDIC blank (X'40') for EBCDIC fields, and UTF-16 blank (X'0020') for UTF-16 fields.

**>> ***

Sets one end point of a range of lines to be data shifted right.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

The field definition determines the binary value of a blank character: EBCDIC blank (X'40') for EBCDIC fields, and UTF-16 blank (X'0020') for UTF-16 fields.

**< ***

Data shift left.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

The field definition determines the binary value of a blank character: EBCDIC blank (X'40') for EBCDIC fields, and UTF-16 blank (X'0020') for UTF-16 fields.

**<< ***

Sets one end point of a range of lines to be data shifted left.

**Note:** In MF mode, the fields within the boundaries must be either all EBCDIC or all UTF-16.

In MF mode, the repeat counter specifies the number of logical characters that must be shifted to the right or to the left, that means 1 byte for EBCDIC fields and 2 bytes for UTF-16 fields.

The field definition determines the binary value of a blank character: EBCDIC blank (X'40') for EBCDIC fields, and UTF-16 blank (X'0020') for UTF-16 fields.

Replace the asterisk ('*') with a numeric value in the line command to specify the number of lines, blocks of lines, or columns to which the line command is applied.

# Edit VSAM ESDS Files

When editing a VSAM ESDS, you can only update existing records. Records cannot be deleted, inserted, copied, or moved.

# Edit VSAM KSDS Files

In this example of a VSAM KSDS data set Edit session, the key is in position 11 for a length of 9. The key is highlighted and protected. There is a blank column before and after the key to make room for the attribute byte required to protect the key. The example shows the COLS line command.

```
Edit YOUR.KSDS                                                Columns 00001 00072
COMMAND ===>                                                   SCROLL ===> CSR
****** ***************************** Top of Data ****************************
=COLS> ----+----1 ----+---- 2----+----3----+----4----+----5----+----6----+----7
000001 AALJIM     000000001 TX1         00100000010000000100000000100000000001
000002 BALJIM     000000002 TX1         00200000020000000200000000200000000002
000003 DALJIM     000000008 TX1         00800000080000000800000000800000000008
000004 DALJIM     000000009 TX1         00900000090000000900000000900000000009
000005 DALJIM     000000010 TX1         01000000100000001000000001000000000010
000006 EALJIM     000000011 TX1         01100000110000001100000001100000000011
000007 EALJIM     000000013 TX1         01300000130000001300000001300000000013
000008 EALJIM     000000015 TX1¬    ¬   01500000150000001500000001500000000015¬
000009 FALJIM     000000016 TX1?    ?   01600000160000001600000001600000000016?
000010 GALJIM     000000022 TX1         02200000220000002200000002200000000022
000011 GALJIM     000000023 TX1         02300000230000002300000002300000000023
000012 GALJIM     000000023 TX1         02300000230000002300000002300000000023
000013 GALJIM     000000024 TX1|    |   02400000240000002400000002400000000024|
000014 HALJIM     000000034 TX1|    |   03400000340000003400000003400000000034|
000015 HALJIM     000000036 TX1?    ?   03600000360000003600000003600000000036?
000016 IALJIM     000000037 TX1"    "   03700000370000003700000003700000000037"
000017 IALJIM     000000039 TX1         03900000390000003900000003900000000039
```

## Working with VSAM Keys

In addition to deleting records, you can manipulate VSAM records using the following commands:

- Repeat
- Insert
- Copy
- Move
- Key

## Locate Records By Key

Use the LOCATE primary command when editing a VSAM KSDS to locate a record with a key that is greater than or equal to a specified value.

**For example:**

```
L 00000001234 KEY
```

This example positions the browse or edit session to the record that has a key that is equal to or greater than '00000001234'.

## Repeating VSAM Keyed Records

You can create VSAM keyed records using the repeat command.

**Follow these steps:**

1. Type R on the command line of the Select Member to Process screen.

   Note the following:

   - The new line appears below the original line with the same key, data, and length as the original line.
   - The key of the line created by the repeat is unprotected.
   - The line number contains the message DUP=> to indicate that the repeated line has a duplicate key and an error message is returned.

2. Update the key value.

   Note the following:

   - The record with the updated key remains where it is, even if it is now out of sequence.
   - If the new key value is a duplicate, DUP=> displays in the line number area.

3. Modify the record length if necessary by using the V line command.

## Update VSAM Keys Using the Insert Command

You can add VSAM keyed records using the insert command.

**Follow these steps:**

1. Type I on the command line of the Edit Data Set screen.

   A pop-up window displays requesting the inserted record length.

2. Specify the new record length.

3. Press Enter.

   The new record of the specified length is inserted below the original record. When in character display mode, a blank record is inserted. When in multi-record format mode, the inserted record is pre-initialized to the data types of the fields specified in the record layout. The new record's key is unprotected.

4. Update the key value.

   Note the following:

   - The record with the updated key remains where it is, even if it is now out of sequence.
   - If the new key value is a duplicate, DUP=> displays in the line number area.

5. Modify the record length if necessary by using the V line command.

## Create VSAM Keyed Records Using the Copy Command

You are can create VSAM keyed records using the copy command (C).

**Follow these steps:**

1. Type C on the command line of the Edit Entry Panel screen.
2. Press Enter.
3. Type A (after) or B (before) on the line where you want the copied line to be located.
4. Press Enter.

   The copied record is inserted before or after the record specified in the previous step with the same key, data, and length as the original line.

5. Update the key value.
6. Modify the record length if necessary by using the V line command.

## Update Records Using the Move Command

You can move VSAM keyed records using the move command (M).

**Follow these steps:**

1. Type M on the line command of the line that you want to copy in the editor.
2. Press Enter.
3. Type A (after) or B (before) on the line where you want the copied line to be located.
4. Press Enter.

   The record is moved before or after the record specified in the previous step with the same key, data, and length as the original line.

5. Update the key value.
6. Modify the record length if necessary by using the V line command.

### Modify the Key of an Existing Record

The line command K (for key) will unprotect or protect the key so that you can update the key of a VSAM KSDS record. Records that are created by the insert, replace, move, or copy commands default to unprotected.

Any unprotected key remains unprotected until another K command is specified or until the edit session is terminated.

### Out of Sequence Keys

When a new record is inserted, repeated, copied, moved or when the key field is modified, a '==SEQ>' may appear in the line number column. This indicates that the record is being displayed *out of sequence* due to a recent edit action. When you save the changes, the records will be sorted before being saved and written in the correct sequence. You can disable the '==SEQ>' line command warnings using the SORT primary command, which causes all records to be displayed in their current key sequence.

### SAVE Command

When the SAVE command is issued, if there are key sequence errors, the SORT KEY command is performed before saving the file.

## Edit a VSAM Base Cluster in Alternate Key Sequence

When you edit a VSAM base cluster in alternate key sequence, the records are initially displayed in alternate key sequence for the specified PATH. During the edit session, duplicate key handling, inserting, copying, and repeating of records are handled the same as when editing a base cluster. However, base cluster key sequence checking is suspended.

If you execute a SORT KEY command, the base cluster records are displayed in base cluster key sequence. You can resequence the file in alternate key sequence by specifying the SORT fcol lcol command and specifying the first and last columns of the alternate key.

# Chapter 7: Utility Functions

The CA File Master Plus Utilities support an extensive range of functions related to the creation and management of various types of data sets. Select option 1 through 12 from this menu to perform the desired function.

```
--------------- CA File Master Plus -- Utilities Menu  --------------
OPTION ===>

   1  LIBRARY        Display, browse, edit, delete, rename PDS members
   2  DATASET        Display, allocate, rename, delete, catalog, uncatalog
                     free space for datasets
   3  COPY           Copy datasets and select members
   4  CATALOG        List cataloged datasets and perform product functions
   5  VTOC           List datasets by Volume/Unit and perform product functions
   6  PDS            Compress, locate/restore members, alter PDS allocation
   7  VSAM           Define, modify, rename, display VSAM dataset information
   8  SEARCH         Search datasets and PDS members
   9  UPDATE         Update datasets and PDS members
  10  COMPARE        Compare files
  11  REFORMAT       Convert file from one record layout to another
  12  ENVIRONMENT    Display ISPF, system, and hardware/software information
```

The categories of functions and their corresponding options are as follows:

1. **Library Utilities** — Browse, edit, delete, rename, and print PDS members.
2. **Data Set Utilities** — Display data set information. Allocate sequential files, PDSs, SMS-controlled data sets, BDAM, and GDGs. Rename, delete, catalog, uncatalog, and free space for data sets.
3. **Copy Utilities** — Copy data sets online or in batch. Selection of data to be copied can be according to a filter (selection criteria) or can be for selected members of a PDS.
4. **Catalog Utilities** — Request a directory of data sets on the catalog that match a specified wildcarded DSN. For any of the data sets in the Catalog utility directory, you can browse, edit, display data set information, or perform any of the functions of the Data Set utilities, Library utilities, VSAM utilities, PDS utilities, Search utility, and the Update utility.
5. **VTOC Utilities** — Display summary information about all DASD volumes that match a selection criteria based on Unit Name or wildcarded volume name. Request a directory of data sets based on a wildcarded DSN, Unit Name or wildcarded volume name. For any of the data sets in the VTOC Utility directory, you can browse, edit, display data set information, or perform any of the functions of the Data Set utilities, Library utilities, VSAM utilities, PDS utilities, Search utility, and the Update utility.

6. **PDS Utilities** — Using the PDS utilities, you can perform any of the following functions:
   - Locate PDSs that contain a specified member
   - Compress PDSs
   - Update PDS allocation parameters to expand directory blocks or space available
   - Recover overlaid or deleted members
7. **VSAM Utilities** — Display data set information for VSAM files and perform VSAM utility functions as follows:
   - Delete or define VSAM clusters
   - Alternate index files and VSAM paths
   - Build alternate index VSAM files from the base cluster
   - Alter existing VSAM files by changing component DSNs, allocation parameters, and allocated volumes

   VSAM utility functions can be performed either online or in batch.
8. **Search Utility** — View records that match a specified search criteria. For PDSs, changes can be made to selected members or to all members.
9. **Update Utility** — Update records that match a specified search criteria. For PDSs, you can make changes to selected members or to all members. Preview the updates before they are made.
10. **Compare Utilities** — Online or batch compare of files of various data set organizations. Comparisons can be performed on data records filtered according to selection criteria. Individual members, selected members, or entire PDSs can also be compared.
11. **Reformat Utility** — Reformat all data records in a file from one format to another according to old and new record layouts and matching of the fields to be converted.
12. **Environment Utilities** — Display and manipulate current TSO/ISPF data set allocation-ENQ's-loaded modules, information about the system's hardware and software environment, and volume summary information by DASD unit type.

This section contains the following topics:



# Library Utility

The Library Utility screen lets you browse, edit, delete, rename, and print members of a library. You can perform these functions either on the main Library Utility screen by specifying a function code and a member name or from a member directory screen by typing a function code to the left of a member name.

```
-------------  CA File Master Plus -- Library Utility  --------------
OPTION ===>

BLANK - Display member list              R - Rename member
    B – ISPF Browse member               D - Delete member
    E – ISPF Edit member                 P - Print member
    1 - Browse member
    2 - Edit member

 Data set name    ===> 'TEST.USERID.JCL'

 Member name      ===>

 New member name ===>

 Volume serial    ===> CAI003   (If data set not cataloged)
```

When the function code at the top of the screen is blank, a member directory appears. A member directory appears when the Member Name field is blank or contains a wildcarded member name.

When a request is made to delete a member, a delete confirmation screen appears if the Processing Defaults indicate that member deletes are to be confirmed before they are performed. Control the member delete confirmation by going to the Processing Defaults screen (Option 0.1) and setting the Confirm Member Deletes? field.

When a request is made to print members, these print requests are queued. All queued print requests are performed together when the user exits the Library Utility screen. If the Processing Defaults indicate that print destination is to be confirmed before printing occurs, a screen appears that lets you update the print destination control parameters. Control print destination confirmation by going to the Processing Defaults screen (Option 0.1) and setting the Confirm Print Class & Destination? field.

The DSN of the data set to be processed by the Library Utility, the Data Set Name field has support for wildcarded DSN and DSN Lists. You can use any of the following syntaxes to request a list of DSNs from which the desired DSN can be selected.

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D *dddddd* where '*dddddd*' is the name of a DSN list

## Field Descriptions

**Data set name**

Type the DSN of the partitioned data set to be processed by the Library Utility function.

**Member name**

Perform a function for a specified member within the library by typing the member name in this field. You can leave this field blank or type a wildcarded member name to receive a directory of the members in the data set.

If an action of **S** is typed to select a member from a directory, the selected member name is copied to this field.

**New member name**

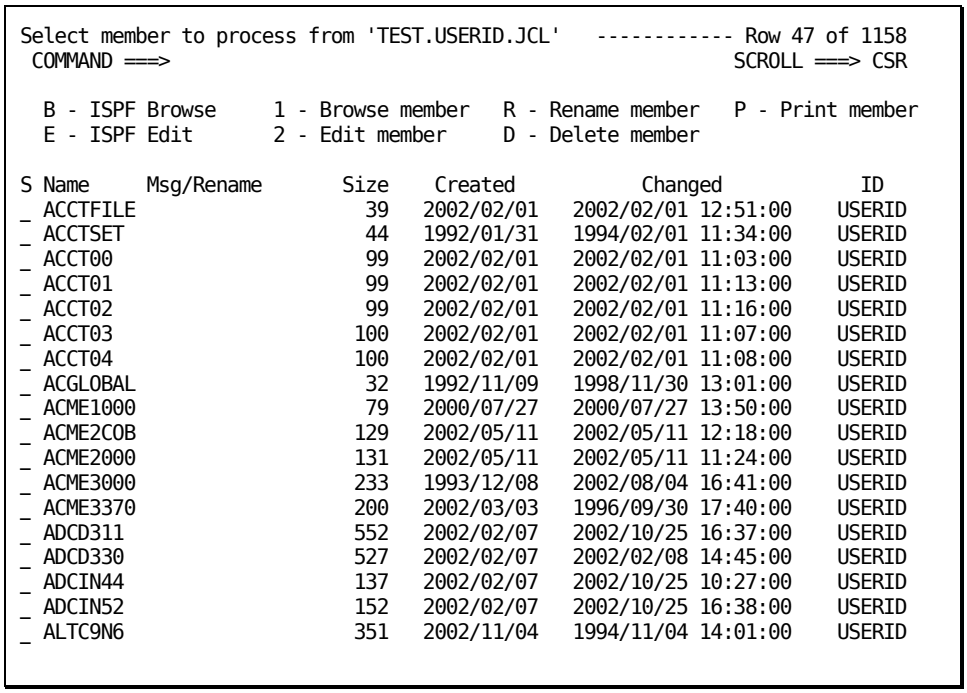
For option R (Rename Member), type the new member name. For example, the member name to which the member is to be renamed.

**Volume serial**

If an uncataloged data set is to be processed by the Library Utility, type the volume serial number of the volume where the data set resides.

## Library Utility Member Directory

The Library Utility Member Directory screen appears and displays a list of the members in the library. When a wildcarded member name is present, the directory contains a list of the members that match the member name wildcard.



```
Select member to process from 'TEST.USERID.JCL'   ------------ Row 47 of 1158
 COMMAND ===>                                                  SCROLL ===> CSR

  B - ISPF Browse     1 - Browse member   R - Rename member   P - Print member
  E - ISPF Edit       2 - Edit member     D - Delete member

S Name     Msg/Rename       Size    Created          Changed            ID
_ ACCTFILE                    39   2002/02/01   2002/02/01 12:51:00    USERID
_ ACCTSET                     44   1992/01/31   1994/02/01 11:34:00    USERID
_ ACCT00                      99   2002/02/01   2002/02/01 11:03:00    USERID
_ ACCT01                      99   2002/02/01   2002/02/01 11:13:00    USERID
_ ACCT02                      99   2002/02/01   2002/02/01 11:16:00    USERID
_ ACCT03                     100   2002/02/01   2002/02/01 11:07:00    USERID
_ ACCT04                     100   2002/02/01   2002/02/01 11:08:00    USERID
_ ACGLOBAL                    32   1992/11/09   1998/11/30 13:01:00    USERID
_ ACME1000                    79   2000/07/27   2000/07/27 13:50:00    USERID
_ ACME2COB                   129   2002/05/11   2002/05/11 12:18:00    USERID
_ ACME2000                   131   2002/05/11   2002/05/11 11:24:00    USERID
_ ACME3000                   233   1993/12/08   2002/08/04 16:41:00    USERID
_ ACME3370                   200   2002/03/03   1996/09/30 17:40:00    USERID
_ ADCD311                    552   2002/02/07   2002/10/25 16:37:00    USERID
_ ADCD330                    527   2002/02/07   2002/02/08 14:45:00    USERID
_ ADCIN44                    137   2002/02/07   2002/10/25 10:27:00    USERID
_ ADCIN52                    152   2002/02/07   2002/10/25 16:38:00    USERID
_ ALTC9N6                    351   2002/11/04   1994/11/04 14:01:00    USERID
```

To perform an action for one of the members in the directory, type an action code to the left of the member name. The action codes displayed at the top of the screen are:

- B – ISPF Browse
- E – ISPF Edit
- 1 – Browse member
- 2– Edit member
- R – Rename member
- D – Delete member
- P – Print member

Perform an action for all of the members in the directory that match a wildcard using the syntax:

S *www c*

where '*www*' is the wildcard and '*c*' is the command (1 2 B E R D or P).

### Example

S A* D deletes all members that begin with A. Use the SORT and LOCATE commands to assist in the location of the desired member. You can sort the directory by any of the columns by typing SORT XXX or SORT XXX Y where 'XXX' is one of the column literals and 'Y' is 'A' for ascending or 'D' for descending. For example, SORT CREATED sorts the directory in descending order of Created Date and SORT ID A sorts the directory in ascending order of User ID. The command L or LOC followed by a value will position to the first member directory entry whose sort sequence field is greater than or equal to the specified value.

## Field Descriptions

**Line Item Action Ind**

Specify an action to be performed for the member represented by the line item, by typing one of the following commands:

- B – ISPF Browse member
- E – ISPF Edit member
- 1 – Browse member
- 2 – Edit member
- R – Rename member. When renaming a member, type the new member name in the MSG/RENAME column.
- D – Delete member. If the user Processing Defaults indicate that member deletes are to be confirmed, a delete confirmation screen is presented.
- P – Print member. Print requests are queued and performed together when the user changes data sets or exits the Library Utility function.

**Msg/Rename**

Type the new member name in this column when you need to rename a member.

## Load Library Utility Member Directory

The Load Library Utility Member Directory screen appears and shows a list of the members in the load library. When a wildcarded member name is present, the directory contains a list of the members that match the member name wildcard. To perform an action for one of the members in the directory, type an action code to the left of the member name.

```
Select member to process from  'USER1.LOADLIB'--------------- Row 1 to 11 of 11
 COMMAND ===>                                                  SCROLL ===> CSR

           B - ISPF Browse     1 - Browse member   R - Rename member
                                                   D - Delete member

S  NAME     MSG/Rename  Alias-of  Size    TTR   A/RMODE   Link-Date  Link-Time
_ CAWAABT                        000A88  001003  31 ANY   2008/10/07 11:23:02
_ CAWAALCN                       000608  007015  31 ANY   2012/05/04 13:25:14
_ CAWAALCP                       0003F8  00701C  31 ANY   2012/05/04 13:25:18
_ CAWAALC2                       0003E0  007023  31 ANY   2012/05/04 13:25:20
_ CAWABATC                       002500  018D0D  31 ANY   2012/07/23 09:41:29
_ CAWABAT2                       004070  018D22  31 24    2012/07/23 10:21:03
_ CAWABGDG                       001908  00100C  31 ANY   2008/10/07 11:23:19
_ CAWABINL                       000120  00702A  31 ANY   2012/05/04 13:25:23
_ CAWABLCB                       001D00  01361D  31 24    2012/07/08 08:51:33
_ CAWABLCS                       001DD0  013703  31 24    2012/07/08 08:51:38
_ CAWABLCV                       000468  006617  31 ANY   2012/05/04 12:57:56
****************************** End of Member List ******************************
```

The action codes displayed at the top of the screen are:

- B – ISPF Browse
- 1 – Browse member
- R – Rename member
- D – Delete member

Perform an action for all of the members in the directory that match a wildcard using the following syntax:

S *www c*

where '*www*' is the wildcard and '*c*' is the command (B 1 R or D).

### Example

S A* D deletes all members that begin with A.

Use the SORT and LOCATE commands to assist in the location of the desired member. You can sort the directory by any of the columns by typing SORT XXX or SORT XXX Y where 'XXX' is one of the column literals and 'Y' is 'A' for ascending or 'D' for descending. For example, SORT CREATED sorts the directory in descending order of Created Date and SORT ID A sorts the directory in ascending order of User ID. The command L or LOC followed by a value will position to the first member directory entry whose sort sequence field is greater than or equal to the specified value.

## Field Descriptions

**Line Item Action Indicator**

Specify an action to be performed for the member represented by the line item, by typing one of the following commands:

- B – Browse the member
- 1 – ISPF Browse
- R – Rename member. When renaming a member, type the new member name in the MSG/RENAME column.
- D – Delete member. If the user Processing Defaults indicate that member deletes are to be confirmed, a delete confirmation screen appears.

**Msg/Rename**

When renaming a member, type the new member name in this column.

# Data Set Utility

The Data Set Utility screen lets you perform various functions related to the allocation and maintenance of files.

```
-------------------  CA File Master Plus -- Dataset Utility  ------------------
COMMAND ===>

BLANK - Display dataset information      F - Free unused space
    A - Allocate dataset                 G - Define GDG
    C - Catalog dataset                  R - Rename dataset
    D - Delete dataset                   U - Uncatalog dataset


Dataset to be Processed:
   Dataset name  ===> 'TEST.WORKPDS2'
   Volume serial ===>          (If dataset not cataloged)

Model dataset for allocations  (optional):
   Dataset name  ===> 'TECH.TEST.SQL'
```

For the data set information display, the screens displayed are specialized according to the file type or VSAM access method.

When a request is made to delete a data set, a delete confirmation screen appears if the Processing Defaults indicate that data set deletes are to be confirmed before they are performed. Control data set delete confirmation by going to the Processing Defaults Screen (Option 0.1) and setting the Confirm Data Set Deletes? field.

To assist in the specification of the DSN of the data set to be processed by the Data Set Utility, the Data set name field and the Model data set field have support for wildcarded DSNs and DSN Lists. You can use any of the following syntaxes to request a list of DSNs from which the desired DSN may be selected.

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D *dddddd* where '*dddddd*' is the name of a DSN list

## Field Descriptions

**Data set to be Processed:**

**Data set name**

Type the DSN of the data set to be processed by the Data Set Utility function.

**Volume serial**

If the data set to be processed by the Data Set Utility is uncataloged, type the volume serial number of the volume on which the data set resides.

**Note:** Volume Serial is a required field when performing the Catalog function.

**Model data set for allocations:**

**Data set name**

When allocating a data set using option **A**, specify a model data set to have the various allocation parameters default to match the model data set. To use a model data set, type a DSN in this field.

## Data Set Information - PDS

The PDS Data Set Information – PDS screen displays information relating to the following:

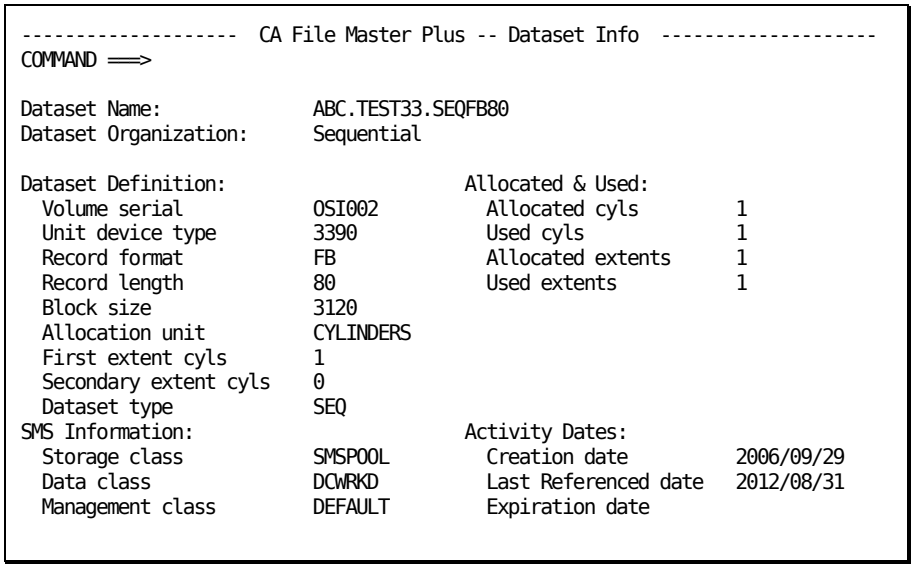
- PDS allocation parameters
- Use of space, extents, and directory blocks
- SMS Class information
- Activity dates

```
--------------  CA File Master Plus -- Dataset Information - PDS  -------------
COMMAND ===>

Dataset Name:              TECH.WORKPDS
Dataset Organization:      Partitioned Dataset

Dataset Definition:                      Allocated & Used:
  Volume serial            CAI003          Number of members      487
  Unit device type         3390            Allocated cyls         95
  Record format            FB              Used cyls              63
  Record length            80              Allocated extents      16
  Block size               3120            Used extents           10
  Allocation unit          CYLINDERS       Max directory blocks   80
  First extent cyls        20              Used directory blocks  80
  Secondary extent cyls    5
  Dataset type             PDS
SMS Information:                         Activity Dates:
  Storage class            SMSPOOL         Creation date          2006/09/29
  Data class               DCWRKD          Last Referenced date   2012/08/31
  Management class         DEFAULT         Expiration date
```

## Data Set Information - Sequential File

The Data Set Information - Sequential File screen displays information relating to the following:

- File allocation parameters
- Use of space and extents
- SMS Class information
- Activity dates




## Data Set Information – VSAM File

The Data Set Information – VSAM File screen displays information relating to the following:

Page 1:

- File associations
- Data set definitions
- Activity dates
- File statistics
- Allocation parameters

```
-----------  CA File Master Plus -- Dataset Information - VSAM KSDS  ----------
COMMAND ===>

Dataset Organization:      VSAM KSDS (Key Sequence Dataset)
Cluster Name:              TECH.KSDS.CL                                  Volume
Data:                      TECH.KSDS.DATA                                CAI001
Index:                     TECH.KSDS.INDEX                               CAI001

Dataset Definition:                Component Allocation:    Data       Index
   Key Position                 1      CISIZE                3584        3584
   Key Length                   3      Allocation Unit       CYLS        TRKS
   Average record size        110      Primary                  1           5
   Maximum record size        110      Secondary                5           1
   Share options              2,4      Extents used             1           1
   Buffer space             10752   Allocation Parameters:
SMS Information:                      Load restartable                    NO
   Storage class                      Write check                         NO
   Data class                         Erase on delete                     NO
   Management class                   Replicated index                    NO
Activity Dates:                       Reuse option                        NO
   Creation date       2012/07/30     Spanned records                     NO
   Expiration date

          End to exit         ENTER for more information about KSDS file
```

Page 2:

- Data and index component information

```
----------  CA File Master Plus -- Dataset Info - VSAM KSDS - Page 2  ---------
COMMAND ===>
AD1DEV.MOORO10.KSDS.NEW

Component Statistics:         Data        Index  Record Statistics:
  CIs per CA                   195           13     Total                   24
  Control Interval Splits        0            0     Deleted                  4
  Control Area Splits            0            0     Inserted                 2
  Freespace Percent - CI         0            0     Updated                 98
  Freespace Percent - CA         0            0     Retrieved            2,694
  Total Freespace           695296       229376
  High Allocated RBA        698880       232960
  High Used RBA             698880         3584
  Percent Free                99.5         98.5
  Physical Record Size        3584         3584
  Physical Record / Track       13           13
  Tracks / Control Area         15            1

          End to exit         ENTER to return to previous screen
```

## Allocate New Sequential File or PDS

The Data Set Utility screen invokes the Allocate New Sequential File or PDS screen to let you specify the allocation parameters for a sequential file or a PDS to be allocated.

```
---------  CA File Master Plus -- Allocate New Sequential File or PDS  --------
COMMAND ===>

New Dataset Name        ===> TECH.WORKPDS9

Information for Non-SMS Datasets:
  Volume serial         ===> PK0004      or Generic unit name   ===> 3390
Information for SMS Datasets:
  Management Class      ===>
  Storage Class         ===>
  Data Class            ===>
Dataset Allocation:
  Space allocation unit ===> CYLS        'T' Tracks 'C' Cylinders 'B' Blocks
  Primary allocation    ===> 1
  Secondary allocation  ===> 0
  Directory blocks      ===>             When allocating a PDS
  Record format         ===> FB
  Record length         ===> 80
  Block size            ===> 3120
  Expiration date       ===>             optional (YYYY/MM/DD format)
  Dataset type          ===>             optional (SEQ, PDS, PDSE, LARGE)
  Specify multi-volume? ===> N           'Y' to specify multiple volume
```

The file allocated is a PDS if a non-zero value is typed into the Directory blocks field; otherwise, a sequential file is allocated.

Type either a Volume Serial Number or a Generic Unit Name to control the DASD volumes on which the file is allocated.

When multiple volumes are to be allocated to the file, set the Specify Multivolume? field to **Y**.

### Field Descriptions

**Information for Non-SMS Data Sets**

**Volume serial or Generic unit name**

Update either the Volume serial field or the Generic unit name field to define the volumes for the data set being allocated.

Type the Volume serial to specify the volume where the data set will reside. If multiple volumes are required, set the Specify multivolume? field to **Y**.

Allocate a data set to any volume within a unit type by typing the Unit Name. See the DASD Unit Configuration function (CA File Master Plus Option 3.9.3) for a list of the Unit Names available on your system and summary information about each volume within each unit type. If multiple volumes are required, set the Specify multivolume? field to **Y**.

**Information for SMS Data Sets**

**Management Class**

To alter the sequential file or PDS to use the specified management class, update the one- to eight-position name of the SMS Management Class. You can use the SMS Management Class to control data set characteristics related to the backup, migration, and retention of the data set.

**Storage Class**

To alter the sequential file or PDS to use the specified storage class, update the one- to eight-position name of the SMS Storage Class. You can use the storage class to control the storage hardware used for the data set.

**Data Class**

Type the one- to eight-position name of the SMS Data Class to be used when allocating the sequential file or PDS. You can use the SMS Data Class to control the attributes of the data set being allocated.

**Data Set Allocation**

**Space allocation unit**

Specify the Space allocation unit for the sequential file or PDS being allocated. The primary and secondary allocations are in the specified units.

If you type the first position of one of the valid values, the rest of the Space allocation unit appears in the field. Space can be allocated as one of the following:

- T – Tracks
- C – Cylinders
- B – Blocks

**Primary allocation**

Type the Primary allocation amount for the sequential file or PDS. The amount of space allocated in the primary allocation is the specified number of tracks, cylinders, or blocks depending on the allocation unit.

**Secondary allocation**

Type the secondary allocation amount for the sequential file or PDS. The amount of space allocated in each secondary allocation is the specified number of tracks, cylinders, or blocks depending on the allocation unit.

**Directory blocks**

Type the desired number of directory blocks when defining a partitioned data set. If defining a sequential file, this field should contain no value or a value of zero.

**Record format**

Type the record format for the sequential file or PDS being defined. Record format is a concatenation of up to 3 one-byte codes that have the following meaning:

- F – Fixed-length records
- V – Variable-length records
- U – Undefined-length records
- B – Records are blocked
- A – Records contain ASCII printer control characters
- M – Records contain machine code control characters
- S – For variable-length records, records may span blocks
- D – Variable-length ASCII record
- T – Records may be written into overflow tracks

For example, 'FB' would be fixed blocked, 'U' would be undefined length, and 'VBA' would be variable blocked with ASCII print control characters.

**Record length**

Type the Logical Record Length for the records to be written to the sequential file or PDS being allocated.

**Block size**

Type the Block size for the sequential file or PDS being allocated.

For variable blocked or fixed blocked files, the Block size field can be empty or contain zero to let the system to calculate the optimum Block size.

**Expiration date**

If the sequential file or PDS can be deleted after a certain date, type an Expiration Date in CCYYMMDD format.

**Dataset type**

You can use this optional field to specify whether the data set being allocated is a sequential file, a PDS, a PDS/E, or a large format data set. If this field is blank, the data set is allocated as a PDS if directory blocks are specified; otherwise, the data set is allocated as a sequential file. This field is required only when allocating a PDS/E. Valid values are:

SEQ – Sequential file

PDS – PDS

PDSE – PDS/E

LARGE – large format data set

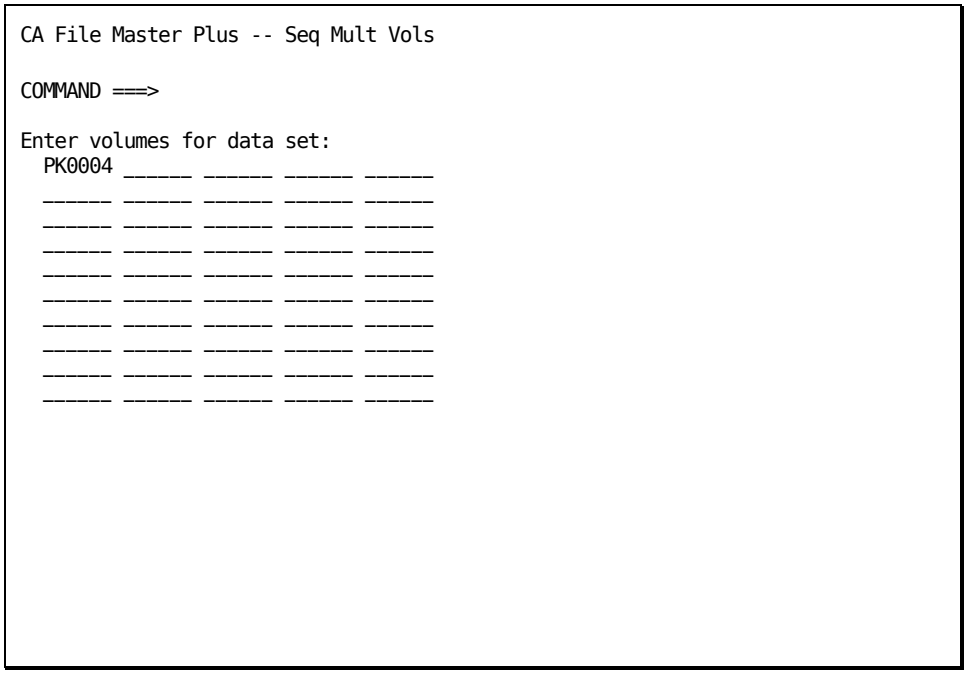
**Specify multivolume?**

If the sequential file will be allocated with multiple volumes, set the Specify multivolume? field to **Y**.

At the top of the screen, you have the option of defining the volumes to be used by Volume serial or by Generic unit name. If a Volume serial is specified, a screen appears and lets you define the rest of the Volume serials for this data set. If a Generic unit name is specified, a screen appears that lets you define the number of volumes of that unit type to be allocated.

## Sequential File/Multiple Volumes

The Sequential File Multiple Volumes screen lets you define the volumes to be allocated to a multi-volume sequential file. This screen is invoked when the Specify Multi Volume? field of the Allocate New Sequential File or PDS screen is set to **Y**.




Update the screen by typing the volume serials of the volumes to be allocated to the sequential file. You can type up to fifty volumes.

## Sequential File Number of Volumes

The Sequential Number of Volumes screen is used to define the number of volumes that will be allocated to a multivolume sequential file. This screen is invoked when the Specify multi volume? field of the Allocate New Sequential File or PDS screen is set to **Y** and a Generic Unit Name.

```
CA File Master Plus -- Seq Number of Volumes
COMMAND ===>

Number of 3390 Volumes     ===> 3
```

Update the screen by typing a number from 1 to 255 to specify the number of volumes to be allocated to the sequential file.

## Define GDG (Generation Data Group)

The Define GDG (Generation Data Group) screen is invoked by the Data Set Utility screen to let you specify the allocation parameters for a GDG.

```
-----  CA File Master Plus -- Define GDG (Generation Data Group) -----
COMMAND ===>

GDG base Data Set Name ===> TECH.WORKPDS9

Generations in GDG    ===> 10          (1 - 255)

Expiration            ===>             Optional - Expiration date (YYYY/MM/DD)
                                                 or Number of days to expiration
Uncatalog all?        ===> N

Scratch over limit?   ===> Y

Owner ID              ===> TECH1
```

Update the fields on this screen to specify the following:

- Number of generations for the GDG
- Expiration period
- Options related to the handling of generation data sets as the maximum number of generations is exceeded
- Owner ID of GDG

Press Enter to invoke IDCAMS to define the GDG.

## Field Descriptions

**Generations in GDG**

Type the maximum number of generation data sets to be associated with the Generation Data Group being defined.

The value of this field must be in the range of 1 to 255.

**Expiration**

The value typed into this optional field can be in one of two formats:

- Expiration Date is a date in CCYY/MM/DD format on which the GDG base may be deleted.
- Retention Number of Days is a number of days from 0 to 9998 that tells how many days the GDG must be retained before it is deleted.

If you do not type an Expiration Date or Retention Number of Days, the GDG base may be deleted at any time.

If you type a value of 9999, the GDG is retained indefinitely.

**Uncatalog all?**

Type **Y** or **N** to indicate whether to uncatalog all generations when the maximum number of generations in the GDG is exceeded.

- N – Uncatalog only the oldest generation when the maximum number of generations is exceeded. This is the option that is applicable to most GDG situations.
- Y – Uncatalog all generations of the GDG when the maximum number of generations is exceeded.

**Scratch over limit?**

Type **Y** or **N** to indicate whether data sets are to be scratched when generations are uncataloged as the maximum number of generations is exceeded. For example, deleted from the VTOC and the space reused.

- Y – Delete each data set when it is uncataloged. For example, when the maximum number of generations is exceeded.
- N – Leave data sets on the volume when they are uncataloged as the maximum number of generations is exceeded.

**Owner ID**

You can use this optional field to specify an owner associated with the GDG that is being defined.

If the Owner ID is not specified, the TSO User ID is defined as the owner.

# Copy Utility

The Copy Utility screen lets you copy data sets and members of various file formats. The FROM and TO data sets for the copy function can be a sequential file, a PDS, or a VSAM file.

```
--------------------  CA File Master Plus -- Copy Utility  --------------------
COMMAND ===>

Copy "FROM" Dataset:
   Dataset name  ===> TECH.INPUT'
   Member name   ===>          ('*' = all members, blank/wildcard = mem list)
   Volume serial ===>          (If dataset not cataloged)
Copy "TO" Dataset:
   Dataset name  ===> TECH.OUT'
   Volume serial ===>          (If dataset not cataloged)
   Disposition   ===> NEW      (NEW or SHR or OLD or MOD)
   Replace Mems  ===> N        ('Y' to replace like-named members)
   Replace Keys  ===> N        ('Y' to replace duplicate keys in KSDS)
Execution mode   ===> O        ( O = ONLINE   S = Submit JCL   E = Edit JCL)

Record Layout:
  Layout dataset ===>
  Layout member  ===>

Selection Criteria below  or  Selection Criteria Member ===>
===>
===>
===>
```

## Field Descriptions

**Copy "FROM" Data Set**

**Data set name**

Type the DSN of the input file for the copy function. This file can be a sequential file, PDS, or VSAM file.

**Member name**

If the data set being copied is a PDS, specify the Member name of the member to be copied.

You can leave this field blank to receive a directory of the members in the data set or type a wildcarded member name to receive a directory of members that match that wildcard. From a member directory, select the members to be copied.

**Volume serial**

If input data set to the copy function is uncataloged, type the volume serial of the volume on which the data set resides.

**Copy "TO" Data Set**

**Data set name**

Type the DSN of the output file for the copy function. This file can be a sequential file, PDS, PDS member, or VSAM file.

**Volume serial**

If output data set to the copy function is uncataloged, type the volume serial of the volume where the data set resides.

**Disposition**

Specify the disposition of the output of the copy function as SHR, OLD, NEW, or MOD. Only the first position of the disposition field is required.

- SHR – Output data set already exists, can be shared while copying into it
- OLD – Output data set already exists, cannot be shared while copying into it
- NEW – Output data set does not currently exist and will be allocated
- MOD – Output data set already exists and records will be copied and appended to the existing data set or library members

**Replace Mems**

When copying PDS members, use this field to chose whether to replace members that already exist on the 'TO' PDS with the member from the 'FROM' PDS.

**Replace Keys**

When copying records to a VSAM KSDS, use this field to chose whether to replace duplicate keys in the TO data set. When this option is set to **N** and the TO VSAM KSDS data set was defined with the REUSE option, the 'TO' data set is opened in load mode. When this option is set to **Y** and the 'TO' VSAM KSDS was defined with the REUSE option, the 'TO' data set is opened in update/extend mode.

**Execution Mode**

The choices for execution mode are:

- O – Perform the function online.
- S – Generate and submit JCL to perform the function.
- E – Generate JCL to perform the function and initiate an edit session on the JCL. Alter the JCL as needed and submit the JCL or save it to another location.

**Record Layout**

**Layout dataset**

Type the DSN of the Record Description Copy Library member that describes the input file. You can also type a wildcarded DSN to request a list of data sets from which you can select the desired data set. This field is required when using the LAYOUT primary command.

**Layout member**

Type the Member Name of the Record Description Copy Member that describes the input file.

Leave this field blank to receive a directory of the members in the Layout data set. You can also type a wildcarded member name to receive a directory of members that match that wildcard.

Specify the **LAYOUT** command on this panel when you specify a Layout data set and member and you also want to dynamically build the dynamic selection by field names defined in the record layout.

**Selection criteria below or Selection criteria member**

Specifies selection criteria if the records or members of the input file will be filtered according to selection criteria. Use selection criteria to specify a filter based on the following types of parameters:

- Condition that evaluates data values in each record
- Presence of a character string within a record or specified columns or field name from a record layout
- Specification of the first record to be selected based on relative record number, VSAM key, or VSAM RBA
- Limit to the number of records to be selected

Use a cataloged selection criteria parameter member that has been defined using CA File Master Plus Option 0.3.

Use the primary command LAYOUT.

For sample Selection Criteria specifications, see the following table. For a complete explanation of the syntaxes, request field-level help.

| Selection Criteria | Description |
|---|---|
| 101 = C'NY' | Position 101 for a length of 2 equals 'NY' |
| 1(3) = C'001 & 101 = C'NY' | Compound condition |
| C'TEXAS' | Character string 'TEXAS' anywhere in the record |
| 'TEXAS' | Text 'TEXAS' (any case) anywhere in the record. If the character string contains imbedded blanks or an imbedded operand, the character string must be within quotes. |
| 10(4) EQP | Position 10 for a length of 4 is any valid packed value |
| 80 = C'NY'C'NJ'C'MA' | Position 80 for a length of 2 equals 'NY' or 'NY' or 'MA' (case sensitive) |
| 80 = C'NY,NJ,MA' | Position 80 for a length of 2 equals 'NY' or 'NY' or 'MA' (case sensitive) |
| 100(2) = P'0,1,999' | Position 100 contains a two-byte packed value of 0 or 1 or 999 |
| 82(2) > 84 | Position 82-83 is greater than positions 84-85 |
| 101(20) CO C'NEW YORK' | Positions 101-120 contain 'NEW YORK'. (case sensitive and can appear anywhere within positions 101-120) |
| STARTREC=1001 | Select records beginning with record number 1001 |

| Selection Criteria | Description |
|---|---|
| STARTKEY='56789' | Select keyed VSAM records beginning with key 56789 |
| STARTRBA=X'1FD8' | Select records starting with the record with RBA x'1FD8' |
| INLIM=5000 | Stop reading/selecting after reading 5000 records. |
| SELLIM=1000 | Only select 1000 records based on selection criteria |
| STATE-CODE NE 'NY' | Field STATE-CODE not equal 'NY' (requires LAYOUT information) |
| 80 = C'NY' C'TX' AND<br>100 = C'000' | Position 80 for a length of 2 equals 'NY' or 'TX', AND position 100 for a length of 3 equals '000' |
| TRAN-DD GT '01' AND TRAN-DD LT '06' | Field TRAN-DD is '02' '03' '04', or '05' |
| MEMBER criteria | Specifies that 'criteria' (specified after the MEMBER command) applies to PDS member selection only. This parameter and subsequent selection criteria is ignored if specified for non-PDS data sets.<br>Examples:<br>`MEMBER 'texas'`<br>`MEMBER 101 EQ 'NY'`<br>MEMBER is the **default** for selection criteria specified for PDS or PDSE data sets when no member or a generic member name is specified. |
| RECORD criteria | Specifies that 'criteria' (specified after the RECORD command) applies to record selection only. When a data set or member(s) are selected for browse or edit, only selected records will be displayed.<br>Examples:<br>`MEMBER 'texas'`<br>`MEMBER 101 EQ 'NY'`<br>RECORD is the *default* for VSAM and sequential files or for fully qualified PDS-member names. |

## Copy Utility Member Directory

The Copy Utility Member Directory screen presents a list of the members in the Copy FROM Data Set library. When a wildcarded member name is typed, the directory contains a list of the members that match the member name wildcard. Additionally, if selection criteria were specified to further filter the members to be copied, the list of members contains only those members matching the wildcard specification and the selection criteria.

```
CA File Master Plus -------------- Copy 'ABC.TEST33. ---- Row 1 of 290
 COMMAND ===>                                                SCROLL ===> CSR

S Name     Rename/Msg         Size    Created          Changed           ID
_ ACCTFILE                     39   2002/02/01   2012/02/01 12:51:00    USERID
_ ACCTSET                      44   1992/01/31   1994/02/01 11:34:00    USERID
_ ACCT00                       99   2002/02/01   2008/02/01 11:03:00    USERID
_ ACCT01                       99   2002/02/01   2012/02/01 11:13:00    USERID
_ ACCT02                       99   2002/02/01   2012/02/01 11:16:00    USERID
_ ACCT03                      100   2002/02/01   2012/02/01 11:07:00    USERID
_ ACCT04                      100   2002/02/01   2012/02/01 11:08:00    USERID
_ ACGLOBAL                     32   1992/11/09   1998/11/30 13:01:00    USERID
_ ACME1000                     79   2000/07/27   2004/07/27 13:50:00    USERID
_ ACME2COB                    129   2002/05/11   2002/05/11 12:18:00    USERID
_ ACME2000                    131   2002/05/11   2002/05/11 11:24:00    USERID
_ ACME3000                    233   1993/12/08   2003/08/04 16:41:00    USERID
_ ACME3370                    200   2002/03/03   1996/09/30 17:40:00    USERID
_ ADCD311                     552   2002/02/07   2001/10/25 16:37:00    USERID
_ ADCD330                     527   2002/02/07   2002/02/08 14:45:00    USERID
_ ADCIN44                     137   2002/02/07   2002/10/25 10:27:00    USERID
_ ADCIN52                     152   2002/02/07   2002/10/25 16:38:00    USERID
_ ALTC9N6                     351   2002/11/04   1994/11/04 14:01:00    USERID
```

Primary commands supported by the Copy Utility Member Directory are as follows:

**CANCEL or CAN**

Used to cancel the copy operation. The LOCATE, MEMBER, and SORT commands assist in the location of the desired members.

**L or LOCATE**

This command, followed by a value, positions to the first member directory entry whose sort sequence field is greater than or equal to the specified value. For example, when the directory list is sorted by the Name column, the L ABC positions the member list to the first member in the list whose member name is greater than or equal to the name ABC.

**MEMBER**

This command, followed by valid selection criteria, can be used to specify additional member selection criteria. Using this command format reduces the current member list to only those members that contain records that match the specified selection criteria. Successive MEMBER commands can be used to continually reduce the current member list. For example, MEMBER 'ABC' reduces the member list to only those members that contain the characters ABC in one of their records. A subsequent MEMBER 'XYZ' command reduces the member list to only those members that contain the characters ABC *and* XYZ.

**SORT**

Sorts the directory by any of the columns in the directory after you type SORT XXX or SORT XXX Y where 'XXX' is one of the column literals and 'Y' is 'A' for ascending or 'D' for descending. For example, SORT CREATED sorts the directory in descending order of Created Date and SORT ID A sorts the directory in ascending order of User ID.

**S member**

Selects a member from the data set for processing. The member does not have to be in the current member list to be selected. The member can be a generic member name such as 'A*' which will select all members who's name starts with the letter 'A', or '*' which will select all members from the directory.

## Field Descriptions

**Line Item Action Indicator**

Specify an action to be performed for the member represented by the line item, by typing one of the following commands:

- S – Select member to be copied
- B – Browse member with ISPF browse
- E – Edit member with ISPF edit.
- 1 – Browse the member with CA File Master Plus
- 2 – Edit the member with CA File Master Plus

**Rename/MSG**

When a member is to be renamed as it is copied, type the new member name in the column named Rename.

# Catalog Utility

The Catalog Utility screen lets you request a list of data sets that match a specified wildcarded DSN. If you type a volume, only data sets on that volume are included in the list. For any data set in the list, you can access various CA File Master Plus functions.

```
--------------  CA File Master Plus -- Catalog Utility  --------------
OPTION ===>

   Search data set name   ===> CAI.TEST33

   Volume                 ===>

   Extended data set info ===> N
```

The data set list is in regular or extended format depending on the value of the Extended data set info field. The regular format of the Catalog Data Set List requires fewer resources to display and contains the following fields from the catalog:

- DSN
- Volume Serial
- File Type

The extended format of the Catalog Data Set List presents the following information about each data set:

- Data Set Organization (such as PS for seq, PO for PDS, and VS for VSAM)
- Number of Tracks Allocated
- Percent of Tracks Used
- Volume Serial Number

Page right to view the following fields relating to each data set:

- Record Format (such as 'FB', 'VBA', 'U', and so forth)
- Logical Record Length
- Block Size
- Number of Extents Allocated
- Created Date
- Last Referenced Date

From the Catalog Utility Data Set List, you can access the following facilities:

1 – Browse E – ISPF Edit U – Uncatalog

| | | |
|---|---|---|
| 2 – Edit | F – Free Space | V – VSAM Utility |
| A – Update PDS Allocations | M – Library Member Utility | X – Search Utility |
| B – ISPF Browse | P – Print | Y – Update Utility |
| C – Catalog | R – Rename | Z – Compress PDS |
| D – Delete | S – Data Set Information | |

Print the list of data sets and all of the fields on each line item with a primary command of 'P' from the Catalog Utility Data Set List.

## Field Descriptions

**Search data set name**

Type the wildcarded DSN for the data sets that are to be displayed. When typing a wildcarded DSN, you can type an asterisk (*) to represent any number of characters with any value, and you can type a percent sign (%) to represent one character of any value. The Catalog Utility Data Set List screen has a line item for all data sets that match the wildcarded DSN.

**Volume**

To limit data sets displayed on the Catalog Utility Data Set List screen to data sets on a particular volume, type the Volume serial.

**Extended data set info**

Type **Y** or **N** to indicate whether to display the expanded version of the Catalog Utility Data Set List screen. The request of expanded information increases the response time of the request.

## Catalog Utility Data Set List

The Catalog Utility Data Set List screen is presented when you type a request into the Catalog Utility screen. The user identifies the data sets to be processed by specifying a wildcarded DSN. If only the data sets within a single volume are to be processed (whether cataloged or uncataloged), a Volume serial is also specified. The Catalog Utility Data Set List screen contains a line item for each data set selected for processing.

```
CA File Master Plus -- Catalog Utility Data Set List  ---- Row 1 of 13
 COMMAND ===>                                                SCROLL ===> CSR

  1 - Browse                E - ISPF Edit             U - Uncatalog
  2 - Edit                  F - Free Space            V - VSAM Utility
  A - Update PDS Allocations M - Library Member Utility X - Search Utility
  B - ISPF Browse           P - Print                 Y - Update Utility
  C - Catalog               R - Rename                Z - Compress PDS
  D - Delete                S - Dataset Information

A DSN                                          Msg     Org    Trks %Use Volume
_ ABC.TEST33.LOADLIB                                   PO      144 100 CAI003
_ ABC.TEST33.LOADLIB2                                  PO       11 100 CAI003
_ ABC.TEST33.LOADLIB3                                  PO        8 100 CAI003
_ ABC.TEST33.PDS                                       PO     2501  15 CAI009
_ ABC.TEST33.PDS.COPY                                  PO      333 100 CAI008
_ ABC.TEST33.PDS2                                      PO        7 100 CAI004
_ ABC.TEST33.PDS25                                     PO     2501   1 CAI009
_ ABC.TEST33.PDS3                                      PO      339 100 CAI004
_ ABC.TEST33.SEQFB80                                   PS       15 100 CAI009
_ ABC.TEST33.SEQU                                      PS        7 100 CAI009
_ ABC.TEST33.SEQU84                                    PS        1 100 CAI009
_ ABC.TEST33.SEQVB400                                  PS        1 100 CAI009
_ ABC.TEST33.SEQVB84                                   PS        1 100 CAI009
************************** END OF LIST OF DATA SETS **************************
```

You may perform various CA File Master Plus functions for any of the listed data sets by typing an action code to the left of the DSN.

The SORT primary command can be used to sort the line items by any of the column titles. The syntax of the SORT command is:

```
SORT ccc a
```

where '*ccc*' is two or more positions of the column title and '*a*' is 'A' (ascending) or 'D' (descending).

When the second positional parameter (A or D) is omitted, a descending sort is done for the Trks column and an ascending sort is done for all other columns. If the first positional parameter (column name) is omitted, the line items are sorted ascending by DSN.

You can use the FIND primary command to locate line items whose DSN contains specified character strings.

The list of data sets and all of the fields on each line item can be printed with a primary command of P.

The MEMBER primary command can be used to search catalogued partitioned data sets for members by name. The syntax of the MEMBER command is:

```
MEMBER member-name
```

where 'member-name' is an optional 1-8 character member name or wildcarded member name representing the search argument.

The MEMBER command displays the Locate PDSs With Specified Member screen from the PDS Utility and populates the Wildcarded DSN for PDSs field with the Search Dataset Name used to create your catalogued data set list. If a member name is specified, it is used to populate the Member Name field for the search. The MEMBER command can only be used to search catalogued partitioned data sets.

Each line item contains the following fields for each data set.

- Data Set Organization (such as 'PS' for seq, 'PO' for PDS, 'VS' for VSAM, and 'PSL' for large format data set)
- Number of Tracks Allocated
- Percent of Tracks Used
- Volume Serial Number

Page RIGHT to view the following fields relating to each data set.

- Record Format (such as FB, VBA, U, and so forth.)
- Logical Record Length
- Block Size
- Number of Extents Allocated

To perform various CA File Master Plus functions, you can type any of the following line item action codes.

| | | |
|---|---|---|
| 1 – Browse | E – ISPF Edit | U – Uncatalog |
| 2 – Edit | F – Free Space | V – VSAM Utility |
| A – Update PDS Allocations | M – Library Member Utility | X – Search Utility |
| B – ISPF Browse | P – Print | Y – Update Utility |
| C – Catalog | R – Rename | Z – Compress PDS |
| D – Delete | S – Data Set Information | |

# VTOC Utility

The VTOC Utility screen performs one of the following two functions for a set of selected DASD volumes.

```
----------------  CA File Master Plus -- VTOC Utility  ---------------
OPTION ===>

       I - List volume information
       E - List VTOC entries in data set name sequence

Volume Selection Information:
   Volume serial        ===> CAI*
   Unit name            ===>

Generic Search Function:
   Search data set name  ===> TECH.*
```

The function performed is based on the Option Code specified.

- I – List volume information is displayed for each of the selected volumes.
- E – A list of DSNs within the selected volumes that match the specified wildcarded DSN appears. For any data set in the list, you can access various CA File Master Plus functions.

You can use the Volume Selection Information section of the screen to specify the volumes to be involved in the processing based on a list of Volume serials or wildcarded Volume serials and a list of Unit names or wildcarded Unit names. Any volume that matches the specification in either the Volume serial list or the Unit name list is selected for processing.

When the option is 'I', List volume information, a screen appears which has the following information for each selected volume:

- Volume Serial Number
- Volume Device Type (such as 3380, 3390, and so forth)
- Percent of Volume Used
- Mount Status (STG=storage volume, PUB=public volume, PRV=private volume)
- Total Free Cylinders
- Max Free Cylinders - largest available contiguous free cylinders
- Total Free Tracks
- Max Free Tracks - largest available contiguous free tracks
- Num Extents – number of free extents

- SMS – indicates if the volume is SMS managed. 'SMS' indicates that the volume is SMS managed.
- EAV – indicates if the volume is an Extended Address Volume, 'EAV' indicates that the volume is an Extended Address Volume.

The displayed information is helpful to summarize the status and free space for each volume within the selected group of volumes. You can select a volume to receive a VTOC Utility Data Set List that displays all of the data sets within that volume, from the Volume Summary screen.

When the option is E to request the VTOC Utility Data Set List, a screen appears that has a line item for each of the data sets within the selected volumes that match the wildcarded DSN (if specified). Each line item presents the following information about each data set:

- Data Set Organization (such as PS for seq, PO for PDS, and VS for VSAM)
- Number of Tracks Allocated
- Percent of Tracks Used
- Volume Serial Number

Page RIGHT to view the following fields relating to each data set:

- Record Format (such as FB, VBA, U, and so forth)
- Logical Record Length
- Block Size
- Number of Extents Allocated
- Created Date
- Last Referenced Date

From the VTOC Utility Data Set List that was accessed using an option of E, you can access the following facilities:

| | | |
|---|---|---|
| 1 - Browse | E - ISPF Edit | S – Data Set Information |
| 2 - Edit | F - Free Space | U - Uncatalog |
| B - ISPF Browse | M - Library Member Utility | V - VSAM Utility |
| C - Catalog | P – Print | X – Search Utility |
| D - Delete | R - Rename | Y – Update Utility |

From the VTOC Utility Data Set List, you can print the list of data sets and all of the fields on each line item with a primary command of P.

## VTOC Utility Data Set List

The VTOC Utility Data Set List screen appears when an option of blank is selected from the VTOC Utility Screen.

```
CA File Master Plus -- VTOC Utility Dataset List ------ Row 1 of 1278
 COMMAND ===>                                                SCROLL ===> CSR

   1 - Browse             E - ISPF Edit             S - Dataset Information
   2 - Edit               F - Free Space            U - Uncatalog
   B - ISPF Browse        M - Library Member Utility V - VSAM Utility
   C - Catalog            P - Print                 X - Search Utility
   D - Delete             R - Rename                Y - Update Utility

A DSN                                        Msg      Org    Trks %Use Volume
_ TECH.A                                              PS        1 100 CAI004
_ TECH.AC                                             PS        1 100 CAI004
_ TECH.ASM.D10819                                     PO      100  20 CAI003
_ TECH.ASM.TXT.D10819                                 PS       13 100 CAI002
_ TECH.ASM2COB.PDS                                    PO       20  10 CAI003
_ TECH.AUTHLIB.BIN                                    PS      134 100 CAI003
_ TECH.B                                              PS        1 100 CAI004
_ TECH.BACKUP.D00501                                  PO      424 100 CAI005
_ TECH.BACKUP.D00605                                  PO      615 100 CAI007
_ TECH.BACKUP.D00705                                  PO      617 100 CAI007
_ TECH.BACKUP.D00805                                  PO      498 100 CAI007
_ TECH.BACKUP.D00906                                  PO      535 100 CAI007
_ TECH.BACKUP.D01001                                  PO      657 100 CAI005
_ TECH.BACKUP.D01101                                  PO      653 100 CAI007
_ TECH.BACKUP.D01201                                  PO      562 100 CAI007
_ TECH.BACKUP.D10101                                  PO      575 100 CAI007
_ TECH.BACKUP.D10201                                  PO      598 100 CAI005
_ TECH.BACKUP.D10301                                  PO      742 100 CAI007
_ TECH.BACKUP.D10401                                  PO      752 100 CAI005
_ TECH.BACKUP.D10501                                  PO      769 100 CAI007
_ TECH.BACKUP.D10601                                  PO      666 100 CAI007
_ TECH.BACKUP.D10621                                  PO      778 100 CAI007
```

Using the VTOC Utility screen, you can identify the volumes to be involved in the processing according to a list of Volume serials or wildcarded Volume serials and a list of Unit nam*es* or wildcarded Unit names. The VTOC Utility Data Set List screen contains a line item for each data set that matches the wildcarded DSN, if specified, within any of the selected volumes.

To perform various CA File Master Plus functions for any of the listed data sets, type an action code to the left of the DSN.

The SORT primary command can be used to sort the line items by any of the column titles. The syntax of the SORT command is:

```
SORT ccc a
```

where '*ccc*' is three or more positions of the column title and *a* is 'A' (ascending) or 'D' (descending).

When the second positional parameter (A or D) is omitted, a descending sort is done for the Trks,Created, and 'referenced' columns and an ascending sort is done for all other columns. If the first positional parameter (column name) is omitted, the line items are sorted ascending by DSN.

To locate line items whose DSN contain specified character strings, you can use the FIND primary command.

The list of data sets and all of the fields on each line item can be printed with a primary command of P

Each line item contains the following fields for each data set.

- Data Set Organization (such as PS for seq, PO for PDS, and VS for VSAM)
- Number of Tracks Allocated
- Percent of Tracks Used
- Volume Serial Number

Page RIGHT to view the following fields relating to each data set:

- Record Format (such as FB, VBA, U, and so forth)
- Logical Record Length
- Block Size
- Number of Extents Allocated
- Created Date
- Last Referenced Date

To perform various CA File Master Plus functions, you can type the following line item action codes:

| | | |
|---|---|---|
| 1 - Browse | E - ISPF Edit | S – Data Set Information |
| 2 - Edit | F - Free Space | U - Uncatalog |
| B - ISPF Browse | M - Library Member Utility | V - VSAM Utility |
| C - Catalog | P – Print | X – Search Utility |
| D - Delete | R - Rename | Y – Update Utility |

## Field Descriptions

**Volume Selection Information:**

**Volume Selection Information: Volume Serial**

Used to identify volume(s) that are to be processed by the VTOC utility. Type a list of 1 to 10 volumes or wildcarded volume specifications with either commas or spaces separating items in the list..

When typing a wildcarded Volume Serial, you can type an asterisk (*) to represent any number of characters with any value, and you can type a percent sign (%) to represent one character of any value.

**Example:**

CONV01 means volume 'CONV01'

CONV*,VOL001 means all volumes whose name begins with 'CONV' plus volume 'VOL001'

Either the Volume serial field or the Unit name field must be typed to identify the volumes to be processed. If both are typed, volumes that match either the Volume serial list or the Unit name list are processed.

**Volume Selection: Unit Name**

Used to identify Unit names that are to be processed by the VTOC utility. Type a list of 1 to 10 Unit Names or wildcarded Unit name specifications with either commas or spaces separating items in the list.

When typing a wildcarded Unit Name, you can type an asterisk (*) to represent any number of characters with any value, and you can type a percent sign (%) to represent one character of any value.

**Example:**

3380 means all volumes matching a Unit Name of '3380'

SYS*, 3390 means all volumes matching a Unit Name beginning with 'SYS' or with a Unit Name of '3390'

Either the Volume serial field or the Unit name field must be typed to identify the volumes to be processed. If both are typed, volumes that match either the Volume serial list or the Unit name list are processed.

**Generic Search Function:**

**Search data set name**

To limit data sets to be displayed to those data sets that match a wildcarded DSN specification, type the wildcarded DSN in this field. When typing a wildcarded DSN, you can type an asterisk (*) to represent any number of characters with any value, and you can type a percent sign (%) to represent one character of any value.

The VTOC Utility Data Set List screen has a line item for all data sets that match the wildcarded DSN that resides on the volumes selected according to the specified Volume Serial and Unit Name information.

## Volume Summary

The Volume Summary screen is presented when an option of 'I' is selected from the VTOC Utility screen. Use the VTOC Utility screen to identify the volumes involved in the processing according to a list of Volume Serials or wildcarded Volume serials and a list of Unit names or wildcarded Unit names.

```
-------------  CA File Master Plus -------------  Volume Sum Row 1 to 11 of 11
 COMMAND ===>                                                 SCROLL ===> CSR
                                  -------------  FREE SPACE  -------------
  -------  VOLUME  -------    Free     Max     Free     Max      Num
S VOLSER Type  %used  stat    CYLs    CYLs    Tracks   Tracks  Extents  SMS EAV
_ CAI001 3390     62   STG     1121     126     19009     1896
_ CAI002 3390     91   STG      272      19      4734      298
_ CAI003 3390     87   STG      398      31      6676      477
_ CAI004 3390     88   STG      317      18      6146      286
_ CAI005 3390     36   STG     2118    1813     31915    27195
_ CAI006 3390     88   STG      348      55      5835      843
_ CAI007 3390     84   STG      487      99      7860     1500
_ CAI008 3390     75   STG      825     179     12594     2700           SMS
_ CAI009 3390     72   STG      917     760     14120    11400
_ CAI010 3390     40   STG     2017    2013     30268    30195               EAV
_ CAI011 3390     50   STG     1667    1667     25017    25015           SMS EAV
****************************** END OF VOLUME NAMES ******************************
```

For each volume selected for processing, a line item containing the following information appears:

- Volume Serial Number (VOLSER)
- Volume Device Type (such as 3380, 3390, and so forth)
- Percent of Volume Used
- Mount Status (STG=storage volume, PUB=public volume, PRV=private volume)
- Total Free Cylinders
- Max Free Cylinders - largest available contiguous free cylinders
- Total Free Tracks
- Max Free Tracks - largest available contiguous free tracks
- Num Extents – number of free extents

- SMS – indicates if the volume is SMS managed. 'SMS' indicates that the volume is SMS managed.
- EAV – indicates if the volume is an Extended Address Volume, 'EAV' indicates that the volume is an Extended Address Volume.

This information is helpful to summarize the status and free space for each volume within the selected group of volumes.

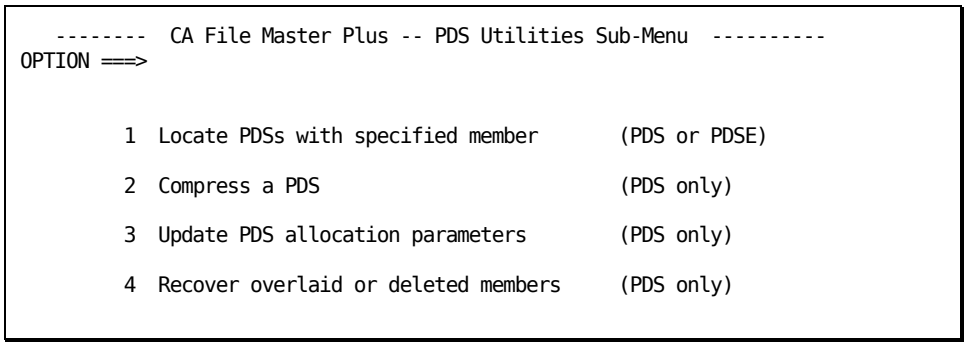
### Field Descriptions

**S (Select to Process Volume)**

Type **S** to request the VTOC Utility Data Set List for the Volume serial of that line item. The VTOC Utility Data Set List displays all of the data sets within that volume and provides an opportunity to perform various CA File Master Plus functions for any of these data sets.

## PDS Utilities Sub-Menu

The PDS Utilities Sub-Menu provides a list of the PDS Utility functions that you can perform. Type an Option value of 1 thru 4 to select the desired PDS Utilities option. Only the first option can be performed for a PDS/E.




The functions performed by the four options are:

**Locate PDSs with Specified Member** – Lets you locate PDSs that contain a specified member. The PDSs that will be searched for the member are indicated either by specifying a wildcarded DSN or by specifying a data set that contains a list of PDSs to be searched.

**Compress a PDS** – Compresses a PDS. If requested, a backup copy of the PDS is made before initiating the compress.

**Update PDS allocation parameters** – Lets you increase the number of directory blocks or the primary space allocation for a PDS.

**Recover overlaid or deleted members** – Creates a new PDS that contains the overlaid and deleted members from a specified PDS. Member recovery can be limited to members with a specified character string.

## Locate PDSs with Specified Member

The Locate PDSs with Specified Member screen is used to build a directory of PDSs that contain a specified member. You can browse or edit members in the various PDSs from the directory.

```
------  CA File Master Plus -- Locate PDSs with Specified Member -----
COMMAND ===>


Specify member to be located

  Member name               ===> ZZDSND

Specify PDSs to be searched

  Wildcarded DSN for PDSs   ===> MYDS.INST.*
            or
  File with list of PDSs    ===>
_____________________________________________

Specify Search Options:

  Exclude Archived Datasets ===> Y   (Y/N)
```

You can specify the PDSs to be searched in either of the following two ways:

- By a wildcarded DSN to search all PDSs whose DSN matches the wildcard
- By specifying a file that contains a list of the DSNs of the PDSs to be searched

### Field Descriptions

**Specify member to be located:**

**Member name**

Type a member name that is to be located within PDSs. The PDSs to be searched are defined in the Specify PDSs to be searched section of the screen.

**Note:** This process returns a directory of all of the PDSs within the bounds of the search that contain the specified member.

**Specify PDSs to be searched**

**Wildcarded DSN for PDSs**

You can identify the list of PDSs to be searched either by a wildcarded DSN or by the DSN of a data set that contains a list of PDS DSNs. For a wildcard DSN search, type the wildcarded DSN in this field.

**Note:** Quotes are not allowed in this field and the absence of quotes does not imply a DSN prefixed by the TSO User ID.

**File with list of PDS's**

You can identify the list of PDSs to be searched either by a wildcarded DSN or by the DSN of a data set that contains a list of PDS DSNs. For a file search, type the DSN of a file that contains a DSN to be searched in each record. The file may be a sequential file or a PDS member of any record format and the DSN must be the first non-blank character in each record.

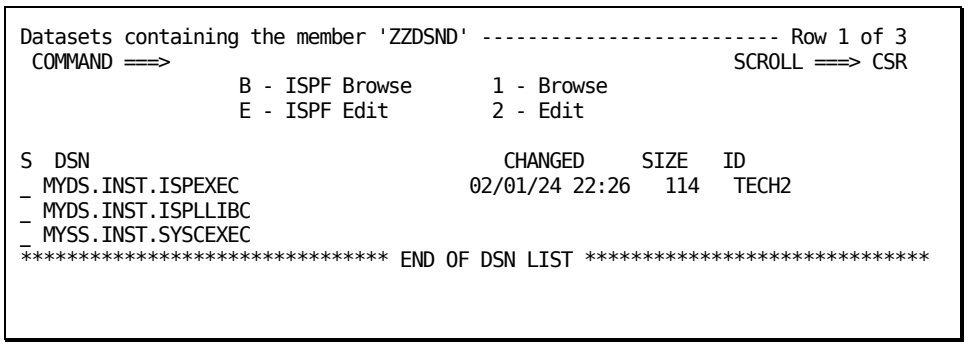
**Specify Search Options**

**Exclude Archived Datasets (Y/N)**

Type Y to exclude archived data sets from the member search, or N to include archived data sets. Specify Y to prevent archived data sets from being recalled during the member search. The member search utility cannot search an archived data set for members without first restoring the data set to disk.

## Directory of PDS Containing Member

The Directory of PDS Containing Member screen contains a directory of all of the PDSs within the bounds of the search that contain the specified member.



## Field Descriptions

**Line Item Action**

To specify an action to be performed for the DSN and member represented by the line item, type one of the following commands:

- B – Browse the member within the DSN of this line item
- E – Edit the member within the DSN of this line item
- 1 – Browse the member within the DSN of this line item using the Browse function of CA File Master Plus
- 2 – Edit the member within the DSN of this line item using the Edit function of CA File Master Plus

# Directory of PDS Containing Wildcarded Members

The Directory of PDS Containing Wildcarded Members screen contains a directory of all of the PDSs within the bounds of the search that contain a wildcarded member.

```
Datasets with members matching 'PAYR*' wildcard ----------------- Row 1 of 11
 COMMAND ===>                                                  SCROLL ===> PAGE
                  B - ISPF Browse       1 - Browse
                  E - ISPF Edit         2 - Edit

S  DSN                                Member       Changed     Size   ID
_ PROGR01.PAYROLL.JCL                 PAYRD223 02/05/10 09:51    75   PROGR01
_ PROGR01.PAYROLL.JCL                 PAYRI223 02/05/10 09:51    76   PROGR01
_ PROGR01.PAYROLL.LISTING             PAYRD223
_ PROGR01.PAYROLL.LISTING             PAYRI223
_ PROGR01.PAYROLL.LOAD                PAYRD223
_ PROGR01.PAYROLL.LOAD                PAYRI223
_ PROGR01.PAYROLL.SOURCE              PAYRCBLK 02/05/10 16:32   844   PROGR01
_ PROGR01.PAYROLL.SOURCE              PAYRC223 02/05/14 17:59  1100   PROGR01
_ PROGR01.PAYROLL.SOURCE              PAYRD223 02/05/09 16:26    21   PROGR01
_ PROGR01.PAYROLL.SOURCE              PAYRI223 02/05/14 16:24  4587   PROGR01
_ PROGR01.PAYROLL.SOURCE              PAYRMSG  02/05/08 14:40   141   PROGR01
```

## Field Descriptions

**Line Item Action**

To specify an action to be performed for the DSN and member represented by the line item, type one of the following commands:

- B – Browse the member within the DSN of this line item
- E – Edit the member within the DSN of this line item
- 1 – Browse the member within the DSN of this line item using the Browse function of CA File Master Plus
- 2 – Edit the member within the DSN of this line item using the Edit function of CA File Master Plus

# Compress PDS

The Compress PDS screen lets you request a compress of a PDS. If requested, a backup of the PDS is made prior to the compress. The DSN of the backup PDS can be specified or generated for you.

```
 ---------------  CA File Master Plus -- Compress PDS ---------------
COMMAND ===>


Specify PDS to be compressed

  Data set name   ===> 'TECH1.FM3.INST.ISPPLIB.BACKUP'


Optional - create a backup file before compressing
When New PDS DSN is blank, a DSN for the backup will be generated

  Create backup? ===> N
  New PDS DSN    ===> _____________________________________________
```

## Field Descriptions - Compress PDS

**Specify PDS to be compressed**

**Data set name**

Type the DSN of the PDS that is to be compressed.

To facilitate selection of the desired DSN, you can use any of the following syntaxes:

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D dddddd where 'dddddd' is the name of a DSN list

Optional – create a backup file before compressing

**Create backup?**

Type **Y** or **N** to indicate whether a copy of the PDS is to be created prior to the start of the compress.

**New PDS DSN**

To specify the DSN for the backup copy of the PDS being compressed, type the DSN in this field. The DSN specified must not already be on the catalog because the compress process creates a new backup PDS.

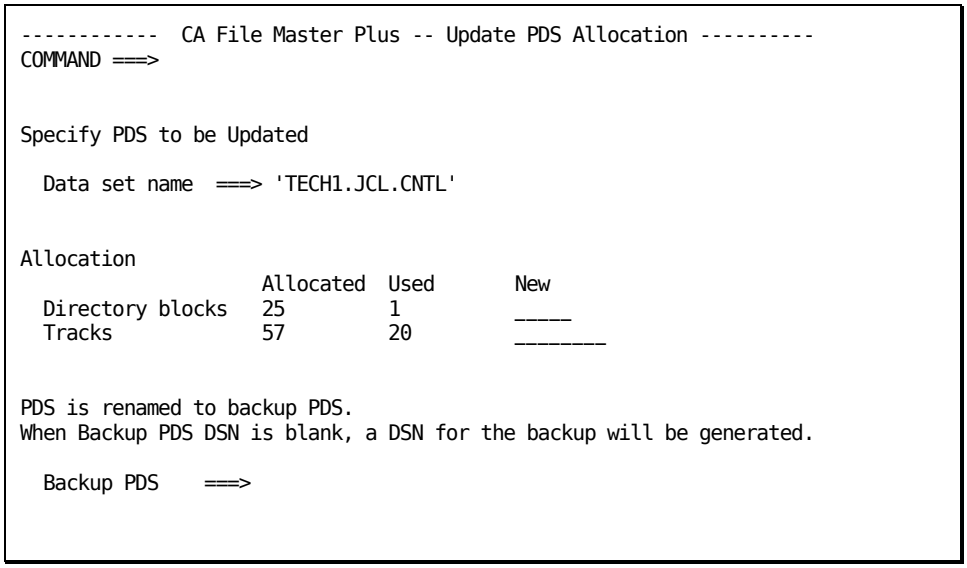
**Tip:** It is usually simpler to leave this field blank and let the DSN of the Backup PDS be calculated for you.

The calculated DSN contains the DSN of the PDS being compressed. According to your user profile, your user ID may be appended to the front of the calculated DSN. This option in the user profile is set with the Userid Prefix for Backup PDSs? field of the Processing Defaults and Job Statement Screen (CA File Master Plus Option 0.1). A qualifier is added to the end of the calculated DSN to indicate that it is a backup PDS and this qualifier may contain a sequence number if the calculated DSN has already been used. The part of the calculated DSN that contains the DSN of the PDS being compressed can be truncated to make room for the prefix or suffix.

**Note:** Since any DSN typed must be for a data set that does not currently exist, wildcard and DSN List support is not available for this field.

## Update PDS Allocation

The Update PDS Allocation screen lets you increase or decrease the number of directory blocks or the primary allocation of a PDS.




When typing an updated number of Directory Blocks or Primary Allocation, a new PDS is allocated according to your specifications and all of the members are copied from the original PDS to this new PDS. If the copy operation is successful, the original PDS is renamed to a Backup PDS DSN and the new PDS is renamed to the DSN of the original PDS.

**Tip:** You can type a DSN for the Backup PDS, but it is usually more convenient to let the process calculate this DSN for you.

This function only works with a PDS and is not necessary for a PDS/E.

## Field Descriptions

**Specify PDS to be Updated**

**Data set name**

Type the DSN of the PDS whose allocation parameters are to be updated. This PDS is reallocated with parameters that you specify. The current version of the PDS is renamed to the DSN in the Backup PDS field.

To facilitate selection of the desired DSN, you can type any of the following syntax:

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D *dddddd* where *'dddddd*' is the name of a DSN list

**Allocation**

**Directory blocks**

To increase or decrease the number of directory blocks allocated to the PDS, type the desired number of directory blocks.

**Tracks**

To increase or decrease the primary space allocation of the PDS, type the desired primary allocation amount.

**Note:** At least one of the parameters in the Allocation section must be updated to request the reallocation of the PDS.

**Backup PDS**

As the PDS is being reallocated, the current version of the PDS is renamed. If you want to specify the DSN to which the PDS is renamed, type the DSN in this field. The DSN specified must not already be on the catalog because the Backup PDS is created new by PDS reallocation process.

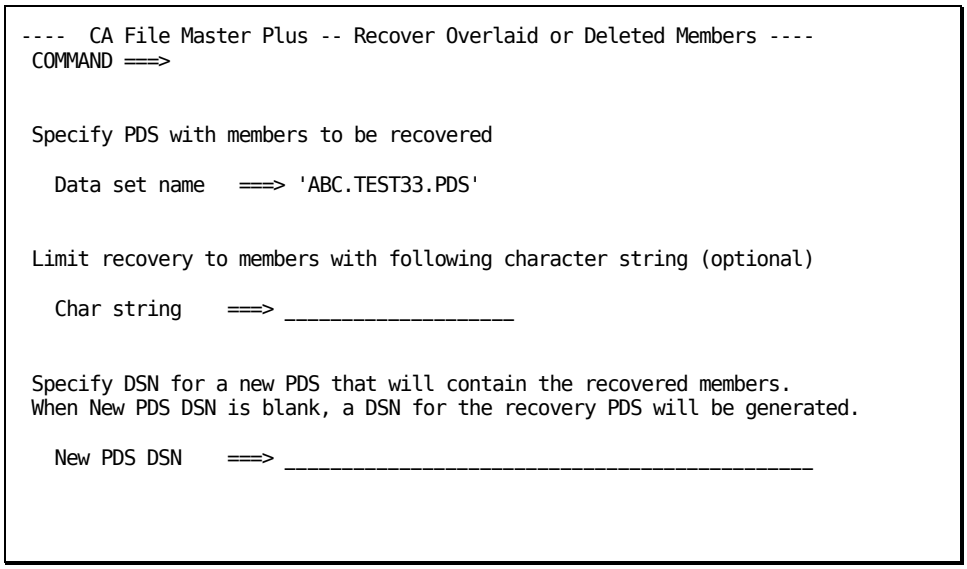
**Tip:** It is normally more convenient to leave this field blank and let the DSN for the Backup PDS be calculated for you. Field-level help contains information about the DSN that is automatically calculated when you leave this field blank.

Since any DSN typed must be for a data set that does not currently exist, wildcard and DSN List support is not available for this field.

The Backup PDS is created to preserve the original PDS, but may be deleted once it is no longer needed.

## Recover Overlaid or Deleted Members

The Recover Overlaid or Deleted Members screen lets you recover members that have been deleted or overlaid by updating a new PDS with the recovered versions of the members.




This function is helpful by recovering members that were erroneously deleted or updated and by letting you browse or edit previous versions of a member.

The Recover Overlaid or Deleted Members function only works with a PDS and does not work with a PDS/E. Recovery is possible only while the overlaid or deleted members are in the PDS. For example, compressing a PDS makes the members no longer available for recovery.

Type the DSN of the PDS from which members are to be recovered. All recovered members are named #*nnnnn* where '*nnnnn*' is a five digit number starting with '00001'.

**Tip:** You can also type the DSN of the PDS to which the members are to be recovered, but it is usually more convenient to let the process calculate this DSN for you.

Optionally, you can type a character string to limit recovery to members that contain that character string.

## Field Descriptions - Recover Overlaid or Deleted Members

**Specify PDS with members to be recovered**

**Data set name**

Type the DSN of the PDS that contains members that need to be recovered. You can recover members, which have been either deleted or overlaid with a new version. The recovered members are written to a PDS that is allocated by the recovery process and the PDS with Members to be Recovered will not be updated.

**Note:** You must have update authority for this PDS.

To facilitate selection of the desired DSN, you can type any of the following syntaxes.

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D *dddddd* where '*dddddd*' is the name of a DSN list

**Limit recovery to members with following character string**

**Char string**

Most of the time when recovering overlaid or deleted members, you are looking for one particular member to recover. To make it easier to locate the desired member, it is helpful to only recover members that have a chance of being the member for which you are looking. When this field contains a non-blank character string, only members that contain the character string are restored. When this field is blank, all overlaid and deleted members are restored.

For example, if you are looking for a program source member and the program name is in the source, you can limit the restored members by typing the program name in this field.

**Specify DSN for a new PDS**

**New PDS DSN**

If the deleted and overlaid members need to be recovered to a specified DSN, type the DSN in this field. The DSN specified must not already be on the catalog because the member recovery process creates the New PDS for Recovered members.

**Tip:** It is usually simpler to leave this field blank and let the DSN of the New PDS for Recovered Members be calculated for you.

The calculated DSN contains the DSN of the original PDS. According to your user profile, your user ID can be appended to the front of the calculated DSN. This option in the user profile is set with the Userid Prefix for Backup PDSs? field of the Processing Defaults and Job Statement Screen (CA File Master Plus Option 0.1).

A qualifier is added to the end of the calculated DSN to indicate that it is a recovered PDS and this qualifier may contain a sequence number if the calculated DSN has already been used. The part of the calculated DSN that contains the original PDS DSN may be truncated to make room for the prefix or suffix being added.

**Note:** Since any DSN typed must be for a data set that does not currently exist, wildcard and DSN List support is not available for this field.

# VSAM Utility

The VSAM Utility performs many commonly needed functions related to the definition, management, and use of VSAM files. Each of the functions, except display of data set information, is performed either online or batch depending on the Execution Mode.

```
----------------  CA File Master Plus -- VSAM Utility  --------------
COMMAND ===>

BLANK - Display Data Set Information      I - Define Alternate Index
    V - Define VSAM File                  B - Build Alternate Index
    K - Delete VSAM File                  P - Define Path
    D - Delete/Define VSAM File           R - Rename Component
                                          M - Modify VSAM File

Data set to be processed
   Data set name  ===> 'ABC.CIRCLE.KSDS01'

Model VSAM data set for allocations (optional)
   Data set name  ===> 'ABC.CIRCLE.KSDS01'

Saved IDCAMS control statements (optional)
   Data set name  ===> 'TECH.WORKPDS'
   Member name    ===>

Execution mode    ===> O                 O = Online
                                         S = Submit JCL
                                         E = Edit JCL
```

For the functions of defining a VSAM cluster or defining an alternate index file, specify a model data set to request that the various allocation parameters default to match the allocation of the model data set.

All of the functions, except Display of Data Set Information, are performed by building IDCAMS control statements and then executing IDCAMS. The generated control statements are copied to a PDS member specified in the Saved IDCAMS control statements section of the screen.

Select one of the following options:

- BLANK – Displays information related to the VSAM definition, allocation parameters and options, and record-level activity statistics. The display of information about the VSAM file is formatted according to VSAM access method.
- V – Define VSAM file
- K – Delete VSAM file
- D – Delete/Define VSAM file
- I – Define Alternate Index
- B – Build Alternate Index
- P – Define a path to be used to access a VSAM cluster (through an AIX or as an alias)
- R – Alter a VSAM file definition to rename components of a cluster, alternate index, or path
- M – Alter a VSAM file to modify allocation parameters, allocated volumes, or SMS class

To assist in the specification of DSNs, each of the DSN fields on this screen has support for wildcarded DSN and DSN Lists. Any of the following syntaxes can be used to request a list of DSNs from which the desired DSN may be selected

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D dddddd where 'dddddd' is the name of a DSN list

**Note**: A wildcarded member name can be specified in the Saved IDCAMS control statements member to request a directory of members that match the wildcard.

## Field Descriptions

**Data set to be processed - Data set name**

Type the DSN of the VSAM component to receive the processing associated with the specified command.

**Model VSAM data set for allocations (Optional) – Data set name**

When the processing command is V (Define VSAM File), D (Delete/Define VSAM File), or I (Define Alternate Index), a Model VSAM Data Set can be specified. When the Model VSAM Data Set is specified, the various allocation parameters are defaulted to match the allocation of the model data set.

**Saved IDCAMS Control Statements – Data set name**

The processing of each of the commands, except Display Data Set Information, is performed by generating IDCAMS control statements to perform the function and then executing IDCAMS with these control statements either online or in batch.

When a PDS and member name are specified within the Saved IDCAMS control statements area, these control statements are copied to the specified member.

**Saved IDCAMS Control Statements – Member name**

Member name into which generated IDCAMS control statements are saved.

**Execution mode**

The choices for Execution mode are:

- O – Perform the function online
- S – Generate and submit JCL to perform the function
- E – Generate JCL to perform thefunction and initiate an edit session on the JCL. Alter the JCL as needed and submit the JCL or save it to another location.

## Define VSAM Files

The Define VSAM File screen lets you create a VSAM file in response to a command of V (Define VSAM File) or D (Delete/Define VSAM File) from the VSAM Utility screen. Use this screen to specify the DSNs for the components of the VSAM file, the VSAM file type, allocation parameters for the data and if applicable, index component, various VSAM file definition parameters, VSAM processing options, and if applicable, SMS Class information.

```
   ---------  CA File Master Plus -------  Define VSAM File  --------
COMMAND ===>

Component DSNs:
  Cluster              'ABC.CIRCLE.KSDS99'
  Data            ===> 'ABC.CIRCLE.KSDS99.DATA'
  Index           ===> 'ABC.CIRCLE.KSDS99.INDEX'
  VSAM file type  ===> KSDS       K=KSDS E=ESDS R=RRDS L=Linear
Allocation:           Data    Index
  Volume          ===> CAI002  CAI002     Options
  CI size         ===> 16384   2048          Multiple volumes? ===> N
  Unit            ===> CYLS    CYLS          Load Restartable? ===> Y
  Primary         ===> 1       1             Erase on delete?  ===> N
  Secondary       ===> 10      1             Write check?      ===> N
  Key position    ===> 1                     Replicate index?  ===> N
  Key length      ===> 6                     Spanned records?  ===> N
  Avg record size ===> 80
  Max record size ===> 80
  Expiration date ===>                    SMS Class
  Owner ID        ===>                      Storage           ===> SMS1
  % Free CI & CA  ===> 30  10               Data              ===>
  Share options   ===> 2 3                  Management        ===>
  Buffer space    ===> 34816
```

The DSN for the data and index component defaults to the DSN for the cluster being defined with '.DATA' and '.INDEX' appended, but you can update these names. If the VSAM file being defined does not have an index component, the DSN of the index component is ignored. Only KSDS files and variable-length RRDS files have index components.

IDCAMS control cards are generated according to the parameters typed and then one of the following actions are performed depending on the Execution Mode field in the main VSAM Utility screen.

- Invoke IDCAMS online to define the VSAM file
- Generate and submit JCLto define the VSAM file in batch
- Initiate an edit session with the generated JCL

## Field Descriptions

**Component DSNs:**

**Data**

Updates the DSN of the data component of the VSAM file being defined. The DSN defaults to the cluster name with '.DATA' appended.

**Index**

Updates the DSN of the index component of the VSAM file being defined. The DSN defaults to the cluster name with '.INDEX' appended.

**VSAM file type**

Type one of the following values to indicate the VSAM file type. If the first letter of one of the valid values is typed, the rest of the VSAM File Type appears in the field.

**K–KSDS**

Key Sequence Data Set

**E–ESDS**

Entry Sequence Data Set

**R–RRDS**

Relative Record Data Set

**L–Linear**

Linear Data Set

**Allocation:**

**Volume**

Type the volume serial number of the volume that contains the data and index components of the VSAM file being defined.

If either the data or index component requires multiple volumes, type the first volume in this field and set the Multiple Volumes? option field to **Y**.

This requests a screen where the remaining volumes can be typed.

**CI size**

Type a control interval size for the data component and, if applicable, for the index component.

**Unit**

Specify the space allocation unit for the VSAM file component. The primary and secondary allocations are in the specified units.

Type the first position of one of the following valid values. The rest of the Allocation Unit appears in the field.

**T–TRKS**

Tracks

**C–CYLS**

Cylinders

**R–RECS**

Records

**K–K**

KB (Kilobytes)

**M–M**

MB (Megabytes)

**Primary**

Type the primary allocation amount for the VSAM file component. The amount of space allocated in the primary allocation is the specified number of tracks, cylinders, records, KB, or MB depending on the allocation unit.

**Secondary**

Type the secondary allocation amount for the VSAM file component. The amount of space allocated in each secondary allocation is the specified number of tracks, cylinders, records, KB, or MB depending on the allocation unit.

**Key position**

If the VSAM file being defined is a KSDS file, type the position of the key. The Key position value is specified as a position and not as a displacement. For example, if the key begins in the first position of the record, type a value of 1.

**Key length**

If the VSAM file being defined is a KSDS file, type the key length.

**Avg record size**

Type average length of records in the data component.

**Max record size**

Type length of records of the largest record that may be in the data component. For RRDS data sets, if the Maximum Record Size is equal to the Average Record Size, the VSAM file is allocated as an RRDS file without an index component; otherwise, the VSAM file is allocated as a variable RRDS file, which has an index component.

**Expiration Date**

If the VSAM cluster may be deleted after a certain date, type an Expiration Date in CCYYMMDD format.

**Owner ID**

This optional field can be used to specify an owner that is to be associated with the VSAM file being allocated. If the Owner ID is not specified, the TSO User ID is defined as the owner

**Percent Free – CI & CA**

CI – Type the amount of empty space to be left in each Control Interval when the file is initially loaded. The freespace lets records be inserted or expanded within a Control Interval before requiring a Control Interval split.

CA – Type the percentage of Control Intervals to be left unused in each Control Area as the file is initially loaded. The use of Control Area freespace lets some Control Interval splits occur before requiring a Control Area split.

**Share options**

**Cross Region**

Type a value of one- to –four to indicate how the file can be shared among regions within the same system or within multiple systems using GRS (Global Resource Serialization). The meaning of each value is as follows

**1**

The data set can be opened for read processing by an unlimited number of users, but the data set can be accessed by only one user when that user is doing read and write processing.

**2**

The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing for read processing.

**3**

The data set can be fully shared by any number of users.

**4**

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

Cross-System

Type a value of 3 or 4 to indicate how the file can be shared among systems.This is the second of the two numbers displayed. The meaning of each value is:

**3**

The data set can be fully shared by any number of users.

**4**

**Buffer space**

Optional field used to specify the minimum buffer space to be allocated when this VSAM file is accessed.

If you do not specify this parameter, VSAM uses the default of two times the data CISIZE plus the index CISIZE if the file is indexed.

**Options:**

**Multiple volumes?**

When the data or index component of the VSAM file requires multiple volumes, set the Multiple Volumes? Field to **Y** to request a screen into which you can type the volume serial for additional volumes.

**Load Restartable?**

Type **Y** for the Load Restartable? option to request that the VSAM component definition use the RECOVERY parameter causing the data component to be preformatted previous to the initial load. Using this option causes the initial load to take longer, but loads that do not complete successfully can be restarted.

Type **N** for the Load Restartable? option to request that the VSAM component definition use the SPEED parameter causing the data component to not be preformatted previous to the initial load.

**Erase on delete?**

Type **Y** for the Erase on Delete? option to request that the VSAM component definition use the ERASE parameter causing all components of the file to be overwritten with binary zeros when the VSAM file is deleted from the catalog. Type N to define the VSAM component with the NOERASE parameter

**Write check?**

Type **Y** for the Write check? option to request that the VSAM component definition use the WRITECHECK parameter requesting each write to the VSAM file to be validated by a read without data transfer. Type N to define the VSAM component with the NOWRITECHECK parameter.

**Replicate index?**

Type **Y** for the Replicate Index? option to request that the VSAM component definition use the REPLICATE parameter requesting that the index records are replicated on a track as many times as it will fit. Type N to define the VSAM component with the NOREPLICATE parameter. Use of the REPLICATE parameter improves the time required to access index records, but usually causes the index to require more space.

**Spanned records?**

Type **Y** for the Spanned records? option to request the VSAM file to be allocated with the SPANNED parameter indicating that data records larger than a control interval are allowed to span multiple control intervals. Type N to request the VSAM file to be allocated with the NONSPANNED parameter. If you allocate your data set with the NONSPANNED parameter and the specified Maximum Record Size is greater than the Data Control Interval Size, VSAM automatically adjusts the Data Control Interval Size to be greater than or equal to the Maximum Record Size.

**SMS Class:**

**Storage**

Type the one-to-eight-position name of the SMS Storage Class to be used when allocating the VSAM file. The storage class can be used to control the storage hardware used for the data set.

**Data**

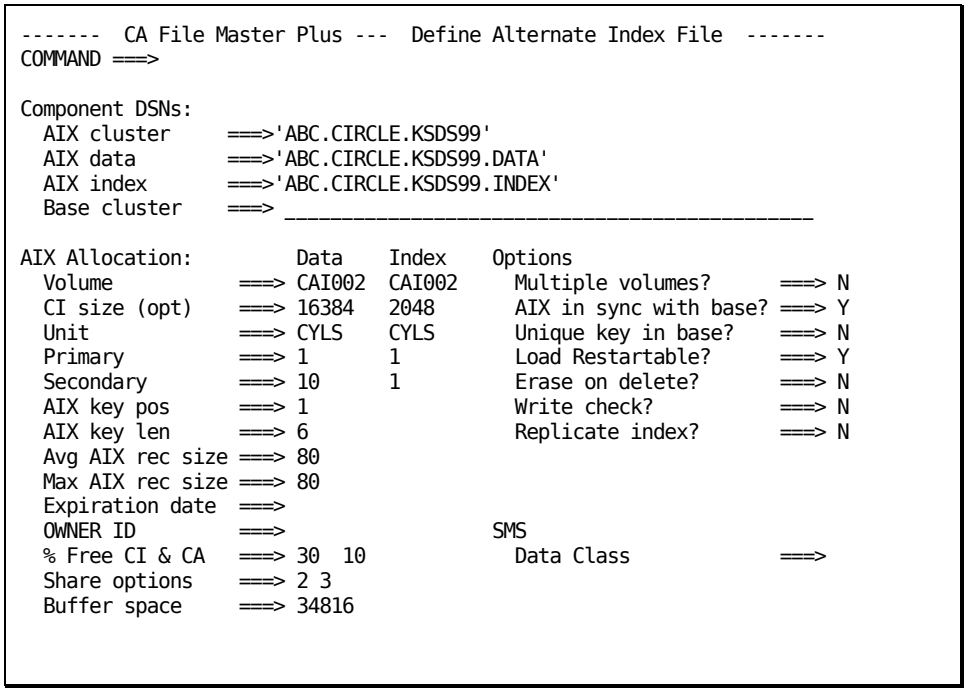
Type the one-to-eight-position name of the SMS Data Class to be used when allocating the VSAM file. The SMS data class can be used to control the attributes of the data set being allocated

**Management**

Type the one-to-eight-position name of the SMS Management Class to be used when allocating the VSAM file. The SMS Management Class can be used to control data set characteristics related to the backup, migration, and retention of the data set.

## Define Alternate Index File

The Define Alternate Index File screen lets you create an alternate index VSAM file in response to a command of 'I' from the VSAM Utility screen. Use this screen to specify the DSNs for the data and index components of the VSAM file, the base cluster related to the alternate index, allocation parameters for the data and index components, various VSAM file definition parameters, VSAM processing options, and if applicable, SMS Class information.




The DSN for the data and index component defaults to the DSN for the cluster being defined with '.DATA' and '.INDEX' appended, but the names can be updated.

IDCAMs control cards are generated according to the parameters you type, and then one of the following actions is performed depending on the Execution Mode field in the main VSAM Utility screen:

- Invoke IDCAMS online to define the alternate index VSAM file
- Generate and submit JCL to define the alternate index VSAM file in batch
- Initiate an edit session with the generated JCL

## Field Descriptions

**Component DSNs:**

**AIX data**

Update the DSN of the data component of the Alternate Index file being defined. The DSN defaults to the cluster name of the Alternate Index with '.DATA' appended.

**AIX index**

Update the DSN of the index component of the Alternate Index file being defined. The DSN defaults to the cluster name of the Alternate Index with '.INDEX' appended.

**Base cluster**

Type the DSN of the base cluster to which this Alternate Index file is related. The base cluster must be a KSDS or ESDS VSAM file.

**AIX Allocation:**

**Volume**

Type the Volume serial of the volumes that contain the data and index components of the Alternate Index file being defined.

If either the data or index components require multiple volumes, type the first volume in this field and set the Multiple Volumes? option field to **Y**. This selection requests a screen where you can type the remaining volumes.

**CI size (opt)**

Type a control interval size for the data component and for the index component of the Alternate Index. If left blank, VSAM calculates the optimum control interval size.

**Unit**

Specify the space allocation unit for the VSAM file component. The primary and secondary allocations will be in the specified units.

Type the first position of one of the valid values. The rest of the Allocation Unit appears in the field.

**T–TRKS**

Tracks

**C–CYLS**

Cylinders

**R–RECS**

Records

**K–K**

KB (Kilobytes)

**M–M**

MB (Megabytes)

**Primary**

Type the primary allocation amount for the VSAM file component. The amount of space allocated in the primary allocation is the specified number of tracks, cylinders, records, KB, or MB depending on the allocation unit

**Secondary**

Type the secondary allocation amount for the VSAM file component. The amount of space allocated in each secondary allocation is the specified number of tracks, cylinders, records, KB, or MB depending on the allocation unit.

**AIX key pos**

Type the position of the alternate key field within the base cluster. The Alternate Key Position value is specified as a position and not as a displacement. For example, if the alternate key field begins in the first position of the base cluster's data component, type a value of 1.

**AIX key len**

Type the length of the alternate key field within the base cluster.

Avg AIX rec size

Type the average record sizes for the alternate index record or erase the field to receive the VSAM default value of 4086.

Max AIX rec size

Type the maximum record size for the alternate index records erase the field to receive the VSAM default value of 32600.

Each alternate index record contains 5 bytes of VSAM control information followed by the alternate key value, and by a table of pointers to the records in the base cluster that contain that alternate key value. Therefore, the length of each alternate record can be calculated as:

```
5 + AIXKL + (n * BASEKL)
```

where:

- AIXKL is the alternate index key length, 'n' is the number of base cluster records containing the alternate key value
- BASEKL is the key length of the base cluster (or 4 for ESDS base clusters)

**Expiration Date**

To allow the Alternate Index VSAM file to be deleted after a certain date, type an Expiration Date in CCYYMMDD format.

**Owner ID**

This optional field can be used to specify an owner to associated with the VSAM file that is being allocated. If the Owner ID is not specified, the TSO User ID is defined as the owner.

**Percent Free CI & CA**

CI – Type the amount of empty space to allocate in each Control Interval when the file is initially loaded. The free space lets records be inserted or expanded within a Control Interval before requiring a Control Interval split.

CA – Type the percentage of control intervals to be left unused in each Control Area as the file is initially loaded. The use of Control Area free space lets some Control Interval splits occur before requiring a Control Area split.

**Share options**

**Cross-Region** – Type a value from 1 to 4 to indicate how the file can be shared among regions within the same system or within multiple systems using GRS (Global Resource Serialization). The meaning of each value is as follows:

1. The data set can be opened for read processing by an unlimited number of users, but only one user can access the data set when that user is doing read and write processing.
2. Only one user at a time can open the data set for read and write processing, but any number of users can also be accessing for read processing.
3. Any number of users can fully share the data set.
4. Any number of users can fully share the data set. For each PUT request, VSAM immediately updates the data set. For each GET request, all input buffers are refreshed.

**Cross System** – Type a value of 3 or 4 to indicate how the file can be shared among systems. The meaning of each value is as follows:

Any number of users can fully share the data set.

Any number of users can fully share the data set. For each PUT request, VSAM immediately updates the data set. For each GET request, all input buffers are refreshed.

**Buffer space**

Optional field used to specify the minimum buffer space allocation when this VSAM Alternate Index file is accessed.

If this parameter is not specified, VSAM uses the default of two times the data CISIZE plus the index CISIZE (if file is indexed).

**Options:**

**Multiple volumes?**

When the data or index component of the VSAM file requires multiple volumes, set the Multiple Volumes? field to **Y** to request a screen where you can type the volume serial for additional volumes.

**AIX in sync with base?**

Type **Y** for Yes or **N** for No to designate whether the alternate index is created with the UPGRADE parameter indicating that the alternate index be kept in sync with the base cluster. With the UPGRADE parameter, the alternate index is updated to reflect changes as they occur to the base cluster.

**Unique key in base?**

Type **Y** for Yes or **N** for No to indicate whether the alternate index is created with the UNIQUEKEY parameter indicating that each alternate index record points to only one data record in the base cluster.

**Load Restartable?**

Type **Y** for the Load Restartable? option to request that the VSAM component definition use the RECOVERY parameter causing the data component to be preformatted previous to the initial load. Using this option causes the initial load to take longer, but loads that do not complete successfully can be restarted.

Type **N** for the Load Restartable? option to request that the VSAM component definition use the SPEED parameter causing the data component to **not** be preformatted previous to the initial load.

**Erase on delete?**

Type **Y** for the Erase on Delete? option to request that the VSAM component definition use the ERASE parameter to overwrite all components of the file with binary zeros when the VSAM file is deleted from the catalog.

Type **N** to define the VSAM component with the NOERASE parameter.

**Write check?**

Type **Y** for the Write check? option to request that the VSAM component definition use the WRITECHECK parameter requesting validation of each write to the VSAM file by a read without data transfer.

Type **N** to define the VSAM component with the NOWRITECHECK parameter.

**Replicate index?**

Type **Y** for the Replicate Index? option to request that the VSAM component definition use the REPLICATE parameter requesting that the index records be replicated on a track as many times as will fit.

Type **N** to define the VSAM component using the NOREPLICATE parameter. Use of the REPLICATE parameter improves the time required to access index records, but usually causes the index to require more space.

**SMS – Data Class**

Type the one-to-eight position name of the SMS Data Class to use when allocating the Alternate Index VSAM file. The SMS Data Class can be used to control the attributes of the data set being allocated.

## VSAM Utility  Build Alternate Index

The Build Alternate Index screen is used to build an alternate index file from the related cluster.

```
---------  CA File Master Plus -----  Build Alternate Index  ---------
COMMAND ===>

Component DSNs:
  AIX cluster          'ABC.CIRCLE.KSDS01'
  Base cluster    ===> ____________________________________________
```

To perform the Build Alternate Index function, the parameters required are the DSN of the alternate index file, typed on the main VSAM Utility screen, and the DSN of the cluster whose data is extracted to create the alternate index file typed on this screen.

IDCAMS control cards are generated according to the parameters you typed, and then one of the following actions executes depending on the Execution Mode field in the main VSAM Utility screen:

- Invoke IDCAMS online to build the alternate index VSAM file
- Generate and submit JCL to build the alternate index VSAM file in batch
- Initiate an edit session using the generated JCL

## Field Descriptions

**Base Cluster**

Type the DSN of the base cluster to which this Alternate Index file is related. To facilitate selection of the desired DSN you can type any of the following syntaxes:

- Wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN
- D to request a directory of DSN Lists
- D dddddd where 'dddddd' is the name of a DSN list

# Rename Component

The Rename Component screen lets you rename VSAM as a specified component name or all components in a cluster.

```
  ---------  CA File Master Plus -------  Rename Component  ----------
COMMAND ===>

Current Component:
  Access method        KSDS
  Component type       CLUSTER
  Cluster name         'ABC.CIRCLE.KSDS01'
  Data name            'ABC.CIRCLE.KSDS01.DATA'
  Index Name           'ABC.CIRCLE.KSDS01.INDEX'

Updated Names:
  Cluster         ===> 'ABC.CIRCLE.KSDS01'


Same update to data & index? ===> Y
```

There are three variations of the VSAM Rename Component screen depending on the type of component being renamed and whether all DSNs of a cluster are to be renamed in sync.

- If the component being renamed is a cluster and the DSNs of the data and index components are to be updated in sync with the cluster, then a screen opens that lets you update the cluster name.
- If the component being renamed is a cluster and the DSNs of the data and index components are **not** to be updated in sync with the cluster, then a screen opens that lets you update the cluster name, the data component name, and if applicable, the index component name.
- If the component being renamed is not a cluster, a screen appears that lets the one component name be updated.

IDCAMS control cards are generated according to the parameters you typed, and then one of the following actions executes depending on the Execution Mode field in the main VSAM Utility screen:

- Invoke IDCAMS online to change the component names
- Generate and submit JCL to change the component names in batch
- Initiate an edit session using the generated JCL

## Field Descriptions

**Current Component (Cluster Name Update that Applies to All Components)**

When the component to be updated is a cluster and the DSNs of the data and index component are equal to the cluster name with a qualifying node, the assumption is made that you want to change the cluster name and have the data component and if applicable, the index component change in sync with the cluster name. If that assumption is correct, update the cluster, press **Enter**, and the cluster name is updated and the data and index components receive the corresponding update to the part of the DSN before the appended qualifying node. To separately specify the updates to the component names, change the Same update to data & index? field to **N**.

**Updated Names (Update VSAM File Component Names Individually)**

The DSNs of cluster, data, and index are to be updated independently when either the DSNs of the data and index component are **not** equal to the cluster name with an appended qualifying node or the user has updated the Same update to data & index? field to **N**. In this case, a screen is presented that lets you update the DSNs of the individual components.

Update Single Component Name — When the component to be updated is not a cluster, a screen appears that lets you update that one component.

## Modify VSAM File

The Modify VSAM File screen is used to modify the allocation of a VSAM file by altering VSAM allocation parameters related to free space, share options, buffer space, processing options, expiration date, SMS class, and allocated volumes.

```
---------  CA File Master Plus -------  Modify VSAM File -----------
COMMAND ===>

Component DSNs:
  Cluster           'ABC.CIRCLE.KSDS01'
  Data              'ABC.CIRCLE.KSDS01.DATA'
  Index             'ABC.CIRCLE.KSDS01.INDEX'
  Access method     VSAM

Update Allocation Parameters:          Update Allocated Volumes:
  % Free CI & CA    ===> 30  10           Data  CAI002 ______ ______ ______
  Share options     ===> 2 3              Index CAI002 ______ ______ ______
  Buffer space      ===> 34816
  Erase on delete?  ===> N
  Write check?      ===> N
  Inhibit update?   ===> N
  Expiration date   ===>


SMS Class
  Storage           ===>
  Management        ===>
```

IDCAMS control cards are generated according to the parameters you typed, and then one of the following actions executes depending on the Execution Mode field in the main VSAM Utility screen:

- Invoke IDCAMS online to modify the VSAM file
- Generate and submit JCL to modify the VSAM file in batch
- Initiate an edit session using the generated JCL

### Field Descriptions

**Update Allocation Parameters:**

**% Free CI & CA**

CI – Type the amount of empty space to be left in each Control Interval when the file is initially loaded. The free space lets records be inserted or expanded within a Control Interval before requiring a Control Interval split.

CA – Type the percentage of Control Intervals to be left unused in each Control Area as the file is initially loaded. The use of control area freespace lets some Control Interval splits occur before requiring a Control Area split.

**Share options**

**Cross-region** – Type a value of one-through-four to indicate how the file can be shared among regions within the same system or within multiple systems using GRS. The meaning of each value is as follows:

1. The data set can be opened for read processing by an unlimited number of users, but the data set may be accessed by only one user when that user is doing read and write processing.
2. The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing for read processing.
3. The data set can be fully shared by any number of users.
4. The data set can be fully shared by any number of users. For each PUT request, VSAM immediately updates the data set. For each GET request, all input buffers are refreshed.

**Cross-system** – Type a value of 3 or 4 to indicate how the file can be shared among systems. The meaning of each value is as follows:

The data set can be fully shared by any number of users.

The data set can be fully shared by any number of users. For each PUT request, VSAM immediately updates the data set. For each GET request, all input buffers are refreshed.

**Buffer space**

This field is used to specify the minimum buffer space allocated when this VSAM file is accessed.

**Erase on delete?**

Type **Y** for the Erase on Delete? option to request that the VSAM component definition use the ERASE parameter causing all components of the file to be overwritten with binary zeros when the VSAM file is deleted from the catalog. Type N to have the VSAM component use the NOERASE parameter.

**Write check?**

Type **Y** for the Write check? option to request that the VSAM component definition use the WRITECHECK parameter requesting each write to the VSAM file to be validated by a read without data transfer. Type N to have the VSAM component use the NOWRITECHECK parameter.

**Inhibit update?**

Type **Y** for the Inhibit Update? option to request that the VSAM component be altered using the INHIBIT parameter causing the VSAM file to be accessible only for read operations.

Changing the value of this field from 'Y' to 'N' causes the file to be altered using the UNINHIBIT parameter which removes the restriction placed by a previous INHIBIT parameter.

**Expiration date**

If the VSAM cluster may be deleted after a certain date, type an Expiration Date in CCYYMMDD format.

**SMS Class**

**Storage**

Update the one-to eight-position name of the SMS Storage Class to alter the VSAM file to use the specified storage class. The storage class can be used to control the storage hardware used for the data set.

**Management**

Update the one-to-eight-position name of the SMS Management Class to alter the VSAM file to use the specified management class. You can use the SMS Management Class to control data set characteristics related to the backup, migration, and retention of the data set.

**Update Allocated Volumes:**

**Data and Index**

The Update Allocated Volumes section presents a list of the volumes allocated to the data component and if applicable, the index component. To add more volumes to the data or index component, type volume serials in the blank fields at the end of the volume list. To delete or change volume serials allocated to a component, erase or over-key the volume serial in the list. The volume serial of volumes that contains records is protected and cannot be updated.

## VSAM Utility – Define Path

The Define Path screen lets you define a VSAM path and use it to access a VSAM file through an alternate index or to access a VSAM file using an alias.

```
----------------  CA File Master Plus – Define Path  ---------------
COMMAND ===>

  Path Name         'ABC.CIRCLE.KSDS01.PATH'

Alternate Index (or Cluster) Accessed via Path:
  Name         ===> _____________________________________________

Processing Option
  Update AIXs ===> N
```

To access a VSAM KSDS or VSAM ESDS file through an alternate index, a path must be defined. The DD statement used to access the VSAM file through an alternate index refers to this path name as the DSN. A path must be defined for each alternate index through which the base cluster is to be accessed.

When a program opens a path for processing, both the base cluster and the alternate index are opened.

IDCAMS control cards are generated according to the parameters you typed, and then one of the following actions executes depending on the Execution Mode field in the main VSAM Utility screen:

- Invoke IDCAMS online to define the VSAM path
- Generate and submit JCL to define the VSAM path in batch
- Initiate an edit session using the generated JCL

## Field Descriptions

**Alternate Index (or Cluster) Accessed via Path**

Type the DSN of either an alternate index through which this path accesses a cluster or the cluster for which this path is an alias.

**Processing Option - Update AIXs**

Type **Y** for Yes or **N** for No to indicate whether the alternate index files for the cluster being accessed through this path are to be allocated when the path is opened for processing and updated to reflect changes in the data of the base cluster. This parameter determines whether the path is defined using the UPDATE parameter or the NOUPDATE parameter.

## Define VSAM File - Multiple Volumes

The Define VSAM File - Multiple Volumes screen is invoked when you type **Y** in the Multiple Volumes? field while defining a VSAM file or an alternate index file. This screen provides the opportunity to define the volumes to use for multivolume VSAM components. If the volumes are SMS-controlled, type the number of volumes to be allocated; otherwise, specify the volume serial of each volume to be allocated.

```
-----  CA File Master Plus -- Define VSAM File - Multiple Volumes ----
 COMMAND ===>

 For SMS-Controlled Volume Allocation:

   Number of data volumes  ===> __
   Number of index volumes ===> __


 To Allocate to Specified Volumes:

   Data volumes  CAI002 ______ ______ ______ ______
                 ______ ______ ______ ______ ______
                 ______ ______ ______ ______ ______
                 ______ ______ ______ ______ ______
                 ______ ______ ______ ______ ______
                 ______ ______ ______ ______ ______

                 ______ ______ ______ ______ ______
   Index volumes CAI002 ______ ______ ______ ______
```

There are two different versions of this screen. Both versions contain an area named "To Allocate to Specified Volumes" in which you can list the volume serials for the volumes to be allocated to the data and index components. If SMS class has been defined for the definition of the VSAM file or alternate index file, the For SMS-Controlled Volume Allocation screen section displays at the top of the screen to let entries of a number of data volumes be allocated.

## Field Descriptions

**For SMS-Controlled Volume Allocation:**

When allocating volumes for VSAM components using SMS, the option of specifying the number of volumes and letting SMS manage the selection of volume serials is presented.

**Number of data volumes** – If SMS-Controlled Volume Allocation is needed, type the number of data volumes.

**Number of index volumes** – If SMS-Controlled Volume Allocation is needed, type the number of index volumes.

**To Allocate to Specified Volumes:**

Type the volume serial for each of the volumes to be allocated to the data and index components of the VSAM file.

**Data volumes** – Type up to 50 volume serials for the data component

**Index volumes** – Type up to 5 volume serials for the index component

# Data Set Information - VSAM KSDS

The Data Set Information – VSAM KSDS screen displays two pages of information about the VSAM file definition, allocation parameters, record activity counts, activity dates, and statistics about the definition and use of the data and index components of the file.

```
-----------  CA File Master Plus -- Dataset Information - VSAM KSDS  ----------
COMMAND ===>

Dataset Organization:      VSAM KSDS (Key Sequence Dataset)
Cluster Name:              USER.KSDS                          Volume
Data:                      USER.KSDS.DATA                     CAI001
Index:                     USER.KSDS.INDEX                    CAI001

Dataset Definition:                  Component Allocation:    Data       Index
   Key Position                 1       CISIZE                3584        3584
   Key Length                   3       Allocation Unit       CYLS        TRKS
   Average record size        110       Primary                  1           5
   Maximum record size        110       Secondary                5           1
   Share options              2,4       Extents used             1           1
   Buffer space             10752    Allocation Parameters:
SMS Information:                       Load restartable                    NO
   Storage class                       Write check                         NO
   Data class                          Erase on delete                     NO
   Management class                    Replicated index                    NO
Activity Dates:                        Reuse option                        NO
   Creation date         2012/07/30    Spanned records                     NO
   Expiration date

          End to exit         ENTER for more information about KSDS file
```

The first page of the display has the following six sections:

- VSAM component DSNS and volumes
- Data set definition parameters
- SMS information
- Activity dates
- Data and index component allocation summary
- Allocation parameters and options

The second page of the display contains the following types of information for the data and index components of the VSAM KSDS file:

- Component statistics
- Record statistics

**Data Set Organization:** The top section of the Data Set Information – VSAM KSDS screen contains the DSN of the cluster, data, and index components of the KSDS VSAM file. To the right of the DSN of the data and index components is the volume serial of the first volume for each of the components. If the component has multiple volumes defined, the volume serial is followed by a plus sign (+). If the VSAM KSDS file is an alternate index file, it is indicated by a message below the component DSNs.

## Field Descriptions

**Dataset Definition:**

**Key position**

For KSDS VSAM files which are not alternate index files, Key Position contains the position of the prime key within the base cluster. For alternate index files, Key Position contains the position of the alternate key within the base cluster. The Key Position field is displayed as a position and not as a displacement. For example, if the key begins in the first position of the record, the value of Key Position is 1 not 0.

**Key length**

For KSDS VSAM files which are not alternate index files, Key Length contains the length of the prime key within the base cluster. For alternate index files, Key Length contains the length of the alternate key within the base cluster.

**Average record size**

The average length of data records.

**Maximum record size**

The maximum length for data records.

**Share options**

**Cross-Region** – Type a value of one-through-four to indicate how the file can be shared among regions within the same system or within multiple systems using GRS (Global Resource Serialization). The meaning of each value is as follows:

1. The data set can be opened for read processing by an unlimited number of users, but the data set may be accessed by only one user when that user is doing read and write processing
2. The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing the data set for read processing
3. The data set can be fully shared by any number of user
4. The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Cross-System** – The second of the two numbers indicates how the file can be shared among systems. The meaning of each value i

The data set can be fully shared by any number of users.

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Buffer space**

Contains the minimum buffer space to be allocated when this VSAM file is accessed.

**SMS Information:**

**Storage Class**

When the VSAM file is SMS managed this field displays its SMS Storage Class.

**Data Class**

When the VSAM file is SMS managed this field displays its SMS Data Class.

**Management Class**

When the VSAM file is SMS managed this field displays its SMS Management Class.

**Activity Dates:**

**Creation date**

Date in CCYY/MM/DD format when the VSAM file was allocated.

**Expiration date**

If an expiration date was specified to the VSAM allocation, this is the date in CCYY/MM/DD after which the VSAM cluster may be deleted.

**Data & Index (component allocation summary)**

**CISIZE**

The size of the Control Interval.

**Allocaltion Unit**

TRKS or CYLS to indicate whether the primary and secondary allocations are allocated in tracks or cylinders.

**Primary**

The number of tracks or cylinders depending on the allocation units in the primary allocation of each volume.

**Secondary**

Number of tracks or cylinders depending on the allocation units in each secondary allocation of each volume.

**Extents Used**

Total number of extents used for VSAM file component.

**Allocation Parameters:**

Specifies whether the VSAM file was allocated with various parameters that effect the functioning of the VSAM file.

**Load restartable**

Indicates whether the VSAM file was allocated with the RECOVERY parameter, causing the data component to be preformatted previous to the initial load or the SPEED parameter that does not. The use of the RECOVERY parameter causes the initial load to take longer, but loads that do not complete successfully can be restarted.

**Write check**

Indicates whether the VSAM file was allocated with the WRITECHECK parameter requesting each write to the VSAM file to be validated by a read without data transfer.

**Erase on delete**

Indicates whether the VSAM file was allocated with the ERASE parameter, causing all components of the file to be overwritten with binary zeros, when the VSAM file is deleted from the catalog.

**Replicated index**

Indicates whether the VSAM file was allocated with the REPLICATE parameter requesting that the index records are replicated on a track as many times as it will fit.

**Reuse option**

Indicates whether the VSAM file was allocated with the REUSE parameter specifying that the cluster can be opened again and again as a reusable cluster.

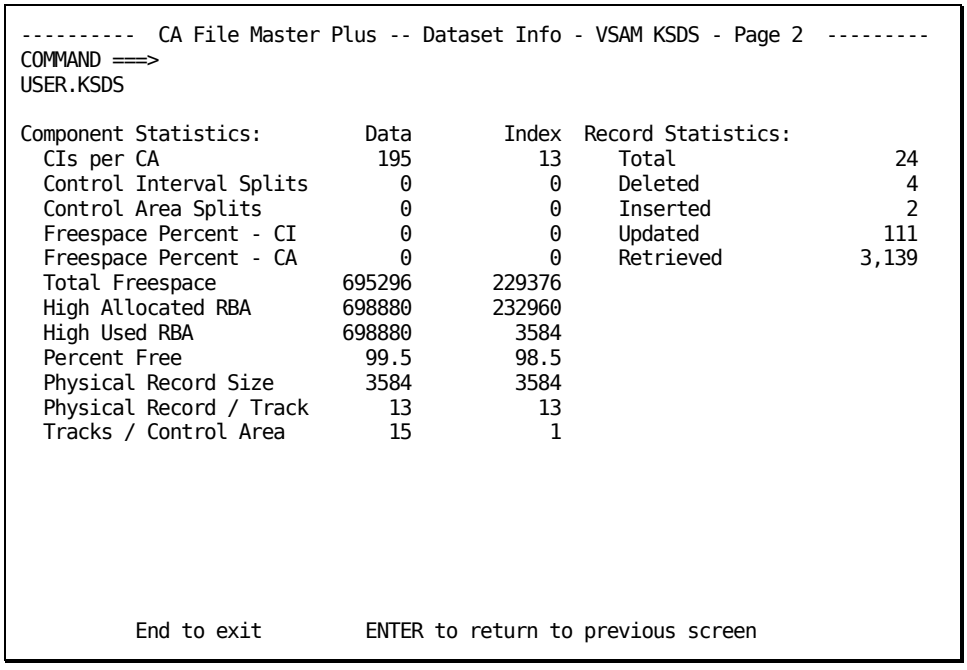
**Spanned records**

Indicates whether VSAM file was allocated with the SPANNED parameter indicating that data records larger than a control interval will be allowed to span multiple control intervals.

## Data Set Information –2 - VSAM KSDS

The second page of the Data Set Information VSAM KSDS screen contains the following types of information for the data and index components of the VSAM KSDS file:

- Component statistics
- Record statistics



```
----------  CA File Master Plus -- Dataset Info - VSAM KSDS - Page 2  ---------
COMMAND ===>
USER.KSDS

Component Statistics:         Data        Index  Record Statistics:
  CIs per CA                   195           13    Total                    24
  Control Interval Splits        0            0    Deleted                   4
  Control Area Splits            0            0    Inserted                  2
  Freespace Percent - CI         0            0    Updated                 111
  Freespace Percent - CA         0            0    Retrieved             3,139
  Total Freespace           695296       229376
  High Allocated RBA        698880       232960
  High Used RBA             698880         3584
  Percent Free                99.5         98.5
  Physical Record Size        3584         3584
  Physical Record / Track       13           13
  Tracks / Control Area         15            1




          End to exit         ENTER to return to previous screen
```

## Field Descriptions

**Component Statistics**

**CIs per CA**

A Control Area is a contiguous area of DASD that ranges in size from one track to one cylinder. Shows the number of Control Intervals in each Control Area.

**Control Interval Splits**

Total number of control interval splits occurring when a data record insert occurs and there is not enough space in the control interval for the inserted record.

**Control Area Splits**

Total number of control interval splits occurring when a control interval split occurs and there is not space for another control interval in the control area.

**Freespace Percent CI**

Control Interval free space is the percentage of empty space to be left in each control interval when the file is initially loaded.

The free space lets records be inserted or expanded within a control interval before requiring a control interval split.

**Freespace Percent CA**

Control Area free space is the percentage of control intervals to be left unused in each control area as the file is initially loaded. The use of control area free space lets some control interval splits occur before requiring a control area split.

**Total Freespace**

Amount of space allocated to the VSAM file that does not contain a control interval.

**High Allocated RBA**

The number of bytes of space being managed by the VSAM file.

**High Used RBA**

The highest byte number within a used control interval.

**Percent Free**

Free space as a percentage of the high used RBA.

**Physical Record Size**

The minimum amount of data that is transferred together which is at least one control interval.

**Physical Record / Track**

Number of physical records in each DASD track.

**Tracks / Control Area**

Number of tracks in each control area.

**Record Statistics:**

This section contains counts of the number of data records and the number of times data records have been inserted, deleted, updated, and retrieved since the initial load of the VSAM file. The following counts are displayed:

**Total**

The total number of records actually in the data or index component. This statistic is not maintained when the data set is processed in control interval mode.

**Deleted**

The number of records that have been deleted from the data or index component.

**Inserted**

For a key-sequenced data set, the number of records that have been inserted into the data component before the last record; records originally loaded and records added to the end are not included in this statistic. For relative record data sets, it is the number of records inserted into available slots; the number of records originally loaded are included in this statistic.

**Updated**

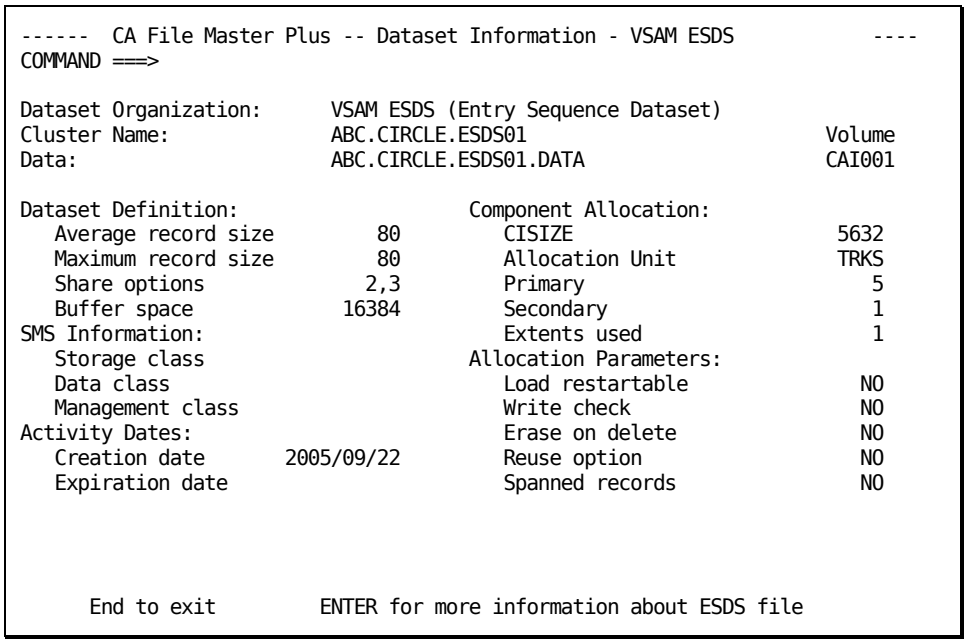
The number of records that have been retrieved for update and rewritten. This value does not reflect those records that were deleted, but a record that is updated and deleted is counted in the update statistics.

**Retrieved**

The number of records that have been retrieved from the data or index component, whether for update or not for update.

# Data Set Information - VSAM ESDS

The VSAM ESDS Data Set Information screen displays two pages of information about the VSAM file definition, allocation parameters, record activity counts, activity dates, and statistics about the definition and use of the data component of the file.




The top section of the Data Set Information – VSAM ESDS screen contains the DSN of the cluster and data components of the ESDS VSAM file. To the right of the DSN of the data component is the volume serial of the first volume. If the data component has multiple volumes defined, the volume serial is followed by a plus sign (+).

## Field Descriptions

**Dataset Definition:**

**Average record size**

The average length of data records.

**Maximum record size**

The maximum length for data records.

**Share options**

**Cross-Region** – The first of the two numbers displayed is the Cross-Region Share Option. The meaning of each value is:

**1**

The data set can be opened for read processing by an unlimited number of users, but the data set can be accessed by only one user when that user is doing read and write processing.

**2**

The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing for read processing.

**3**

The data set can be fully shared by any number of users.

**4**

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

The second of the two numbers is the Cross-System Share Option. Values are:

**3**

The data set can be fully shared by any number of users.

**4**

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Buffer space**

Contains the minimum buffer space to be allocated when this VSAM file is accessed.

**SMS Information:**

**Storage Class**

When the VSAM file is SMS managed this field displays its SMS Storage Class.

**Data Class**

When the VSAM file is SMS managed this field displays its SMS Data Class.

**Management Class**

When the VSAM file is SMS managed this field displays its SMS Management Class.

**Activity Dates**

Displays the following date fields related to the VSAM file.

**Creation date**

Date in CCYY/MM/DD format when the VSAM file was allocated.

**Expiration date**

If an expiration date was specified to the VSAM allocation, this is the date in CCYY/MM/DD after which the VSAM cluster may be deleted.

**Component Allocation:**

**Control Interval size**

The size of the control interval.

**Allocation unit**

TRKS or CYLS to indicate whether the primary and secondary allocations are allocated in tracks or cylinders.

**Primary allocation**

The number of tracks or cylinders (depending on the allocation units) in the primary allocation of each volume.

**Secondary allocation**

Number of tracks or cylinders (depending on the allocation units) in each secondary allocation of each volume.

**Extents Used**

Total number of extents used for VSAM file component.

**Allocation Parameters**

This area tells whether the VSAM file was allocated with various parameters that effect the functioning of the VSAM file.

**Load restartable**

Indicates whether the VSAM file was allocated with the RECOVERY parameter, causing the data component to be preformatted previous to the initial load, or the SPEED parameter that does not. The use of the RECOVERY parameter causes the initial load to take longer, but loads that do not complete successfully can be restarted.

**Write check**

Indicates whether the VSAM file was allocated with the WRITECHECK parameter requesting each write to the VSAM file to be validated by a read without data transfer.

**Erase on delete**

Indicates whether the VSAM file was allocated with the ERASE parameter causing all components of the file to be overwritten with binary zeros when the VSAM file is deleted from the catalog.

**Reuse option**

Indicates whether the VSAM file was allocated with the REUSE parameter specifying that the cluster can be opened again and again as a reusable cluster.

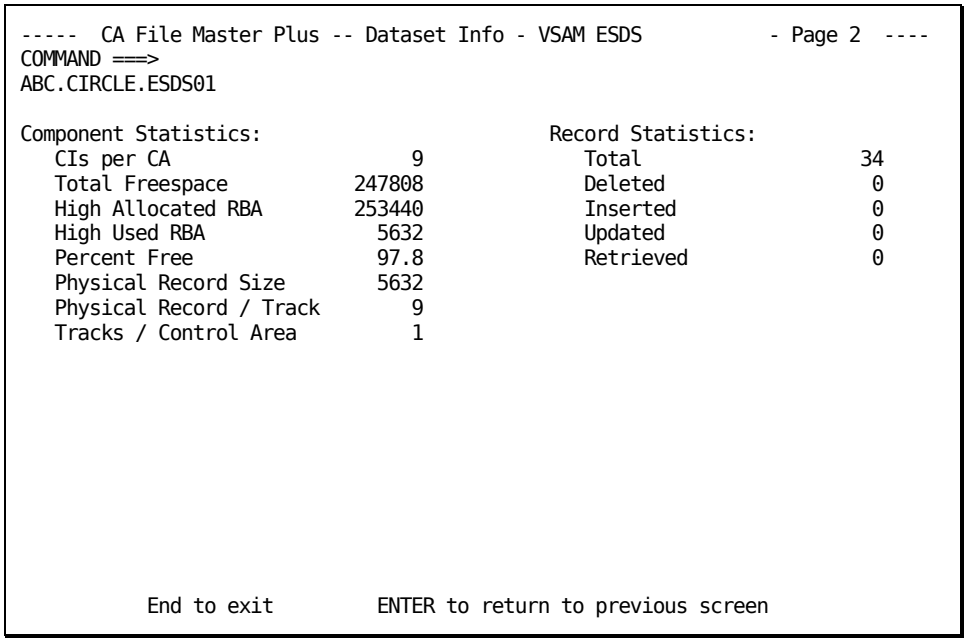
**Spanned records**

Indicates whether the VSAM file was allocated with the SPANNED parameter indicating that data records larger than a control interval are allowed to span multiple control intervals.

## Data Set Information #2 - VSAM ESDS

The second page of the Data Set Information – VSAM ESDS screen contains the following types of information for the data component of the VSAM ESDS file:

- Component statistics
- Record statistics



```
-----  CA File Master Plus -- Dataset Info - VSAM ESDS          - Page 2  ----
COMMAND ===>
ABC.CIRCLE.ESDS01

Component Statistics:                        Record Statistics:
   CIs per CA                    9              Total                   34
   Total Freespace          247808              Deleted                  0
   High Allocated RBA       253440              Inserted                 0
   High Used RBA              5632              Updated                  0
   Percent Free               97.8              Retrieved                0
   Physical Record Size       5632
   Physical Record / Track       9
   Tracks / Control Area         1

          End to exit         ENTER to return to previous screen
```

## Field Descriptions

**Component Statistics**

**CIs per CA**

A Control Area is a contiguous area of DASD that ranges in size from one track to one cylinder. Displays the number of Control Intervals in each Control Area.

**Total Freespace**

Amount of space allocated to the VSAM file that does not contain a Control Interval.

**High Allocated RBA**

The number of bytes of space being managed by the VSAM file.

**High Used RBA**

The highest byte number within a used Control Interval.

**Percent Free**

Free space as a percentage of the high used RB.

**Physical Record Size**

The minimum amount of data that is transferred together which is at least one Control Interval.

**Physical Record / Track**

Number of physical records in each DASD track.

**Tracks / Control Area**

Number of tracks in each Control Area.

**Record Statistics:**

This section contains counts of the number of data records and the number of times data records have been inserted, deleted, updated, and retrieved since the initial load of the VSAM file. The following counts are displayed:

**Total**

The total number of records actually in the data or index component. This statistic is not maintained when the data set is processed in control interval mode.

**Deleted**

The number of records that have been deleted from the data or index component.

**Inserted**

For a key-sequenced data set, the number of records that have been inserted into the data component before the last record; records originally loaded and records added to the end are not included in this statistic. For relative record data sets, it is the number of records inserted into available slots; the number of records originally loaded are included in this statistic.

**Updated**

The number of records that have been retrieved for update and rewritten. This value does not reflect those records that were deleted, but a record that is updated and deleted is counted in the update statistics.

**Retrieved**

The number of records that have been retrieved from the data or index component, whether for update or not for update.

## Data Set Information – VSAM RRDS

The Data Set Information – VSAM RRDS screen displays two pages of information about the VSAM file definition, allocation parameters, record activity counts, activity dates, and statistics about the definition and use of the data component of the file.

```
-----------  CA File Master Plus -- Dataset Information - VSAM RRDS  ----------
COMMAND ===>

Dataset Organization:      VSAM RRDS (Relative Record Dataset)
Cluster Name:              ABC.CIRCLE.RRDS01                              Volume
Data:                      ABC.CIRCLE.RRDS01.DA                           CAI001

Dataset Definition:                   Component Allocation:
   Record size               505          CISIZE                          512
   Share options             4,3          Allocation Unit                 TRKS
   Buffer space              1024         Primary                            1
SMS Information:                          Secondary                          0
   Storage class                          Extents used                       1
   Data class                          Allocation Parameters:
   Management class                       Load restartable                NO
Activity Dates:                           Write check                     NO
   Creation date       2003/08/21         Erase on delete                 NO
   Expiration date                        Reuse option                    NO




          End to exit         ENTER for more information about RRDS file
```

The top section of the Data Set Information – VSAM RRDS screen contains the DSN of the cluster and data components of the RRDS VSAM file. To the right of the DSN of the data component is the volume serial of the first volume. If the component has multiple volumes defined, the volume serial is followed by a plus sign (+).

### Field Descriptions

**Data Set Definition**

**Record size**

The length of each of the data records.

**Share options**

**Cross-Region** – Type a value of one-through-four to indicate how the file can be shared among regions within the same system or within multiple systems using GRS (Global Resource Serialization). The meaning of each value is as follows:

**1**

The data set can be opened for read processing by an unlimited number of users, but the data set can be accessed by only one user when that user is doing read and write processing.

**2**

The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing for read processing.

**3**

The data set can be fully shared by any number of users.

**4**

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Cross-System** – The second of the two numbers displayed. The meaning of each value is:

**3**

The data set can be fully shared by any number of users.

**4**

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Buffer space**

Contains the minimum buffer space to be allocated when this VSAM file is accessed.

**SMS Information:**

**Storage Class**

When the VSAM file is SMS managed this field displays its SMS Storage Class.

**Data Class**

When the VSAM file is SMS managed this field displays its SMS Data Class.

**Management Class**

When the VSAM file is SMS managed this field displays its SMS Management Class.

**Activity Dates:**

**Creation date**

Date in CCYY/MM/DD format when the VSAM file was allocated.

**Expiration date**

If an expiration date was specified to the VSAM allocation, this is the date in CCYY/MM/DD after which the VSAM cluster can be deleted.

**Control Interval Size**

The size of the Control Interval.

**Allocation Unit**

TRKS or CYLS indicating whether the primary and secondary allocations are allocated in tracks or cylinders.

**Primary Allocation**

The number of tracks or cylinders, depending on the allocation units, in the primary allocation of each volume.

**Secondary Allocation**

Number of tracks or cylinders, depending on the allocation units, in each secondary allocation of each volume.

**Extents Used**

Total number of extents used for the VSAM file component.

**Allocation Parameters:**

Specifies whether the VSAM file was allocated with various parameters that effect the functioning of the VSAM file.

**Load restartable**

Indicates whether the VSAM file was allocated with the RECOVERY parameter, causing the data component to be preformatted previous to the initial load, or the SPEED parameter which does not. The use of the RECOVERY parameter causes the initial load to take longer, but loads that do not complete successfully can be restarted.

**Write check**

Indicates whether the VSAM file was allocated with the WRITECHECK parameter requesting each write to the VSAM file to be validated by a read without data transfer.

**Erase on delete**

Indicates whether the VSAM file was allocated with the ERASE parameter, causing all components of the file to be overwritten with binary zeros, when the VSAM file is deleted from the catalog.

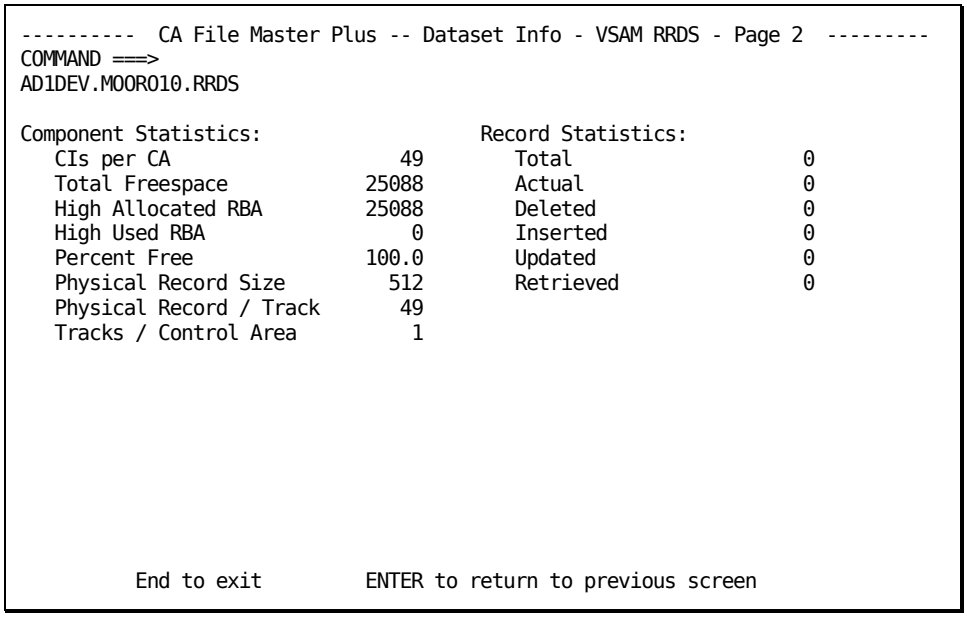
**Reuse option**

Indicates whether the VSAM file was allocated with the REUSE parameter specifying that the cluster can be opened again and again as a reusable cluster.

## Data Set Information #2 - VSAM RRDS

The second page of the Data Set Information – VSAM RRDS screen contains the following types of information for the data component of the VSAM RRDS file:

- Component statistics
- Record statistics



## Field Description

**Component Statistics**

**CIs per CA**

A control area is a contiguous area of DASD that ranges in size from one track to one cylinder. This display tells the number of Control Intervals in each Control Area.

**Total Freespace**

Amount of space allocated to the VSAM file that does not contain a Control Intervals.

**High Allocated RBA**

The number of bytes of space being managed by the VSAM file.

**High Used RBA**

The highest byte number within a used control interval.

**Percent Free**

Free space as a percentage of the high used RBA.

**Physical Record Size**

The minimum amount of data that is transferred together which is at least one Control Interval.

**Physical Record / Track**

Number of physical records in each DASD track.

**Tracks / Control Area**

Number of tracks in each Control Area.

**Record Statistics:**

This section contains counts of the number of data records and the number of times data records have been inserted, deleted, updated, and retrieved since the initial load of the VSAM file. The following counts are displayed:

**Total**

The total number of records actually in the data component. This statistic is not maintained when the data set is processed in control interval mode. For RRDS files, this is the count of slots in the data set.

**Actual**

The actual count of records in the data set.

**Deleted**

The number of records that have been deleted from the data component.

**Inserted**

For a key-sequenced data set, the number of records that have been inserted into the data component before the last record; records originally loaded and records added to the end are not included in this statistic. For relative record data sets, it is the number of records inserted into available slots; the number of records originally loaded are included in this statistic.

**Updated**

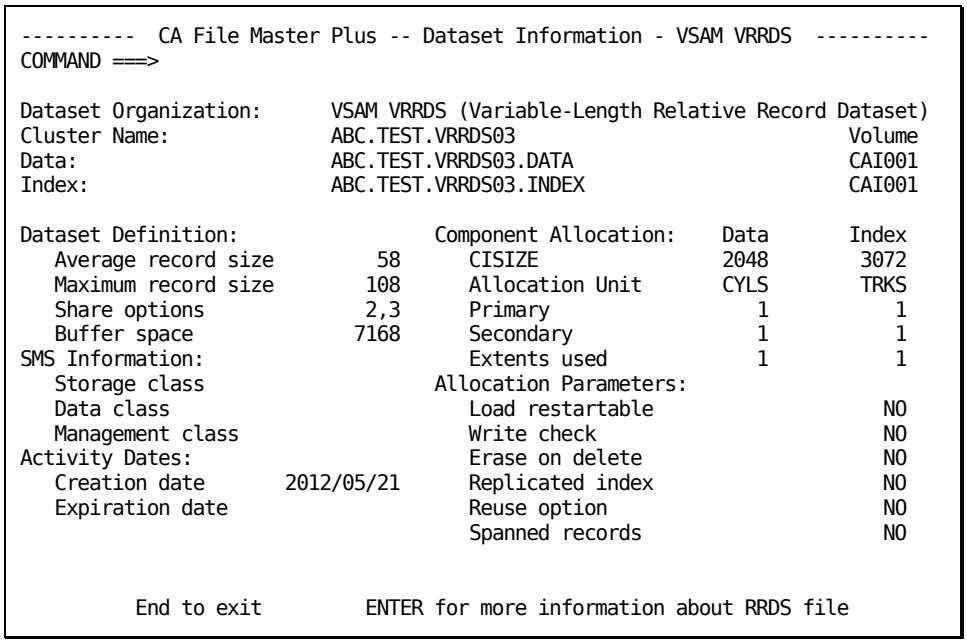
The number of records that have been retrieved for update and rewritten. This value does not reflect those records that were deleted, but a record that is updated and deleted is counted in the update statistics.

**Retrieved**

The number of records that have been retrieved from the data component, whether for update or not for update.

## Data Set Information - VSAM Variable-Length RRDS

The Data Set Information – VSAM VRRDS (Variable-Length RRDS) screen displays two pages of information about the VSAM file definition, allocation parameters, record activity counts, activity dates, and statistics about the definition and use of the data and index components of the file.



The top section of the VSAM Variable-Length RRDS Data Set Information Screen contains the DSN of the cluster, data, and index components of the Variable-Length RRDS VSAM file. To the right of the DSN of the data and index components is the volume serial of the first volume for each of the components. If the component has multiple volumes defined, the volume serial is followed by a plus sign (+).

## Field Descriptions

**Data Set Definition:**

**Average record size**

The average length of data records.

**Maximum record size**

The maximum length for data records.

**Share options**

**Cross-Region** – The first of the two numbers displayed that indicates how the file can be shared among regions within the same system or within multiple systems using GRS. The meaning of each value is:

1. The data set can be opened for read processing by an unlimited number of users, but the data set can be accessed by only one user when that user is doing read and write processing.
2. The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing for read processing.
3. The data set can be fully shared by any number of users.
4. The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Cross-System** – The second of the two numbers that indicates how the file can be shared among systems. The meaning of each value is:

The data set can be fully shared by any number of users.

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Buffer space**

Contains the minimum buffer space to be allocated when this VSAM file is accessed.

**SMS Information:**

**Storage Class**

When the VSAM file is SMS managed this field displays its SMS Storage Class.

**Data Class**

When the VSAM file is SMS managed this field displays its SMS Data Class.

**Management Class**

When the VSAM file is SMS managed this field displays its SMS Management Class.

**Activity Dates:**

**Creation date**

Date in CCYY/MM/DD format when the VSAM file was allocated.

**Expiration date**

If an expiration date was specified to the VSAM allocation, this is the date in CCYY/MM/DD after which the VSAM cluster may be deleted.

**Data & Index (Component Allocation Summary):**

**CISIZE**

The size of the control interval.

**Unit**

TRKS or CYLS to indicate whether the primary and secondary allocations are allocated in tracks or cylinders.

**Prim**

The number of tracks or cylinders, depending on the allocation units, in the primary allocation of each volume.

**Sec**

Number of tracks or cylinders, depending on the allocation units, in each secondary allocation of each volume.

**Extents Used**

Total number of extents used for VSAM file component.

**Allocation Parameters:**

Specifies whether the VSAM file was allocated with various parameters that effect the functioning of the VSAM file.

**Load restartable**

Indicates whether the VSAM file was allocated with the RECOVERY parameter causing the data component to be preformatted previous to the initial load or the SPEED parameter that does not. The use of the RECOVERY parameter causes the initial load to take longer, but loads that do not complete successfully can be restarted.

**Write check**

Indicates whether the VSAM file was allocated with the WRITECHECK parameter that requests each write to the VSAM file to be validated by a read without data transfer.

**Erase on delete**

Indicates whether the VSAM file was allocated with the ERASE parameter which causes all components of the file to be overwritten with binary zeros when the VSAM file is deleted from the catalog

**Replicated index**

Indicates whether the VSAM file was allocated with the REPLICATE parameter which requests that the index records are replicated on a track as many times as it will fit.

**Reuse option**

Indicates whether the VSAM file was allocated with the REUSE parameter specifying that the cluster can be opened again and again as a reusable cluster.

**Spanned records**

Indicates whether VSAM file was allocated with the SPANNED parameter indicating that data records larger than a control interval are allowed to span multiple Control Intervals.

## Data Set Information #2 - VSAM Variable-Length RRDS

The second page of the Data Set Information – VSAM VRRDS (Variable-Length RRDS) screen contains the following types of information for the data and index components of the VSAM VRRDS file:

- Component statistics
- Record statistics

```
---------  CA File Master Plus -- Dataset Info - VSAM VRRDS - Page 2  ---------
COMMAND ===>
ABC.TEST.VRRDS03

Component Statistics:         Data        Index  Record Statistics:
  CIs per CA                   315           15    Total                    40
  Control Interval Splits        0            0    Deleted                   0
  Control Area Splits            0            0    Inserted                  0
  Freespace Percent - CI         0            0    Updated                   0
  Freespace Percent - CA         0            0    Retrieved                 0
  Total Freespace           641024        43008
  High Allocated RBA        645120        46080
  High Used RBA             645120         3072
  Percent Free                99.4         93.3
  Physical Record Size        2048         3072
  Physical Record / Track       21           15
  Tracks / Control Area         15            1




          End to exit         ENTER to return to previous screen
```

## Field Descriptions

**Component Statistics**

**CIs per CA**

A control area is a contiguous area of DASD that ranges in size from one track to one cylinder. This display tells the number of Control Intervals in each Control Area.

**Control Interval Splits**

Total number of control interval splits that occurs when a data record insert occurs and there is not enough space in the control interval for the inserted record.

**Control Area Splits**

Total number of Control Area splits that occur when a Control Interval split occurs and there is not space for another Control Interval in the Control Area.

**Freespace Percent – CI**

Control Interval free space is the percentage of empty space to be left in each Control Interval when the file is initially loaded.

The free space lets records be inserted or expanded within a Control Interval before requiring a Control Interval split.

**Freespace Percent – CA**

Control Area free space is the percentage of Control Intervals to be left unused in each Control Area as the file is initially loaded. The use of Control Area free space lets some Control Interval splits occur before requiring a Control Area split.

**Total Freespace**

Amount of space allocated to the VSAM file that does not contain a Control Interval.

**High Allocated RBA**

The number of bytes of space being managed by the VSAM file.

**High Used RBA**

The highest byte number within a used Control Interval.

**Percent Free**

Freespace as a percentage of the high used RBA.

**Physical Record Size**

The minimum amount of data that is transferred together (which is at least one Control Interval).

**Physical Record / Track**

Number of physical records in each DASD track.

**Tracks / Control Area**

Number of tracks in each Control Area.

**Record Statistics**

This section contains counts of the number of data records and the number of times data records have been inserted, deleted, updated, and retrieved since the initial load of the VSAM file. The following counts are displayed:

**Total**

The total number of records actually in the data or index component. This statistic is not maintained when the data set is processed in control interval mode.

**Deleted**

The number of records that have been deleted from the data or index component.

**Inserted**

For a key-sequenced data set, the number of records that have been inserted into the data component before the last record; records originally loaded and records added to the end are not included in this statistic. For relative record data sets, it is the number of records inserted into available slots; the number of records originally loaded are included in this statistic.

**Updated**

The number of records that have been retrieved for update and rewritten. This value does not reflect those records that were deleted, but a record that is updated and deleted is counted in the update statistics.

**Retrieved**

The number of records that have been retrieved from the data or index component, whether for update or not for update.

# Data Set Information – VSAM Linear Data Set

The Data Set Information – VSAM LDS (Linear Data Set) screen displays information about the VSAM file definition, allocation parameters, record activity counts, activity dates, and statistics about the definition and use of the data component of the file.

```
-----------  CA File Master Plus -- Dataset Information - VSAM LDS  -----------
COMMAND ===>

Dataset Organization:      VSAM LDS (Linear Dataset)
Cluster Name:              ABC.TEST.LINEAR                              Volume
Data:                      ABC.TEST.LINEAR.DATA                         CAI001+

Dataset Definition:                    Component Allocation:
   Share options              2,3          CISIZE                        4096
   Buffer space               8192         Allocation Unit               TRKS
SMS Information:                           Primary                          5
   Storage class                           Secondary                       10
   Data class                              Extents used                     1
   Management class                     Allocation Parameters:
Activity Dates:                            Load restartable              NO
   Creation date        2012/05/22         Write check                   NO
   Expiration date                         Erase on delete               NO
                                           Reuse option                  NO




          End to exit         ENTER for more information about LDS file
```

The top section of the Data Set Information – VSAM LDS screen contains the DSN of the cluster and data components of the Linear Data Set VSAM file. To the right of the DSN of the data component is the volume serial of the first volume. If the component has multiple volumes defined, the volume serial will be followed by a plus sign (+).

## Field Descriptions

**Data Set Definition:**

**Share options**

**Cross-Region** – The first of the two numbers displayed that indicates how the file can be shared among regions within the same system or within multiple systems using GRS. The meaning of each value is:

1. The data set can be opened for read processing by an unlimited number of users, but the data set can be accessed by only one user when that user is doing read and write processing.
2. The data set can be opened by only one user at a time for read and write processing, but any number of users can also be accessing for read processing.

3. The data set can be fully shared by any number of users.
4. The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Cross-System** – The second of the two numbers that indicates how the file can be shared among systems. The meaning of each value is:

The data set can be fully shared by any number of users.

The data set can be fully shared by any number of users. VSAM immediately updates the data set for PUTs and refreshes all input buffers for GETs.

**Buffer space**

Contains the minimum buffer space to be allocated when this VSAM file is accessed.

**SMS Information:**

**Storage Class**

When the VSAM file is SMS managed this field displays its SMS Storage Class.

**Data Class**

When the VSAM file is SMS managed this field displays its SMS Data Class.

**Management Class**

When the VSAM file is SMS managed this field displays its SMS Management Class.

**Activity Dates:**

**Creation date**

Date in CCYY/MM/DD format when the VSAM file was allocated.

**Expiration date**

If an expiration date was specified to the VSAM allocation, this is the date in CCYY/MM/DD after which the VSAM cluster can be deleted.

**Component Allocation:**

**Control Interval size**

The size of the control interval.

**Allocation unit**

'TRKS' or 'CYLS' to indicate whether the primary and secondary allocations are allocated in tracks or cylinders.

**Primary allocation**

The number of tracks or cylinders, depending on the allocation units, in the primary allocation of each volume.

**Secondary allocation**

The number of tracks or cylinders, depending on the allocation units, in each secondary allocation of each volume.

**Extents Used**

Total number of extents used for VSAM file component.

**Allocation Parameters:**

Specifies whether the VSAM file was allocated with various parameters that effect the functioning of the VSAM file.

**Load restartable**

Indicates whether the VSAM file was allocated with the RECOVERY parameter causing the data component to be preformatted previous to the initial load, or the SPEED parameter which does not. The use of the RECOVERY parameter causes the initial load to take longer, but loads that do not complete successfully can be restarted.

**Write check**

Indicates whether the VSAM file was allocated with the WRITECHECK parameter which requests each write to the VSAM file to be validated by a read without data transfer.

**Erase on delete**

Indicates whether the VSAM file was allocated with the ERASE parameter which causes all components of the file to be overwritten with binary zeros when the VSAM file is deleted from the catalog.

**Reuse option**

Indicates whether the VSAM file was allocated with the REUSE parameter that specifies the cluster can be opened again and again as a reusable cluster.

## Data Set Information –2 - VSAM Linear Data Set

The second page of the Data Set Information – VSAM LDS (Linear Data Set) screen contains the following types of information for the data component of the Linear Data Set VSAM file:

- Component statistics
- Record statistics

```
----  CA File Master Plus -- Dataset Info - VSAM LDS - Page 2             ----
COMMAND ===>
ABC.TEST.LINEAR

Component Statistics:                  Record Statistics:
   CIs per CA                   60        Total                    0
   Total Freespace               0        Deleted                  0
   High Allocated RBA       245760        Inserted                 0
   High Used RBA                 0        Updated                  0
   Percent Free              100.0        Retrieved                0
   Physical Record Size       4096
   Physical Record / Track      12
   Tracks / Control Area         5









          End to exit         ENTER to return to previous screen
```

## Field Descriptions

**Component Statistics**

**CIs per CA**

A control area is a contiguous area of DASD that ranges in size from one track to one cylinder. Displays the number of Control Intervals in each Control Area.

**Total Freespace**

Amount of space allocated to the VSAM file which does not contain a control interval.

**High Allocated RBA**

The number of bytes of space being managed by the VSAM file.

**High Used RBA**

The highest byte number within a used control interval.

**Percent Free**

Freespace as a percentage of the high used RBA.

**Physical Record Size**

The minimum amount of data that is transferred together which is at least one control interval.

**Physical Record / Track**

Number of physical records in each DASD track.

**Tracks / Control Area**

Number of tracks in each control area.

**Record Statistics**

This section contains counts of the number of data records and the number of times data records have been inserted, deleted, updated, and retrieved since the initial load of the VSAM file. The following counts are displayed:

Total

The total number of records actually in the data component. This statistic is not maintained when the data set is processed in control interval mode.

Deleted

The number of records that have been deleted from the data component.

Inserted

For a key-sequenced data set, the number of records that have been inserted into the data component before the last record; records originally loaded and records added to the end are not included in this statistic. For relative record data sets, it is the number of records inserted into available slots; the number of records originally loaded are included in this statistic.

Updated

The number of records that have been retrieved for update and rewritten. This value does not reflect those records that were deleted, but a record that is updated and deleted is counted in the update statistics.

Retrieved

The number of records that have been retrieved from the data component, whether for update or not for update.

# Search Utility

The Search utility screen is used to locate records within a data set that match specified selection criteria.

```
-----------------------  CA File Master Plus -- Search -----------------------
COMMAND ===>

Specify Dataset to Search:
  Dataset name  ===>
  Member name   ===>          ('*' = all members, blank/wildcard = mem list)
  Volume serial ===>          (If dataset not cataloged)

Record Layout:
  Layout dataset ===>
  Layout member  ===>

Search / Preview Dataset (optional)
  Dataset name  ===>

Selection Criteria below  or  Selection Criteria Member ===>
===>
===>
===>
```

The Search utility is used to search supported data sets for specified selection criteria. The Search utility supports VSAM, sequential, PDS and PDSE data sets. The online search and display of records from multiple PDS members makes the functions particularly helpful for searching partitioned data sets.

## Search File/Members

The **Search** function performs the search online and writes the results to a temporary sequential file or to a sequential file specified in the Search/Preview data set name field. When the search is complete, a CA File Master Plus Browse session displays all records that matched the selection criteria. Records found in each member will be preceded by a member name heading if multiple members of a PDS are searched. The Search function cannot be executed in batch mode.

### Field Descriptions

**Dataset to Search**

**Data set name**

Type the data set name of the file to be searched. This file can be a sequential file, partitioned data set, or VSAM file.

**Member name**

When the input file is partitioned, one may leave the member name blank or type a wildcarded specification to get a list of all members that match the wildcard member name plus any additional MEMBER selection criteria that was specified. Once the member list is displayed, one or more members can be selected for processing or additional MEMBER selection criteria can be specified.

If an '*' is specified, the member list is not displayed and all members in the data set or members that match any additional MEMBER selection criteria are immediately searched.

**Volume serial**

If the input data set to the search function is uncataloged, you must type the volume serial of the volume on which the data set resides.

**Record Layout**

**Layout dataset**

Type the data set name of the Record Description Copy Library member that describes the file to be searched. You can also type a wildcarded DSN to request a list of data sets from which you can select the desired data set. This field is required when using the LAYOUT primary command.

**Layout member**

Type the Member Name of the Record Description Copy Member that describes the input file.

Leave this field blank to receive a directory of the members in the Layout data set. You can also type a wildcarded member name to receive a directory of members that match that wildcard.

Specify the LAYOUT command on this panel when you specify a layout data set and member and you also want to dynamically build the selection criteria by Field-Names defined in the record layout.

**Dataset name**

The Search Preview data set name is optional and when specified is used as an output data set by the search function.

With Search, this data set will contain all records that matched the specified search criteria.

If a DSN is specified, it will be *deleted and re-allocated* with the appropriate characteristics required to hold the records from the "Search data set." Upon completion of the function, a File Master Plus Browse screen is displayed showing the records that matched the search criteria.

If a DSN is not specified, a temporary data set will be allocated.

**Selection criteria below or Selection criteria member**

Selection criteria are used to restrict your view to certain members or records based on the following types of parameters:

- A condition that evaluates data values in each record or member
- Presence of a character string within a library member, record, or specified columns
- Specification of the first record displayed based on relative record number, VSAM key, or VSAM RBA
- Limit to the number of records displayed

For a complete explanation of selection criteria and examples of valid syntax, see the chapter "Filters."

Use a cataloged selection criteria parameter member that has been defined using CA File Master Plus Option 0.3.

Use the primary command LAYOUT.

## Search Utility Member Directory

When a blank member name or a wildcarded member name is specified in the Search utility submenu, a partitioned data set member list displays in response to a wildcarded or blank member name field. If the member selection criteria were specified in the Selection Criteria, the list of members reflects only those members that matched any wildcard in the member name field and contained records that matched the specified selection criteria

```
CA File Master Plus -- SEARCH 'ABC.WORKPDS3' ----------       ----- Row 1 of 15
 COMMAND ===>                                                SCROLL ===> CSR

S Member   Msg              Size    Created          Changed          ID
_ ABCD                        3   2012/01/29   2012/05/04 15:38:09    TECH
_ ABNAMRO                    55   2003/09/17   2008/05/19 13:54:38    TECH
_ ABSTRACT                   19   2000/07/05   2004/07/27 17:01:00    TECH
_ ACCQMOD                    19   2005/10/26   2005/10/26 14:26:59    TECH
_ ACCQTHST                   24   2005/10/26   2005/10/26 13:03:09    TECH
_ ACCQTOTS                   63   2001/12/19   2005/11/11 14:54:41    TECH
_ ACCUM2                     91   2002/07/22   2002/07/22 13:41:20    TECH
_ AIX                        29   2003/04/15   2003/04/15 12:02:16    TECH
_ ALDP0SFB
_ ALLOCATE                   39   2001/10/26   2008/05/19 13:55:18    TECH
_ APFFM                       9   2003/06/03   2004/06/10 16:41:53    TECH
_ APFTP                       5   2003/05/01   2003/06/02 08:36:35    TECH
_ ART3                       16   2004/07/27   2012/07/30 15:07:10    TECH
_ ASM                        32   2002/03/04   2002/08/19 10:27:44    TECH
_ AXYZ                        3   2004/02/19   2012/07/30 15:07:10    TECH
****************************** End of Member List ******************************
```

Each line item contains the following fields for each data set.

- Msg – informative message reflecting the action taken on the member
- Size – number of records within the member
- Created – the date the member was created
- Changed – the date and time of the last update to the member
- ID – the userid associated with the last update or creation of the member

Primary commands supported by the Search Utility Member Directory are as follows:

**LOCATE | L**

This command, followed by a value, positions to the first member directory entry whose sort sequence field is greater than or equal to the specified value. For example, when the directory list is sorted by the Name column, the L ABC positions the member list to the first member in the list whose member name is greater than or equal to the name ABC.

**MEMBER**

This command followed by valid selection criteria can be used to specify additional member selection criteria. Using this command format reduces the current member list to only those members that contain records that match the specified selection criteria. Successive MEMBER commands can be used to continually reduce the current member list. For example, MEMBER 'ABC' reduces the member list to only those members that contain the characters ABC in one of their records. A subsequent MEMBER 'XYZ' command reduces the member list to only those members that contain the characters ABC *and* XYZ.

**RES | RESET**

Clears the selection indicator for all the members of the list.

**SORT**

Sorts the directory by any of the columns in the directory when you type SORT XXX or SORT XXX Y where 'XXX' is one of the column literals and 'Y' is 'A' for ascending or 'D' for descending. For example, SORT CREATED sorts the directory in descending order of Created Date and SORT ID A sorts the directory in ascending order of User ID.

**S member**

Selects a member from the data set for processing. The member does not have to be in the current member list to be selected. The member can be a generic member name such as 'A*' which will select all members whose name starts with the letter 'A', or '*' which will select all members from the directory.

## Field Descriptions

**Line Item Action Ind**

The valid value for the Line Item Action Indicator is 'S' to select the member to be processed.

# Update Utility

Use the Update Utility screen to locate and change records within a data set that match specified selection criteria.

```
----------------------  CA File Master Plus -- Update  ----------------------
COMMAND ===>

Specify Dataset to Update:
  Dataset name  ===>
  Member name   ===>          ('*' = all members, blank/wildcard = mem list)
  Volume serial ===>          (If dataset not cataloged)

Update / Preview Dataset (optional):
  Dataset name  ===>

Update Parameters:
  Preview before update? ===> N         Y= Preview updates (Online only)
  Input Format JCL       ===> N         Y= Maintain JCL Syntax for updates
  Execution mode         ===> E         O=Online S=Submit JCL E=Edit JCL

Record Layout:
  Layout dataset ===>
  Layout member  ===>

Selection Criteria below  or  Selection Criteria Member ===>
===>
===>
===>
```

Use the Update utility to update supported data sets for specified selection criteria. The Update utility supports VSAM, sequential, PDS and PDSE data sets. The online update and display of records from multiple PDS members makes the functions particularly helpful updating partitioned data sets.

## Update File/Members

The Update function performs the update online or in batch. It displays a pop-up panel where you can specify from 1 to 4 *from* and *to* character strings for the update function. The Update function provides the Preview Before Update parameter that displays the update results without actually making the changes to the Update data set, and the Input Format JCL parameter maintains JCL syntax integrity when updating partitioned data sets that contain JCL.

You can also specify the updates by field-name. In this case, after pressing Enter, the Update Fields panel is displays. You may type your from and to data directly from this panel. You must enter a data set and member to use the Update by Field Name function.

All updates are made directly to the Update data set unless Preview Before Update is set to Y. Record lengths are not modified nor is data shifted left or right if the *from* and *to* strings are unequal in length, unless the Input Format L option is set to Y. In this case, data may be shifted left or right and if necessary moved to a new (continued) JCL statement.

## Field Descriptions

**Update Dataset**

**Dataset name**

Type the DSN of the file to be updated. This file can be a sequential file, partitioned data set, or VSAM file.

**Member name**

When the input file is partitioned, you may leave the member name blank or type a wildcarded specification to get a list of all members that match the wildcard member name plus any additional MEMBER selection criteria that was specified. Once the member list is displayed, you can select one or more members for processing or specify additional MEMBER selection criteria.

If you specify an *, the member list does not display and all members in the data set or members that match any additional MEMBER selection criteria will be immediately searched or updated.

**Volume serial**

If the input data set to the updated is uncataloged, you must type the volume serial of the volume on which the data set resides.

**Update / Preview Data Set**

**Data set name**

The Update Preview data set name is optional and when specified is used as an output data set by the update function when Preview for Update is specified.

When you request an update function and the Preview for Update option is also specified, this data set will contain the updated records.

If you specify a DSN, it will be *deleted* and *re-allocated* with the appropriate characteristics required to hold the records from the Update data set. Upon completion of the function, a Browse screen displays showing the records that matched the search or update criteria.

If you do not specify a DSN, a temporary data set will be allocated.

### Update Parameters

#### Preview Before Update

If you specify Preview Before Update, all updated records are written to the Update/Preview data set instead of the Update data set. No modifications are made to the Update data set. If Preview Before Update is performed for multiple members of a partitioned data set, the updated records will be preceded by a display of the member name. Preview Before Update can only be executed in online mode.

If Preview Before Update is not specified, updates are made directly to the Update data set.

#### Input Format JCL

This parameter is only valid for partitioned, fixed block, 80 byte records data sets. When you specify Y, the update function will maintain JCL formatting when making changes to a JCL record. JCL formatting is maintained by applying appropriate rules when updating *from* and *to* strings of unequal lengths so the updates do not cause JCL errors.

If the *to* character string is shorter than the *from* character string, data is shifted to the left until two consecutive spaces/blanks are found, then padded with spaces/blanks. If the *to* character string is longer than the *from* string and there are not enough consecutive blanks to accommodate the difference, a new (continued) JCL record will be inserted with one or more JCL parameters from updated JCL statement.

#### Execution Mode

The execution mode field is for the Update function and indicates whether to perform one of the following:

O—perform the update function online

S—create and submit JCL to perform the update function in batch

E—create and edit JCL to perform the update function in batch.

If you specify Preview before Update, execution mode must be O.

### Record Layout

#### Layout data set

Type the DSN of the Record Description Copy Library member that describes the file to be searched. You can also type a wildcarded DSN to request a list of data sets from which you can select the desired data set. This field is required when using the LAYOUT primary command or when you want to use the Update by Field Name function.

**Layout member**

Type the Member Name of the Record Description Copy Member that describes the input file.

Leave this field blank to receive a directory of the members in the Layout data set. You can also type a wildcarded member name to receive a directory of members that match that wildcard.

You must complete this field to perform an Update by Field Name or to use the LAYOUT command.

Specify the LAYOUT command on this panel when you specify a layout data set and member and you also want to dynamically build the selection criteria by Field-Names defined in the record layout.

**Selection Criteria**

**Selection criteria below or Selection criteria member**

Specifies selection criteria if the records or members of the input file will be filtered according to selection criteria.

Use selection criteria to specify a filter based on the following types of parameters

- Condition that evaluates data values in each record
- Presence of a character string within a record or specified columns or field name from a record layout
- Specification of the first record to be selected based on relative record number, VSAM key, or VSAM RBA
- Limit to the number of records selected

Use a cataloged selection criteria parameter member that has been defined using CA File Master Plus Option 0.

Use the primary command LAYOUT.

For sample selection criteria specifications, see the following table. For a complete explanation of the syntaxes, request field-level help.

| Selection Criteria | Description |
|---|---|
| 101 = C'NY' | Position 101 for a length of 2 equals 'NY' |
| 1(3) = C'001' & 101 = C'NY' | Compound condition |
| C'TEXAS' | Character string 'TEXAS' anywhere in the record |
| 'TEXAS' | Text 'TEXAS' (any case) anywhere in the record. If the character string contains imbedded blanks or an imbedded operand, the character string must be within quotes. |

| Selection Criteria | Description |
|---|---|
| 10(4) EQP | Position 10 for a length of 4 is any valid packed value |
| 80 = C'NY'C'NJ'C'MA' | Position 80 for a length of 2 equals 'NY' or 'NY' or 'MA' (case sensitive) |
| 80 = C'NY,NJ,MA' | Position 80 for a length of 2 equals 'NY' or 'NY' or 'MA' (case sensitive) |
| 100(2) = P'0,1,999' | Position 100 contains a two-byte packed value of 0 or 1 or 999 |
| 82(2) > 84 | Position 82-83 is greater than positions 84-85 |
| 101(20) CO C'NEW YORK' | Positions 101-120 contain 'NEW YORK'. (case sensitive and can appear anywhere within positions 101-120) |
| STARTREC=1001 | Select records beginning with record number 1001 |
| STARTKEY='56789' | Select keyed VSAM records beginning with key 56789 |
| STARTRBA=X'1FD8' | Select records starting with the record with RBA x'1FD8' |
| INLIM=5000 | Stop reading/selecting after reading 5000 records. |
| SELLIM=1000 | Only select 1000 records based on selection criteria |
| STATE-CODE NE 'NY' | Field STATE-CODE not equal 'NY' (requires LAYOUT information) |
| 80 = C'NY' C'TX' AND<br>100 = C'000' | Position 80 for a length of 2 equals 'NY' or 'TX', AND position 100 for a length of 3 equals '000' |
| TRAN-DD GT '01' AND TRAN-DD LT '06' | Field TRAN-DD is '02' '03' '04', or '05' |
| MEMBER criteria | Specifies that 'criteria' (specified after the MEMBER command) applies to PDS member selection only. This parameter and subsequent selection criteria is ignored if specified for non-PDS data sets.<br>Examples:<br>`MEMBER 'texas'`<br>`MEMBER 101 EQ 'NY'`<br>MEMBER is the *default* for selection criteria specified for PDS or PDSE data sets when no member or a generic member name is specified. |

| Selection Criteria | Description |
|---|---|
| RECORD criteria | Specifies that 'criteria' (specified after the RECORD command) applies to record selection only. When a data set or member(s) are selected for browse or edit, only selected records will be displayed.<br>Examples:<br>`RECORD 'texas'`<br>`RECORD 101 EQ 'NY'`<br>RECORD is the *default* for VSAM and sequential files or for fully qualified PDS-member names. |

## Update Utility Member Directory

When you specify a blank member name or a wildcarded member name in the Update Utility submenu, a partitioned data set member list displays in response to a wildcarded or blank member name field. If you specified the member selection criteria in the Selection Criteria, the list of members reflects only those members that matched any wildcard in the member name field and contained records that matched the specified selection criteria

```
CA File Master Plus -- SEARCH 'ABC.WORKPDS3' ----------       ----- Row 1 of 15
 COMMAND ===>                                                SCROLL ===> CSR

S Member   Msg              Size    Created          Changed          ID
_ ABCD                        3   2012/01/29   2012/08/17 13:40:46    MOORO10
_ ABNAMRO                    55   2003/09/17   2008/05/19 13:54:38    MOORO10
_ ABSTRACT                   19   2000/07/05   2004/07/27 17:01:00    MOORO10
_ ACCQMOD                    19   2005/10/26   2005/10/26 14:26:59    MOORO10
_ ACCQTHST                   24   2005/10/26   2005/10/26 13:03:09    MOORO10
_ ACCQTOTS                   63   2001/12/19   2005/11/11 14:54:41    MOORO10
_ ACCUM2                     91   2002/07/22   2002/07/22 13:41:20    MOORO10
_ AIX                        29   2003/04/15   2003/04/15 12:02:16    MOORO10
_ ALDP0SFB
_ ALLOCATE                   39   2001/10/26   2008/05/19 13:55:18    MOORO10
_ APFFM                       9   2003/06/03   2004/06/10 16:41:53    MOORO10
_ APFTP                       5   2003/05/01   2003/06/02 08:36:35    MOORO10
_ ART3                       16   2004/07/27   2012/07/30 15:07:10    MOORO10
_ ASM                        32   2002/03/04   2002/08/19 10:27:44    MOORO10
_ AXYZ                        3   2004/02/19   2012/07/30 15:07:10    MOORO10
****************************** End of Member List ******************************
```

Each line item contains the following fields for each data set.

- Msg – informative message reflecting the action taken on the member
- Size – number of records within the member
- Created – the date the member was created
- Changed – the date and time of the last update to the member
- ID – the userid associated with the last update or creation of the member

Primary commands supported by the Update Utility Member Directory are as follows:

LOCATE **|** L value

The command **L** or **LOCATE**, followed by a value, positions to the first member directory entry whose sort sequence field is greater than or equal to the specified value. For example, when the directory list is sorted by the Name column, the L ABC positions the member list to the first member in the list whose member name is greater than or equal to the name ABC.

MEMBER selection criteria

Use the **MEMBER** command followed by valid selection criteria to specify additional member selection criteria. Using this command format reduces the current member list to only those members that contain records that match the specified selection criteria. Use successive MEMBER commands to continually reduce the current member list. For example, MEMBER 'ABC' reduces the member list to only those members that contain the characters ABC in one of their records. A subsequent MEMBER 'XYZ' command reduces the member list to only those members that contain the characters ABC *and* XYZ.

**RES | RESET**

The command **RES** or **RESET** clears the selection indicator for all the members of the list.

S member

The **S member** command selects a member from the data set for processing. The member does not have to be in the current member list to be selected. The member can be a generic member name such as 'A*' which will select all members who's name starts with the letter 'A', or '*' which will select all members from the directory.

**SORT** column-name [D | A]

The **SORT** command sorts the directory by any of the columns in the directory when you type SORT XXX or SORT XXX Y, where 'XXX' is one of the column literals and 'Y' is 'A' for ascending or 'D' for descending.

For example, SORT CREATED sorts the directory in descending order of Created Date and SORT ID A sorts the directory in ascending order of User ID.

## Field Descriptions

**Line Item Action Ind**

The valid value for the Line Item Action Indicator is 'S' to select the member to be processed.

# Update Utility From and To Character Strings Sub-Menu

This menu is used by the Update function to specify the *from* and *to* character strings to be updated on the Update data set, and is only displayed if the Layout Dataset and Layout member fields are left blank. If record selection criteria is also specified, only those records that match the record selection criteria will be evaluated and updated by the From/To string changes specified on this menu.

Valid commands from this menu are CANCEL or END, which will return to the Utility primary menu without performing the update.

```
CA File Master Plus --- Update From & To Character Strings -------
 COMMAND ===>

           Pos  Len   Op Value                                        All

 From ===> 1     0     EQ _____________________________________________
 To                       _____________________________________________  N

 From ===> 1     0     EQ _____________________________________________
 To                       _____________________________________________  N

 From ===> 1     0     EQ _____________________________________________
 To                       _____________________________________________  N

 From ===> 1     0     EQ _____________________________________________
 To                       _____________________________________________  N

  ENTER to proceed with update
  CANCEL or END to return to Search Utility Screen
```

## Field Descriptions

**Pos**

Type the position within the record where the scan is to begin. Valid values are 1 through 32760

**Len**

Type the length of the scan to perform. A scan-length of zero means to scan the entire record starting at the position parameter's value. Valid values are 0 – 32760.

**Op**

Type the operator value to use when scanning. Valid choices include:

**EQ —** Equal

**NE —** Not equal

**GT —** Greater than

**GE —** Greater than or equal to

**LE —** Less than or equal to

**LT —** Less than

**From Value**

Type the *from* string values for the scan to use. If the scan operation is evaluated to be true, the data beginning at the first byte of the *from* string value will be REPLACED by the *to* string value. *From* string data is replaced for the length of the *to* string value with no shifting of data or alteration of the record length, unless the Input Format JCL option is Y.

When the Input Format JCL option is Y, and the *to* character string is shorter than the *from* character string, data is shifted to the left until two consecutive spaces/blanks are found, then padded with spaces/blanks. If the *to* character string is longer than the *from* string and there are not enough consecutive blanks to accommodate the difference, a new (continued) JCL card will be inserted with one or more JCL parameters from the updated JCL record.

Valid syntax is as follows:

**'c…'**

Text – matches both lower and uppercase alphabetic characters.

**C'c…'**

Character – matches specified case

**P'n…'**

Packed decimal

**T'x…'**

Text – matches both lower and uppercase alphabetic characters. Alphanumeric data is permitted.

**X'hh'**

Hexadecimal

Apostrophes (') and quotes (") are not interchangeable.

Character data within apostrophes and quotes are always treated as text.

When the text contains an apostrophe, the text needs to be enclosed in quotes.

When the text contains a quote, the text needs to be enclosed in apostrophes.

**To Value**

Type the *to* string value to be used as a replacement string for the *from* string value. If the scan operation is evaluated to be true, the data beginning at the first byte of the *from* string value will be REPLACED by the *to* string value.

Valid syntax is as follows:

**'c…'**

Text – matches both lower and uppercase alphabetic characters.

**C'c…'**

Character – matches specified case

**P'n…'**

Packed decimal

**T'x…'**

Text – matches both lower and uppercase alphabetic characters. Alphanumeric data is permitted.

**X'hh'**

Hexadecimal

Apostrophes (') and quotes (") are not interchangeable.

Character data within apostrophes and quotes are always treated as character.

When the text contains an apostrophe, the text needs to be enclosed in quotes.

When the text contains a quote, the text needs to be enclosed in apostrophes.

**All**

Type a **Y** to replace every occurrence of the *from* string found in a record within the scan-length. Type **N** to replace the first occurrence only of the *from* string found in a record within the scan-length.

## Update Utility Update Fields Sub-Menu

This menu is used by the Update function to specify the *from* and *to* character strings to be updated on the Update data set, and is only displayed if the Layout Dataset and Layout member fields are present. If record selection criteria is also specified, only those records that match the record selection criteria will be evaluated and updated by the From/To string changes specified on this menu.

Valid commands from this menu are CANCEL or END, which will return to the Utility primary menu without performing the update.

```
CAWAPPFN DSLIST er Plus -- Update Fields -------------------- Row 1 to 9 of 26
 COMMAND ===>                                                 SCROLL ===> CSR

                                                    From
   Field Name                 Pos    Format  OP To
01 FIELD-RECORD                 1 C     53 __ _____________________________
                                                 _____________________________
 05 FIELD-ALPHABETIC            1 C      4 __ _____________________________
                                                 _____________________________
 05 FIELD-ALPHANUM              5 C      4 __ _____________________________
                                                 _____________________________
 05 FIELD-EDITTED-ALPHA         9 C      4 __ _____________________________
                                                 _____________________________
 05 FIELD-NUMERIC              13 N    2.2 __ _____________________________
                                                 _____________________________
 05 FIELD-PACKED               17 P    4.3 __ _____________________________
                                                 _____________________________
 05 FIELD-PACKED1              21 P      3 __ _____________________________
                                                 _____________________________
 05 FIELD-BINARY               23 BS    18 __ _____________________________
                                                 _____________________________
 05 FIELD-EDITTED-NUM          31 N      4 __ _____________________________
                                                 _____________________________
```

## Field Descriptions

**Field Name**

The level and name of the field as defined in the Layout data set's member

**Pos**

The starting position within the record of the field

**Format**

The data-type indicator followed by either the number of digits or characters allowed for the field as defined by the field definition.

Valid data-type indicators are:

B – Binary C – Alphanumeric F – Floating Point

N – zoned numeric P – Packed S – Signed

**OP**

Type the operator value to be used when updating. Valid choices include:

EQ — Equal

NE — Not equal

GT — Greater than

GE — Greater than or equal to

LE — Less than or equal to

LT — Less than

CO — Contains (i.e., the specified literal is anywhere in the field)

**From Value**

Type the *from* string values to be used by the update. If the update operation is evaluated to be true, the data beginning at the first byte of the *from* string value will be REPLACED by the *to* string value. *From* string data is replaced for the length of the *to* string value with no shifting of data or alteration of the record length, unless the Input Format JCL option is Y.

When the Input Format JCL option is Y, and the *to* character string is shorter than the *from* character string, data is shifted to the left until two consecutive spaces/blanks are found, then padded with spaces/blanks. If the *to* character string is longer than the *from* string and there are not enough consecutive blanks to accommodate the difference, a new (continued) JCL card will be inserted with one or more JCL parameters from the updated JCL record.

The typed value is examined to make sure that it adheres to the field's definition.

Valid syntax is as follows:

**'c...'**

Text – matches both lower and uppercase alphabetic characters.

**C'c...'**

Character – matches specified case

**P'n...'**

Packed decimal

**T'x...'**

Text – matches both lower and uppercase alphabetic characters. Alphanumeric data is permitted.

**X'hh'**

Hexadecimal

Apostrophes (') and quotes (") are not interchangeable.

Character data within apostrophes and quotes are always treated as text.

When the text contains an apostrophe, the text needs to be enclosed in quotes.

**To Value**

Type the *to* string value to be used as a replace string for the *from* string value. If the update operation is evaluated to be true, the data beginning at the first byte of the *from* string value will be REPLACED by the *to* string value.

The typed value is examined to make sure that it adheres to the field's definition.

Valid syntax is as follows:

**'c…'**

Text – matches both lower and uppercase alphabetic characters.

**C'c…'**

Character – matches specified case

**P'n…'**

Packed decimal

**T'x…'**

Text – matches both lower and uppercase alphabetic characters. Alphanumeric data is permitted.

**X'hh'**

Hexadecimal

Apostrophes (') and quotes (") are not interchangeable.

Character data within apostrophes and quotes are always treated as text.

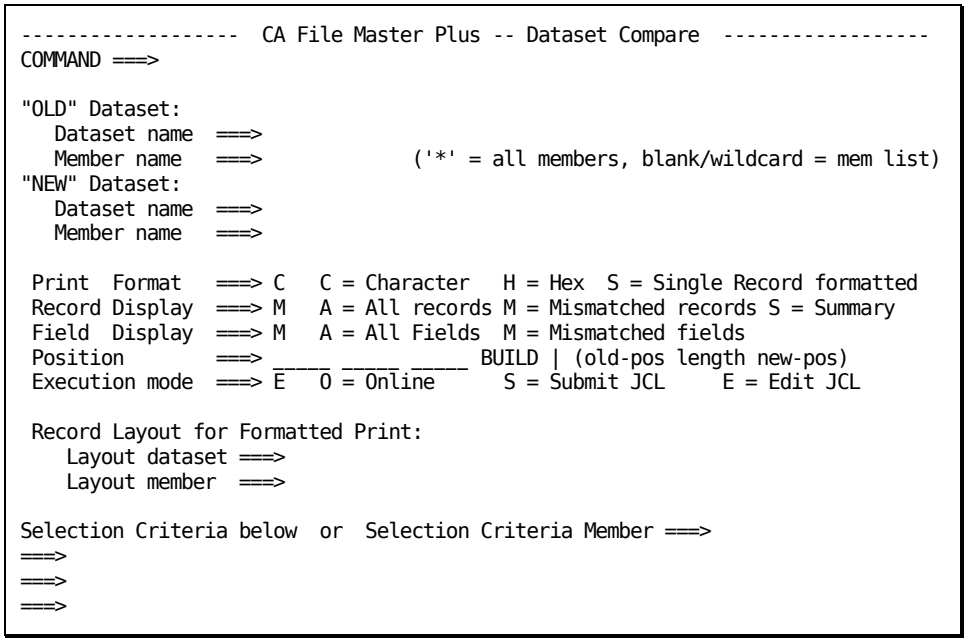
When the text contains an apostrophe, the text needs to be enclosed in quotes.

When the text contains a quote, the text needs to be enclosed in apostrophes.

# Data Set Compare Utility

The Data Set Compare utility is used to compare data sets and members of various file formats. Depending on the type of file specified in the "OLD" Data set field, the Data Set Compare or Program Compare screen is displayed.

The Data Set Compare screen compares text files. The "OLD" and "NEW" data sets for a data set compare can be a sequential file, a PDS, or a VSAM file.




The Program Compare screen compares load modules or program objects. The "OLD" Data set and "NEW" Data set fields on this screen must point to a loadlib library.

**Note:** The compare screen updates as needed in response to the file type entered in the "OLD" Data set field. For example, entering a loadlib into this field on the Data Set Compare screen will cause the screen to switch to the Program Compare screen.

```
------------------  CA File Master Plus -- Program Compare  ------------------
COMMAND ===>

"OLD" Dataset:
   Dataset name  ===>
   Member name   ===>             ('*' = all members, blank/wildcard = mem list)
"NEW" Dataset:
   Dataset name  ===>
   Member name   ===>

 Print  Format   ===> C   C = Character   I = Instruction
 Record Display  ===> M   A = All records M = Mismatched records S = Summary
 Field  Display  ===> M   A = All Fields  M = Mismatched fields
 Execution mode  ===> E   O = Online      S = Submit JCL     E = Edit JCL
 Max mismatches  ===> 0                   Output page size ===> 60

 Csect Compare   ===> N   N = By Name     O = By Order
 Properties      ===> I   I = Include     E = Exclude   ("S" to select options)
    - Attributes      _ EntryPoint      _ LinkDate        _ TotalSize
    _ CsectName       _ CsectDate       _ CsectSize       _ Translator
    _ Content         _ IDRZAP          _ IDRUSER         _ ESD

 I/E Csect Selection  (Enter I or E to Include or Exclude csects or ranges)
  _  ____________________________________________________________________________
  _  ____________________________________________________________________________
  _  ____________________________________________________________________________
```

## Field Descriptions

**"OLD" Data set:**

**Data set name**

Type the data set name of the first input file to the compare function. The data set is compared to the data set specified in the "NEW" data set section of the screen. The Data Set Compare screen displays when you enter a sequential file, PDS, or VSAM file. The Program Compare screen displays when you enter a loadlib or load library member.

**Member name**

The "OLD" Member Name can be used when the "OLD" data set is a PDS. This field can contain the following:

- Member name if the "OLD" data set for the compare is a PDS member.
- Leave this field blank to receive a directory of the members in the data set.
- Type a wildcarded member name to receive a directory of members that match that wildcard.

**"NEW" Data set:**

**Data set name**

Type the data set name of the file you want compared to the "OLD" file. Enter a sequential file, PDS, or VSAM file on the Data Set Compare screen. Enter a loadlib or load library member on the Program Compare screen.

**Member name**

The "NEW" Member name can be used when the "NEW" data set is a PDS. Leave this field blank to when comparing multiple members.

**Print Format**

Select the print format for any mismatched records that are found during the compare. You can specify character, or hex formats for both data set and program compares. For the Data Set Compare screen, single record format is also an option. If you chose single record format, specify a record layout data set and member to use for formatting the records.

**Record Display**

Controls which of the records are displayed. Enter one of the following values:

**A**

All—all records in the file are displayed, flagging mismatched data.

**M**

Mismatch—only mismatched records are displayed. This includes, inserted, deleted and changed records. Mismatched data in the changed records are flagged.

**S**

Summary—only a Summary report is displayed.

**Field Display**

If you selected Single Record Format for the Print Format option, use this option to specify whether to print all fields in a mismatched record or only fields that have a mismatch.

**Position**

To compare only a portion of each record, specify the old-position, length, and new-position in these fields. If the new-position is not specified, it defaults to the old-position. Enter BUILD in the old position field to execute a process that builds POSITION and SYNCKEY keywords using record layouts.

**Execution mode**

Specifies how the function is executed. Specify one of the following values:

**O**

Perform the function online

**S**

Generate and submit JCL to perform the function

**E**

Generate JCL to perform the function and initiate an edit session on the JCL. You can alter the JCL as needed and then submit the JCL or save it to another location.

**Record Layout for Formatted Print:**

**Layout data set**

Type the DSN of the Record Description Copy Library member that describes the file to be searched. You can also type a wildcarded DSN to request a list of data sets from which you can select the desired data set. This field is required when using the LAYOUT primary command.

**Layout member**

Type the Member Name of the Record Description Copy Member that describes the input file.

Leave this field blank to receive a directory of the members in the Layout data set. You can also type a wildcarded member name to receive a directory of members that match that wildcard.

Specify the LAYOUT command on this panel when you specify a layout data set and member and you also want to build the selection criteria dynamically by field names defined in the record layout.

**Selection criteria below or Selection criteria member**

Selection criteria are used to restrict your view to certain members or records based on the following types of parameters:

- A condition that evaluates data values in each record or member
- Presence of a character string within a library member, record, or specified columns
- Specification of the first record displayed based on relative record number, VSAM key, or VSAM RBA
- Limit to the number of records displayed

For a complete explanation of selection criteria and examples of valid syntax, see the chapter "Filters."

Use a cataloged Selection Criteria parameter member that has been defined using CA File Master Plus Option 0.3.

Use the primary command LAYOUT.

**Max mismatches**

Controls the maximum number of mismatches allowed before the COMPARE command is terminated. Mismatches are defined as inserted, deleted, or changed records.

Enter an integer value from 0 to 99999.

The default value is zero, which sets no maximum limit. However, the default may have been changed during product installation by updating the '&BAT_COMPDIFF' option.

**Output page size**

Controls the maximum number of lines per page for the SYSLIST output file.

Enter an integer value from 1 to 9999.

The default value is 60. However, the default may have been changed during product installation by updating the '&BAT_LINEPAGE' option.

**CSECT Compare**

Controls how CSECTs are compared. Enter one of the following values:

**N**

Name—CSECTs with identical names are compared. CSECTs that exist only in the old file are reported as deleted. CSECTs that exist only in the new file are reported as inserted.

**O**

Order—CESCTs are compared in the order in which they appear in the program

**Properties**

Controls how the program properties selected in the Properties options section are used for the comparison of programs.

**I**

Include—the selected program properties are included in the comparison.

**E**

Exclude—the selected program properties are excluded from the comparison.

**Properties options**

Lists the properties you can specify for a program compare. Enter an S to select an option from the list. Enter a blank character to clear a previously selected option. Following are possible options:

**Attributes**

The program link attributes: reentrant, reusable, refreshable, authorization code, amode, rmode and SSI

**Content**

The actual module text

**CSECTDate**

The date carried in Binder IDR_B records

**CSECTName**

The name of the CSECTs

**CSECTSize**

The size of the CSECTs

**EntryPoint**

The load module entry point

**ESD**

External symbol information carried in Binder B_ESD records, such as external references

**IDRUSER**

Information carried in Binder B_IDRU records added as a result of the Binder IDENTIFY statement or programmatically by, for example, Endevor

**IDRZAP**

IDR ZAP information carried in Binder B_IDRZ records

**LinkDate**

The date and time the program was linked

**TotalSize**

The size of the load module or program object

**Translator**

Compiler information

**CSECT Selection**

Controls which CSECTs are included or excluded from the program comparison.

Specify CSECTs or the range of CSECTs for comparison on the three lines in the CSECT Selection section of the screen. Each line is composed of two fields.

The first field controls the action that applies to the CSECTs specified in the second field. Enter one of the following values:

**I**

Include—the CSECTs are included in the comparison.

**E**

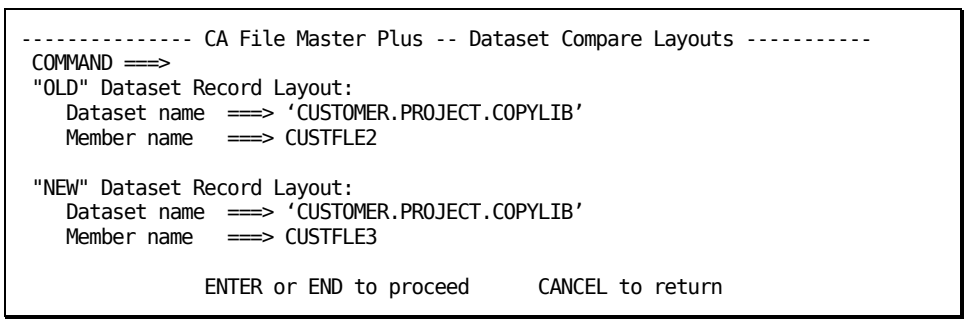
Exclude—the CSECTs are excluded from the comparison.

The second field identifies the CSECTs that are included or excluded from the comparison. Enter a list of CSECT names or range of CSECTs. The following rules apply to the CSECTs list:

- Separate each CSECT or range of CSECTs with a comma
- No blank characters are allowed in the list
- A valid CSECT name cannot exceed 63 characters
- A CSECT name can contain wildcard characters
- A range of CSECTs is made of two CSECT names separated by a hyphen. For example, startcsect-endcsect. The second name must be greater than the first name.

## Build Compare Position and Synckey Keywords

Enter BUILD in the OLD POSITION field to initiate the process to build Position and Synckey keywords using record layouts. This process allows a layout file to be used for each data set so that field names can be matched to build the keywords. The Dataset Compare Layouts screen is used to specify the layout data set corresponding to the old and new data set in the compare. The two layouts are initially populated with the layout file and member that was entered on the Compare screen, if there was one.



The old and new layout files can be the same. To assist in the specification of DSNs, each of the DSN fields on this screen has support for wildcarded DSNs and DSN Lists.

Use ENTER or END after entering the layout information to access the Generate Position and Synckey Keywords screen.

```
        CA File Master Plus - Generate Position and Synckey Keywords
 COMMAND ===>                                                  SCROLL ===> CSR

OLD Record ------------ CUSTFLE2 of 'CUSTOMER.PROJECT.COPYLIB' ----------------
A  Num Field Name                   Pos    Format  SYNCKEY Parms   Row 1 of 26
_      1 CUSTOMER-RECORD                1      160
_      2   CUST-REC-TYPE                1 C      1
_      3   CUST-ID                      2 C      7
_      4   CUST-NAME                    9 C     15
_      5   CUST-STREET                 24 C     18
_      6   CUST-CITY                   42 C     12
_      7   CUST-STATE                  54 C      2
_      8   CUST-ZIP-CODE               56 C     10
NEW Record   ------------ CUSTDLE3 of 'CUSTOMER.PROJECT.COPYLIB' --------------
Num Field Name                     Pos    Format  Compare To         Row 1 of 27
   1 CUSTOMER-RECORD                  1      160
   2   CUST-REC-TYPE                  1 C      1 CUST-REC-TYPE
   3   CUST-ID                        2 C      7 CUST-ID
   4   CUST-NEW-FIELD                 9 C      5
   5   CUST-STREET                   14 C     18 CUST-STREET
   6   CUST-CITY                     32 C     12 CUST-CITY
   7   CUST-STATE                    44 C      2 CUST-STATE
   8   CUST-NAME                     46 C     15 CUST-NAME
```

The top section of the screen presents the record layout of the OLD record. The bottom section of the screen presents the NEW record layout. This section contains a field on each line for entering either the Field Name or relative field number of the OLD field to compared to the NEW record.

The fields entered in the Compare To field are used to generate a Position keyword. The screen defaults to compare all nongroup fields that have the same Field Name in the OLD and NEW records.

## Synckey Keywords

To generate a Synckey keyword, type ‘S’ next to the field in the OLD file that you want to synchronize on. This field must be listed in the COMPARE TO column next to the corresponding field in the NEW file section. The Define Synckey Parameter screen is then displayed.

```
------------------------ Define SYNCKEY Parameter ----------------------
COMMAND ===>

 Update SYNCKEY settings by overtyping the displayed values.

    Old Synckey Field: CUST-ID
    New Synckey Field: CUST-ID

    SYNCKEY Order ===> 1
    Key           ===> N   (N = NOKEY | A = ASCENDING | D = DESCENDING)
    Print         ===> P   (P = PRINT | N = NOPRINT)

               ENTER or END to process       CANCEL to return
```

## Field Descriptions

**Old Synckey Field**

This field on the old record syncs to the NEW Synckey Field.

**New Synckey Field**

This field on the new record syncs to the OLD Synckey Field.

**Synckey Order**

This field determines the order in which the Synckey keywords are processed, starting with the number 1. The number is initialized to the next highest number. You can change this number, but not to one that has already been entered.

**Key**

This field specifies the type of compare.

**N**

Specifies a nonkeyed compare.

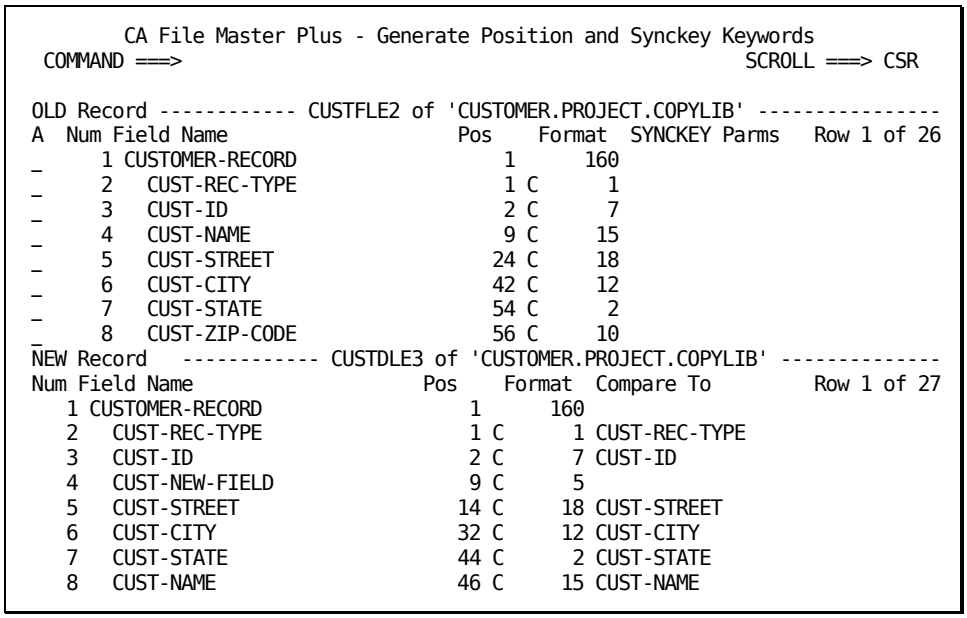
**A or D**

Specifies that it is a keyed compare and the keys are in the order indicated by this parameter.

**Print**

This field defines whether the Synckey values are printed in the compare report.

The information entered for the Synckey is displayed on the Generate Position and Synckey Keywords screen when you return.



```
        CA File Master Plus - Generate Position and Synckey Keywords
 COMMAND ===>                                                  SCROLL ===> CSR

OLD Record ------------ CUSTFLE2 of 'CUSTOMER.PROJECT.COPYLIB' ----------------
A  Num Field Name                    Pos    Format  SYNCKEY Parms   Row 1 of 26
_      1 CUSTOMER-RECORD                 1      160
_      2   CUST-REC-TYPE                 1 C      1
_      3   CUST-ID                       2 C      7
_      4   CUST-NAME                     9 C     15
_      5   CUST-STREET                  24 C     18
_      6   CUST-CITY                    42 C     12
_      7   CUST-STATE                   54 C      2
_      8   CUST-ZIP-CODE                56 C     10
NEW Record   ------------ CUSTDLE3 of 'CUSTOMER.PROJECT.COPYLIB' --------------
Num Field Name                     Pos    Format  Compare To         Row 1 of 27
   1 CUSTOMER-RECORD                  1      160
   2   CUST-REC-TYPE                  1 C      1 CUST-REC-TYPE
   3   CUST-ID                        2 C      7 CUST-ID
   4   CUST-NEW-FIELD                 9 C      5
   5   CUST-STREET                   14 C     18 CUST-STREET
   6   CUST-CITY                     32 C     12 CUST-CITY
   7   CUST-STATE                    44 C      2 CUST-STATE
   8   CUST-NAME                     46 C     15 CUST-NAME
```

Page the sections of the screen for the OLD and NEW records either together or separately. To page both the top and bottom sections together, position the cursor in the top three lines of the screen when making the forward or backward paging request. To page the OLD or NEW section only, position the cursor anywhere within the screen section that you want to page.

The keywords are generated when you exit the Generate Position and Synckey Keywords screen and return to the Compare screen. A Position keyword is generated for each field on the bottom section of the screen that has a field entered in the Compare To field. The Synckey keywords are generated based on the order entered in the Synckey order.

## Field Descriptions

**A**

An action field used to generate Synckey keywords.

Following are the valid values for this field:

**S**

Defines or modifies a Synckey

**X**

Removes a Synckey that has already been defined

**Num**

The relative field number of the field

**Field Name**

The name of the field

Following are the indentation rules for the Field Name column:

- The indention amount is 2 as long as the entire name of each field can fit within the space provided.
- If the condition in the first bullet is not true, and the entire name of each field can fit within the space provided, then the indention amount is 1.
- If the conditions in both the first and second bullets are not true, then the indention amount is 0.
- If the field name and table index values cannot fit in the space provided, then the table index values overwrite the rightmost characters of the field name.

**Pos**

The starting position within the record of the field

**Format**

The data type indicator followed by either the number of digits or characters allowed for the field as defined by the field definition.

Valid data type indicators are the following:

**B**

Binary

**C**

Alphanumeric

**F**

Floating-point

**N**

Zoned numeric

**P**

Packed

**S**

Signed

**Compare To**

The COMPARE TO column is located in the bottom section of the screen. This section is used to define the field names from the OLD Record that you want compared to the NEW Record. The screen is initially displayed with field names from the OLD layout automatically paired with fields of the same name from the NEW layout.

Following are the valid values for this field:

**The NUM of a field of the OLD record whose value you want compared.**

When a relative field number is typed, the field number is translated to a Field Name.

**The Field Name of a field of the OLD record whose value you want compared.**

## Multiple Layout Support

If your data set contains multiple record layout definitions, you may want to control building position keywords for only the records you are comparing. The files you are comparing may have multiple record formats that require comparison of different positions for each one. You can define a CRL position to define the conditions to use each record layout. You can then use this position as input for the Build Keywords process.

When CRLs are entered into the data set names on the Dataset Compare Layouts screen, the Old and New CRL File Matching screen appears. This screen allows you to match the old and new record layouts that you want to compare. The COBOL 01 level names are shown for each to allow you to do the matching.

```
----------  CA File Master Plus - Old and New CRL File Matching   -------------
  COMMAND ===>                                                 SCROLL ===> CSR

 OLD CRL File ----------- CUSTFILE of 'CUSTOMER.PROJECT.OLD.LAYOUT' ------------
 Num 01 Level Field Name                                                 Row 1
of 2
   1 CUSTOMER-CONTROL
   2 CUSTOMER-PROFILE
****************************** End of 01 Levels ******************************




 NEW CRL File ----------- CUSTFILE of 'CUSTOMER.PROJECT.NEW.LAYOUT' ------------
 Num 01 Level Field Name           Compare To                      Row 1 of 2
   1 CUSTOMER-CONTROL              CUSTOMER-CONTROL
   2 CUSTOMER-PROFILE              CUSTOMER-PROFILE
****************************** End of 01 Levels ******************************
```

**Num**

The relative number of the 01 level.

**01 Level Field Name**

The field name of the 01 level.

**Compare To**

The COMPARE TO column is used to define the 01 level from the OLD Record that you want compared to the NEW Record. The screen is initially displayed with the names from the OLD layout automatically paired with those with the same name from the NEW layout.

Valid values for this field are:

**The NUM of a layout from the OLD record whose value you want compared.**

When a relative field number is typed, the field number is translated to a Field Name.

The 01 Level Field Name of a layout from the OLD record whose value you want compared.

## Field Descriptions

**Num**

The relative number of the 01 level.

**01 Level Field Name**

The field name of the 01 level.

**Compare To**

The COMPARE TO column is used to define the 01 level from the OLD Record that you want compared to the NEW Record. The screen is initially displayed with the names from the OLD layout automatically paired with those with the same name from the NEW layout.

Valid values for this field are:

**The NUM of a layout from the OLD record whose value you want compared.**

When a relative field number is typed, the field number is translated to a Field Name.

**The 01 Level Field Name of a layout from the OLD record whose value you want compared.**

When the matching is complete, press the PF3 key to pass control to the Layout Selection screen.

```
CAWAPCMB ---------  CA File Master Plus -- Layout Selection  ------ Row 1 of 2
 COMMAND ===>                                                 SCROLL ===> CSR


    "Old" Dataset Record Layout: CUSTOMER.PROJECT.OLD.LAYOUT(CUSTFILE)
        Description: this crl maps the old file
    "New" Dataset Record Layout: CUSTOMER.PROJECT.NEW.LAYOUT(CUSTFILE)
        Description: this crl maps the new file

  S - Select Layout

A  "Old" 01 Level Field Name     "NEW" 01 Level Field Name         Positions
S  CUSTOMER-RECORD               CUST-RECORD                            Y
_  CUSTOMER-CONTROL              CUSTOMER-CONTROL                       N
****************************** End of 01 Levels *******************************
```

Enter an S next to the 01 level combination and press the Enter key to go to the Generate Position and Synckey Keywords screen for those 01 levels. Press the PF3 key to return to the Layout Selection screen. The Positions Generated column will be updated with a 'Y'. To complete the process of building Position keywords, repeat this for each record layout that will be involved in the compare.

## Generate the Keywords

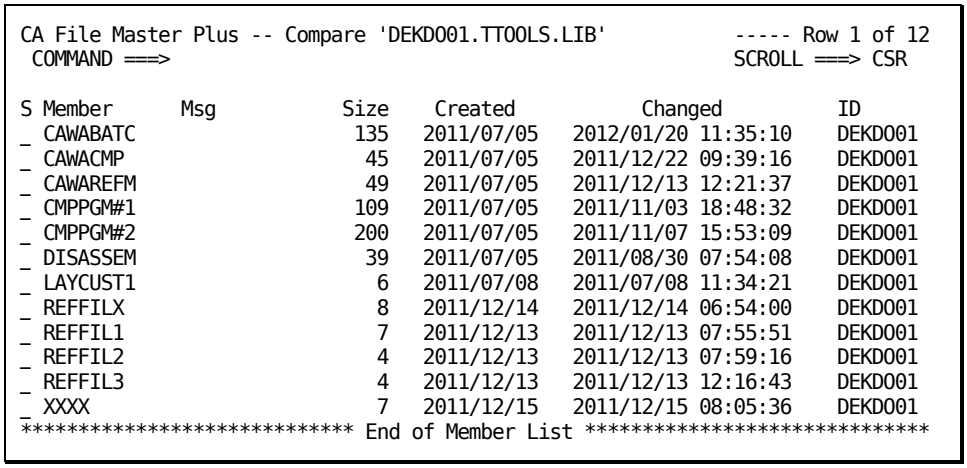
To generate the keywords, exit the Generate Positions and Synckey Keywords screen or the Layout Selection screen to return to the Dataset Compare screen. To view the batch JCL including the generated keywords in EDIT mode, enter 'E' in the execution mode on the Compare screen. Save the JCL to your own file or PDS if you want to reuse it.

If the BUILD function has been executed and keywords generated, a warning panel displays when you exit the Compare screen. Press ENTER to delete the generated keywords and return to the previous menu. When you press the END or PF3 keys, you are returned to the Compare screen. Execute the Compare to generate the keywords.

```
---------------- Compare Build Warning -----------------
COMMAND ===>


   You have generated keywords with the BUILD Function.

   Press ENTER to delete the keywords and exit compare.

   Enter END to return to the compare screen.
   Select Execution mode 'E' to Edit the JCL to review
   modify, and save the job to a permanent file.
```

## Compare Utility Member Directory

The Compare Utility Member Directory screen displays a list of the members in the Compare "OLD" Data set library. When you type a wildcarded member name, the directory contains a list of the members that match the member wildcard. Additionally, if selection criteria were specified to further filter the members to be compared, the list of members contains only those members matching the wildcard specification and the selection criteria.



```
CA File Master Plus -- Compare 'DEKD001.TTOOLS.LIB'          ----- Row 1 of 12
 COMMAND ===>                                                SCROLL ===> CSR

S Member      Msg           Size    Created          Changed          ID
_ CAWABATC                   135   2011/07/05   2012/01/20 11:35:10   DEKD001
_ CAWACMP                     45   2011/07/05   2011/12/22 09:39:16   DEKD001
_ CAWAREFM                    49   2011/07/05   2011/12/13 12:21:37   DEKD001
_ CMPPGM#1                   109   2011/07/05   2011/11/03 18:48:32   DEKD001
_ CMPPGM#2                   200   2011/07/05   2011/11/07 15:53:09   DEKD001
_ DISASSEM                    39   2011/07/05   2011/08/30 07:54:08   DEKD001
_ LAYCUST1                     6   2011/07/08   2011/07/08 11:34:21   DEKD001
_ REFFILX                      8   2011/12/14   2011/12/14 06:54:00   DEKD001
_ REFFIL1                      7   2011/12/13   2011/12/13 07:55:51   DEKD001
_ REFFIL2                      4   2011/12/13   2011/12/13 07:59:16   DEKD001
_ REFFIL3                      4   2011/12/13   2011/12/13 12:16:43   DEKD001
_ XXXX                         7   2011/12/15   2011/12/15 08:05:36   DEKD001
****************************** End of Member List ******************************
```

Primary commands supported by the Compare Utility Member Directory are as follows:

**CANCEL or CAN**

Cancels the compare operation. The LOCATE**,** MEMBER**,** and SORT commands assist in the location of the desired members.

**L | LOCATE**

This command, followed by a value, positions to the first member directory entry whose sort sequence field is greater than or equal to the specified value. For example, when the directory list is sorted by the Name column, the L ABC positions the member list to the first member in the list whose member name is greater than or equal to the name ABC.

**MEMBER**

This command, followed by valid selection criteria, specifies additional member selection criteria. Using this command format reduces the current member list to only those members that contain records that match the specified selection criteria. Successive MEMBER commands can be used to continually reduce the current member list. For example, MEMBER 'ABC' reduces the member list to only those members that contain the characters ABC in one of their records. A subsequent MEMBER 'XYZ' command reduces the member list to only those members that contain the characters ABC *and* XYZ.

**RES | RESET**

Clears the selection indicator for all the members of the list.

**SORT**

Sorts the directory by any of the columns in the directory when you type SORT XXX or SORT XXX Y where 'XXX' is one of the column literals and 'Y' is 'A' for ascending or 'D' for descending. For example, SORT CREATED sorts the directory in descending order of Created Date and SORT ID A sorts the directory in ascending order of User ID.

**S member**

Selects a member or group of members from the current member list.

## Field Descriptions

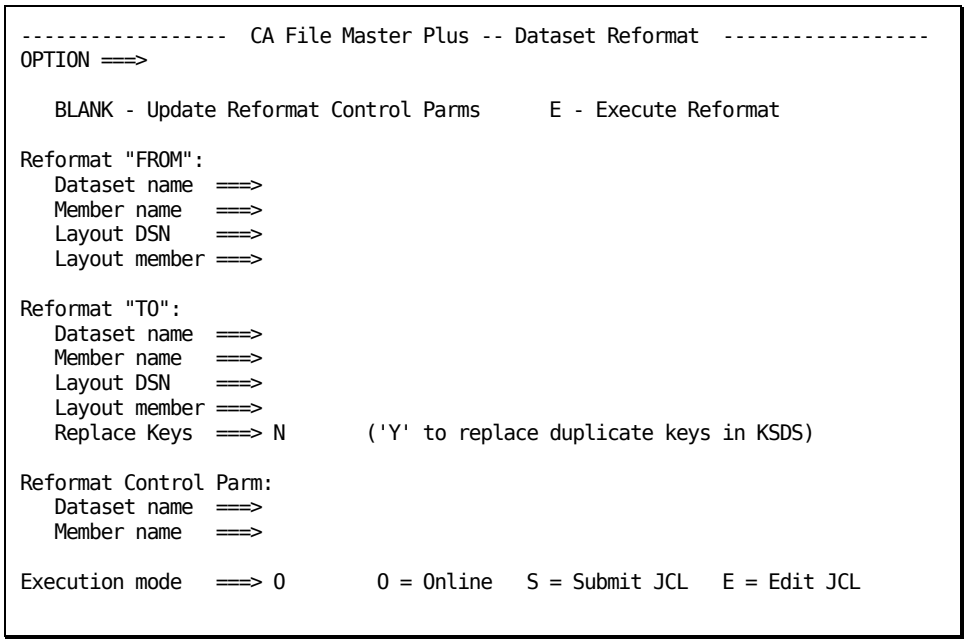
**Line item action ind**

Type one of the following commands to specify an action to be performed for the member represented by the line item.

- S – Select the member to be compared
- B –Browse the member using ISPF Browse
- E –Edit the member using ISPF Edit
- 1 – Browse the member using CA File Master Plus
- 2 – Edit the member using CA File Master Plus

# Data Set Reformat

The Data Set Reformat screen is used to reformat a data set according to differences between the "FROM" and "TO" record layouts and according to field-to-field translations rules in the Reformat Control Parameter.



```
------------------  CA File Master Plus -- Dataset Reformat  ------------------
OPTION ===>

   BLANK - Update Reformat Control Parms      E - Execute Reformat

Reformat "FROM":
   Dataset name  ===>
   Member name   ===>
   Layout DSN    ===>
   Layout member ===>

Reformat "TO":
   Dataset name  ===>
   Member name   ===>
   Layout DSN    ===>
   Layout member ===>
   Replace Keys  ===> N       ('Y' to replace duplicate keys in KSDS)

Reformat Control Parm:
   Dataset name  ===>
   Member name   ===>

Execution mode   ===> O        O = Online   S = Submit JCL   E = Edit JCL
```

Using this screen, specify the following information for the "FROM" data set (reformat input) and for the "TO" data set (reformat output).

- DSN (sequential file, PDS, or VSAM)
- Member Name (if library member)
- Layout DSN (PDS)
- Layout DSN member (PDS)

Also specify the DSN and Member name for the Reformat Control Parameters. Before executing the reformat process (using an option of E), use an option of blank to build or update the parameter member. Option blank presents the Define Reformat Parameter screen which is used to specify the field-to-field translation to be performed to reformat the "FROM" record into the "TO" record.

If the "TO" record contains redefined areas and different redefinitions are to be used depending on fields such as a record type field within the record, define the redefinition control information within your Redefinition Control Parameter PDS with a member name that matches the "TO" record layout name.

To assist in the specification of DSNs, each of the DSN fields on this screen has support for wildcarded DSNs and DSN Lists.

Each Member name field is supported by a member directory where you can select the desired member. To request a member directory, leave the member name field blank or type a wildcarded member name.

When you type a command line Option E (Execute Reformat), the reformat process is performed. If the Execution mode specified at the bottom of the screen is O (Online), the reformatting process is performed online. When the Execution mode is S (Submit) or E (Edit), batch JCL to perform the reformat is created and then either submitted or edited.

## Field Descriptions

**Reformat "FROM"**

**Data set name**

Type the DSN of the input file to the reformat process. This file can be a sequential file, PDS member, or VSAM file. This data set is reformatted according to the reformat specifications in the Reformat Control Parameter member.

**Member name**

If the data set being reformatted is a PDS, type the member name that is to be reformatted.

**Layout DSN**

Type the DSN of the Record Description Copy Member PDS that describes the input file to the reformat process.

**Layout member**

Type the Member Name of the Record Description Copy Member that describes the input file to the reformat process.

**Reformat "TO"**

**Data set name**

Type the DSN of the output file for the reformat process. This file can be a sequential file, PDS member, or VSAM file. This data set is updated by the reformat process according to the reformat specifications in the Reformat Control Parameter member.

**Member name**

If the output data set of the reformat process is a PDS, type the member name that is to be created or updated.

**Layout DSN**

Type the DSN of the Record Description Copy Member PDS that describes the output file of the reformat process.

**Layout member**

Type the Member Name of the Record Description Copy Member that describes the output file of the reformat process.

**Reformat Control Parm:**

**Data set name**

Type the DSN of the Reformat Control Parameter PDS. Each member of this parameter PDS is used to define the field-to-field relationships between the "FROM" record and the "TO" record for the reformat operation.

A Reformat Control Parameter member can be created or updated using the Define Reformat Parm screen that is accessed for a command value of BLANK.

**Member name**

Type the member name of the Reformat Control Parameter PDS to be used for the current reformat operation. This member defines the field-to-field relationships between the "FROM" record and the "TO" record for the current reformat operation.

A Reformat Control Parameter member can be created or updated using the Define Reformat Parameter screen that is accessed for a command value of BLANK.

**Execution mode**

The choices for execution mode are:

O – Perform the function on-line

S – Generate and submit JCL to perform the function

E – Generate JCL to perform the function and initiate an edit session on the JCL. You can alter the JCL as needed and submit the JCL or save it to another location.

## Data Set Reformat Parm

The Reformat Parm screen is used to build and update a member in the Reformat Control Parameter data set. Specify the field-to-field translations that are to occur in the reformat process by defining which fields in the "FROM" record are to be copied to the "TO" record. In the process of copying field values, reformatting occurs for fields whose position, length, field format, or number of decimal places is different between the "FROM" and "TO" records.

```
CA File Master Plus -- Reformat ---- MYDS.INST.REFORMAT(CUSTVND4)
  COMMAND ===>                                                  SCROLL ===> CSR

FROM Record ------------ CUSTVNDR of ABC.PROD.COPYLIB -------------------------
Num Field Name                    Pos    Format                     Row 1 of 28
    1 CV-CUSTOMER-VENDOR-RECORD     1      163
    2   CV-RECORD-TYPE-CODE         1 C      1
    3   CV-CUSTOMER-DATA            2      162
    4     CV-CUSTOMER-NUM           2 N      9
    5     CV-CUSTOMER-TYPE-CODE    11 C      2
    6     CV-ACCT-OPENED-DATE      13 N      6
    7     CV-DOB                   19 N      6
    8     CV-1ST-TRANSACTION-DATE  25 N      6
    9     CV-CURRENT-BAL           31 P    9.2
   10     CV-ORIG-BAL              37 P    9.2
   11     CV-PAYMENT-AMT           43 P    9.2
   12     CV-PAYMENT-PERIOD        49 N      2
   13     CV-NAME                  51 C     25
   14     CV-ADDR-1                76 C     30
   15     CV-ADDR-2               106 C     30
   16     CV-CITY                 136 C     20
   17     CV-STATE                156 C      2
   18     CV-ZIP-CODE             158 P      9
 TO Record   ------------ CUSTVND2 of ABC.PROD.COPYLIB -------------------------
 Num Field Name                    Pos    Format  Reformat           Row 1 of 28
    1 CV-CUSTOMER-VENDOR-RECORD      1      163
    2   CV-RECORD-TYPE-CODE          1 C      1 CV-RECORD-TYPE-CODE
    3   CV-CUSTOMER-DATA             2      162
    4     CV-CUSTOMER-NUM            2 P   11.2 CV-CUSTOMER-NUM
    5     CV-CUSTOMER-TYPE-CODE      9 C      2 CV-CUSTOMER-TYPE-CODE
    6     CV-ACCT-OPENED-DATE       11 N      6 CV-ACCT-OPENED-DATE
    7     CV-DOB                    17 N      8 CV-DOB
    8     CV-1ST-TRANSACTION-DATE   25 N      6 CV-1ST-TRANSACTION-DATE
    9     CV-CURRENT-BAL            31 P    9.2 CV-CURRENT-BAL
   10     CV-ORIG-BAL               37 P    9.2 CV-ORIG-BAL
   11     CV-PAYMENT-AMT            43 P    9.2 CV-PAYMENT-AMT
   12     CV-PAYMENT-PERIOD         49 N      2 CV-PAYMENT-PERIOD
   13     CV-NAME                   51 C     25 CV-NAME
   14     CV-ADDR-1                 76 C     30 CV-ADDR-1
   15     CV-ADDR-2                106 C     30 CV-ADDR-2
   16     CV-CITY                  136 C     20 CV-CITY
   17     CV-STATE                 156 C      2 CV-STATE
   18     CV-ZIP-CODE              158 P      9 CV-ZIP-CODE
```

The DSN and member name of the parameter member being created or updated appears in the top right corner of the screen.

The top section of the screen, after the heading, presents the record layout of the FROM Record. The bottom section of the screen presents the TO Record layout and contains a field on each line for typing the Field Name of the FROM Record to be copied to the TO Record. For new parameter members, the Reformat Control Parm defaults to copy all non-group fields that have the same Field Name in the "FROM" and "TO" records.

For each field in the "FROM" and "TO" records, the following screen columns are presented:

## Field Descriptions

**Num**

The field's relative field number

**Field Name**

The field's name

The indentation rules for the Field Name column are:

- The indention amount will be 2 as long as the entire name of the each field can fit within the space provided.
- The indention amount will be 1, if point 1 is not true, and the entire name of each field can fit within the space provided.
- The indention amount will be 0 if both points 1 and 2 are not true
- Table index values will overwrite the rightmost characters of the field name if the field name and table index values cannot fit in the space provided.

**Pos**

The starting position within the record of the field

**Format**

The data-type indicator followed by either the number of digits or characters allowed for the field as defined by the field definition.

Valid data-type indicators are:

B – Binary C – Alphanumeric F – Floating Point

N – zoned numeric P – Packed S – Signed

Also included is the field's length as described per digit or character.

The TO Record section of the screen has a Reformat column that is used to define the Field Names of fields from the FROM Record that are to be copied to the TO Record.

**Reformat**

Valid values for this field are:

- The NUM (Relative field number) of a field of the "FROM" record whose value is to be copied. When a relative field number is typed, the field number is translated to a Field Name.
- The Field Name of a field of "FROM" record whose value is to be copied.
- A literal that specifies the value to be copied to the output record. Literals for alpha-numeric fields must be in one of the following formats:

  ='*aaaa*' where '*aaaa*' is the alpha-numeric value.

  =X'*xxxx*' where '*xxxx*' is the hexidecimal value.

- Literals for numeric fields must be in the following format:

  =*nnn* where '*nnn*' is a numeric specification that may contain numeric digits, a decimal place, and a leading minus sign.

- Following are examples of valid literals.

  ='ABC' =1

  =X'FFFFFF' =-33.33

- Fields for which no reformat parameter is specified are set to blanks if alphanumeric and zero if numeric.

Page the sections of the screen for the from and to records either together or separately. To page both the top and bottom sections together, position the cursor in the top three lines of the screen when the forward or backward paging request is made. To page the from or the to section only, position the cursor anywhere within the screen section that you want to page.

# Environment Utilities Sub-Menu

The Environment Utilities Sub-Menu provides a list of the Environment Utility functions that can be performed. Type an option value of 1 thru 3 to select the desired Environment Utilities option.

```
-----------  CA File Master Plus -- Environment Utilities Sub-Menu  -----------
OPTION ===>


            1  Current ISPF dataset allocation

            2  Hardware and software environment

            3  DASD unit configuration
```

The functions performed by the three options are:

- Current ISPF data set allocation – Invokes the ISRDDN TSO command to provide information and modification functions for the data sets allocated to your TSO User ID. This is a utility for managing data sets that are currently allocated to your TSO session. We recommend you use the Help facility when you first type this option to review the line commands that are available.
- Hardware and software environment – Provides some miscellaneous information about the hardware and software configuration of your system.
- DASD unit configuration – Provides a list of the Unit Names defined to your system and provides you with the ability to get information about each volume within each Unit Name and each data set within each volume.

## Current ISPF Data Set Allocation

The Current ISPF Data Set Allocation screen displays a list of all the data sets currently allocated to your TSO session.

```
                        Current Data Set Allocations            Row 1 of 72
Command ===>                                                  Scroll ===> PAGE

 Volume   Disposition Act DDname   Data Set Name   Actions: B E V M F C I Q
          NEW,DEL    >    CAOESTOP NULLFILE (Dummy)
 ISPFR1   SHR,KEEP   >    CIDTABL  MOORO10.ISPF.ISPPROF
 OSI005   SHR,KEEP   >    COMTLIB  AD1DEV.COMMON.TABLES
 MVSPP3   SHR,KEEP   >    EDCHKDD  SYSPROG.JCLCHK70.PPOPTION(PROCCA31)
 MVR1AD   SHR,KEEP   >    ISPLLIB  SYS1.DGTLLIB
 OSI002   SHR,KEEP   >    ISPMLIB  AD1DEV.COMMON.MESSAGES
 MVSLIB   SHR,KEEP   >             SYS2.ISPMLIB
```

## Field Descriptions

**ACT**

Type any valid action as documented following:

B – ISPF Browse

E – ISPF Edit

V – ISPF View

M – Display Enhanced Member List

F – Free the entire ddname

C – ISPF Compress a PDS using the existing PDS allocation

I - Data set Information

Q – Display list of users or jobs using the data set

S – Alias for B

Z - Alias for C

# Hardware and Software Environment

The Hardware and Software Environment screen displays a list of the current operating system's levels and softwares.

```
BROWSE    Environment.Display.for.system=XX01                          XX0

 Command ===>                                                Scroll ===> CSR
******************************** Top of Data ********************************

Operating System.............z/OS       IPL Date.....................2012-08-15
OS Level.....................01.10.00    IPL Time.....................21:13:54
System Name..................CA31        IPL Type.....................CLPA
SMFID........................CA31        IPL UCB/Volume...............2D47/MVR1AD
Plex Name....................PLEXC1      IPL Parm.....................24D731M
Hardware Name................MF01        CVTUSER......................00F96C08
LPAR Name....................CA31        Security System..............TOPS

DFP..........................3.3.2       DFSMS........................1.10.0
TSO..........................3.10.0      ICKDSF.......................1.17
```

# DASD Unit Configuration

The DASD Unit Configuration screen displays a list of all of the Unit Names (for example, generic device types) that are defined to your system.

```
------------------  CA File Master Plus -- DASD Unit Names  Row 1 to 10 of 6
 COMMAND ===>                                                SCROLL ===> CSR

         Below is a list of the Unit Names defined to your system.
         Select a Unit Name to receive summary information about
         each volume associated within that Unit Name.

         S  UNIT NAME
         _  DASD
         _  SYSALLDA
         _  SYSDA
         _  TSO
         _  3380
         _  3390
************************** END OF DASD UNIT NAMES ***************************
```

Type **S** to the left of any Unit Name to receive the Volume Summary screen with the information for that Unit Name. The Volume Summary screen lists the volume serials related to the selected Unit Name with summary information for each volume. From within the Volume Summary screen, you can select a volume to receive the VTOC Utility Data Set List for that volume, which contains a line item for each data set on the volume.

## Field Descriptions

**LINE ITEM ACTION**

Type **S** to select the Unit Name to receive a display of summary information about each volume associated within that Unit Name.

# Chapter 8: Printing Data Sets

You can print sequential, VSAM, and partitioned data set members using the Print Dataset screen.

**Follow these steps:**

1. Select PRINT from the Main Menu.

   The Print Dataset screen opens.

2. Complete the following fields:

   **Dataset name**

   Specifies the data set name of the data set to be printed. The data set can be sequential, PDS, or VSAM.

   You can use wildcard and DSN list syntaxes in the DSN fields. Do one of the following:

   - Type a wildcarded DSN containing an asterisk (*) or a percent sign (%) for unknown characters of the DSN.
   - Type D to request a directory of DSN Lists.
   - Type D *dddddd* where '*dddddd*' is the name of a DSN list.

   **Member name**

   Defines the name of the member you want to print. You can enter a fully qualified or wildcarded member name, or leave the field blank to see a list of members in the data set.

   **Volume**

   Specifies the volume serial number of the volume on which the data set resides if the data set to be processed is uncataloged.

   **Print mode**

   Specifies the print mode. Type one of the following values:

   **C**—(Character)–Record printed with 100 bytes to a line with unprintable characters displayed as blank.

   **H**—(Hex)–Three line display with character over hex value.

   **S**—(Single Record Format)–A display line for each field in the record with each line containing a field name and the field's value.

**Starting Key/Rec #**

Defines where to start printing within the input file. The format of the starting location depends on both the file type. You can specify the starting key by entering a value in one of the following formats:

- Sequential file–starting record number (numeric)
- VSAM KSDS–Key of start position in C'xxx' format or X'hhhh' format (for example, C'0001' or X'40400000')
- VSAM ESDS–RBA of start position in X'hhhh' format (Ex. X'60F0E8')
- VSAM RRDS–Relative Record Number of start position (numeric)

**Print limit**

Specifies the maximum number of records to be printed.

**Note**: If you have not specified a value or if the value in the Print Limit field equals zero, no limit is placed on the number of records printed.

**Execution Mode**

Defines the print execution modes. Specify one of the following:

**S**—Generate and submit JCL to perform the function.

**E**—Generate JCL to perform the function and initiate an edit session on the JCL. You can alter the JCL and either submit the JCL or save it to another location.

**Layout dataset**

Specifies the name of the PDS that contains the layout that you want to use.

**Layout member**

Specifies the name of the layout member that you want to use.

Leave this field blank to receive a directory of the members in the record layout PDS, if the print mode is single record format.

Type a wildcarded member name to receive a directory of members that match that wildcard.

**Selection Criteria**

Specifies selection criteria to filter the records or members to be printed.

**Note**: Selection criteria are ignored if you type a single asterisk in the print member name. If you want to apply selection criteria to all members, leave the print member name blank.

Selection criteria are used to restrict your view to certain members or records based on the following types of parameters:

- A condition that evaluates data values in each record or member
- Presence of a character string within a library member, record, or specified columns
- Specification of the first record displayed based on relative record number, VSAM key, or VSAM RBA
- Limit to the number of records displayed

For a complete explanation of selection criteria and examples of valid syntax, see the chapter "Filters."

3. (Optional) To change the print destination in the Override Print Output Control panel, set the Confirm print class & destination field to Y in the Setup option 1 DEFAULTS.

   The Override Print Output Control panel is prepared with the defaults that you set in the Setup option 2 PRINT. If you did not create a default manually, the panel is prepared with the defaults that were specified in the table of options for your site.

```
----------  CA File Master Plus -- Override Print Output Control  ----------

COMMAND ===>

Sysout class              ===> A

Number of Copies          ===> 1

Enter One of the Following to Control Print Destination (Optional):

      Destination printer ===>


   OR External JES node   ===>

      Userid at JES node  ===>


   OR Sysout writer name  ===>


   OR Print dataset name  ===>

      Dataset disposition ===>        (NEW, SHR, or MOD)


   ENTER to proceed   END or CANCEL to bypass override
```

Complete the following fields:

**Sysout class**

Specify a Sysout class.

**Number of Copies**

Specify the number of copies to print to a sysout.

Specify one of the following fields:

**Destination printer**

Specify a printer you want to use.

**External JES node**

Specify a JES node where you want the printout to be sent.

**Sysout writer**

Specify a writer name to let the printout be processed by a specific writer.

**Print dataset**

Specify a data set name to save the print data to. The data set can be a sequential data set or an existing library.

- Printing to a library requires you to enter the Print data set name in the form dataset-name(member). The Dataset disposition must be SHR.
- Printing to a sequential data set creates a new data set if no data set exists and the Dataset disposition is NEW. When the Dataset disposition is SHR, the printed data replaces the contents of the Print data set. When the Dataset disposition is MOD the printed data are appended to the contents of the Print data set.

4. Press Enter to start printing.

   Enter CANCEL or END if you want to use your initial settings to print.

# Chapter 9: Filters

You can create filters to identify specific records or members using selection criteria. Applying a filter to a data set or member restricts the data view, making it easier for users to work with large data sets.

*Selection conditions* are the individual search terms used to identify the specific records or members you seek. A selection condition consists of a field, an operator, and a literal, or the value to which the field is compared.

*Selection criteria* are collections of selection conditions and are saved in a selection criteria data set or member for future reuse. The terms *filter* and *selection criteria* are often used interchangeably.

The application supports two types of filters:

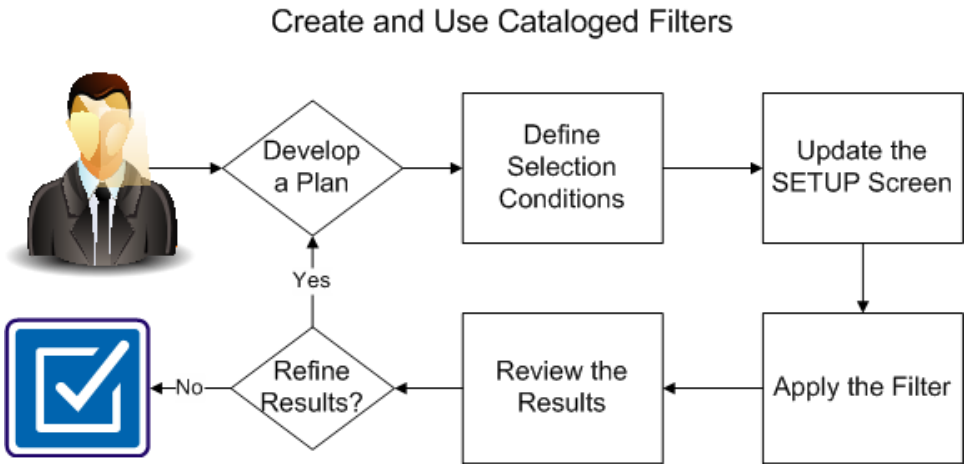
- *Cataloged* filters are selection criteria that are stored in a selection criteria data set or member. Any authorized CA File Master Plus user can reuse or modify a cataloged filter at any time.
- *Uncataloged* filters are used once and are not saved. As a result, uncataloged filters are generally used for simpler searches. You can use as many selection conditions as needed to locate records or members.

Consider both filter complexity and potential reuse when deciding which type of filter to use.

This section contains the following topics:

# Create and Use Cataloged Filters

This process describes how to use a cataloged filter to view specific data set members or records using the CA File Master Plus ISPF interface.




To use a cataloged filter to view specific records or members in a data set, complete the following procedures:

1. Develop a plan (see page 241)
2. Define Selection Conditions (see page 241)
3. Update the SETUP Screen (see page 243)
4. Apply the filter (see page 244)
5. Review the results (see page 244)

## Develop a Plan

To view specific data in a data set, first develop a detailed plan. A good plan identifies the exact results you are looking for and the components needed to achieve the results. Consider the data you want in your filtered view and the criteria that best identify that data.

Follow these steps:

1. Clearly define the results you want.

   For example, you are an insurance claims analyst and want to identify all automobile claims made in Boston since 2010.

2. Identify the data set that contains the records or members to which you want to apply the filter.

3. Determine which criteria are required to achieve those results.

   For example, claim type=auto; claim year>2010; city=Boston; state=MA.

4. Identify the data set or member that contains the selection criteria you need. If no appropriate selection criteria data set or member exists, decide where you want to save the selection criteria you create.

## Define Selection Conditions

Selection criteria contain selection conditions that identify specific records or members in a data set. Cataloged filters use selection criteria that are stored in a data set. Consider the selection criteria that currently exist and determine if any of them meet your needs entirely. If no existing selection criteria meets your needs, you can modify an existing selection criteria or create a new one. Changes to existing selection criteria are automatically saved.

Follow these steps:

1. Select FILTER from the Main Menu (option 5).

   The Define or Update a Selection Criteria screen opens.

2. Complete the following fields:

   **DSN**

   Identifies the data set name of the data set that contains the selection criteria that you want to modify. A wildcarded DSN retrieves a list of data sets from which you select the data set that you want.

   If you are creating a selection criteria, this field defines the selection criteria data set in which you want to store the new member.

**Member name**

Defines the member name of the filter you want to modify or create, if the selection criteria is a member in a PDS.

Leave blank or type a wildcarded member name to display a directory of existing members from which you can select the member that you want to update.

3. Press Enter to validate the entries.

   The Update Selection Criteria screen opens. The Selection DSN and Selection Member fields display the information you entered in the previous step.

4. Complete the following fields:

   **Description**

   Describes the purpose of the selection criteria.

   **Layout data set**

   Defines the data set name that contains the record layout to use to build condition lines for the selection criteria.

   **Layout member set**

   Defines the member name of the record layout to use to build condition lines for the selection criteria.

5. Type **LAYOUT** at the command prompt.

   The Selection Criteria Condition screen opens.

6. Move your cursor to the line containing the selection criteria that you want to use.

7. Complete the following fields:

   **OP**

   Defines the condition for the selection condition.

   **Valid values:**

   = or EQ—Equal

   ^= or NE—Not equal

   > or GT—Greater than

   < or LT—Less than

   >= or GE—Greater than or equal

   <= or LE—Less than or equal

   CO—Contains

**Compare Value/Field Name**

Defines the literals to which the field is compared or the field name of another field to which the field is compared.

**Valid values:**

- Alphanumeric literals contain a value within quotes. Precede the first quote with one of the following letters:

  C—Compares the exact string within the quotes.

  T—Compares the string within quotes without regard to case.

  X—Compares the hexadecimal values.
- Numeric literals are defined without quotes or within quotes preceded by a designation of the field format (such as P'0' or N'0').
- Multiple literals evaluate a field against multiple values.

For example, as an insurance claims analyst, you would create the following selection conditions to find all automobile claims in Boston since 2010:

- *Claim_year* GT C’2010’
- *Claim_type* EQ T’auto’
- *City* EQ T'boston’
- *State* EQ T'ma’

8. Type **End**.

   The Define or Update a Selection Criteria screen displays.

9. Type **End**.

   The main menu displays.

## Update the SETUP Screen

Before you can apply a filter, identify the selection criteria data set or member that contains the selection criteria that you want to use as your filter.

Follow these steps:

1. Select SETUP from the Main Menu (option 0.3).

   The Define & Update Processing Parms screen opens.

2. Type the name of the data set that contains the selection criteria you want to use in the Selection Criteria field.

3. Press Enter to validate the entry.

4. Type **End**.

   You are returned to the main menu.

## Apply the Filter

With the selection criteria defined and the setup completed, apply the filter to view your results. The application supports filtering in the Browse, Edit, Copy, Search, Update, Compare, and Print options. This procedure shows how to apply the filter using the Browse option.

Follow these steps:

1. Select BROWSE from the main menu (option 1).

   The Browse Dataset screen opens.

2. Enter the name of the data set that contains the data to which you want to apply the filter in the Dataset name field.

3. Enter the name of the member that contains your selection conditions in the Selection Criteria Member field, if your selection criteria is a member in a data set.

4. Press Enter to validate the entry and apply the filter.

   A list displays showing the records or members that meet your selection criteria.

## Review the Results

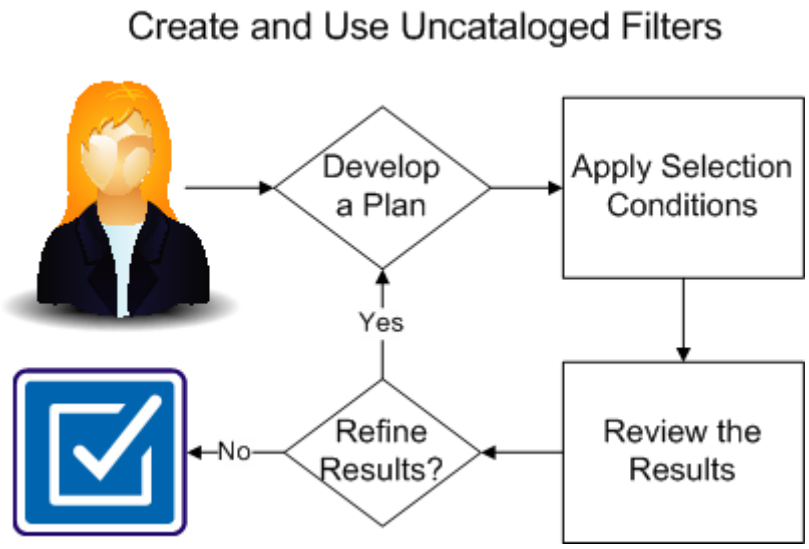
You have now successfully applied the cataloged filter and see the list of records that meets the conditions specified in your selection criteria.

Review the results of your search to determine if you have achieved the results that you want. If necessary, refine your search by repeating the following procedures:

1. Develop a plan (see page 241)
2. Define Selection Conditions (see page 241)
3. Apply the filter (see page 244)

# Create and Use Uncataloged Filters

This process describes how to use an uncataloged filter to limit your view of a data set to specific members or records.




To use an uncataloged filter to view specific records or members in a data set, complete the following procedures:

1. Develop a plan (see page 246)
2. Apply Selection Conditions (see page 246)
3. Review the results (see page 247)

## Develop a Plan

To create an uncataloged filter to view specific data in a data set, first develop a detailed plan. A good plan identifies the exact results you are looking for and the components needed to achieve the results. Consider the data you want in your filtered view and the criteria that best identify that data. Use an uncataloged filter if you do not need to use many selection criteria and if you do not want to save the search criteria statements for future use.

Follow these steps:

1. Clearly define the results you want.

   For example, you are an insurance claims analyst and want to identify all automobile claims since 2010.

2. Identify the data set that contains the records or members to which you want to apply the filter.

3. Determine which criteria are required to achieve those results.

   For example, claim type=auto; claim year>2010.

## Apply the Selection Conditions

To create an uncataloged filter, enter selection conditions into the Selection Criteria field of the option screen you want to use. The application supports filtering in the Browse, Edit, Copy, Search, Update, Compare, and Print options. This procedure shows how to apply an uncataloged filter using the Browse option.

Follow these steps:

1. Select BROWSE from the main menu (option 1).

   The Browse Dataset screen opens.

2. Type the name of the data set that contains the data to which you want to apply the filter in the Dataset name field.

3. Type the first selection condition in the first line of the Selection Criteria field.

4. Type any additional criteria on subsequent lines.

   For example, as an insurance claims analyst, you would create the following selection conditions to find all automobile claims since 2010:

   - *Claim_year* GT C'2010'
   - *Claim_type* EQ T'auto'

5. Press Enter to validate the entry and apply the uncataloged filter.

   A list displays showing the records or members that meet your selection criteria.

## Review the Results

You have now successfully applied the uncataloged filter and see the records or members that meet the specified selection conditions.

Review the results of your search to determine if you have achieved the results that you want. If necessary, refine your search by repeating the following procedures:

1. Develop a plan (see page 246)
2. Apply the Selection Conditions (see page 246)

# Condition Specifications

The following table shows some sample condition specifications.

| Condition Specification | Description |
|---|---|
| MEMBER | Specifies that subsequent selection condition apply to PDS member selection only. This parameter and subsequent selection criteria are ignored if specified for non-PDS data sets. |
| RECORD | Specifies that subsequent selection condition apply to record selection only. |
| 101 = C'NY' | Position 101 for a length of 2 equals 'NY' |
| 1(3) = C'001' | Position 1 for a length of 3 equals '001' |
| C'TEXAS' | Character string 'TEXAS' anywhere in the record |
| 'TEXAS' | Character string 'TEXAS' anywhere in the record |
| 1(3) = C'001' & 101 = C'NY' | Compound condition |
| 10(4) EQP | Pos 10 for a length of 4 is a valid packed value |
| 80 = C'NY' C'NJ' C'MA' | Position 80 equals one of the three values |
| 80 = C'NY,NJ,MA' | Position 80 equals one of the same three values |
| 100(2) = P'0,1,999' | Two-byte packed field equals one of three values |

| | | |
|---|---|---|
| | 100 = C"100,00" | Position 100 for a length of 7 equals '100,000'<br>**Note:** Quotes are required when the search string contains a comma |
| 82(2) > 84 | | Compare position 82 to position 84 for length of 2 |
| 101(20) CO C'NEW YORK' | | Looks for the character string in columns 101-120 |
| INLIM(5000) | | Stop reading/selecting after reading 5000 records. |
| SELLIM(1000) | | Only select 1000 records based on selection criteria |
| STARTKEY='56789' | | Select keyed VSAM records starting with key '56789' |
| STARTREC=1001 | | Select records starting with record number 1001 |
| STARTRBA=X'1FD8' | | Select records starting with the record with RBA x'1FD8' |

**More information:**

Filters (see page 239)
Create and Use Cataloged Filters (see page 240)
Create and Use Uncataloged Filters (see page 245)

# Chapter 10: Record Layouts

Layouts control what information is displayed and how information is formatted when viewing a data set or its members. You can specify a layout to use when working with any data set or member. The layout provides an easy way to control which fields are viewed and how records are formatted. Layouts also help to identify which records are displayed.

CA File Master Plus supports the use of two different types of layouts: ordinary COBOL or PL/I layouts and custom layouts.

This section contains the following topics:



## Ordinary Layouts

An *ordinary layout* is a COBOL or PL/I record definition, the kind you would define in a copy member to be compiled with your COBOL or PL/I application program. An ordinary layout can be a member of a PDS, a CA Librarian data set, or a CA Panvalet data set. Use an ordinary record layout wherever CA File Master Plus supports the use of record layouts to map your record data, including the following activities:

- Browsing or editing a file using single-record or multi-record formatted display mode
- Printing data from any online or batch function
- Reformatting file data using the Reformat (Option 3.11) function
- Generating record selection criteria using the Filter (Option 5) function
- Using dynamic selection criteria for use with any online or batch function
- Defining a custom record layout using the Layout (Option 6) function

Ordinary layouts cannot contain procedural statements or other program source statements. To map file data using a record layout embedded in a multi-layout copy member or source program, you must define a custom layout.

# Custom Layouts

A *custom layout* defines one or more custom views based on COBOL or PL/I layouts. A custom layout must reside in a PDS.

Using a custom layout you can do the following:

- Map data using different record layouts for different record types
- Eliminate layout fields that you do not want to include in your view
- Map only a portion of a file record starting at a specified record offset

A custom layout contains references to one or more ordinary COBOL or PL/I layouts. You can use custom layouts anywhere that [assign the value for vfor in your book] allows a layout, except within another custom layout.

# View an Ordinary Layout

View ordinary COBOL or PL/I record layouts in the View Layout screen.

**Follow these steps:**

1. Select LAYOUT from the Main Menu.

   The Record Layout screen opens.

2. Type the data set name and member name of the layout that you want to view.

3. Type **V**, and press Enter.

   The View Layout screen shows a formatted view of the ordinary record layout. You cannot modify the content of this screen.

```
-----  Record Layout 'CUSTREC' of 'CUSTOMER.PROJECT.COPYLIB'------- Row 1 of 31
 COMMAND ===>                                                 SCROLL ===> CSR

    Field Name                          Pos     Format     Len
01 CUST-RECORD                            1        163     163
  05 CUST-CUSTOMER-NUM                    1  N       1       1
  05 CUST-CUSTOMER-TYPE-CODE              2  C      10      10
  05 CUST-ACCT-OPENED-DATE                12 N       8       8
  05 CUST-DOB                             20 N       8       8
  05 CUST-1ST-TRANSACTION-DATE            28         6       6
    10 CUST-1ST-TRANSACTION-MM            28 N       2       2
    10 CUST-1ST-TRANSACTION-DD            30 N       2       2
    10 CUST-1ST-TRANSACTION-YY            32 N      30       2
  05 CUST-CURRENT-BAL                     34 P     4.2       4
  05 CUST-ORIG-BAL                        38 P     4.2       4
  05 CUST-PAYMENT-AMT                     44 P     4.2       4
  05 CUST-PAYMENT-PERIOD                  48 N       2       2
  05 CUST-NAME                            50 C      25      25
  05 CUST-ADDR-1                          75 C      30      30
  05 CUST-ADDR-2                         105 C      30      30
  05 CUST-PYMT-HISTORY                   135         18      18
    10 CUST-PYMT-ENTRY                   135          9       9  Occurs 12
      15 CUST-XYZ                        135 C        5       5  Redefined
      15 CUST-XYZ-REDEFINED              135 N        5       5  Redefinition
      15 CUST-PYMT-RECEIVED              140 PS    5.2        4
```

This screen displays the following fields:

Field Name

Identifies the field level number and field name with indentation to indicate the hierarchy of the fields.

The indentation rules for this column are as follows:

- The indentation will be 2 as long as the entire name of each field fits within the space provided.
- The indentation will be 1 if the previous point is not true and the entire name of each field fits within the space provided.

- The indentation will be 0 if both the previous points are not true.

Pos

Identifies the field's starting position.

Format

Identifies the data-type indicator followed by either the number of digits or characters allowed for the field as defined by the field definition.

Valid data-type indicators are:

- B—Binary
- P—Packed
- C—Alphanumeric (EBCDIC)
- S—Signed
- F—Floating point
- U—Alphanumeric (UTF-16)
- N—Any numeric field (EBCDIC)
- D—Any numeric field (UTF-16)

Len

Identifies the length of the field in bytes. For packed or binary numeric fields, this value is not equal to the number of digits. For UTF-16 fields, this value represents the physical length of the field.

4. To print the current display or to save it to a data set, enter the FMPRINT command in the View Layout screen.
   - When the Confirm print class & destination option in the defaults (Setup option 1 DEFAULTS) is set to N, the print or save use the destination that is defined in the Print defaults (Setup option 2 PRINT).
   - When the Confirm print class & destination option in the defaults (Setup option 1) is set to Y, the Override Print Output Control panel is displayed. Set one of five possible destinations for the print or save.

     **Note:** For more information about changing the print destination see Chapter 8 Printing Data Sets.

You can use the Select Member screen if you do not know the name of the layout member or if you want to select the layout member from a list.

**Follow these steps:**

1. On the Record Layout screen, leave the Member field blank or type a wildcarded member name, and press Enter.

   The Select Member to process from screen displays a list of members from the library.

2. Type one of the following valid line action codes for any layout member:

   **V** (View Formatted Record Layout)—displays a formatted view of an ordinary COBOL or PL/I record layout. You cannot view custom record layouts using this option.

   **B** (ISPF Browse)—browses a layout file using ISPF BROWSE

   **E** (ISPF Edit)—edits a layout file using ISPF EDIT

   **1** (File Master Browse)—browses a layout file using CA File Master Plus

   **2** (File Master Edit)—edits a layout file using CA File Master Plus

   **Note:** You can also type U to update a custom layout. For more information about custom layouts, see Create a Custom Layout (see page 253).

You can use the LOCATE, RESET, and SORT primary commands to find the member you want. For more information about these commands, see Primary Commands (see page 56).

# Create and Apply a Custom Layout

A *custom layout* defines one or more custom views based on COBOL or PL/I layouts. Use a custom layout to create one or more customized views of your file data based on one or more ordinary layouts. When you create a custom layout with multiple views, you define conditions for which each view is used. You can include and exclude fields to display, and you can specify which portion of each record should be mapped by your layout. A custom layout member can only be created using the Layout (Option 6) function. Use a custom layout in place of an ordinary layout almost anywhere that the use of layouts is supported.

You cannot use a custom in the following situations:

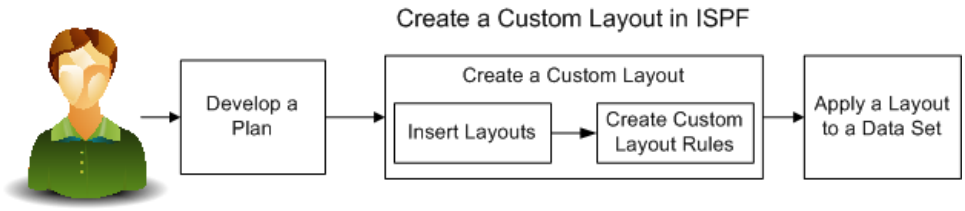
- Reformatting file data using the Reformat (Option 3.11) function
- Defining another custom record layout using the Layout (Option 6) function

You can use custom layouts to accomplish the following tasks:

- Define multiple views for a file containing more than one record type
- Control which view should be used for each record based on content
- Select which fields should be included or excluded from each view
- Use partial layouts to map only selected portions of your records
- Use layouts residing within multi-layout copy books or source programs

Custom layouts must reside in a partitioned data set with 80-byte records. They may coexist with your ordinary COBOL or PL/I record layouts; but custom record layouts are typically maintained in a separate partitioned data set defined in the Parm Files (Option 0.3) screen. The Layout Dataset always refers to the partitioned data set containing your custom layout definition. The Layout Member refers to the member name that contains the custom layout.

This process describes how to create and apply custom layouts using the ISPF interface.




To create and apply a custom layout, complete the following steps:

1. Develop a plan
2. Create a custom layout
3. Apply a layout to a data set

## Develop a Plan

To format data in a data set using a custom layout, first develop a detailed plan. A good plan identifies the exact results you are looking for and the components needed to achieve the results. Consider the data you want to see, and the existing layouts that format the data as you want it shown.

**Follow these steps:**

1. Clearly define the results you want.
2. Identify the data set that contains the records or members to which you want to apply the layout.
3. Identify the layouts that you want to include in your custom layout.
4. Identify the rules you need in the custom layout to identify which layout to apply to each record.

## Create a Custom Layout

Before you create or update a custom record layout, you may need to select a member from the member directory.

**Follow these steps:**

1. Select LAYOUT from the Main Menu (option 6).

   The Record Layout screen opens.

2. Type name of the DSN where you want the new custom layout to reside.

3. Type U and press Enter.

   The Select member to process panel displays.

4. Type I next to the member where you want the new custom layout to reside and press Enter.

   The Custom Record Layout Member Update screen displays, showing the DSN that you specified.

5. Type the name of your new custom layout in the Custom Layout Member field. This must be a new member name.

6. Type a description for the new layout.

7. Insert copybooks before you press Enter and the new custom layout is created.

## Insert Layouts

After you have created the new custom layout and entered a description, add copybooks to the custom layout. You will specify conditions under which each copybook is used for a record. You can add as many copybooks as you want to the custom layout. Insert copybooks into a custom layout from the Custom Record Layout Member Update screen.

**Follow these steps:**

1. Type the name of the member and data set in the Member and Layout DSN fields for the copybook that you want to add and press Enter.

   The Custom Layout Entry Field Update panel displays.

   **Note:** If the specified copybook has more than one 01 level layouts, the Layout Selection panel displays. Type S in the action field and press Enter to specify the copybook to add to the custom layout.

2. Specify the rules for this copybook.

   **Note:** For more information about specifying the rules for a copybook, see "Create Custom Layout Rules (see page 257)."

3. Type I next to a copybook to insert additional layouts.

   A new line is inserted above the copybook.

4. Type the name of the member and data set of an additional copybook and press Enter.

   The Custom Layout Entry Field Update panel displays.

5. Specify the rules for this copybook.

6. Repeat steps 3 through 5 until the custom layout contains all the copybooks that you want.

7. Type Y in the Default field for one of the copybooks to specify the default copybook. The default copybook is applied to records that do not meet any of the criteria that you specify for each copybook.

## Create Custom Layout Rules

For each view, you must define rules that define when a specified copybook will be used. For single-record or multi-record formatting mode, each record is evaluated according to the defined rules to determine which layout will be used.

The rules are evaluated in the order that the copybooks are defined to the custom record layout. When the conditions for a copybook are satisfied, that layout is used to format the record data, showing only the fields defined in the custom record layout. If no conditions are met, the default copybook is applied.

You can create rules that compare fields against either a literal value or other fields. You can also use rules to define which fields to display when a copybook is applied.

After you add a copybook to a custom layout and press Enter, the Custom Layout Entry Field Update screen displays. You can also access this screen by entering an S in the action field to the left of one of the existing copybooks in the Custom Record Layout Member Update screen. Use this screen to define the rules that determine when the copybook is applied and which fields to display when using that copybook.

**Follow these steps:**

1. Type S in the action field for a copybook field that you want to use for a rule.
2. Enter one of the following operands in the OP field on that line:

   **= or EQ**

   Equals

   **^= or NE**

   Not equal

   **> or GT**

   Greater than

   **< or LT**

   Less than

   **>= or GE**

   Greater than or equal

   **<= or LE**

   Less than or equal

   **CO**

   Contains
3. Specify the value for the condition in the Compare Value or Field Name field.

   The condition is set to display the records that meet the specified criteria using the displayed copybook.

You can specify as many conditions as you want for the copybook on the Custom Layout Entry Field Update screen. When specifying more than one condition, type A (and) or O (or) in the A field. The default value is A.

4. Type X in the action field of the copybook field name to prevent that field from displaying. You can omit as many fields as you want.
5. Repeat this procedure for all copybooks in the custom layout. If a copybook does not have any conditions specified, the copybook with not be used in the custom layout.

   **Note:** Records that do not meet any of the conditions specified for any of the copybooks in the custom layout are displayed using the default copybook.

## Apply a Layout to a Data Set

To apply the custom layout to a data set or member that you open in the editor, specify the custom layout in the Record Layout for Formatted Displays section on the Edit Data Set screen.

**Follow these steps:**

1. Select EDIT from the Main Menu, option 2.

   The Edit Data Set screen opens.
2. Specify the data set that you want to edit. Complete the Data set name, Member name, and Volume fields as needed. Only specify the volume serial number if the data set you want to edit is uncataloged.

   **Note:** You can enter a fully qualified data set and member name or a wildcarded data set name and member name. If you enter a wildcarded data set name, the Select DSN panel displays. Select the data set you want to edit and press Enter to return to the Edit Data Set screen. For more information about specifying a member name, see the topic, "Select Member to Process (see page 47)."
3. Specify the custom layout data set and member that you have created.
4. (Optional) Specify the selection criteria member or any individual selection conditions that you want to use to identify the records to display.
5. Specify one of the following display modes:

   **S**

   Single-record Format

   **M**

   Multi-record Format

6. Type Y in the Change Log field if you want to activate the change log for the edit session. To activate the change log, you must have defined the change log parameters in the Setup and Processing Parameters screen, option 0.5

   Type N if you do not want to log changes made during the edit session.

   **Note:** This option appears as protected it if your CA File Master Plus administrator has set the change log feature to remain activated.

7. Press Enter to process the edit command.

   The contents of the data set display in edit mode formatted as defined by the layout you specified.

# Chapter 11: DSN List Directory

Use the DSN List directory to manage the contents of your DSN Lists. Use this screen to perform the following actions:

- Select a DSN list for processing
- Update the contents of a DSN list
- Insert a DSN list into the DSN List directory
- Delete a DSN list from the DSN list directory

To access the DSN List directory, select DSN LIST from the Main Menu.

**Example**

```
CA File Master Plus --- DSN Lists in'FM85.INST.DSNLIST'        Row 1 to 3 of 3
 COMMAND ===>                                                 SCROLL ===> CSR

S - Select DSN List       U - Update    I - Insert    D - Delete

S DSN List    Desc
_ #1          desc for #1
_ #2          dsn list #2
_ TEST        testdsn list

****************************** END OF DSN LISTS ******************************
```

This section contains the following topics:



## Select a DSN List for Processing

There are various functions that you can use on the DSN lists in your DSN List directory. Access these functions through the Use DSN List Dataset screen

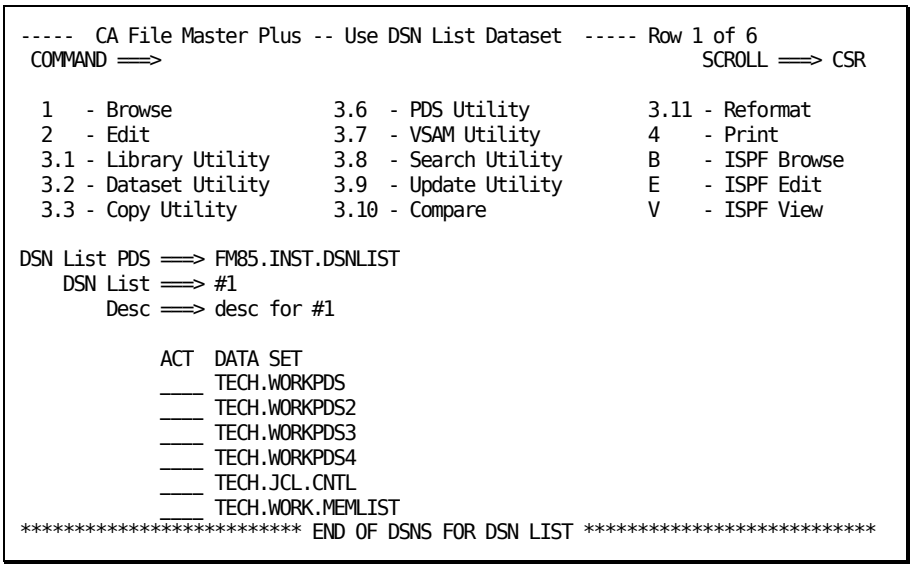
**Follow these steps:**

1. Select DSN LIST from the Main Menu.

   The DSN Lists screen opens.

2. Type **S** next to the DSN list you want to process, and press Enter.

The Use DSN List Dataset screen opens.



```
-----  CA File Master Plus -- Use DSN List Dataset  ----- Row 1 of 6
 COMMAND ===>                                              SCROLL ===> CSR

  1   - Browse              3.6  - PDS Utility          3.11 - Reformat
  2   - Edit                3.7  - VSAM Utility         4    - Print
  3.1 - Library Utility     3.8  - Search Utility       B    - ISPF Browse
  3.2 - Dataset Utility     3.9  - Update Utility       E    - ISPF Edit
  3.3 - Copy Utility        3.10 - Compare              V    - ISPF View

DSN List PDS ===> FM85.INST.DSNLIST
    DSN List ===> #1
        Desc ===> desc for #1

             ACT  DATA SET
             ____ TECH.WORKPDS
             ____ TECH.WORKPDS2
             ____ TECH.WORKPDS3
             ____ TECH.WORKPDS4
             ____ TECH.JCL.CNTL
             ____ TECH.WORK.MEMLIST
************************** END OF DSNS FOR DSN LIST ***************************
```

This screen displays the following information:

**DSN List PDS**

Identifies the name of the DSN list PDS.

**DSN List**

Identifies the name of the DSN list. This name corresponds to the member name within the DSN list parm PDS in which the DSN list is stored.

**Desc**

Identifies a description for the DSN list that is entered when the DSN list is created or updated using the Update DSN List screen

3. Type one of the function codes that are below the command line into the action field next to the DSN list that you want to use, and press Enter.

   The specified function is invoked on the DSN list.

# Update DSN Lists

Use the Update DSN List screen to manage the contents of a DSN list. You can access the following functions from this screen:

- Browse
- Edit
- View
- Insert
- Repeat
- Delete
- Move
- Copy

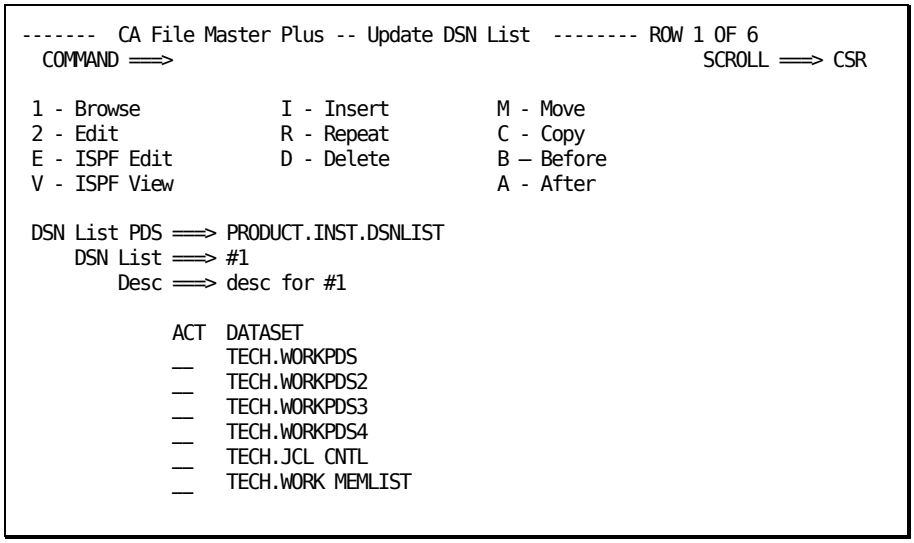
**Follow these steps:**

1. Select DSN LIST from the Main Menu.

   The DSN Lists screen opens.

2. Select a DSN list, type **U** on the command line, and press Enter.

   The Update DSN List screen opens.



This screen displays the following information:

**DSN List PDS**

Identifies the name of the DSN list PDS where the DSN lists are stored. This DSN is defined in option 0.3 which is used to define the DSN of each of the processing parameter data sets.

**DSN List**

Identifies the name of the DSN list. This name corresponds to the member name within the DSN list parm PDS in which the DSN list is stored.

**Desc**

Identifies a description for the DSN list that you created or updated using the Update DSN List screen.

3. Type one of the function codes that are below the command line into the action field next to the DSN list that you want to update, and press Enter.

   The specified function is invoked on the DSN list.

# Insert DSN Lists

To begin a new DSN, use the Update DSN List screen (insert mode).

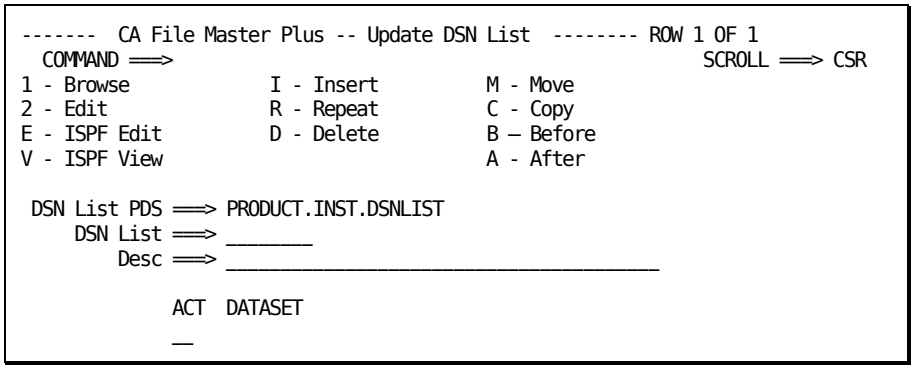
**Follow these steps:**

1. Select DSN LIST from the Main Menu.

   The DSN Lists screen opens.

2. Select a DSN list, type **I** on the command line, and press Enter.

   The Update DSN List screen opens with no entries.



This screen displays the following information:

**DSN List PDS**

Identifies the name of the PDS that contains the DSN list. This DSN is defined in option 0.3, which is used to define the DSN of each of the processing parameter data sets.

3. Complete the following fields, and press Enter. These fields will be blank when you first see the screen.

   **DSN List**

   Defines the name of the DSN list. This name corresponds to the member name within the DSN list parm PDS in which the DSN list is stored.

   **Desc**

   Describes the DSN list that you created or updated using the Update DSN List screen.

4. Type a data set name under the Dataset heading.

   **Dataset**

   Defines the data set name to be included in the DSN list. Type the name without apostrophes.

5. To add more data sets to the DSN list, type I for insert on the command line.

   When you type wildcarded data set names, another panel displays with all of the catalogued data sets that match the wildcard. From this list you can select the ones you want to add or, by using the command line command S *, you can select all of data sets that appear in the list.

# Delete DSN Lists

You can delete a DSN List from the DSN List directory. Type D in the action field, and press Enter. The Confirm Member Delete screen appears, unless you have the confirm member delete option disabled in your setup options.