



Training Manual
Release 3.60

8 Merthyr Mawr Road, Bridgend, Wales UK CF31 3NH

Tel: +44 (1656) 65 2222
Eml: support@cbl.com

CBL Web Site - www.cbl.com

This document may be downloaded from www.cbl.com/documentation.php

File Edit Actions Options Utilities Window SwapList Help uS uR

Library List: USER123.SELCTRN.SAM
View Refresh Back Forward FDB Text
Command>
Library> **USER123.SELCTRN.SAM1**
-Member- CurSize ----Last
ZZ5T1CPC 18 2012/11/

USER123.SELCTRN.SAM1(ZZ5T1CPC)
Command>
-----<-----1-----2----->
000001 Declare
000002 01 TRACK
000003 05 PERSISTENT_ID
000004 05 TRACK_NUM
000005 05 TRACK_ID
000006 05 NAME
000007 05 ARTIST
000008 05 ALBUM
000009 05 TOTAL_TIME
000010 05 FILE_SIZE
000011 05 BIT_RATE
000012 05 SAMPLE_RATE
000013 05 YEAR

Primary Option Menu -+X
File SwapList Window Help QuickRef
Command>
ZZ5GPRIM Scroll|> Csr
Lines 1-21 of 22

- 0 Settings Set SELCOPY/i options User: USER123
- 1 Text Edit Edit/View small text-type files Version: 3.3B
- 2 Data Edit Edit/Browse potentially large data files Date: 2014/05/23
- 3 List List Volumes,UTOCs,Datasets,Members etc Time: 11:27:57
- 4 Home Edit and execute point-and-shoot commands OpSys: z/OS 1.11.0
- 5 Copy/Reformat File Copy with optional copybook reformat System: ADCC
- 6 Search/Update File Search/Update/Copy/Reformat VM User: ZOS111
- 7 Compare
- 8 Utilities
- 9 Structure
- 10 Filter
- 11 Print
- 12 DB2
- T Training
- WL Window List
- X Exit

Use F4 (WINDOW)
Use "="

USER123.SELCOPYI.CMX 32752 U SEQ Size=343 Alt=0,0;1 -+X
Command> Scroll|> Csr
-----<-----1-----2-----3-----4-----5-----6-----7----->
000001 **** USER123.SELCOPYI.CMX **** L=037 --- 2014/05/22 10:13:28 (USER123)
000002
000003 <11 USER123.SELCTRN.SAM1 | List Training samples library.
000004 <edit USER123.SELCTRN.SAM1(ZZ5T1CPC) | Training Sample PL/1 Copybook #1.
000005 <edit USER123.SELCTRN.SAM1(ZZ5T1CPC) | Training Sample COBOL Copybook #1.
000006
000007
000008 | Edit sample training data file using Sample COBOL copybook #1
000009 < sd Edit USER123.SELCTRN.ZZ5T1DAT
000010 using cobol USER123.SELCTRN.SAM1(ZZ5T1CPC)
000011

USER123.SELCTRN.SAM1(ZZ5T1CPC)
Command>
-----<-----1-----2-----3----->
000001 01 TRACK
000002 05 PERSISTENT-ID
000003 05 TRACK-NUM
000004 05 TRACK-ID
000005 05 NAME
000006 05 ARTIST
000007 05 ALBUM
000008 05 TOTAL_TIME
000009 05 FILE_SIZE
000010 05 BIT_RATE
000011 05 SAMPLE_RATE
000012 05 YEAR
000013 05 NORMALIZATION

PERSISTENT-ID	TRACK-NUM	TRACK-ID	NAME
#2	#3	#4	#5
AN 1:16	ZD 17:3	ZD 20:4	AN 24:120
<---+---1---+>	<->	<->	<---+---1---+>
00000001	CB12DD714D51828C	1	2083 Rolling In the Deep
00000002	2648A25633D15404	2	2085 Rumour Has It
00000003	9815923C6D2E6830	3	2087 Turning Tables
00000004	7D003FF752074C18	4	2089 Don't You Remember
00000005	AED739D8574AA4C5	5	2091 Set Fire to the Rain
00000006	E755BC1CF5CDEA7	6	2093 He Won't Go
00000007	6798C2AB0AFB2571	7	2095 Take It All
00000008	962B35D1647DE75E	8	2097 I'll Be Waiting

F13=InsLine F14=DeLLine F15=DupLine F16=ACTIION F17=MrkBox F18=MrkLine F19=SPLTJOIN F20=BoxFuncs F22=UNDO F23=REDO
F24=ResetBox

Te | Line=1 | Col=1 | Alt=0,0;1 | Size=343 | Rec1=32752 | Fmt=U | Files=4 | Views=4 | 2014/05/23 11:33:05

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Documentation Notes

Ninth Edition, August 2017

Information in this document details general features and functionality of the **CBL Product Suite** component, **FileKit**.

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CBL Product Suite for z/OS, z/VM (CMS) and z/VSE operating systems, which includes SELCOPY, FileKit and CBLVCAT, is available for download and install from www.cbl.com/selcdl.php.

The following publications for CBL Product Suite and its component products are available in Adobe Acrobat PDF format at CBL web page www.cbl.com/documentation.php:

- CBL Product Suite Customisation Guide
- SELCOPY User Manual
- CBLVCAT User Manual
- FileKit Reference and User Guide
- FileKit Text Editor (CBLe) Manual
- FileKit Structured Data Editor Manual
- FileKit Training Material Manual

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The following generic terms are used throughout this document to indicate all available versions and releases of IBM mainframe operating systems:

MVS - z/OS, OS/390, MVS/ESA, MVS/XA, MVS/SP, OS.

VSE - z/VSE, VSE/ESA, VSE/SP, DOS.

CMS - z/VM, VM/ESA, VM/XA, VM/SP.

All - All MVS, VSE and CMS operating systems.

Summary of Changes

The FileKit Training material and documentation were introduced for Release 3.10 in PTF RS00021.

First Edition (2012/12/14)

Option 2 - Data Edit

- ◇ *The SDE Edit/Browse Entry Panel*
 - ◇ *Display Modes*
 - ◇ *LAYOUT Command*
 - ◇ *Scrolling the Display to a specific field/record*
 - ◇ *Selecting/Ordering Visible Fields*
 - ◇ *Adjusting Field Display Column-widths*
 - ◇ *Using FIND, EXCLUDE and ONLY commands*
 - ◇ *Using CHANGE commands*
 - ◇ *Filtering records using ALL(WHERE)/MORE/LESS commands*
 - ◇ *Using a FILTER to Select Records on Load*
 - ◇ *Working with Multiple Record-Types*
 - ◇ *Creating a Structured Data Object (SDO)*
 - ◇ *Modifying Data*
 - ◇ *Working with Segmented Records*
-

Second Edition (2013/01/31)

Option 5 - File Copy/Reformat

- ◇ *The File Copy/Reformat (FCOPY) Panel*
 - ◇ *Copying a Standard Sequential Dataset*
 - ◇ *Copying PDS/PDSE Library members*
 - ◇ *Record Selection*
 - ◇ *Specifying Start Record / Number of Records to Copy*
 - ◇ *Browse the Output File (F11)*
 - ◇ *Using a FILTER to Select Records for Copy*
 - ◇ *Browse Output File*
 - ◇ *Specifying brackets in the FILTER expression.*
 - ◇ *Generate FCOPY primary command*
 - ◇ *Modify/Execute Generated FCOPY primary command*
 - ◇ *Reformat*
 - ◇ *Create Output Copybook*
 - ◇ *Updating the Output Copybook*
 - ◇ *Force Recompile of Updated Output Copybook*
 - ◇ *Running File Copy Reformat in Batch*
-

Third Edition (2013/02/27)

Option 6 - File Search/Update

- ◇ *The File Search/update (FSU) Panel*
- ◇ *Searching a PDS/PDSE Library*
- ◇ *Search Report Output (Standard 80-column Screen Width)*
- ◇ *Displaying Additional Hit Information Fields*
- ◇ *Using F6 to edit the Hit File/Record*
- ◇ *Adjusting Report Table View*
- ◇ *Selecting Library Members for Search/Update*
- ◇ *Condensing Selected Members by Timestamp/Size/Userid*
- ◇ *Condensing Selected Members using FIND*
- ◇ *Condensed Member Selection List*
- ◇ *Condensed Member Search Results*

Fourth Edition (2013/10/09)

Updated to reflect SELCOPYi Rel 3.20 revised Function Key defaults.

Fifth Edition (2014/09/23)

Option 1 - Text Edit

- ◇ *Function keys, shortcuts and convenience features*
- ◇ *UNDO/REDO*
- ◇ *Multiple (windowed) views*
- ◇ *Marked Line- and Box-block features*
- ◇ *String Coloring*

Option 12 - DB2

- ◇ *Setting up sample DB2 Tables*
- ◇ *Display of DB2 Table detailed Information (INFO)*
- ◇ *DB2 Table Edit*
- ◇ *Editing selected table rows (using the "WHERE" dialog)*
- ◇ *Editing Related Tables (REDIT)*
- ◇ *Generating CSV or XML from selected table rows/columns*
- ◇ *Handling Relational Constraint Errors*

Sixth Edition (2015/01/19)

SELCOPYi Rel 3.30 (cover change only).

Seventh Edition (2017/08/22)

SELCOPYi Rel 3.40.

Option 8.1 - SELCOPY/debug

- ◇ *Locate Sample SELCOPY JCL*
- ◇ *The SELCOPY/debug Menu*
- ◇ *SELCOPY/debug Operation*

Eighth Edition (2021/11/01)

SELCOPYi Rel 3.50 (cover change only).

Ninth Edition (2024/04/25)

SELCOPYi Rel 3.60.

Product Rebrand

Starting at release 3.60 (and release 3.50 with PTF RS35003 applied), "**SELCOPYi**" is rebranded as "**FileKit**".

Product materials now have name and/or aliases that reflect the product name change. For example, the FileKit batch executable (ZZSSMAIN) has both alias names **SDEAMAIN** and **FILEKITB**.

Setup Training Material

Sample data files and COBOL/PL1 copybooks are supplied with the FileKit program.

To create your own personal copies of these datasets, allowing you to follow the training manual in real time, select option **T** from the FileKit Primary Option Menu.

```
SELCOPYY/i - Primary Option Menu
File SwapList Window Help QuickRef          wS wR
Command>                                     Scroll> Csr
ZZSGPRIM                                     Lines 1-22 of 22

0 Settings          Set SELCOPYY/i options          User: USER123
1 Text Edit        Edit/View small text-type files      Version: 3.20
2 Data Edit        Edit/Browse potentially large data files    Date: 2013/11/06
3 List             List Volumes,VTOCs,Datasets,Members etc  Time: 14:42:01
4 Home            Edit and execute point-and-shoot commands  OpSys: z/OS 1.11.0
5 Copy/Reformat   File Copy with optional copybook reformat  System: ADCD
6 Search/Update   File Search/Update/Copy/Reformat          VM User: ZOS111
7 Compare         File/Library Compare Utilities
8 Utilities       General utilities
9 Structure       Create structure from copybooks etc
10 Filter         Create record selection filter
11 Print          Print Dataset (Batch)
12 DB2           Work with DB2, browse/edit tables etc
T Training        Setup SELCOPYY/i Training Material
WL Window List    Display active windows, select with cursor to switch focus
X Exit           Exit SELCOPYY/i

Use F4 (WINDOW) to switch between SELCOPYYi display windows.

Use "=" command(+optional fastpath e.g. =3.4) to access this menu/sub-options.

F1=HELP          F2=SPLIT          F4=WINDOW          F9=SWAP          F12=CRETRIEV F14=EXPAND
```

Figure 1. FileKit - Setup FileKit Training Material.

Windowed Display System

Mainframe **z/OS** sessions are typically connected via a **3270 Emulation** package running on the user's PC.

Most users logon to **TSO/ISPF** with one of the following "**standard**" screen sizes:

Model	Rows	Columns
2	24	80
3	32	80
4	43	80
5	27	132

Via their settings, modern 3270 emulators may be configured to run with large "**dynamic**" screen sizes, such as **62 lines by 160 columns**.

FileKit takes advantage of large screen sizes by employing a multi-windowed display system.

If you would like to use a large screen for your z/OS (TSO/ISPF) session, configuration is usually very simple, taking only a few minutes. For assistance with your setup please contact CBL (support@cbl.com).

Note that **ISPF** restricts screen width to **160 columns**, and requires an update via its own Settings (=0).

```
Terminal Characteristics
Screen format 3 1. Data 2. Std 3. Max 4. Part
```

During this section you will learn how to:

- *Open multiple display windows*
- *Switch focus between open windows*
- *Move windows*
- *Resize windows*
- *Save/Restore favourite dataset window locations*

Opening Multiple Display Windows

When started with a 3270 screen width of 132 or higher and a screen depth of 32 or higher, FileKit will operate in "windowed" mode, with its **Primary Options Menu** located centralised at the top of the screen by default.

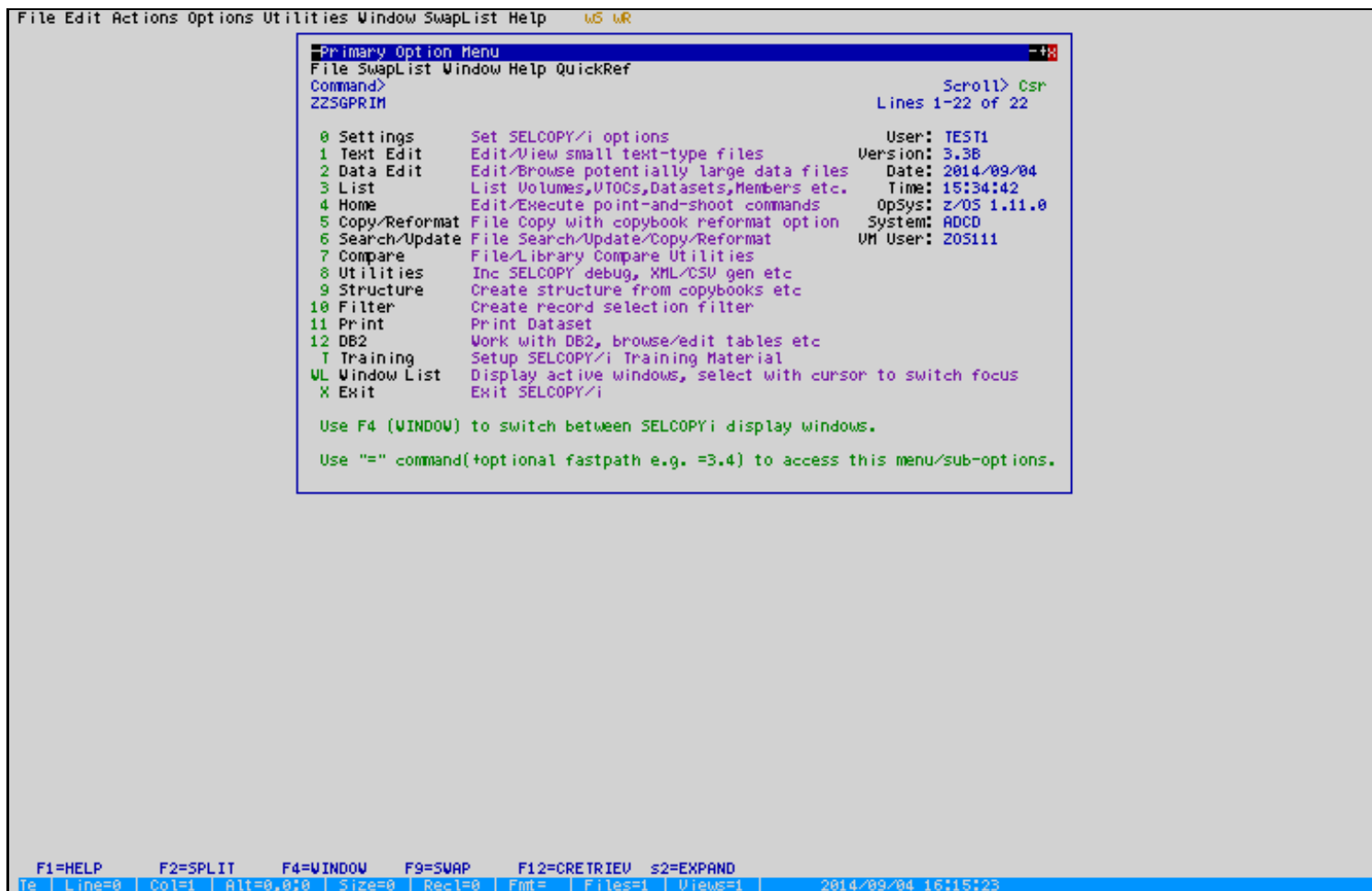


Figure 2. FileKit - POM Window.

Menu/Panel Windows

Select option 1 to open the **Text Edit** panel in a separate window.

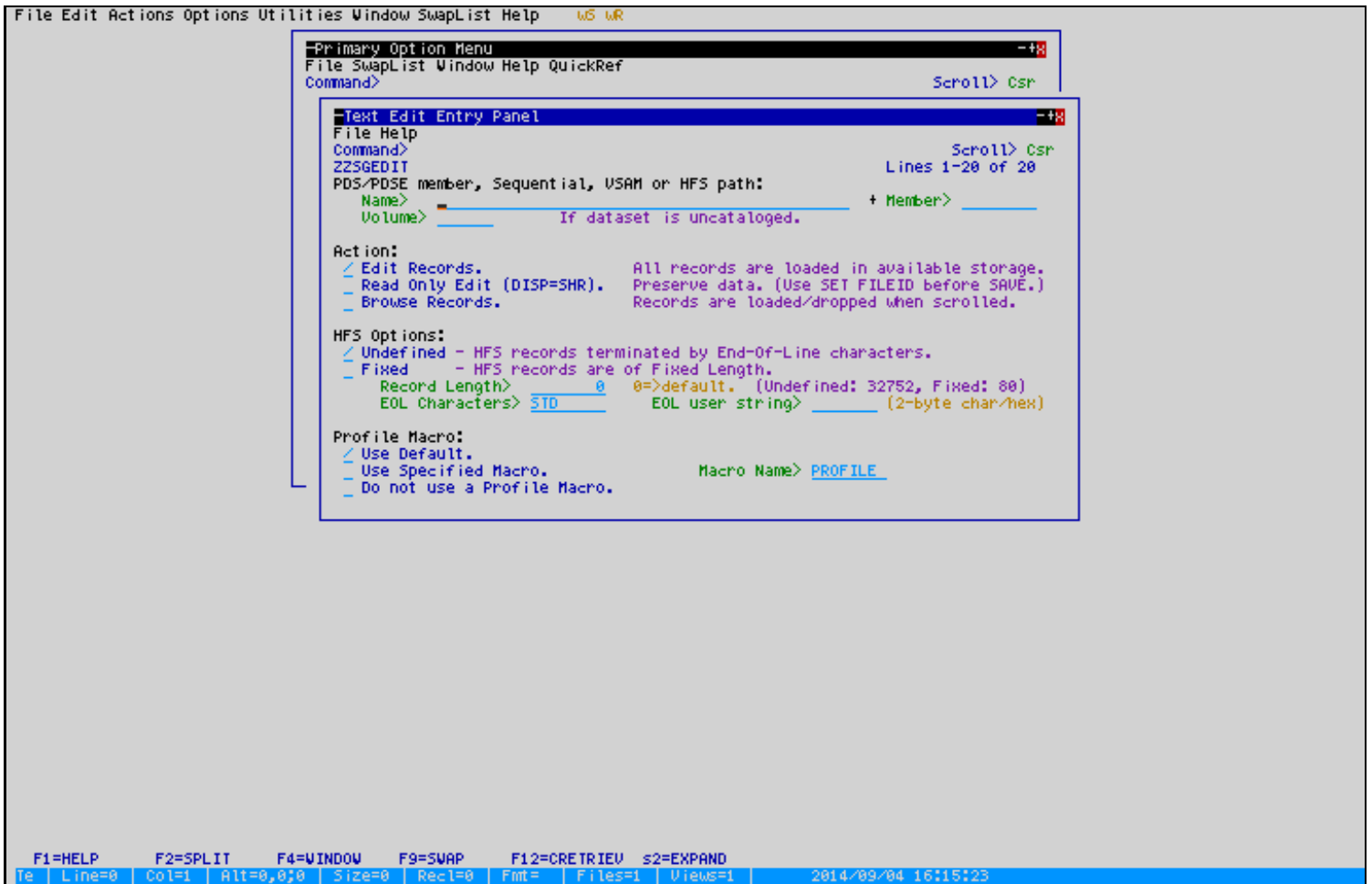


Figure 3. FileKit - Text Edit Panel Window.

Help (HTML) Windows

Press Function Key **F1** to open the context sensitive **Help** in a further separate window.

Help (HTML) documents are automatically positioned to display right-justified on the screen.

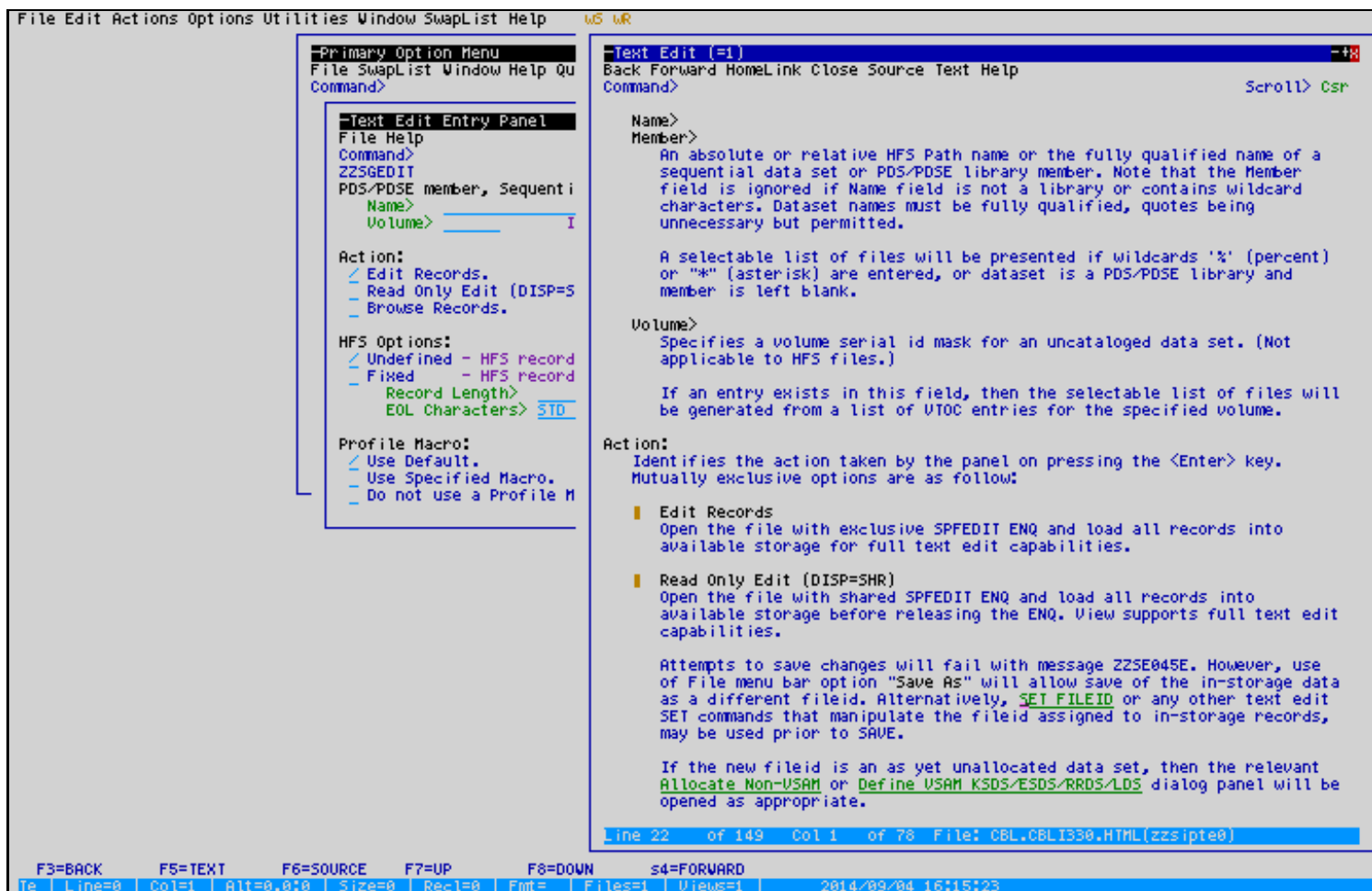


Figure 4. FileKit - Help Window.

Switching focus between open windows

- The **"focus"** window is indicated by a blue (reverse-video) title-bar.
- Other windows have a white (reverse-video) title-bar. (Shown as black in these screen shots!)
- Only the command-line and input fields of the focus-window are enterable.
- Press the **WINDOW** key (default is **F4**) to switch focus to the **next** window. The Primary Options window should now overlay the others as shown below.
- Type "-" (minus-sign) on the command line, then press the **WINDOW** key to switch focus to the **previous** window.

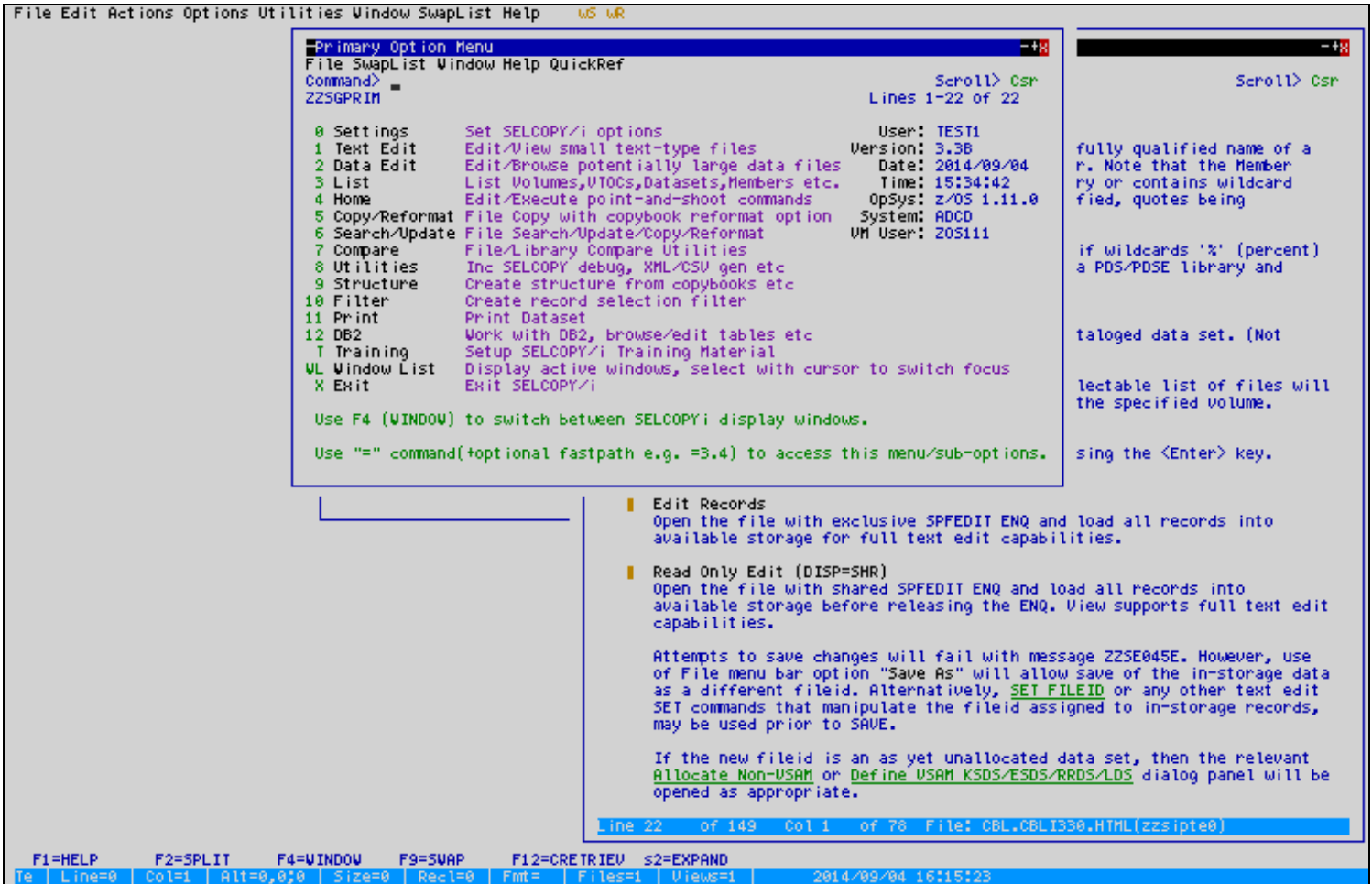


Figure 5. FileKit - Focus Window.

WindowList (WL) Command

Other ways to switch window focus:

1. Place your cursor on any visible part of a window, then press **ENTER**.
2. Type the **WINDOWLIST (WL)** primary command to display a list of open windows. Place your cursor on the title of a window, then press **ENTER**.

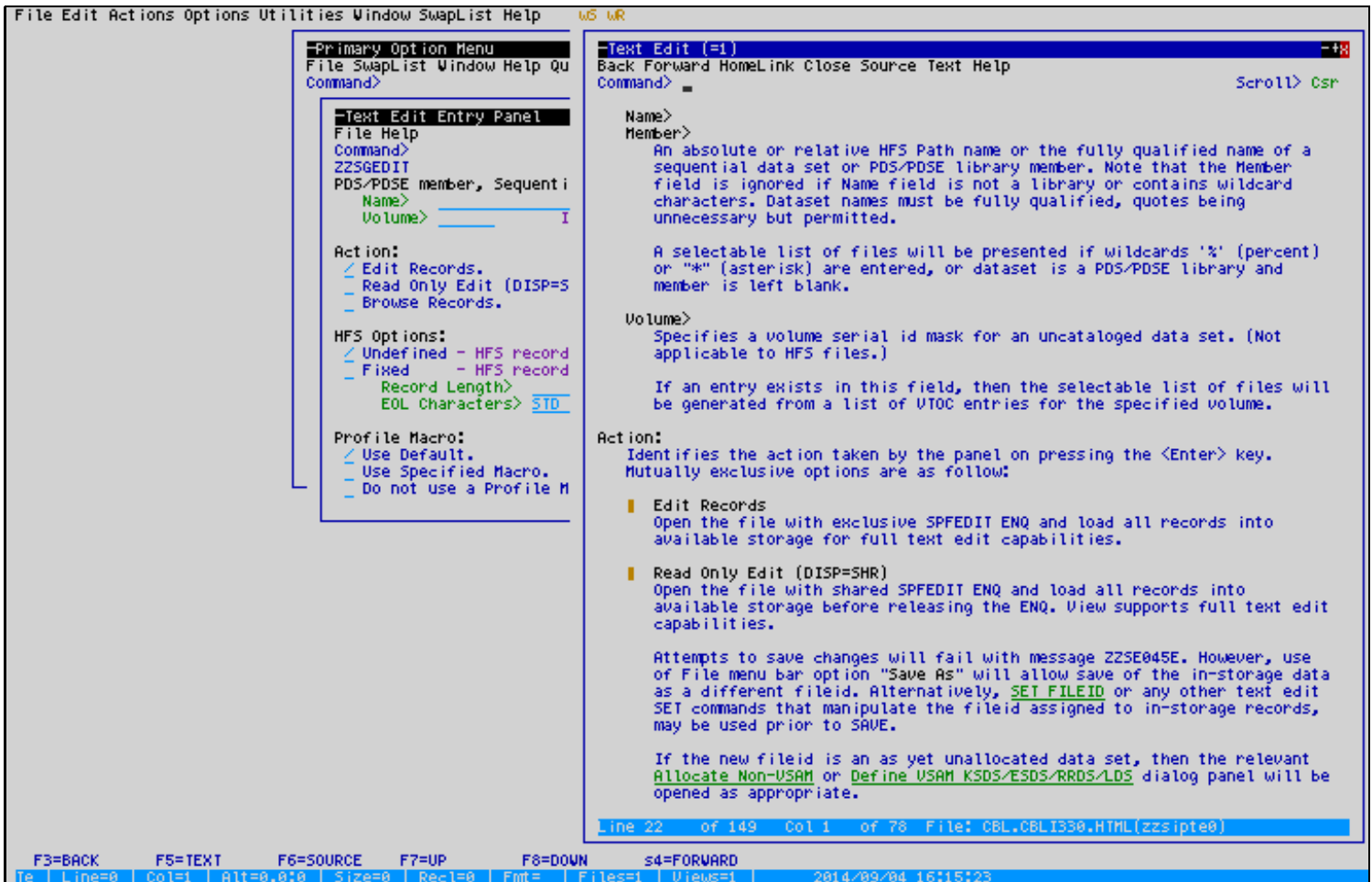
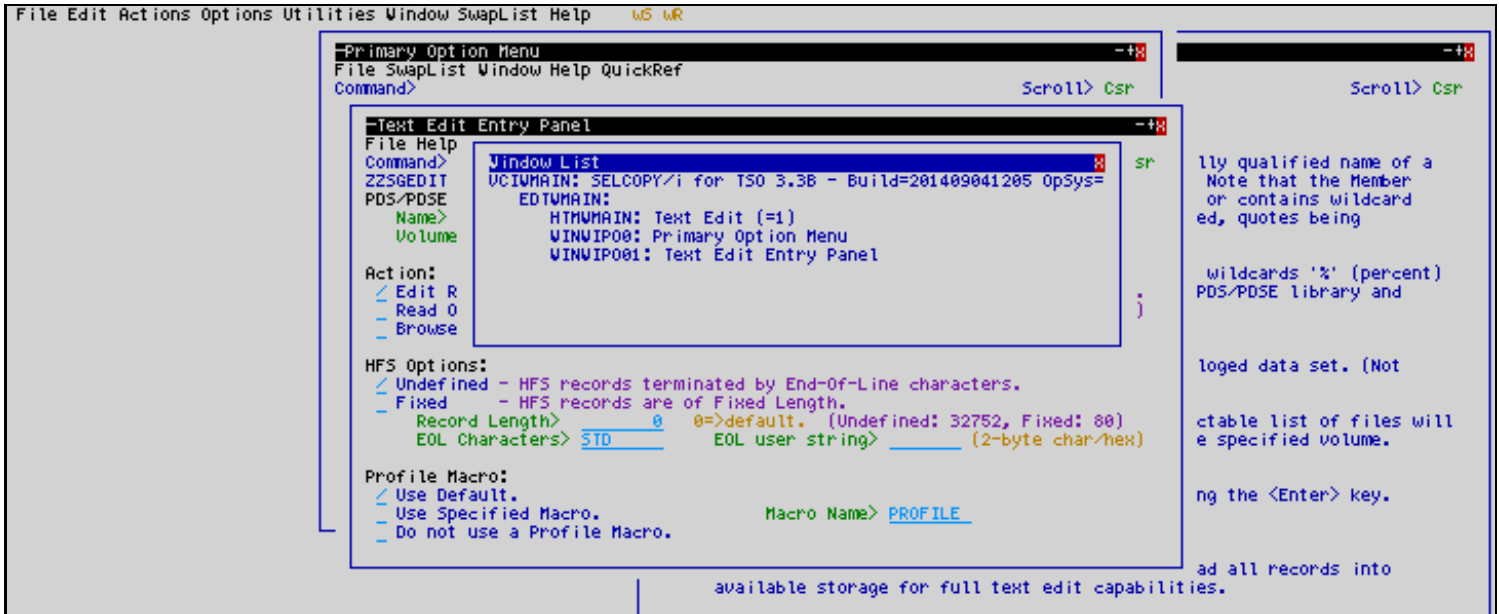


Figure 6. FileKit - Focus Window.

Moving Windows

- Press **F3** to close the HELP window.
- At the "Text Edit Entry Panel", enter the name of a sample file:
 - ◆ Type **userpfx.SELCTRN.SAM1** in the *Dsn* field, to specify the PDS library containing the supplied COBOL copybook.
 - ◆ Type **ZZST1CPC** in the *Member* field.
- Press **ENTER** to edit the sample COBOL copybook.

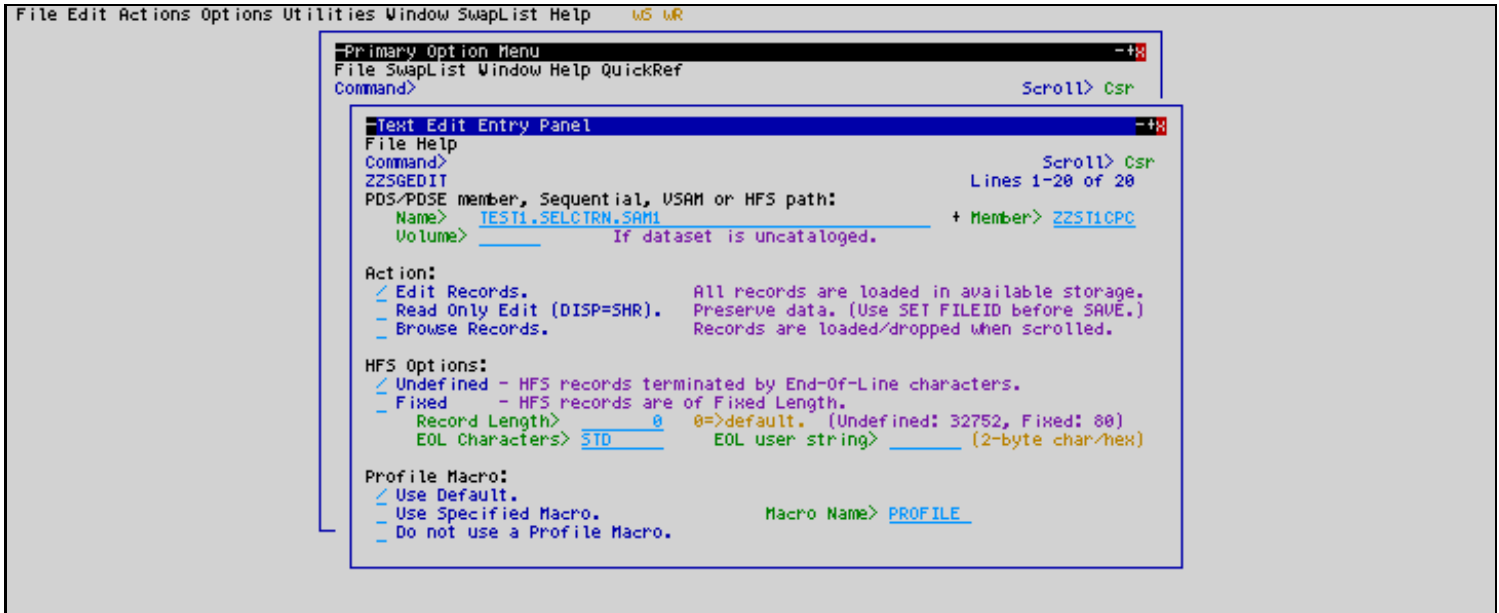


Figure 7. FileKit - Focus Window.

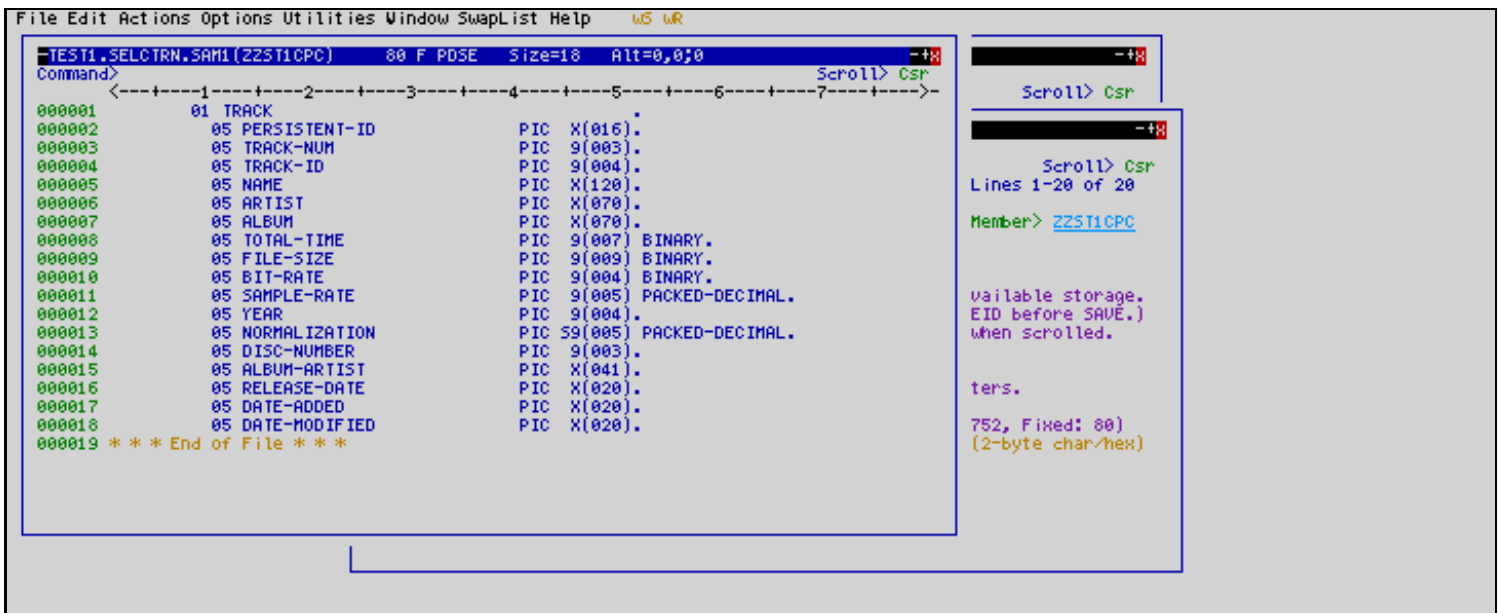


Figure 8. FileKit - Focus Window.

Moving Windows (2)

- Move the cursor anywhere into the window "Title-Bar" then press **ENTER**.
Note: The "Title-Bar" is the thick block (either blue or white) at the top of each window normally which contains some text to identify the window. For edit-type windows, this will be the name of the file displayed. For other windows it will have an identifying title e.g. "Primary Option Menu".
- The window title-bar and borders will be highlighted in reverse-video.
- This indicates that the window is in move/resize pending state.
- Move the cursor elsewhere on the FileKit "Desktop", then (and only then!) press **ENTER** again.
- The window will be moved to your desired location.

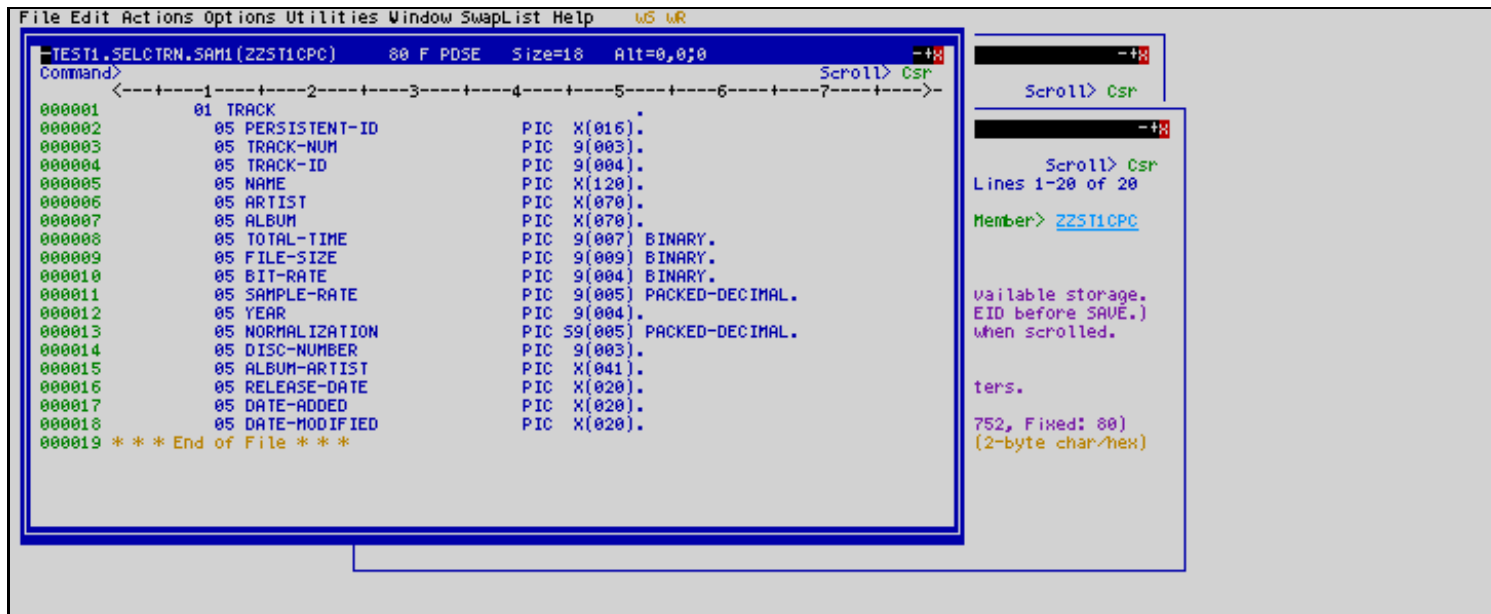


Figure 9. FileKit - Focus Window.

Dragging Windows

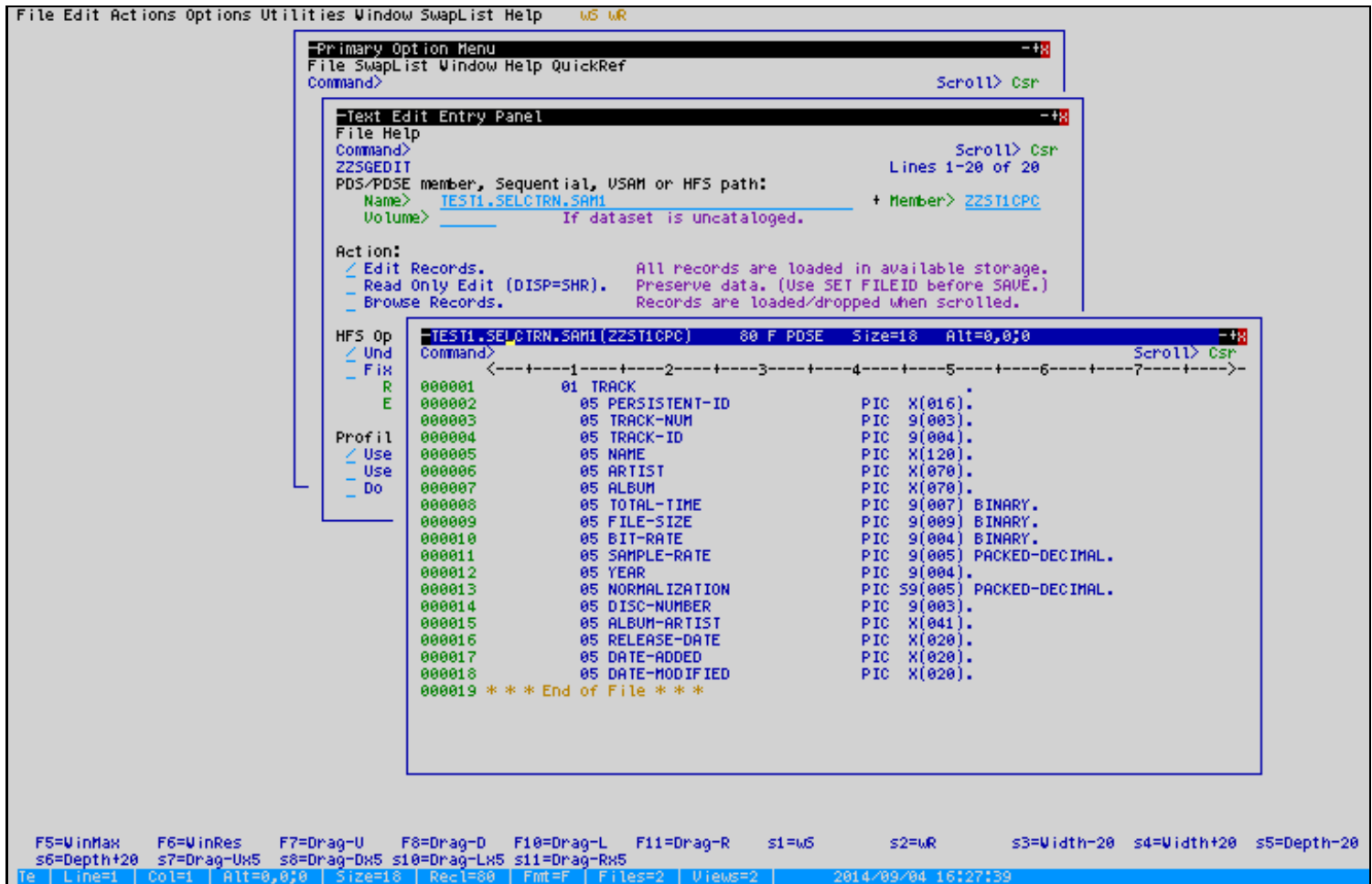


Figure 10. FileKit - Focus Window.

With the cursor in the window title-bar:

- Press function key **F7** to "**drag**" the window **up 1** position.
- Press function key **F8** to drag the window **down 1** position.
- Press function key **F10** to drag the window **left 1** position.
- Press function key **F11** to drag the window **right 1** position.
- In combination with any of the above, simultaneously hold down the "Shift" key to drag the window **5** positions instead of 1.

Top/Bottom/Left/Right Justification of Windows

With the cursor in the window title-bar or on any of the borders:

- Press function key **F5** to move the window to the **very top** of the screen. Press **F5** again to move it to the **very bottom of the screen**. i.e. **F5** will toggle the window location between being top and bottom justified without altering its width or depth.
- Similarly you may press function key **F6** to move the window to the **very left** of the screen. Pressing **F6** again moves it to the **very right of the screen**. i.e. **F6** will toggle the window location between being left and right justified without altering its width or depth.

Resizing Windows

- Move the cursor anywhere into the window top "Border" then press **ENTER**.
Note: The "Border" is the thin unbroken blue line surrounding each window.
- The window title-bar and borders will be highlighted in reverse-video.
- This indicates that the window is in move/resize pending state.

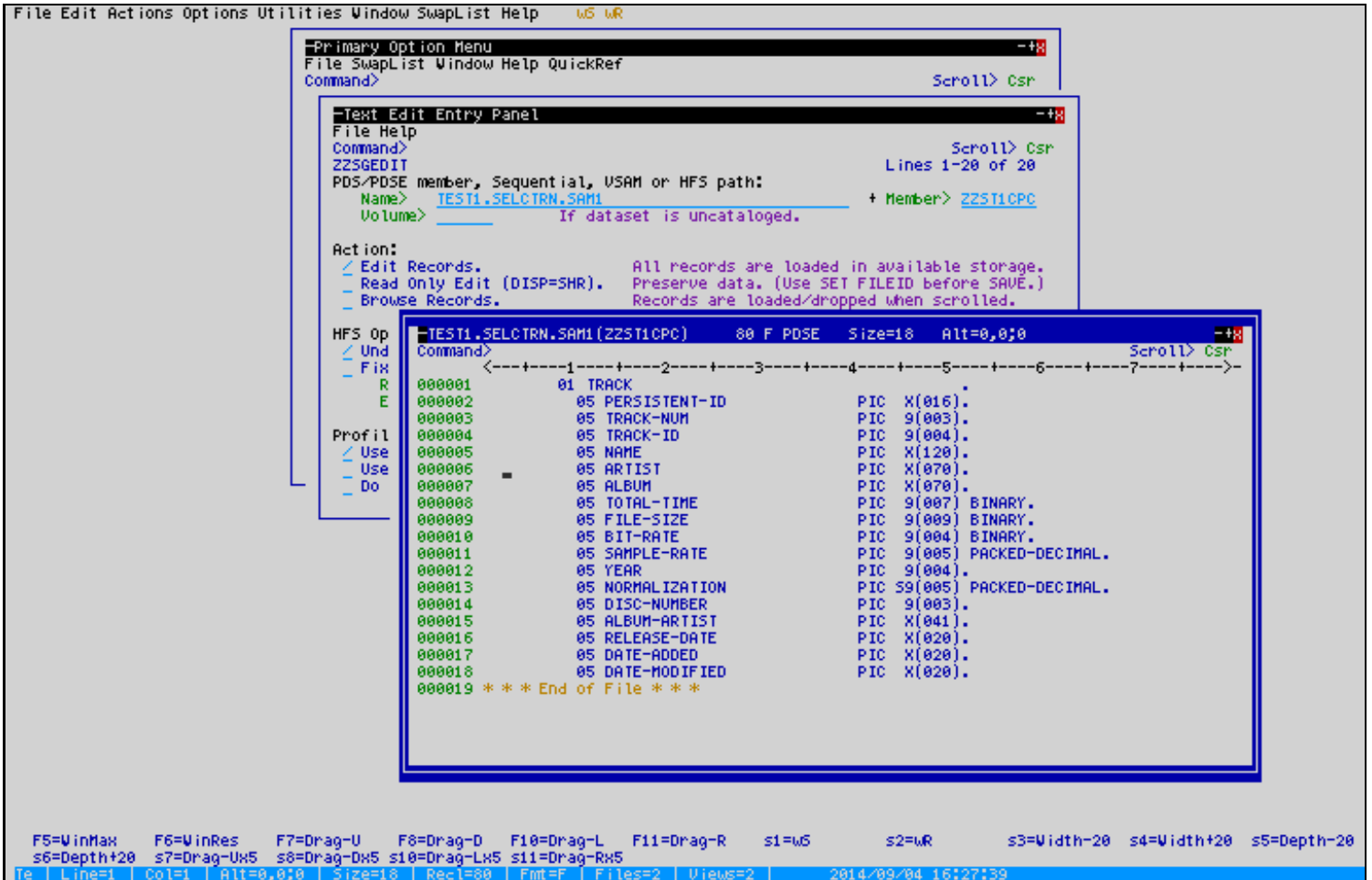


Figure 11. FileKit - Focus Window.

Resizing Windows (2)

- Move the cursor up or down a number of lines, then (and only then!) press **ENTER** again.
- The window depth will grow or shrink as desired.
- This technique may be repeated on the bottom, left or right borders and even the **corners**.

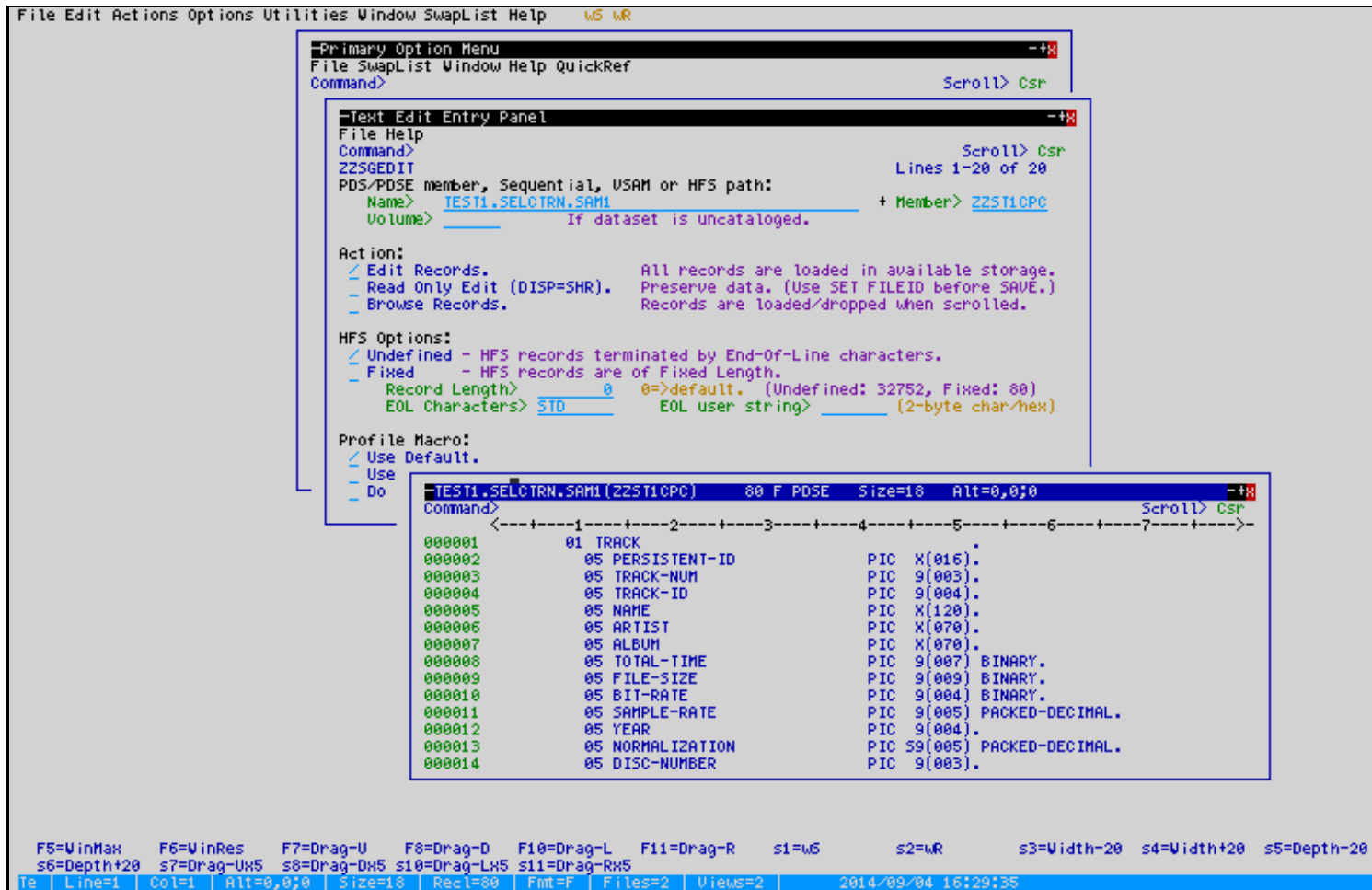


Figure 12. FileKit - Focus Window.

Dragging Window Borders

With the cursor in the window borders:

- Press function key **F7** to "drag" a horizontal border **up 1** position.
 - Press function key **F8** to drag a horizontal border **down 1** position.
 - Press function key **F10** to drag a vertical border **left 1** position.
 - Press function key **F11** to drag a vertical the border **right 1** position.
- In combination with any of the above, simultaneously hold down the "**Shift**" key to drag the window **5** positions instead of 1.

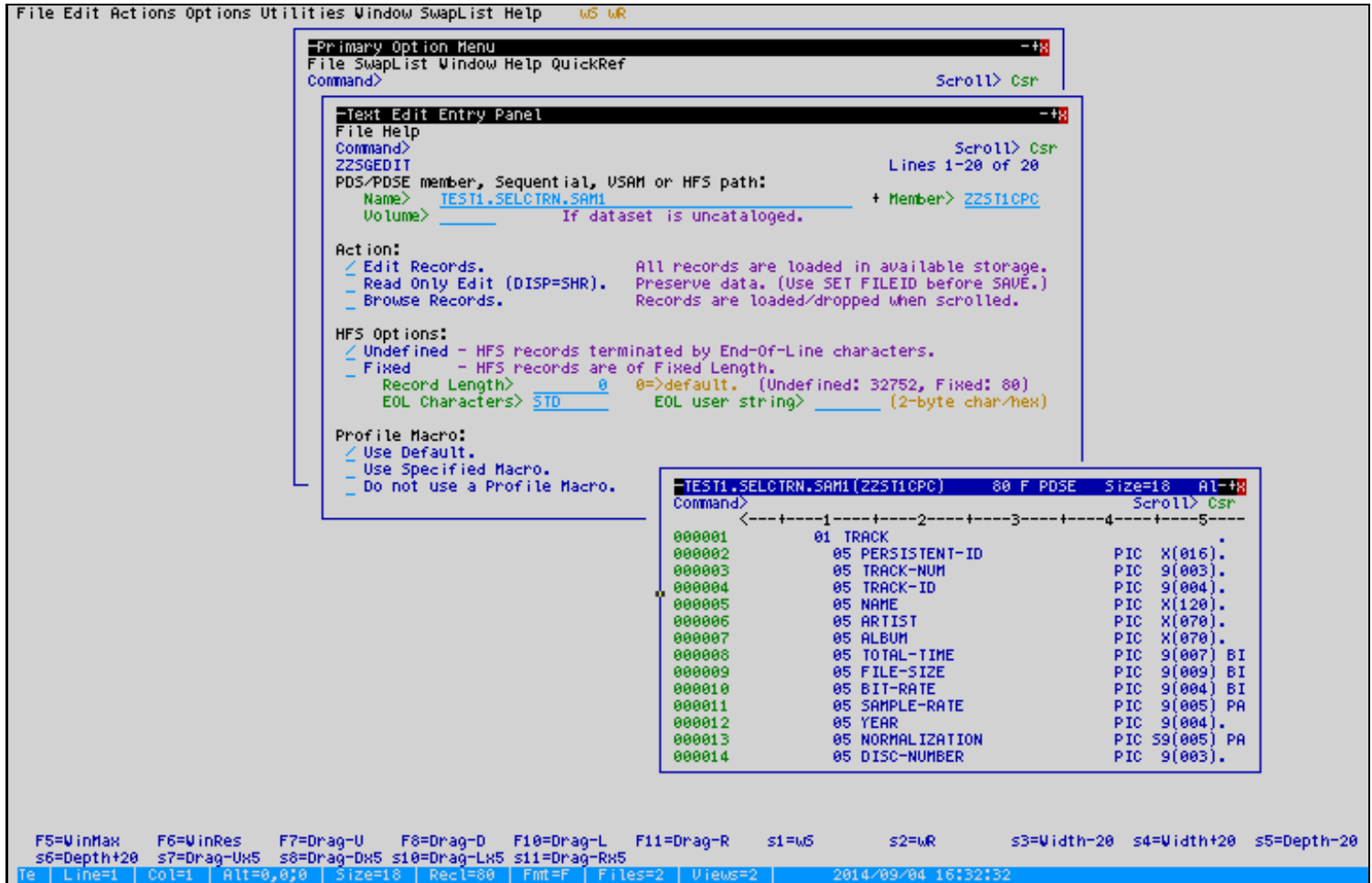


Figure 13. FileKit - Focus Window.

Also with the cursor in either the window borders or title-bar:

- Press function key **Shift-F3** to **decrease the width** by 20.
 - Press function key **Shift-F4** to **increase the width** by 20.
 - Press function key **Shift-F5** to **decrease the depth** by 20.
 - Press function key **Shift-F6** to **increase the depth** by 20.
- Press function key **Shift-F1** to **save** the location.
 - Press function key **Shift-F2** to **restore** from a saved location.

Note: Window location save/restore (Shift-F1/F2) is supported for Text-Edit and Data-Edit windows. (Menu and panel windows are automatically restored to their previous location).

Maximise/Minimise

At the right edge of each window's title-bar you will find the minimise (-), maximise (+) and close (x) buttons.

To "press" one of these buttons simply place your cursor on it and hit ENTER.

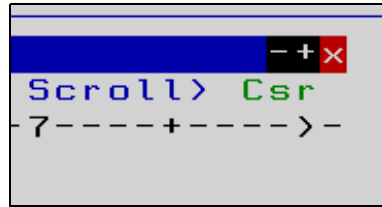


Figure 14. FileKit - Min/Max/Close Buttons.

FileKit also provides another convenient method of switching between window "maximised" and "restored" state.

- Place the cursor anywhere on either the window "Title-Bar" or "Border"
- Press the **Shift-F12** (F24) key to either maximise or restore the window (depending on its current state).

Note that as soon you maximise any window, then all windows will display in maximised state. Remember, all other open windows are still available, just press the "Window" key (F4) to access them.

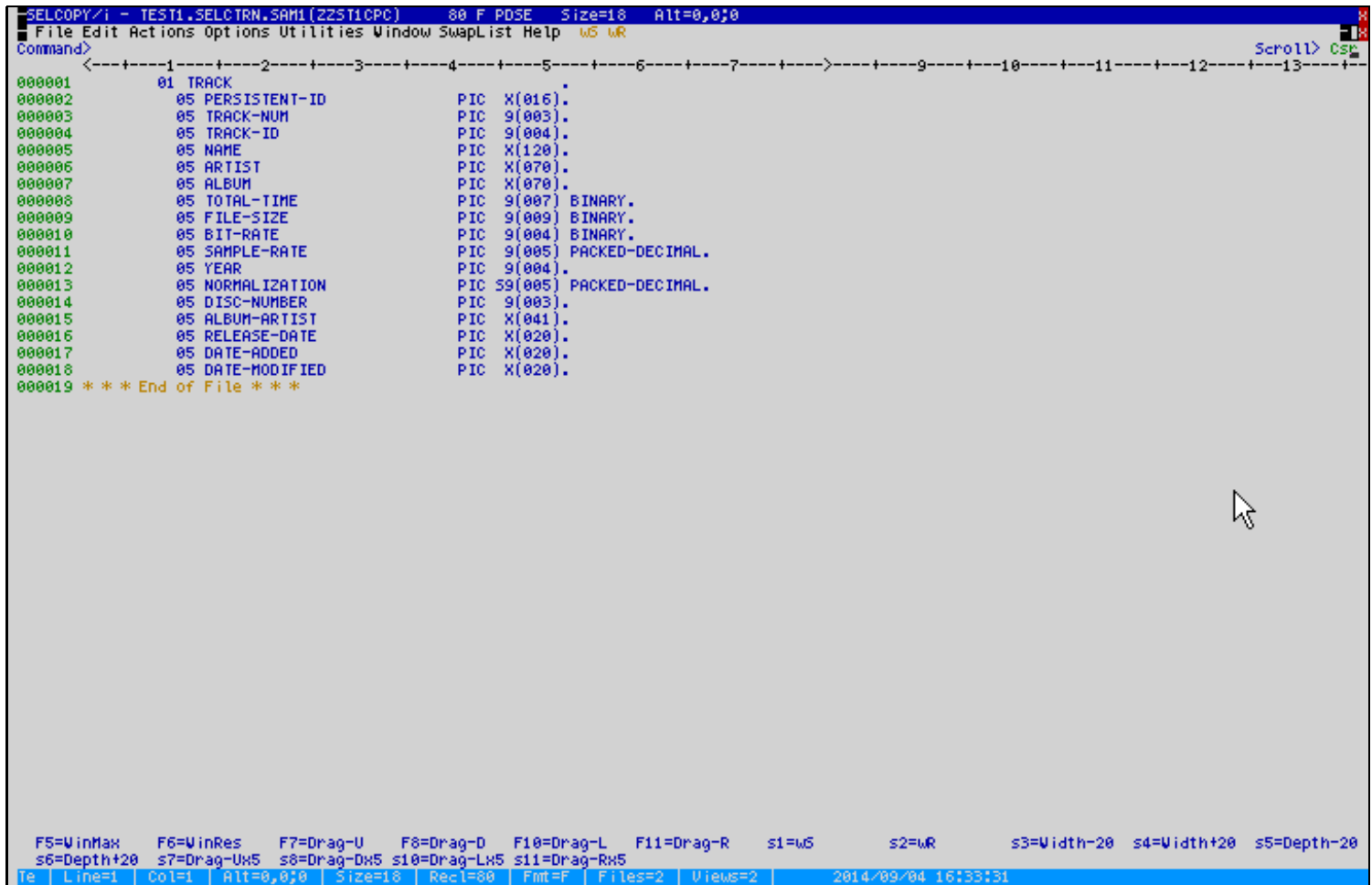


Figure 15. FileKit - Focus Window.

Maximise/Minimise (2)

In maximised state the maximise button is replaced by the restore () button.

Note that there are now two close (x) buttons displayed one above the other.

The bottom button will close the individual window, while the top one will close the entire FileKit application.

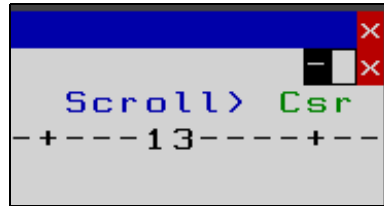


Figure 16. FileKit - Min/Max/Close Buttons.

Minimised windows are displayed at the bottom left of the "desktop".

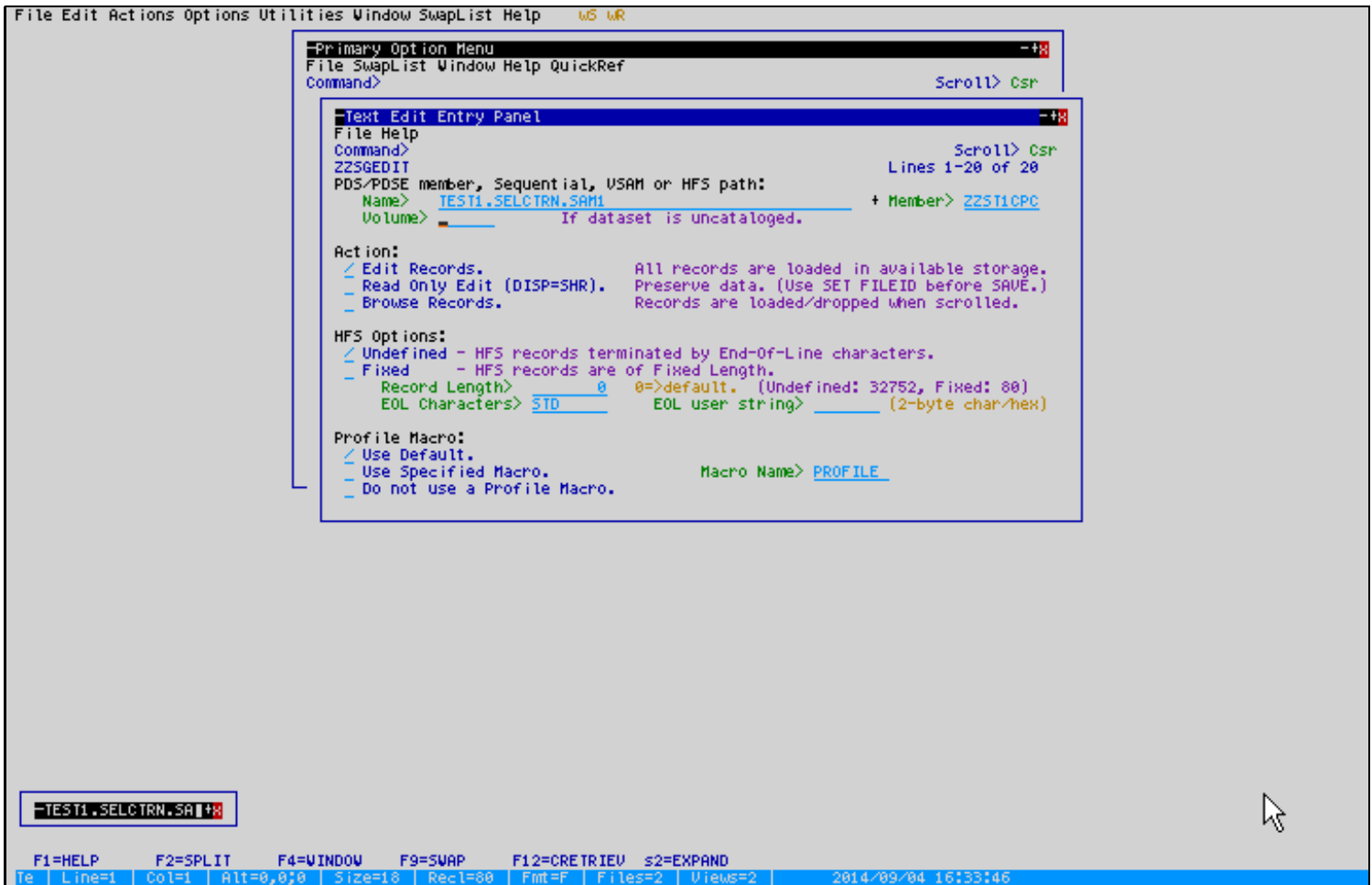


Figure 17. FileKit - Focus Window.

Option 1 - Text Edit

FileKit's own **Text Editor**, while running in ISPF compatibility mode for ease and familiarity, has some significant advantages over the **standard ISPF-Editor**.

The most obvious of these is that it uses the FileKit "**windowed-display**" system providing movable, resizable overlapping views of many files at once. It even allows multiple simultaneous views of the same file.

During this section you will learn about:

- *Function keys, shortcuts and convenience features*
- *UNDO/REDO*
- *Multiple (windowed) views*
- *Marked Line- and Box-block features*
- *String Coloring*

Function keys, shortcuts and convenience features

Running on z/OS systems, the FileKit Text Editor operates in **ISPF-Edit (ISREDIT)** compatibility mode, meaning that its look and feel is very similar and it supports all the commonly used primary and line commands of the original standard editor.

There are however some differences you should be aware of, as well as some additional features that you may enjoy using.

- Select option **1** to open the **Text Edit** panel.
- At the "**Text Edit Entry Panel**", enter the name of a sample file that was created for you during the "Setup Training Material" section.
 - ◆ Type **userpfx.SELCTRN.SAM1** in the *Dsn* field, to specify the PDS library containing the sample COBOL copybook.
 - ◆ Type **ZZST2CPC** in the *Member* field.
- Press **ENTER** to edit the library member.

```

SELCOPY/i - TEST1.SELCTRN.SAM1(ZZST2CPC) 80 F PDSE Size=59 Alt=0,0;0
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001      01 ARTIST
000002          05 RT                      PIC X(001).
000003          05 ARTIST                  PIC X(070).
000004      01 ALBUM
000005          05 RT                      PIC X(001).
000006          05 ALBUM                  PIC X(070).
000007      01 TRACK
000008          05 RT                      PIC X(001).
000009          05 PERSISTENT-ID          PIC X(016).
000010          05 TRACK-NUM             PIC 9(003).
000011          05 TRACK-ID              PIC 9(004).
000012          05 NAME                   PIC X(120).
000013          05 TOTAL-TIME             PIC 9(007) BINARY.
000014          05 FILE-SIZE              PIC 9(009) BINARY.
000015          05 BIT-RATE               PIC 9(004) BINARY.
000016          05 SAMPLE-RATE           PIC 9(005) PACKED-DECIMAL.
000017          05 YEAR                   PIC 9(004).
000018          05 NORMALIZATION          PIC S9(005) PACKED-DECIMAL.
000019          05 DISC-NUMBER            PIC 9(003).
000020          05 ALBUM-ARTIST           PIC X(041).
000021          05 RELEASE-DATE           .
000022              07 RELEASE-YYYY      PIC X(004).
000023              07 FILLER              PIC X(001).
000024              07 RELEASE-MM         PIC X(002).
000025              07 FILLER              PIC X(001).
s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO   s12=ResetBox
Te | Line=1 | Col=1 | Alt=0,0;0 | Size=59 | Recl=80 | Fmt=F | Files=2 | Views=2
  
```

Figure 18. FileKit - POM Window.

Inserting, Deleting, Replicating, Splitting and Joining lines

- By default, a scale line is provided at the top of the screen that remains permanently visible as you scroll down the file.
- Type **SCALE OFF** to remove it, and **SCALE ON** to restore it.
- You will notice a difference from the standard ISPF editor when you type **"I"** in the prefix area of line 1 to insert a new line.
- Whereas the standard ISPF editor will allow you to type data on the inserted line then press **ENTER** to automatically insert another line, the FileKit Text Editor simply inserts a single line.
- Type **"Inn"** (where nn is a number) in the normal was to insert multiple lines at once.
- While you may, of course, use any of the standard line-commands if you prefer, FileKit provides some convenient default Function Key definitions.
 - ◆ Press **Shift-F1 (F13)** to **insert** new lines (instead of having to move the cursor into the prefix area then enter **I**).
 - ◆ Press **Shift-F2 (F14)** to **delete** the current line (instead of having to move the cursor into the prefix area then enter **D**).
 - ◆ Press **Shift-F3 (F15)** to **replicate** the current line (instead of having to move the cursor into the prefix area then enter **R**).
 - ◆ Press **Shift-F7 (F19)** to split a line so that text following the cursor is removed from the current and inserted as a new line.
 - ◆ Place your cursor at the end of a line then use the same key (**SPLTJOIN**) to join on text from the next line.

Function Key Options

- Type the **PFS (PFSHOWSTYLE)** primary command to control the way Function Keys **F13-F24** are displayed at the bottom of the screen.

Type **HELP PFS** for more information on how to get "**F13**" to display as "**s1**" (denoting Shift-F1) etc as shown in the following screen shots.

This feature may also be set via the Settings->Function Keys (=0.8) panel.

- In addition, users running with the recommended large 160 column screens width (e.g. 62 lines x 160 cols) will find it handy to use the **PFSHOW ALL** option.

The benefit of this being that function keys 1-12 are always displayed on the first line, with the corresponding "Shift" keys (F13-F24) directly underneath. Keys that are not set to any command will still occupy the relevant slot thereby maintaining the up/down alignment of standard/shift keys.

Again, this feature may also be set via the Settings->Function Keys (=0.8) panel.

- Just like under standard ISPF, you may type **KEYS** to display a dialog that allows view and modification of the current function "KeyList".

Most FileKit utilities have their own independent key list. e.g. The KeyList for the Text-Edit utility (in ISPF compatibility mode) is called "TEXTEDIT" and for the Data-Edit it's called "DATAEDIT".

Changes made to key definitions using this panel are permanent.

Press the **HELP (F1)** key for more information.

- Unlike ISPF, you may also make temporary key definitions that are individual to the current Text-Edit window (the feature is also available for Data-Edit and any other type of window).

To temporarily modify a key definition just type the primary command **PF** followed by the number of the key (e.g. **6** to modify F6, or **21** to modify Shift-F9) followed by the text of the command to be executed when the key is pressed.

e.g. **PF 1 SAVE**

Selective Line Editing

- FileKit supports the primary command **ONLY (O)** as a shortcut to EXCLUDE/FIND.
- Type **ONLY 'X' 46** to display only the lines containing letter 'X' in column 46.

In the standard ISPF editor you would need to type two commands.

1. **X ALL** to exclude all lines.
2. **FIND ALL 'X' 46** to show only the required lines.

- Type the primary command **HIDE** to remove the display of "shadow" lines representing excluded records.
- Type **RES HIDE** (or SHAD ON) to redisplay shadow lines.
- Type **ALL** (or RES) to redisplay excluded lines.

Tip: Using the **KEYS** dialog, choose a Function key that you're willing to sacrifice (e.g. F6=RFIND) then define it as

ALL; SOS MAKECARR.

(Use of the command separator character (semi-colon) allows chaining together of multiple commands to be executed with a single key depression.)

Then, following an **ONLY** command to select records of interest, you may place your cursor on a particular record and press **F6** (or whichever key you chose) to redisplay any excluded lines (**ALL**) and at the same time scroll the focus record to the top of the screen (**SOS MAKECARR**).

Note that after pressing F6 to explore an interesting area of your file, provided you make no changes in that area, you may wish to press the **UNDO** key (**Shift-F10**) to reverse the **ALL** command, in effect reapplying all the line exclusions set by your previous **ONLY** command.

See later discussion on the **UNDO/REDO** feature.

The screenshot displays a terminal window titled "SELPCOPY/i - TEST1.SELCTRN.SAM1(ZZST2CPC) 80 F PDSE Size=59 Alt=0,0;3". The window contains a menu bar with "File Edit Actions Options Utilities Window SwapList Help" and keyboard shortcuts "wS wR". The main area shows the output of a command: "Command> ZZSE195I 44 occurrences of string 'X' were found." Below this, a list of lines is shown, with some lines marked as "not displayed" (e.g., "000001 ----- 1 line(s) not displayed -----"). The visible lines include: "000002 05 RT PIC X(001).", "000003 05 ARTIST PIC X(070).", "000005 05 RT PIC X(001).", "000006 05 ALBUM PIC X(070).", "000008 05 RT PIC X(001).", "000009 05 PERSISTENT-ID PIC X(015).", "000012 05 NAME PIC X(120).", "000020 05 ALBUM-ARTIST PIC X(041).", "000022 07 RELEASE-YYYY PIC X(004).", "000023 07 FILLER PIC X(001).", "000024 07 RELEASE-MM PIC X(002).", "000025 07 FILLER PIC X(001).", "000026 07 RELEASE-DD PIC X(002).", "000027 07 FILLER PIC X(001).", "000028 07 RELEASE-HH PIC X(002).", "000029 07 FILLER PIC X(001).", "000030 07 RELEASE-MN PIC X(002).", "000031 07 FILLER PIC X(001).". At the bottom, there is a status bar with various settings: "s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox". The bottom-most bar shows "Te | Line=0 | Col=1 | Alt=0,0;3 | Size=59 | Recl=80 | Fmt=F | Files=2 | Views=2".

Figure 19. FileKit - Text Edit Panel Window.

Displaying HEX Data

- Just like in the standard ISPF-Editor, you may type the primary command **HEX ON/OFF** to display the hexadecimal representation of each text line.
- In addition the FileKit text-editor supports the **HEX** line-command which opens a separate "dump" style storage display for the focus line.

If you are operating in windowed display mode you'll notice this display appears in a separate window.

Multiple dump windows may be opened for several different lines.

- Enter the **HEX** line-command in the prefix area of line 6.
- Now modify the data at offset **X'28'** from **X'D7'** (c'P') to **X'FF'** and press ENTER.

You should see the screen shot below.

```

SELCPY/i - Hex Edit: TEST1.SELCTRN.SAM1(ZZST2CPC)
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
RecNo> 6          Length> 80          LRecL: 80          Scroll > Csr

000000 40404040 40404040 4040F0F5 40C1D3C2      05 ALB
000010 E4D44040 40404040 40404040 40404040      UM
000020 40404040 40404040 FFC9C340 40E74DF0      .IC X(0
000030 F7F05D4B 40404040 40404040 40404040      70).
000040 40404040 40404040 40404040 40404040

```

Figure 20. FileKit - Help Window.

Non-Display Characters

- Now press **F3** to close the hex-dump window. You should see the screen shot below.
- Notice that the colour of the modified line has changed to **(TURQUOISE) UNDERSCORE**.

This is to alert the user to the presence of non-display characters within the visible text.

- Display characters are overtypable, and are indicated by the **underscore**.

Non-display characters (e.g. X'FF') are **protected** from input using a 3270 attribute byte which displays as blank **without** an underscore.

- You can type the primary command **NOND** to toggle this feature on or off.

```

SELCOPY/i - TEST1.SELCTRN.SAM1(ZZST2CPC) 80 F PDSE Size=59 Alt=1,1;3
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 01 ARTIST
000002 05 RT PIC X(001).
000003 05 ARTIST PIC X(070).
000004 01 ALBUM
000005 05 RT PIC X(001).
000006 05 ALBUM IC X(070).
000007 01 TRACK
000008 05 RT PIC X(001).
000009 05 PERSISTENT-ID PIC X(016).
000010 05 TRACK-NUM PIC 9(003).
000011 05 TRACK-ID PIC 9(004).
000012 05 NAME PIC X(120).
000013 05 TOTAL-TIME PIC 9(007) BINARY.
000014 05 FILE-SIZE PIC 9(009) BINARY.
000015 05 BIT-RATE PIC 9(004) BINARY.
000016 05 SAMPLE-RATE PIC 9(005) PACKED-DECIMAL.
000017 05 YEAR PIC 9(004).
000018 05 NORMALIZATION PIC S9(005) PACKED-DECIMAL.
000019 05 DISC-NUMBER PIC 9(003).
000020 05 ALBUM-ARTIST PIC X(041).
000021 05 RELEASE-DATE
000022 07 RELEASE-YYYY PIC X(004).
000023 07 FILLER PIC X(001).
000024 07 RELEASE-MM PIC X(002).
000025 07 FILLER PIC X(001).
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=1,1;3 | Size=59 | Recl=80 | Fmt=F | Files=2 | Views=2
    
```

Figure 21. FileKit - Focus Window.

UNDO/REDO

FileKit supports multi-level **UNDO** and **REDO** of changes made during your Text-Edit sessions.

UNDO/REDO is file independent, meaning you can be editing and changing many files within your FileKit session, each of which may have their changes separately undone/redone.

To demonstrate this feature, first use the features described earlier to insert, delete, replicate, split and join lines of text in our sample COBOL copybook, then ...

- Press Function Key **F22 (Shift-F10)** repeatedly to **UNDO** each of the changes 1 at a time.
- Press Function Key **F23 (Shift-F11)** repeatedly to **REDO** each of the undone changes.

The UNDO/REDO feature is unaffected by the **SAVE** command.

Type **HELP UNDOING** for full information on how to configure this feature.

Multiple (Windowed) views

Whether running in windowed display mode (on a large screen) or not, the FileKit Text-Editor supports multiple views of any edited dataset.

To demonstrate this we'll edit a second slightly larger file.

- Type the primary command "=" to display (or return focus to) the FileKit **Primary Options Menu**.

If you are running on a standard screen size it is worth noting that this action does not close any of the "windows" we have already seen. Press the **WINDOW** key (F4) to scroll through each of the open windows.

- From the **Primary Options Menu** select option **4** to edit your "**HOME**" file, which will be discussed in more detail later in this section.

Alternativeley you may type the **HOME (HO)** primary command to directly edit this special file.

- Type **M** on the command line and press Function Key **F8** to scroll to the bottom of this file.

```
SELCOPY/i - TEST1.SELCOPYI.CMX      32752 V SEQ      Size=132      Alt=0,0;1
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
.WIN          ** Windowed Display System          *** .win
000080  While running on a wide (greater than 80-char) screen, SELCOPYi
000081  will automatically operate in a windowed display mode.
000082
000083  All SELCOPYi display-windows may then be moved, resized, maximised,
000084  minimised and restored in a fashion similar to those on your PC.
000085
000086  This is achieved by 'clicking' the window-borders, title-Bar
000087  or '-+x' buttons.
000088      (Clicking means move-cursor, then hit-ENTER.
000089      'Try setting your Mouse to do this!' )
000090  Grab the window-border with the first click, move cursor to a new
000091  location, second click reshapes the window. Try it now!
000092
000093  Also try 'dragging' using the scrolling keys 'F7/F8' and 'F10/F11'.
000094  To drag at '5 x speed', just hold down the 'shift' key.
000095
000096
000097  Having found your perfect window size/shape/position for a
000098  particular file, you may wish to 'Save' its characteristics,
000099  allowing 'Restore' in this and future sessions.
000100
000101  Use the yellow 'wS' and 'wR' buttons in the main menu bar, or
000102  the following primary commands.
000103 <WinX Save      | Save current window size/pos - Same as 'wS' button.
      s1=InsLine   s2=DelLine   s3=DupLine   s4=ACTION   s5=MrkBox   s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO    s12=ResetBox
Te | Line=79 | Col=1 | Alt=0,0;1 | Size=132 | Recl=32752 | Fmt=V | Files=3 | Vi
```

Multiple (Windowed) Views (2)

Now imagine you're editing a large program source file and are focused on a point of interest.

You then need to look at other parts of the file, but don't want to lose your current place.

To return to your original location you could use the prefix area to set a line name e.g. **.HERE**, then return to it by typing **LOC .HERE** on the command line.

But FileKit users can just open a 2nd, 3rd, 4th etc view of the file in order to look at other areas, then return to their previous location just by pressing **F3** to close the additional view(s).

To demonstrate ...

- Type the primary command "**WIN NEW**" to open a new view of the current file.
- Type **M** on the command line and press Function Key **F7** to scroll to the top of the file.
- Just press **F3** to close the new view returning to your original location.

```
File Edit Actions Options Utilities Window SwapList Help      wS wR
-TEST1.SELCOPYI.CMX:2  32752 V SEQ  Size=132  Alt=0,0;1  -+x
Command>
  <---+---1---+---2---+---3---+---4---+---5---+---6---+---
000000 * * * Top of File * * *
000001 ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (T
000002
000003          '--- S E L C O P Y i ---'
000004
000005      This is your 'HOME' file (or personal 'Command-Centre').

-TEST1.SELCOPYI.CMX:1  32752 V SEQ  Size=132  Alt=0,0;1  -+x
Command>
  <---+---1---+---2---+---3---+---4---+---5---+---6---+---
.WIN          ** Windowed Display System          *** .win
000080      While running on a wide (greater than 80-char) screen, SELCOPYi
000081      will automatically operate in a windowed display mode.
000082
000083      All SELCOPYi display-windows may then be moved, resized, maximised
000084      minimised and restored in a fashion similar to those on your PC.
000085
000086      This is achieved by 'clicking' the window-borders, title-Bar
000087      or '-+x' buttons.
000088          (Clicking means move-cursor, then hit-ENTER.
000089          'Try setting your Mouse to do this!'

F5=WinMax   F6=WinRes   F7=Drag-U   F8=Drag-D   F10=Drag-L   F11=Drag-R
s1=wS       s2=wR         s3=Width-20 s4=Width+20 s5=Depth-20 s6=Depth+20
s7=Drag-Ux5 s8=Drag-Dx5  s10=Drag-Lx5 s11=Drag-Rx5
Te | Line=0 | Col=1 | Alt=0,0;1 | Size=132 | Recl=32752 | Fmt=V | Files=3 | Vie
```

Figure 22. FileKit - Focus Window.

The "WW" Primary Command

Particularly useful when running in windowed display mode, the "WW" command will perform like "WIN NEW", but will also "clone" the original window's **width** and **depth**.

In addition, "WW" allows you to supply an optional command that wish to be executed in the new view e.g.

- Type the primary command "WW ONLY '<' 1" to open a new view displaying only lines with a less-than sign in columns 1.

```

File Edit Actions Options Utilities Window SwapList Help  wS wR
-TEST1.SELCTRN.SAM1(ZZST2C)  -Primary Option Menu
-TEST1.SELCOPYI.CMX:2  32752 V SEQ  Size=132  Alt=0,0;2  -+x
Command>  Scroll> Csr
ZZSE195I 14 occurrences of string "<" were found.
000000 * * * Top of File * * *
000001 ----- 20 line(s) not displayed -----
000021 <tso lista
000022 ----- 15 line(s) not displayed -----
000037 <alloc f(NEWLIB) new da('%user%.NEW.LIB') \
000038 ----- 9 line(s) not displayed -----
000047 <lvol Z*RES* | SELCOPYi integrated 'List VOLUMes' command.
000048 ----- 11 line(s) not displayed -----
000059 <edit %user%.ABC.TEST2012.FILE
000060 <edit %user%.ABC.TEST2013.FILE
000061 <edit %user%.ABC.LIVE` ```.FILE

000082
000083 All SELCOPYi display-windows may then be moved, resized, maximised
000084 minimised and restored in a fashion similar to those on your PC.
000085
000086 This is achieved by 'clicking' the window-borders, title-Bar
000087 or '-+x' buttons.
000088 (Clicking means move-cursor, then hit-ENTER.
000089 'Try setting your Mouse to do this!'

s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=0 | Col=1 | Alt=0,0;2 | Size=132 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 23. FileKit - Focus Window.

Note that changes to data made in any view will immediately be reflected in all other views of the same file. i.e. Multiple "Views" of the same file are not independent edit sessions but are all logically connected.

Furthermore changes made in one view may be **UNDO**ne/**REDO**one in any other view of the same file.

Marked Line- and Box-Block features

Lines of data may be deleted, copied or moved within the same file using the familiar line-commands supported by the standard **ISPF Editor**. Also lines of data may be copied or moved between different files using a very similar **CUT/PASTE** feature.

In addition, **FileKit** provides features to manipulate a "**marked block**" of data within an edited file.

There are two types of marked blocks:

1. A **Line-Block** consists of one or more complete lines of text.

The top/bottom edges of a Line-Block are marked using the "**MrkLine**" key (**Shift-F6** by default).

2. A **Box-Block** consists of one or more columns within one or more lines of text.

The diagonal corners of a Box-Block are marked using the "**MrkBox**" key (**Shift-F5** by default).

A marked block is "unmarked" using the "**ResetBox**" key (**Shift-F12** by default).

Marked blocks of data may be:

- Deleted.
- Moved or copied to FileKit's clipboard.
- Moved or copied to another location within the same or any other edited file.
- Overlaid on top of data at another location within the same or any other edited file.
- Filled with a single propagated character or left adjusted string.
- Used to restrict the scope of many primary commands, such as **CHANGE**.
- Used to define a column of incrementing **sequence numbers**, or to adjust existing numbers.

To demonstrate some of these features ...

- Edit the sample copybook as before.
- Type **ONLY PIC 41**.

```

SELCPY/i - TEST1.SELCTRN.SAM1(ZZST2CPC) 80 F PDSE Size=59 Alt=0,0;1
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> Scroll> Csr
ZZSE195I 53 occurrences of string "PIC" were found.
000000 * * * Top of File * * *
000001 ----- 1 line(s) not displayed -----
000002          05 RT PIC X(001).
000003          05 ARTIST PIC X(070).
000004 ----- 1 line(s) not displayed -----
000005          05 RT PIC X(001).
000006          05 ALBUM PIC X(070).
000007 ----- 1 line(s) not displayed -----
000008          05 RT PIC X(001).
000009          05 PERSISTENT-ID PIC X(016).
000010          05 TRACK-NUM PIC 9(003).
000011          05 TRACK-ID PIC 9(004).
000012          05 NAME PIC X(120).
000013          05 TOTAL-TIME PIC 9(007) BINARY.
000014          05 FILE-SIZE PIC 9(009) BINARY.
000015          05 BIT-RATE PIC 9(004) BINARY.
000016          05 SAMPLE-RATE PIC 9(005) PACKED-DECIMAL.
000017          05 YEAR PIC 9(004).
000018          05 NORMALIZATION PIC S9(005) PACKED-DECIMAL.
000019          05 DISC-NUMBER PIC 9(003).
000020          05 ALBUM-ARTIST PIC X(041).
000021 ----- 1 line(s) not displayed -----
000022          07 RELEASE-YYYY PIC X(004).
000023          07 FILLER PIC X(001).
000024          07 RELEASE-MM PIC X(002).
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=0 | Col=1 | Alt=0,0;1 | Size=59 | Recl=80 | Fmt=F | Files=2 | Views=2

```

Figure 24. FileKit - Focus Window.

Copying a Line-Block (1)

- Place your cursor anywhere on **line 2** then press the "MrkLine" key (**Shift-F6**).
- Line 2 will be highlighted.
- Place your cursor anywhere on **line 12** then press **Shift-F6**.
- The block of lines from 2 to 12 will be highlighted.

```

SELCPY/i - TEST1.SELCTRN.SAM1(ZZST2CPC) 80 F PDSE Size=59 Alt=0,0;1
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000000 * * * Top of File * * *
000001 ----- 1 line(s) not displayed -----
000002 05 RT PIC X(001).
000003 05 ARTIST PIC X(070).
000004 ----- 1 line(s) not displayed -----
000005 05 RT PIC X(001).
000006 05 ALBUM PIC X(070).
000007 ----- 1 line(s) not displayed -----
000008 05 RT PIC X(001).
000009 05 PERSISTENT-ID PIC X(016).
000010 05 TRACK-NUM PIC 9(003).
000011 05 TRACK-ID PIC 9(004).
000012 05 NAME PIC X(120).
000013 05 TOTAL-TIME PIC 9(007) BINARY.
000014 05 FILE-SIZE PIC 9(009) BINARY.
000015 05 BIT-RATE PIC 9(004) BINARY.
000016 05 SAMPLE-RATE PIC 9(005) PACKED-DECIMAL.
000017 05 YEAR PIC 9(004).
000018 05 NORMALIZATION PIC S9(005) PACKED-DECIMAL.
000019 05 DISC-NUMBER PIC 9(003).
000020 05 ALBUM-ARTIST PIC X(041).
000021 ----- 1 line(s) not displayed -----
000022 07 RELEASE-YYYY PIC X(004).
000023 07 FILLER PIC X(001).
000024 07 RELEASE-MM PIC X(002).
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=0 | Col=1 | Alt=0,0;1 | Size=59 | Recl=80 | Fmt=F | Files=2 | Views=2

```

Figure 25. FileKit - Focus Window.

Copying a Line-Block (2)

- Type **HOME** on the command line and press **ENTER**.
You should then see your HOME command-centre as shown below.

```

SELCOPY/i - TEST1.SELCOPYI.CMX 32752 V SEQ Size=132 Alt=0,0;1
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
<----+----1----+----2----+----3----+----4----+----5----+----6----+----7--
000001  ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003      '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000008  Option Menu (=4) to return directly to this file at any time during
000009  your SELCOPYi session.
000010
000011  'What is the purpose of my HOME file???'
000012  TSO, ISPF and internal SELCOPYi primary commands may obviously be
000013  issued from any SELCOPYi command-line. But since the same, or similar,
000014  command-sequences are executed regularly/frequently, it becomes
000015  very convenient and efficient to store these commands (along with
000016  meaningful comments) in an easy to maintain plain-text file.
000017
000018  To execute your stored commands just place your cursor anywhere
000019  within the command text, then press the 'ACTION' key (Default='F16').
000020  Try it now on the next line ... (Commands are colour-coded blue)
000021  <tso lista
000022  ' / \          Place cursor here then press Shift-F4 to'
000023  ' | _____ execute the 'TSO LISTA' command.'
000024
000025  The '<' sign at the beginning of the line indicates that when the
s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO   s11=REDO   s12=ResetBox
Te | Line=1 | Col=1 | Alt=0,0;1 | Size=132 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 26. FileKit - Focus Window.

Copying a Line-Block (3)

- Place your cursor anywhere on **line 6** of your **HOME** file.
- Press the "**BoxFuncs**" key (**Shift-F8**).

The "**Line/Box-Block Options**" panel will be displayed as shown below.

```

-SELCOPY/i - Text-Edit: Line/Box-Block Options
File Help                                     wS wR
Command>                                     Scroll> Csr
ZZSTBOX0                                     Lines 1-20 of 20

C_
B Mark Diagonal Corner of a Box-block
L Mark Top/Bottom Edge of a Line-block
R Reset Marked Line-/Box-block

C Copy (i.e. Insert) marked Line-/Box-block at the cursor position
K Copy and Keep marked block active
M Move marked block
O Overlay text at cursor with contents of marked block
D Delete marked block

CC Copy marked block to the clipboard
CM Move marked block to the clipboard
P Paste data from the clipboard

S Insert sequence numbers into marked box
W Delete word at cursor, or blanks up to next word

F1=HELP   F2=SPLIT   F4=WINDOW   F9=SWAP   F12=CRETRIEV   s2=EXPAND

```

Figure 27. FileKit - Focus Window.

Copying a Line-Block (4)

- Type "C" in the option field and press **ENTER**.
- The marked block of lines will be copied into your HOME file following your previous cursor position at line 6.

```

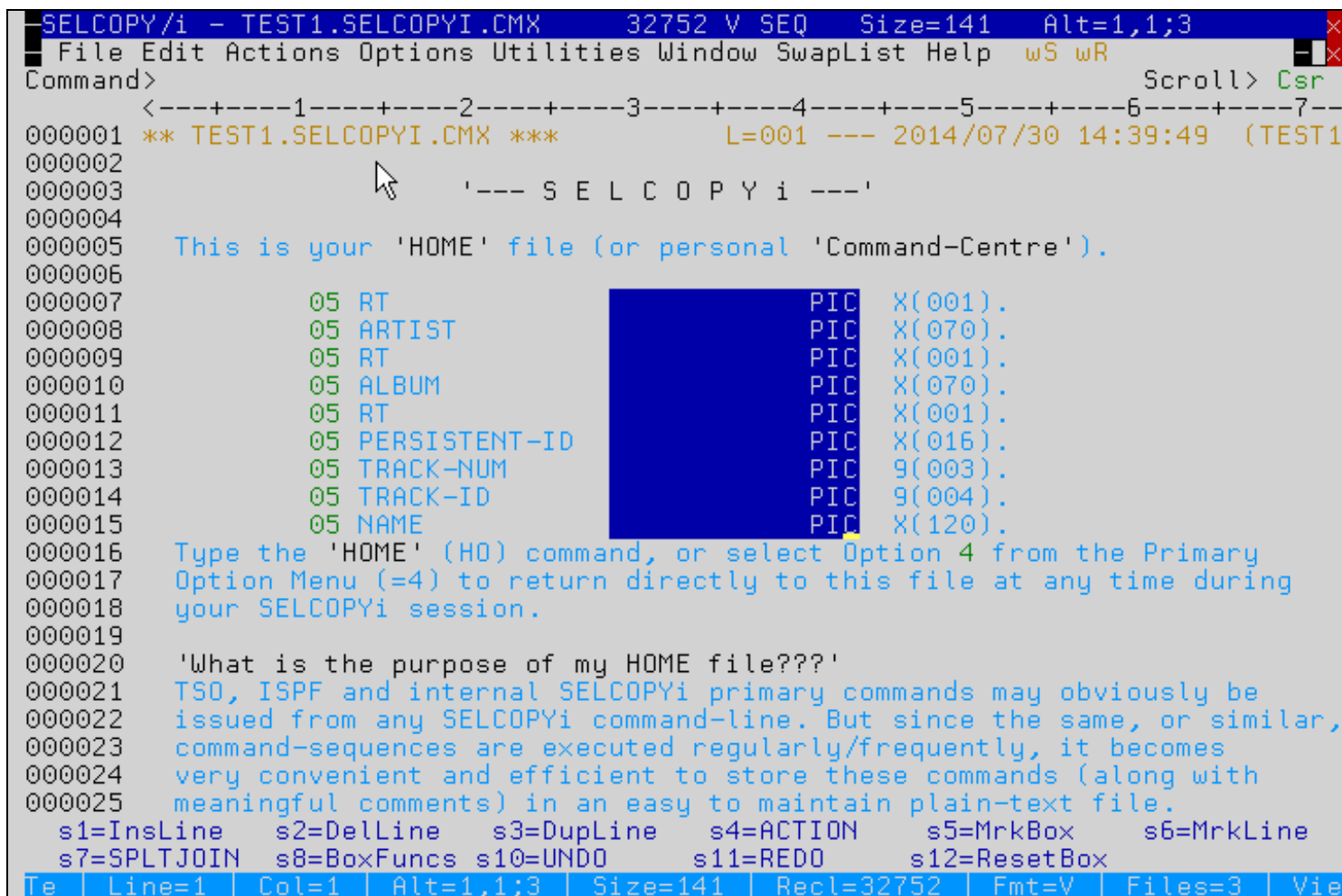
SELCOPY/i - TEST1.SELCOPYI.CMX 32752 V SEQ Size=141 Alt=1,1;3
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
000001 ** TEST1.SELCOPYI.CMX *** L=001 --- 2014/07/30 14:39:49 (TEST1
000002 --- S E L C O P Y i ---
000003 This is your 'HOME' file (or personal 'Command-Centre').
000004
000005
000006
000007 05 RT PIC X(001).
000008 05 ARTIST PIC X(070).
000009 05 RT PIC X(001).
000010 05 ALBUM PIC X(070).
000011 05 RT PIC X(001).
000012 05 PERSISTENT-ID PIC X(016).
000013 05 TRACK-NUM PIC 9(003).
000014 05 TRACK-ID PIC 9(004).
000015 05 NAME PIC X(120).
000016 Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017 Option Menu (=4) to return directly to this file at any time during
000018 your SELCOPYi session.
000019
000020 'What is the purpose of my HOME file???'
000021 TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022 issued from any SELCOPYi command-line. But since the same, or similar,
000023 command-sequences are executed regularly/frequently, it becomes
000024 very convenient and efficient to store these commands (along with
000025 meaningful comments) in an easy to maintain plain-text file.
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=1,1;3 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 28. FileKit - Focus Window.

Deleting a Box-Block (1)

- Place your cursor at **column 29** of the **first** copied line then press the **"MrkBox"** key (**Shift-F5**).
- The first (top-left) box corner will be highlighted.
- Place your cursor at **column 43** of the **last** copied line then press the **Shift-F5** to mark the (bottom-right) corner.
- The box block will be highlighted.



```

SELCOPY/i - TEST1.SELCOPYI.CMX      32752 V SEQ   Size=141   Alt=1,1;3
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001  ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003      '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007      05 RT                          PIC X(001).
000008      05 ARTIST                       PIC X(070).
000009      05 RT                          PIC X(001).
000010      05 ALBUM                        PIC X(070).
000011      05 RT                          PIC X(001).
000012      05 PERSISTENT-ID               PIC X(016).
000013      05 TRACK-NUM                   PIC 9(003).
000014      05 TRACK-ID                    PIC 9(004).
000015      05 NAME                        PIC X(120).
000016  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCOPYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022  issued from any SELCOPYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO   s11=REDO   s12=ResetBox
Te | Line=1 | Col=1 | Alt=1,1;3 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 29. FileKit - Min/Max/Close Buttons.

Deleting a Box-Block (2)

- Press the "BoxFuncs" key (Shift-F8).
- The "Line/Box-Block Options" panel will be displayed.

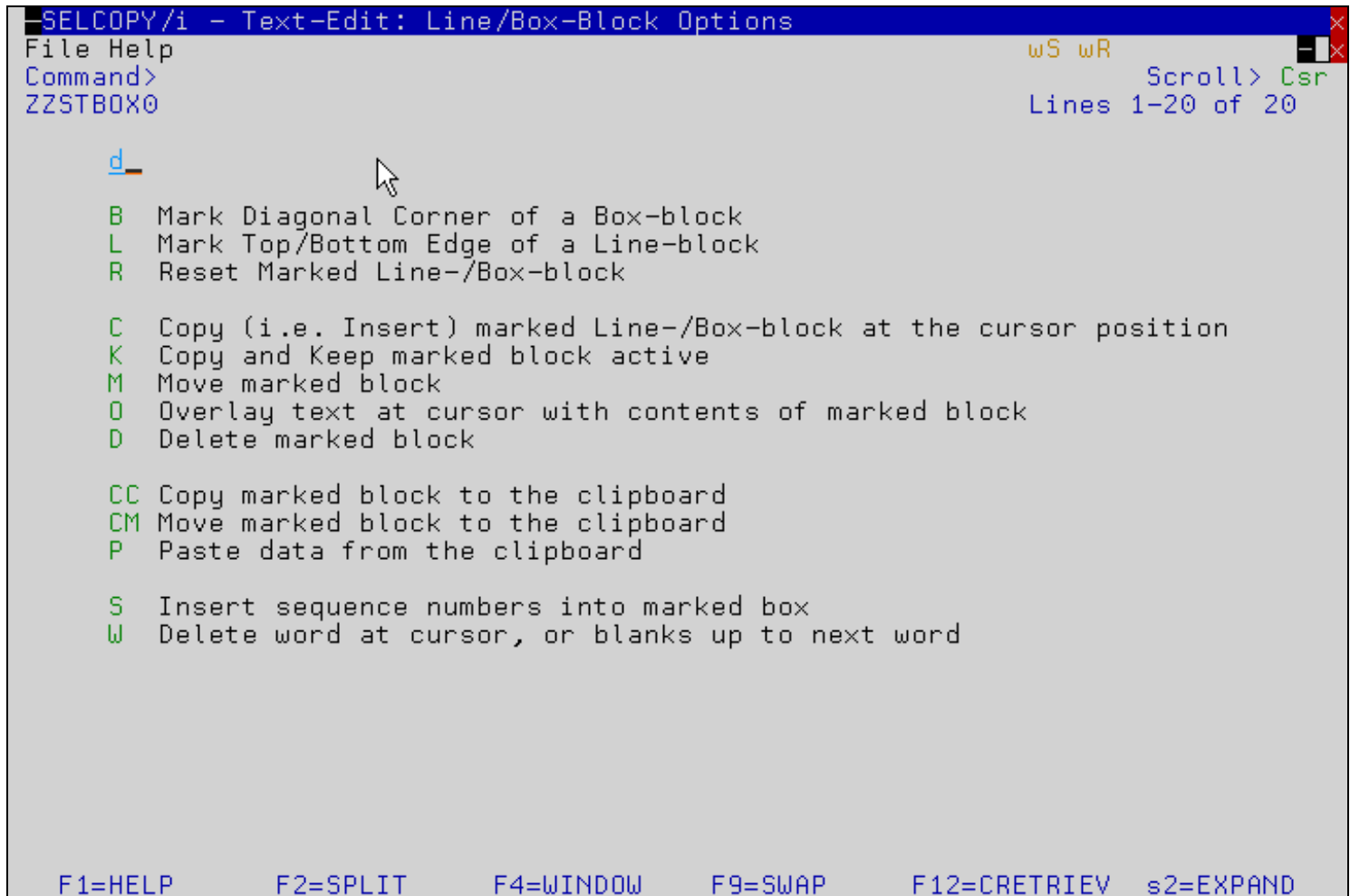


Figure 30. FileKit - Focus Window.

Deleting a Box-Block (3)

- Type "D" in the option field and press **ENTER**.
- The marked box-block will be deleted from your HOME file.
- Any data to the right of block will have been shifted left.
This would include any data that was beyond the visible window area to the right.

```

SELCOPY/i - TEST1.SELCOPYI.CMX 32752 V SEQ Size=141 Alt=2,2;5
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 ** TEST1.SELCOPYI.CMX *** L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003 '--- S E L C O P Y i ---'
000004
000005 This is your 'HOME' file (or personal 'Command-Centre').
000006
000007 05 RT X(001).
000008 05 ARTIST X(070).
000009 05 RT X(001).
000010 05 ALBUM X(070).
000011 05 RT X(001).
000012 05 PERSISTENT-ID X(016).
000013 05 TRACK-NUM 9(003).
000014 05 TRACK-ID 9(004).
000015 05 NAME X(120).
000016 Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017 Option Menu (=4) to return directly to this file at any time during
000018 your SELCOPYi session.
000019
000020 'What is the purpose of my HOME file???'
000021 TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022 issued from any SELCOPYi command-line. But since the same, or similar,
000023 command-sequences are executed regularly/frequently, it becomes
000024 very convenient and efficient to store these commands (along with
000025 meaningful comments) in an easy to maintain plain-text file.
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=2,2;5 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 31. FileKit - Min/Max/Close Buttons.

Moving a Box-Block (1)

- Place your cursor at **column 11** of the **first** copied line then press the **"MrkBox"** key (**Shift-F5**).
- The first box corner will be highlighted.
- Place your cursor at **column 12** of the **last** copied line then press the **Shift-F5**.
- The box block containing COBOL level number will be highlighted.

```

SELCPY/i - TEST1.SELCOPYI.CMX      32752 V SEQ  Size=141  Alt=2,2;5
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001  ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003      '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007      05 RT - X(001).
000008      05 ARTIST - X(070).
000009      05 RT X(001).
000010      05 ALBUM X(070).
000011      05 RT X(001).
000012      05 PERSISTENT-ID X(016).
000013      05 TRACK-NUM 9(003).
000014      05 TRACK-ID 9(004).
000015      05 NAME X(120).
000016  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCOPYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022  issued from any SELCOPYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO   s11=REDO   s12=ResetBox
Te | Line=1 | Col=1 | Alt=2,2;5 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 32. FileKit - Focus Window.

Moving a Box-Block (2)

- Place your cursor at **column 28** of the **first** copied line.
- We will move the marked box to this location.
- Press the **"BoxFuncs"** key (**Shift-F8**).
- Type **"M"** in the option field and press **ENTER**.
- The marked box-block will be moved. Data between the original source column and the target column will be shifted left, but data to the right of the target column will not move.

```

SELCOPY/i - TEST1.SELCOPYI.CMX 32752 V SEQ Size=141 Alt=3,3;7
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> _ Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 ** TEST1.SELCOPYI.CMX *** L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003 '--- S E L C O P Y i ---'
000004
000005 This is your 'HOME' file (or personal 'Command-Centre').
000006
000007 RT 05 X(001).
000008 ARTIST 05 X(070).
000009 RT 05 X(001).
000010 ALBUM 05 X(070).
000011 RT 05 X(001).
000012 PERSISTENT-ID 05 X(016).
000013 TRACK-NUM 05 9(003).
000014 TRACK-ID 05 9(004).
000015 NAME 05 X(120).
000016 Type the 'HOME' (HD) command, or select Option 4 from the Primary
000017 Option Menu (=4) to return directly to this file at any time during
000018 your SELCOPYi session.
000019
000020 'What is the purpose of my HOME file???'
000021 TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022 issued from any SELCOPYi command-line. But since the same, or similar,
000023 command-sequences are executed regularly/frequently, it becomes
000024 very convenient and efficient to store these commands (along with
000025 meaningful comments) in an easy to maintain plain-text file.
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=3,3;7 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 33. FileKit - Focus Window.

Overlaying a Box-Block (1)

- Place your at **column 33** of the **first** copied line then press the **"MrkBox"** key (**Shift-F5**).
- Place your at **column 35** of the **last** copied line then press the **Shift-F5**.
- The box block containing COBOL field data lengths will be highlighted.
- Place your at **column 20** of the **first** copied line as shown below.
We will overlay the marked box onto this location.

```

SELCOPYY/i - TEST1.SELCOPYI.CMX      32752 V SEQ      Size=141      Alt=3,3;7
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001  ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003          '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007          RT          -          05          X(001).
000008          ARTIST      -          05          X(070).
000009          RT          -          05          X(001).
000010          ALBUM       -          05          X(070).
000011          RT          -          05          X(001).
000012          PERSISTENT-ID 05          X(016).
000013          TRACK-NUM  05          9(003).
000014          TRACK-ID   05          9(004).
000015          NAME      05          X(120).
000016  Type the 'HOME' (HD) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCOPYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022  issued from any SELCOPYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO   s12=ResetBox
Te | Line=1 | Col=1 | Alt=3,3;7 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 34. FileKit - Focus Window.

Overlaying a Box-Block (2)

- Press the "BoxFuncs" key (Shift-F8).

```

SELCOPY/i - Text-Edit: Line/Box-Block Options
File Help                               wS wR
Command>                               Scroll> Csr
ZZSTBOX0                               Lines 1-20 of 20

o
B Mark Diagonal Corner of a Box-block
L Mark Top/Bottom Edge of a Line-block
R Reset Marked Line-/Box-block

C Copy (i.e. Insert) marked Line-/Box-block at the cursor position
K Copy and Keep marked block active
M Move marked block
O Overlay text at cursor with contents of marked block
D Delete marked block

CC Copy marked block to the clipboard
CM Move marked block to the clipboard
P Paste data from the clipboard

S Insert sequence numbers into marked box
W Delete word at cursor, or blanks up to next word

F1=HELP    F2=SPLIT    F4=WINDOW    F9=SWAP    F12=CRETRIEV    s2=EXPAND

```

Figure 35. FileKit - Focus Window.

Overlaying a Box-Block (3)

- Type "O" in the option field and press **ENTER**.
- The marked box-block will overlay the original data.
The target data remains marked and no left/right shifting occurs.

```

SELCPY/i - TEST1.SELCOPYI.CMX 32752 V SEQ Size=141 Alt=4,4;9
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> _ Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 ** TEST1.SELCOPYI.CMX *** L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003 '--- S E L C O P Y i ---'
000004
000005 This is your 'HOME' file (or personal 'Command-Centre').
000006
000007 RT 001 05 X(001).
000008 ARTIST 070 05 X(070).
000009 RT 001 05 X(001).
000010 ALBUM 070 05 X(070).
000011 RT 001 05 X(001).
000012 PERSISTE016ID 05 X(016).
000013 TRACK-NU003 05 9(003).
000014 TRACK-ID004 05 9(004).
000015 NAME 120 05 X(120).
000016 Type the 'HOME' (HD) command, or select Option 4 from the Primary
000017 Option Menu (=4) to return directly to this file at any time during
000018 your SELCOPYi session.
000019
000020 'What is the purpose of my HOME file???'
000021 TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022 issued from any SELCOPYi command-line. But since the same, or similar,
000023 command-sequences are executed regularly/frequently, it becomes
000024 very convenient and efficient to store these commands (along with
000025 meaningful comments) in an easy to maintain plain-text file.
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=4,4;9 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 36. FileKit - Focus Window.

Incremental Sequence Numbers (1)

We can easily replace the data in the marked box with a sequence number.

For our example we'll start the sequence at **100** and increase by **20** for each new line.

- Press the "**BoxFuncs**" key (**Shift-F8**).
- Type "**S**" in the option field and press **ENTER**.

```

SELCPY/i - Text-Edit: Line/Box-Block Options
File Help                               wS wR
Command>                                Scroll> Csr
ZZSTBOX0                                Lines 1-20 of 20

S_
B Mark Diagonal Corner of a Box-block
L Mark Top/Bottom Edge of a Line-block
R Reset Marked Line-/Box-block

C Copy (i.e. Insert) marked Line-/Box-block at the cursor position
K Copy and Keep marked block active
M Move marked block
O Overlay text at cursor with contents of marked block
D Delete marked block

CC Copy marked block to the clipboard
CM Move marked block to the clipboard
P Paste data from the clipboard

S Insert sequence numbers into marked box
W Delete word at cursor, or blanks up to next word

F1=HELP    F2=SPLIT    F4=WINDOW    F9=SWAP    F12=CRETRIEV    s2=EXPAND

```

Figure 37. FileKit - Focus Window.

Incremental Sequence Numbers (2)

- The "Generate Sequence Numbers ..." panel will be displayed.
- Enter "DEC" in the "Base:" option field to select decimal sequence numbers.
- Enter "100" in the "Start Value:" option field.
- Enter "20" in the "Increment:" option field.
- Enter "YES" in the "Leading Zeros:" option field.
- Select option "Use above specified start value".
- Press **ENTER** to close the panel and update the values.

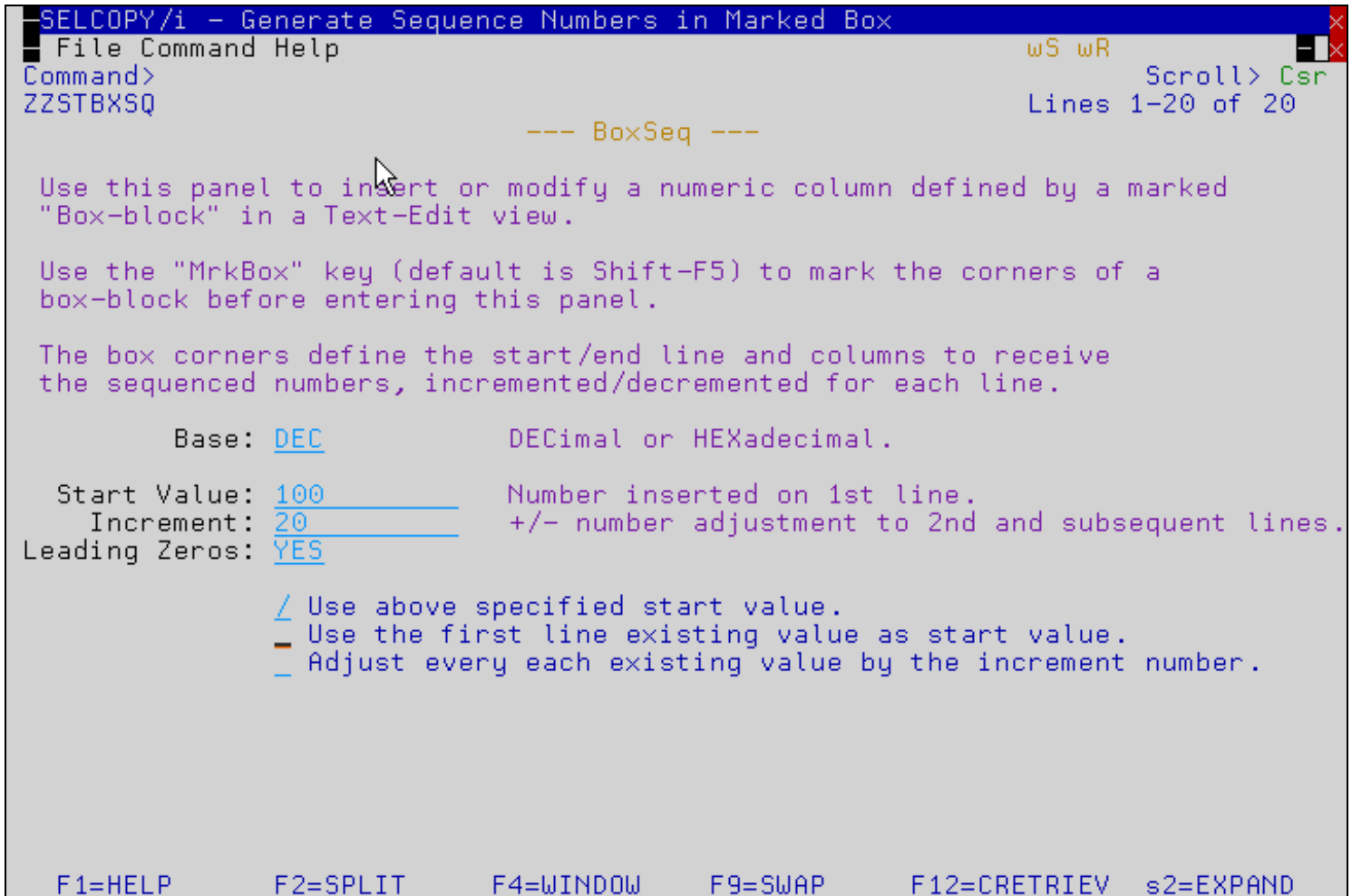


Figure 38. FileKit - Focus Window.

Adjusting Sequence Numbers (1)

We can also use the same panel to adjust the existing numbers in a box block.

As an exercise we'll add 3 to each of the original existing numbers.

- First press the **UNDO** key (**Shift-F10**) to restore the previous values.
- Press the **"BoxFuncs"** key (**Shift-F8**).
- Type **"S"** in the option field and press **ENTER**.
- Enter **"3"** in the **"Increment:"** field.
- Select option **"Adjust every existing value by the increment number"**.

```

SELCOPY/i - Generate Sequence Numbers in Marked Box
File Command Help
Command>
ZZSTBXSQ
--- BoxSeq ---
Use this panel to insert or modify a numeric column defined by a marked
"Box-block" in a Text-Edit view.
Use the "MrkBox" key (default is Shift-F5) to mark the corners of a
box-block before entering this panel.
The box corners define the start/end line and columns to receive
the sequenced numbers, incremented/decremented for each line.
Base: DEC          DECimal or HEXadecimal.
Start Value: _____ Number inserted on 1st line.
Increment: 3      +/- number adjustment to 2nd and subsequent lines.
Leading Zeros: YES
- Use above specified start value.
- Use the first line existing value as start value.
Z Adjust every each existing value by the increment number.
F1=HELP    F2=SPLIT    F4=WINDOW    F9=SWAP    F12=CRETRIEV    s2=EXPAND

```

Figure 39. FileKit - Focus Window.

Adjusting Sequence Numbers (2)

Press **ENTER** to update the values.

```

SELCOPYY/i - TEST1.SELCOPYI.CMX      32752 V SEQ      Size=141      Alt=12,12;8
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command> _                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001  ** TEST1.SELCOPYI.CMX ***           L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003          '--- S E L C O P Y i ---'
000004
000005      This is your 'HOME' file (or personal 'Command-Centre').
000006
000007          RT              05      X(004).
000008          ARTIST         05      X(073).
000009          RT              05      X(004).
000010          ALBUM          05      X(073).
000011          RT              05      X(004).
000012          PERSISTENT-ID 05      X(019).
000013          TRACK-NUM     05      9(005).
000014          TRACK-ID     05      9(007).
000015          NAME          05      X(123).
000016      Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017      Option Menu (=4) to return directly to this file at any time during
000018      your SELCOPYYi session.
000019
000020      'What is the purpose of my HOME file???'
000021      TSO, ISPF and internal SELCOPYYi primary commands may obviously be
000022      issued from any SELCOPYYi command-line. But since the same, or similar,
000023      command-sequences are executed regularly/frequently, it becomes
000024      very convenient and efficient to store these commands (along with
000025      meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine   s2=DelLine   s3=DupLine   s4=ACTION   s5=MrkBox   s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO     s11=REDO    s12=ResetBox
Te | Line=1 | Col=33 | Alt=12,12;8 | Size=141 | Recl=32752 | Fmt=V | Files=3

```

Figure 40. FileKit - Focus Window.

Adjusting Sequence Numbers (3)

You can use the **UNDO/REDO** keys to verify the increment has occurred for each value.

```

SELCOPYY/i - TEST1.SELCOPYI.CMX      32752 V SEQ   Size=141   Alt=3,3;7*
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
ZZSE053I Undo affected 9 line(s).
000001  ** TEST1.SELCOPYI.CMX **          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003      '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007      RT          -      05   X(001).
000008      ARTIST      -      05   X(070).
000009      RT          -      05   X(001).
000010      ALBUM       -      05   X(070).
000011      RT          -      05   X(001).
000012      PERSISTENT-ID 05   X(016).
000013      TRACK-NUM   05   9(003).
000014      TRACK-ID    05   9(004).
000015      NAME        05   X(120).
000016  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCOPYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022  issued from any SELCOPYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO    s12=ResetBox
Te | Line=1 | Col=1 | Alt=3,3;7* | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vi

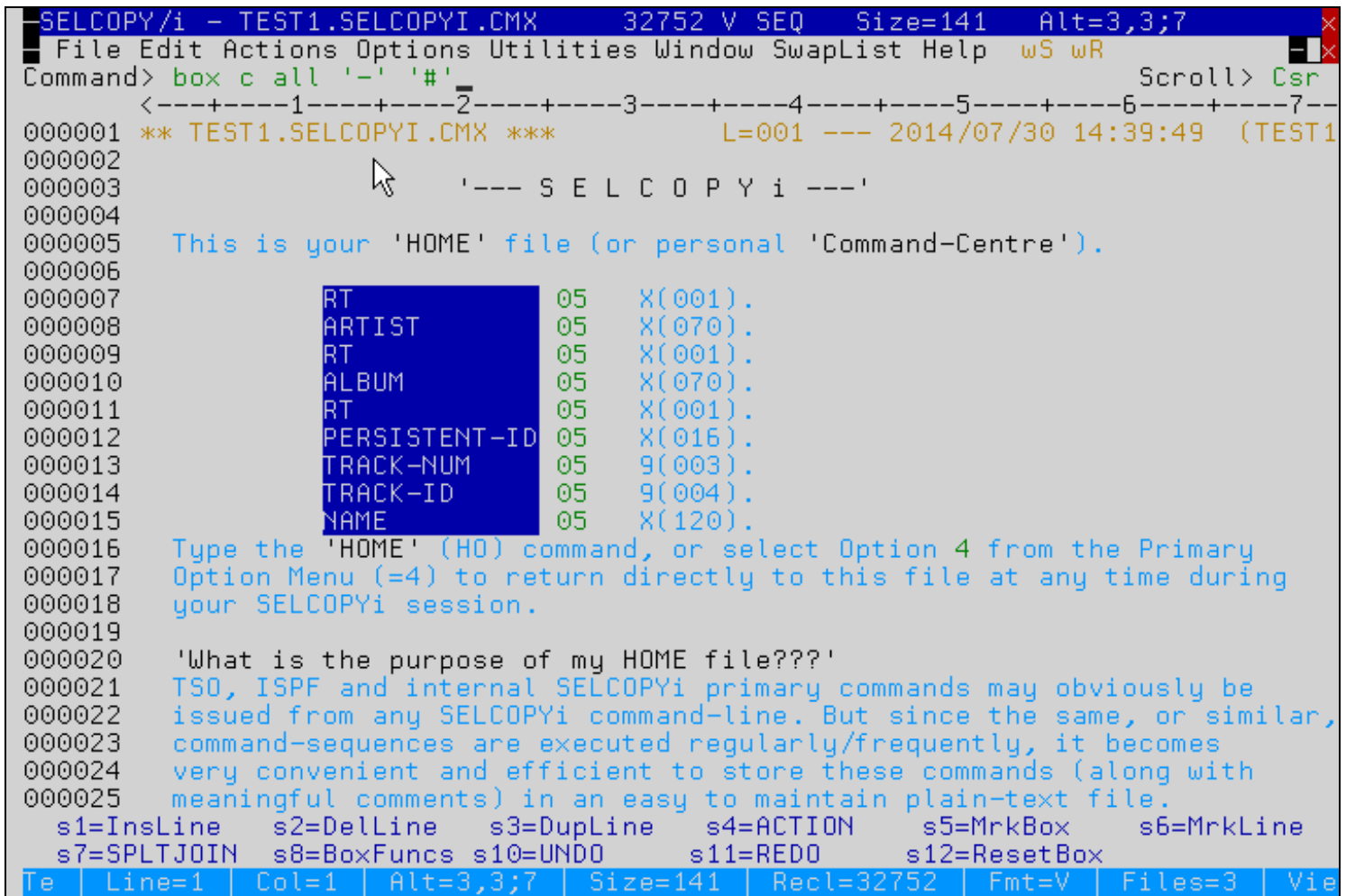
```

Figure 41. FileKit - Focus Window.

Using the "BOX" Primary Command (1)

Next we'll use the **BOX** primary command to change all occurrences of "-" (minus) to "#" (sharp) within the COBOL field names only.

- Mark the data block as shown below.
- On the command line type **BOX CHANGE ALL '-' '#'**.
- Press **ENTER** to make the change.



```

SELCOPY/i - TEST1.SELCOPYI.CMX      32752 V SEQ      Size=141      Alt=3,3;7
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command> box c all '-' '#'
<-----1-----2-----3-----4-----5-----6-----7-----
000001  ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003          '--- S E L C O P Y i ---'
000004
000005      This is your 'HOME' file (or personal 'Command-Centre').
000006
000007          RT          05      X(001).
000008          ARTIST     05      X(070).
000009          RT          05      X(001).
000010          ALBUM      05      X(070).
000011          RT          05      X(001).
000012          PERSISTENT-ID 05      X(016).
000013          TRACK-NUM 05      9(003).
000014          TRACK-ID  05      9(004).
000015          NAME      05      X(120).
000016      Type the 'HOME' (HD) command, or select Option 4 from the Primary
000017      Option Menu (=4) to return directly to this file at any time during
000018      your SELCOPYi session.
000019
000020      'What is the purpose of my HOME file???'
000021      TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022      issued from any SELCOPYi command-line. But since the same, or similar,
000023      command-sequences are executed regularly/frequently, it becomes
000024      very convenient and efficient to store these commands (along with
000025      meaningful comments) in an easy to maintain plain-text file.
          s1=InsLine   s2=DelLine   s3=DupLine   s4=ACTION   s5=MrkBox   s6=MrkLine
          s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO    s12=ResetBox
Te | Line=1 | Col=1 | Alt=3,3;7 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vie

```

Figure 42. FileKit - Focus Window.

Using the "BOX" Primary Command (2)

This technique saves you setting up setting "BOUNDS" and line names in the prefix area before issuing your CHANGE command.

```

SELCOPY/i - TEST1.SELCOPYI.CMX      32752 V SEQ      Size=141      Alt=4,4;8
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
ZZSE020I 3 occurrence(s) changed on 3 line(s).
000001 ** TEST1.SELCOPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003          '--- S E L C O P Y i ---'
000004
000005      This is your 'HOME' file (or personal 'Command-Centre').
000006
000007          RT          05      X(001).
000008          ARTIST     05      X(070).
000009          RT          05      X(001).
000010          ALBUM       05      X(070).
000011          RT          05      X(001).
==CHG>          PERSISTENT#ID 05      X(016).
==CHG>          TRACK#NUM  05      9(003).
==CHG>          TRACK#ID   05      9(004).
000015          NAME     05      X(120).
000016      Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017      Option Menu (=4) to return directly to this file at any time during
000018      your SELCOPYi session.
000019
000020      'What is the purpose of my HOME file???'
000021      TSO, ISPF and internal SELCOPYi primary commands may obviously be
000022      issued from any SELCOPYi command-line. But since the same, or similar,
000023      command-sequences are executed regularly/frequently, it becomes
000024      very convenient and efficient to store these commands (along with
000025      meaningful comments) in an easy to maintain plain-text file.
          s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
          s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO    s12=ResetBox
Te | Line=1 | Col=11 | Alt=4,4;8 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vi

```

Figure 43. FileKit - Focus Window.

Using the "FILLBOX" Primary Command (1)

Next we'll use the **FILLBOX (FILL)** primary command to set all characters within a marked block.

This technique is most frequently used to "blank" out a portion of the file, but we'll use it to set the value 'X'.

- Mark the data block as shown below.
- On the command line type "**FILL X**".

```

SELCPY/i - TEST1.SELCPYI.CMX      32752 V SEQ      Size=141      Alt=4,4;8
File Edit Actions Options Utilities Window SwapList Help  wS wR      Scroll> Csr
Command> fill X_
ZZSE020I 3 occurrence(s) changed on 3 line(s).
000001  ** TEST1.SELCPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003      '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007      RT          05      X(001).
000008      ARTIST      05      X(070).
000009      RT          05      X(001).
000010      ALBUM      05      X(070).
000011      RT          05      X(001).
==CHG>      PERSISTENT#ID 05      X(016).
==CHG>      TRACK#NUM  05      9(003).
==CHG>      TRACK#ID   05      9(004).
000015      NAME      05      X(120).
000016  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCPYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCPYi primary commands may obviously be
000022  issued from any SELCPYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO   s11=REDO   s12=ResetBox
Te | Line=1 | Col=11 | Alt=4,4;8 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vi

```

Figure 44. FileKit - Focus Window.

Using the "FILLBOX" Primary Command (2)

Press **ENTER** to set the values.

```

SELCOPYY/i - TEST1.SELCOPYI.CMX      32752 V SEQ      Size=141      Alt=5,5;9
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command> _                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001  ** TEST1.SELCOPYI.CMX ***           L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003          '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007  XXXXXXXXXXXXXXXX 05 X(001).
000008  XXXXXXXXXXXXXXXX 05 X(070).
000009  XXXXXXXXXXXXXXXX 05 X(001).
000010  XXXXXXXXXXXXXXXX 05 X(070).
000011  XXXXXXXXXXXXXXXX 05 X(001).
==CHG>  XXXXXXXXXXXXXXXX 05 X(016).
==CHG>  XXXXXXXXXXXXXXXX 05 9(003).
==CHG>  XXXXXXXXXXXXXXXX 05 9(004).
000015  XXXXXXXXXXXXXXXX 05 X(120).
000016  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCOPYYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCOPYYi primary commands may obviously be
000022  issued from any SELCOPYYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine   s2=DelLine   s3=DupLine   s4=ACTION   s5=MrkBox   s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO     s11=REDO    s12=ResetBox
Te | Line=1 | Col=11 | Alt=5,5;9 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vi
    
```

Figure 45. FileKit - Focus Window.

Using the "FILLBOX" Primary Command (3)

The **FILL** command may also be used to set a left adjusted character string on each box block line.

- On the command line type **"FILL ABCDEF"**.
- Press **ENTER** to set the values.

```

SELCPY/i - TEST1.SELCPYI.CMX      32752 V SEQ   Size=141   Alt=6,6;10
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                               Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001  ** TEST1.SELCPYI.CMX ***          L=001 --- 2014/07/30 14:39:49 (TEST1
000002
000003      '--- S E L C O P Y i ---'
000004
000005  This is your 'HOME' file (or personal 'Command-Centre').
000006
000007      ABCDEF 05 X(001).
000008      ABCDEF 05 X(070).
000009      ABCDEF 05 X(001).
000010      ABCDEF 05 X(070).
000011      ABCDEF 05 X(001).
==CHG>      ABCDEF 05 X(016).
==CHG>      ABCDEF 05 9(003).
==CHG>      ABCDEF 05 9(004).
000015      ABCDEF 05 X(120).
000016  Type the 'HOME' (HO) command, or select Option 4 from the Primary
000017  Option Menu (=4) to return directly to this file at any time during
000018  your SELCPYi session.
000019
000020  'What is the purpose of my HOME file???'
000021  TSO, ISPF and internal SELCPYi primary commands may obviously be
000022  issued from any SELCPYi command-line. But since the same, or similar,
000023  command-sequences are executed regularly/frequently, it becomes
000024  very convenient and efficient to store these commands (along with
000025  meaningful comments) in an easy to maintain plain-text file.
      s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
      s7=SPLTJOIN s8=BoxFuncs s10=UNDO   s11=REDO   s12=ResetBox
Te | Line=1 | Col=11 | Alt=6,6;10 | Size=141 | Recl=32752 | Fmt=V | Files=3 | V

```

Figure 46. FileKit - Focus Window.

String Coloring

"Syntax" coloring, similar to that supported by the standard **ISPF-Editor**, is available within the FileKit Text-Editor, and is controlled by the **HILITE** primary command. Type **HELP HILITE** for more information on this feature.

In addition, **FileKit** provides the ability to control color highlighting of all occurrences of one or more **user defined strings**.

- Use primary command **SCOLOR** to assign a color to all occurrences of a defined string.
- Use primary command **LCOLOR** to assign a color to the whole of each line that contains a defined string.

To demonstrate, we'll edit another of the sample files that was created during the "**Setup Training Material**" section.

- Select option **1** from the **Primary Options Menu** to open the **Text Edit** panel, then enter the name of the sample file:
 - ♦ Type **userpfx.SELCTRN.ZZST2DAT** in the *Dsn* field.
- Press **ENTER** to edit the sample sequential file.
This file represents a recorded music collection comprising "**Artist**", "**Album**" and "**Track**" records.
- Navigate to the artist "**U2**" by typing the primary command **FIND 'U2' 1**.
- Type the primary command **SCOLOR 'World' YELLOW**.
This will highlight all occurrences of the string "**World**" (case-sensitive) in **yellow**. "**YELLOW**" may be abbreviated to "**Y**".
- Type the primary command **SCOL '(Live)' R USC**.
This will highlight all occurrences of the string "**(Live)**" (case-sensitive) in **underscored red**.
- Place your cursor at **column 1** of any visible line, then press the "**MrkBox**" key (**Shift-F5**).
The single character "box-block" will be highlighted.
- Type the primary command **BOX LCOLOR '1' G REV**.
This will highlight all "**Artist**" lines (character "**1**" at **column 1**) in **green reverse-video**.
- Type the primary command **BOX LCOL '2' P REV**.
This will highlight all "**Album**" lines (character "**2**" at **column 1**) in **pink reverse-video**.

```

SELCOPY/i - TEST1.SELCTRN.ZZST2DAT      268 V SEQ      Size=1298      Alt=1,1;0
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                     Scroll> Csr
<----+----1----+----2----+----3----+----4----+----5----+----6----+----7--
001235 1U2
001236 2Achtung Baby
001237 3192F56884716ABF800A391GZoo Station
001238 327CE6BA912ACC29900B391IEven Better Than the Real Thing
001239 354528D9592D49A7000C392AOne
001240 311E528F4AF497A2700D392CUntil the End of the World
001241 347CCBA406035ED8800E392EWho's Gonna Ride Your Wild Horses
001242 327DC0606D31FFC9F00F392GSo Cruel
001243 3F79492C0EFEA95A700G392IThe Fly
001244 3BFBA673892AD848800H393AMysterious Ways
001245 355717F0FD350745800I393CTryin' to Throw Your Arms Around the World
001246 386715319ABE6043901{393EUltra Violet (Light My Way)
001247 3DB813F471DFDB98801A393GAcrobat
001248 38AB8FDF3BDA1B8E401B393I Love Is Blindness
001249 2How To Dismantle An Atomic Bomb
001250 37C66E9CA8C08461E00C202CSometimes You Can't Make It On Your Own
001251 2Rattle and Hum
001252 3A35A5D7E59D3543400A394AHelter Skelter (Live)
001253 3FE90DB3A84D8D35A00B394CVan Diemen's Land (Live)
001254 309C9E3E984BE65E500C394E Desire
001255 39299D556D20866D400D394GHawkmoon 269
001256 3CF5FF6577558B70F00E394IAll Along the Watchtower (Live)
001257 354F42C194714C42800F395A Still Haven't Found What I'm Looking For (Live)
001258 3B027F204E710749300H395ESilver and Gold (Live)
001259 3A8947AC2DE3DB95200I395GPride (In the Name of Love) [Live]
s1=InsLine  s2=DelLine  s3=DupLine  s4=ACTION  s5=MrkBox  s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO    s11=REDO   s12=ResetBox
Te | Line=1235 | Col=1 | Alt=1,1;0 | Size=1298 | Recl=268 | Fmt=V | Files=2 | V

```

Figure 47. FileKit - SCOLOR/LCOLOR.

Option 2 - Data Edit (SDE)

Data set records may have an associated file structure that maps field information (position, length and data type) for all data within each data set record. These structures often exist as a PL/1 or COBOL copybook.

The **FileKit** Structured Data Environment (**SDE**) allows users to display and process structured data sets using a pre-defined SDE structure so that record data is formatted and arranged in field columns. An SDE structure may be generated from a copybook or using SDE's Create Structure internal syntax, and can contain a number of mappings, one for each different type of data set record.

During this section you will learn how to:

- *Change Display Modes*
- *Use the LAYOUT command to display the active structure*
- *Scroll the display to an individual Field*
- *Select/Order visible Fields*
- *Adjust Field display column-widths*
- *Use the SELECT panel*
- *Use the FIND, EXCLUDE and ONLY commands*
- *Use the CHANGE command*
- *Use UNDO/REDO*
- *Filter records using ALL/MORE/LESS commands*
- *Work with Multiple Record Types with different Layouts*
- *Modify record data/length*
- *Work with Segmented Records*

The SDE Edit/Browse Entry Panel

The SDE panel may be started using any of the following methods:

- Select option **2** from the **FileKit** Primary Option Menu (=).
- At any primary command prompt type **=2**.
- At any primary command prompt type **SDE**.
- From any dataset, library or HFS path list window, use the **SD** line-command.

```

-SELCPY/i - Structured Data Browse/Edit
File Command Structure Replace Help          wS wR
Command>                                     Scroll> Csr
ZZSGSDE@                                     Lines 1-21 of 21
PDS/PDSE member, Sequential, VSAM or HFS path:
Name> USER123.SELCTR.N.ZZST1DAT             + Member>
Volume>                                     If dataset is uncataloged.

Action:
Browse Data.
/ Edit Full. (Insert/Update/Delete) - Edit Full Auxiliary. (AUX File)
- Edit Full. (Insert/Update/Delete) - Edit Full Read-Only. (DISP=SHR)
- Edit In-Place. (Update only) - Edit Full Read-Only & Auxiliary.

Structure/Copybook overlay:
/ Dsn> USER123.SELCTR.SAM1                 Member> ZZST1CPC
Type: - SDO - AData / Cobol - PL1

Record Selection:
- Start>                                     + / Record - Key - RBA
- For> @ # records
- Filter> Q Filter selected records. (F=File; Q=Quick) (PF6=Edit Filter)
File> Member>

Additional Options: - (Enter "/" to display HFS and Profile options.)

```

Figure 48. FileKit - Data Edit (SDE) Panel (=2).

To follow the demonstration use the panel to edit the sample dataset using the supplied **COBOL** or **PL1** copybook.

- Specify the *Data File*:
 - ◆ Type **userpfx.SELCTR.N.ZZST1DAT** in the *Name* field, where *userpfx* is your own user prefix. If wildcards are specified then a dataset list will be displayed from which you can make a selection.
 - ◆ The *Member* field may be left blank, but regardless will be ignored when the *Name* field refers to a non-PDS dataset. If wildcards are specified then a member list will be displayed from which you can make a selection.
- Specify the *Action*:
 - ◆ Activate option *Edit Full* by entering a / in the left margin field.
- Specify the *Structure/Copybook overlay*:
 - ◆ Activate the option by entering a / in the left margin field. This option is provided so that you may deactivate / reactivate structure formatting without needing to remove / retype the dataset / member name.
 - ◆ Type **userpfx.SELCTR.SAM1** in the *Dsn* field, to specify the PDS library containing the supplied COBOL / PL1 copybook. If wildcards are specified then a dataset list will be displayed from which you can make a selection.
 - ◆ Type **ZZST1CPC** in the *Member* field (for COBOL installations). Type **ZZST1CPP** in the *Member* field (for PL1 installations). If wildcards are specified then a member list will be displayed from which you can make a selection.
 - ◆ Check the *Type* option for *Cobol* or *PL1* as appropriate. Note that FileKit uses its own internal "compiler" to parse COBOL and PL1 copybooks, so you may use whichever sample copybook you please without the need for an available IBM compiler.
- Press **ENTER** to edit the sample dataset.

Note: The following sample commands and screen-shots depict use of the **COBOL** copybook.

Editing Sample Dataset 1

- The first sample dataset represents a music collection, with each "Track" described by a separate logical record.
- The initial view of the data is presented in formatted multi-record (table) display mode.
- Press **F10** / **F11** to scroll the display left/right in order to view further data fields.

```

-SELCOPIY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
PERSTENT-ID TRACK-NUM TRACK-ID NAME
#2 #3 #4 #5
AN 1:16 ZD 17:3 ZD 20:4 AN 24:120
<---+---1---+> <--> <---> <---+---1---+---2---+---3---
00000001 CB12DD714D51828C 001 2083 Rolling In the Deep
00000002 2648A25633D15404 002 2085 Rumour Has It
00000003 9815923C6D2E6830 003 2087 Turning Tables
00000004 7D003FF752074C18 004 2089 Don't You Remember
00000005 AED739D8574AA4C5 005 2091 Set Fire to the Rain
00000006 E755BCE1CF5CDEA7 006 2093 He Won't Go
00000007 6798C2AB0AFB2571 007 2095 Take It All
00000008 962835D1647DE75E 008 2097 I'll Be Waiting
00000009 D8A6C8FDC2802177 009 2099 One and Only
00000010 2502515DEB535010 010 2101 Lovesong
00000011 E374BE6EE7C86B1D 011 2103 Someone Like You
00000012 D4EB4EBF4651EF20 012 2105 I Found a Boy (Bonus Track)
00000013 CEC92B1BA3204A0A 013 2107 Adele 21 - A Track By Track Interv
00000014 6D4C2C7BA7E01593 001 4169 Hold On
00000015 E241B09CC251C386 002 4171 I Found You
00000016 E74C16BCB319870C 003 4173 Hang Loose
00000017 214ED5D95884533C 004 4175 Rise to the Sun
00000018 0E421AFCD141D22D 005 4177 You Ain't Alone
00000019 FF47FB9E05DE8967 006 4179 Goin' to the Party
00000020 5D46C681552440BF 007 4181 Heartbreaker
00000021 C54FE77922485624 008 4183 Boys &#38; Girls
00000022 8D4B5913F78CEEE3 009 4185 Be Mine
00000023 B044D8ED2337A412 010 4187 I Ain't the Same
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 49. FileKit - SDE Table View.

Display Modes

Display HEX Data

- Type **HEX ON** to set hexadecimal display on.
- Type **HEX OFF** to set hexadecimal display off.
- Type **HEX** to toggle hexadecimal display on/off.
- Type **Help HEX** for full information.

Notes:

1. Where sample commands are provided, uppercase denotes the minimum abbreviation.
2. To use any SDE command from a non-SDE browse / edit command prompt you must prefix the command with **SD**.
e.g. **SD Help HEX**
3. From an SDE browse/edit command prompt the **SD** prefix is unnecessary. e.g. **Help HEX**

```

-SELCPY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST10
File Edit Actions Options Utilities Window SwapList Help  WS WR  Scroll> Csr
Command>
Record type: TRACK   Fixed(407) Offset=0 Data elements=18
  PERSISTENT-ID     TRACK-NUM TRACK-ID NAME
  #2                 #3         #4     #5
  AN 1:16            ZD 17:3      ZD 20:4 AN 24:120
  <---+-----1-----+> <--> <---+-----1-----+-----2-----+-----3-----
00000001  CB12DD714D51828C      001     2083 Rolling In the Deep
  CCFCCFFCFFCFFCFFC  FFC     FFFC D9998984C94A884C889444444444444444
  3212447144518283    001     2083 9633957095038504557000000000000000

00000002  2648A25633D15404      002     2085 Rumour Has It
  FFFFCFFCFFCFFCFFC  FFC     FFFC DA99A94C8A4CA444444444444444444444444
  2648125633415404    002     2085 9446490812093000000000000000000000

00000003  9815923C6D2E6830      003     2087 Turning Tables
  FFFFFFFFFCFCCFFCFF  FFC     FFFC EA998984E8898A444444444444444444444444
  9815923364256830    003     2087 3495957031235200000000000000000000

00000004  7D003FF752074C18      004     2089 Don't You Remember
  FCFFCCFFCFFCFFCFF  FFC     FFFC C997A4E9A4D8989889444444444444444444444
  7400366752074318    004     2089 465D308640954542590000000000000000

00000005  AED739D8574AA4C5      005     2091 Set Fire to the Rain
  CCFCCFFCFFCFFCFFC  FFC     FFFC E8A4C8984A94A884D889444444444444444444444
  1547394857411435    005     2091 2530699503603850919500000000000000

00000006  E7558CE1CF5CDEA7      006     2093 He Won't Go
  CFFCCCFCCFFCFFCFF  FFC     FFFC C84E997A4C94444444444444444444444444444444
  5755235136534517    006     2093 850665D3076000000000000000000000000000
  Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 50. FileKit - SDE HEX ON.

Formatted Single-Record (MAP/FMT) Display Mode

- Type **MAP** or **FMT** to set formatted single-record display mode.
- Press **F7** / **F8** to scroll the display up/down in order to view further fields within the same record.
- Press **F10** / **F11** to scroll the display to the previous/next record.
- Use the **SHOW (S)** command to control various aspects of the display.
Type **Help Show** for full information.
- Use the **OFFSET (OFST)** command to control the format of the field offset column.
Type **Help OFST** for full information.
- Use the **GROUP (G)** command to control display of group fields.
Type **Help Group** for full information.
- Type **HEX** to toggle hexadecimal display on/off.

```

SELCPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
Record> 00000001 Flags: f Length: 407
Ref Field Type <---+---1---+---2---+---3---+---4---+---5
#1 TRACK AN 1:407
#2 PERSISTENT-ID AN 1:16 CB12DD714D51828C
#3 TRACK-NUM ZD 17:3 001
#4 TRACK-ID ZD 20:4 2083
#5 NAME AN 24:120 Rolling In the Deep
#5 51 - 100
#5 101 - 120
#6 ARTIST AN 144:70 Adele
#6 51 - 70
#7 ALBUM AN 214:70 21
#7 51 - 70
#8 TOTAL-TIME FB 284:4 228093
#9 FILE-SIZE FB 288:4 8050806
#10 BIT-RATE FB 292:2 256
#11 SAMPLE-RATE PD 294:3 44100
#12 YEAR ZD 297:4 2011
#13 NORMALIZATION PD 301:3 5151
#14 DISC-NUMBER ZD 304:3 001
#15 ALBUM-ARTIST AN 307:41 Adele
#16 RELEASE-DATE AN 348:20 2011-01-21T08:00:00Z
#17 DATE-ADDED AN 368:20 2012-08-02T11:30:36Z
#18 DATE-MODIFIED AN 388:20 2011-08-19T12:29:17Z
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 51. FileKit - SDE MAP/FMT.

Unformatted Multi-Record (CHAR) Display Mode

- Type **CHAR** to set unformatted multi-record display mode.
- For non-segmented structures, this display is the equivalent of removing the structure.
- For segmented structures, each line represents an individual segment in its raw state, with the prefix area indicating the physical record to which it belongs.
- Type **HEX** to toggle hexadecimal display on/off.

```

SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: UnMapped Fixed(407) Offset=0 Data elements=1
UnMapped
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7
00000001 CB12DD714D51828C00A208CRolling In the Deep
00000002 2648A25633D1540400B208ERumour Has It
00000003 9815923C6D2E683000C208GTurning Tables
00000004 7D003FF752074C1800D208IDon't You Remember
00000005 AED739D8574AA4C500E209ASet Fire to the Rain
00000006 E755BCE1CF5CDEA700F209CHe Won't Go
00000007 6798C2AB0AFB257100G209ETake It All
00000008 962B35D1647DE75E00H209GI'll Be Waiting
00000009 D8A6C8FDC280217700I209IOne and Only
00000010 2502515DEB53501001{210ALovesong
00000011 E374BE6EE7C86B1D01A210CSomeone Like You
00000012 D4EB4EBF4651EF2001B210EI Found a Boy (Bonus Track)
00000013 CEC92B1BA3204A0A01C210GAdele 21 - A Track By Track Interview
00000014 6D4C2C7BA7E0159300A416IHold On
00000015 E241B09CC251C38600B417AI Found You
00000016 E74C16BCB319870C00C417CHang Loose
00000017 214ED5D95884533C00D417ERise to the Sun
00000018 0E421AFCD141D22D00E417GYou Ain't Alone
00000019 FF47FB9E05DE896700F417IGoin' to the Party
00000020 5D46C681552440BF00G418AHeartbreaker
00000021 C54FE7792248562400H418CBoys &#38; Girls
00000022 8D4B5913F78CEEE300I418EBe Mine
00000023 B044D8ED2337A41201{418GI Ain't the Same
00000024 6E44D77A948E8A6D01A418IOn Your Way
00000025 BD48544197975CAB01B419AHeavy Chev
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View

```

Figure 52. FileKit - SDE CHAR.

MAP/FMT Line-Command

- You may also use **MAP** or **FMT** as a line-command (typed in the prefix area) to display the marked line in formatted single-record mode.
- Alternatively press **F17 (Shift-F5)** to open a separate window displaying the focus record in formatted single-record (zoomed) mode.
- Note that on a standard 80-column screen **FileKit** operates in *window-maximised mode* so that the new window will entirely obscure the original display.
- On a **wide screen** operating in **windowed mode**, the new window will open top-right justified, with the intention that both the table view and single record view are simultaneously visible.
- Significantly for **windowed mode**, multiple "zoomed" windows may be opened for different records, with the ability to **move and resize each window** as desired.

```

SELPCOPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help WS WR Scroll> Csr
Command>
Record type: UnMapped Fixed(407) Offset=0 Data elements=1
UnMapped
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7
00000001 CB12DD714D51828C00A208CRolling In the Deep
00000002 2648A25633D1540400B208ERumour Has It
00000003 9815923C6D02E683000C208GTurning Tables
00000004 7D003FF752074C1800D208IDon't You Remember
00000005 AED739D8574AA4C500E209ASet Fire to the Rain
00000006 E7558CE1CF5CDEA700F209CHe Won't Go
00000007 6798C2AB0AFB257100G209ETake It All
00000008 962B35D1647DE75E00H209GI'll Be Waiting
00000009 D8A6C8FDC280217700I209IOne and Only
00000010 2502515DEB53501001{210ALovesong
MAP E374BE6EE7C86B1D01A210CSomeone Like You
00000012 D4EB4EBF4651EF2001B210EI Found a Boy (Bonus Track)
00000013 CEC92B1BA3204A0A01C210GAdele 21 - A Track By Track Interview
00000014 6D4C2C7BA7E0159300A416IHold On
00000015 E241B09CC251C38600B417AIFound You
00000016 E74C16BCB319870C00C417CHang Loose
00000017 214ED5D95884533C00D417ERise to the Sun
00000018 0E421AFCD141D22D00E417GYou Ain't Alone
00000019 FF47FB9E05DE896700F417IGoin' to the Party
00000020 5D46C681552440BF00G418AHeartbreaker
00000021 C54FE7792248562400H418CBoys &#38; Girls
00000022 8D4B5913F78CEEE300I418EBe Mine
00000023 B044D8ED2337A41201{418GI Ain't the Same
00000024 6E44D77A948E8A6D01A418ION Your Way
00000025 BD48544197975CAB01B419AHeavy Chev
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 53. FileKit - SDE MAP Line-Command.

```

SELPCOPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help WS WR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
Record> 00000011 Flags: f Length: 407
Ref Field Type <---+---1---+---2---+---3---+---4---+---5
#2 PERSISTENT-ID AN 1:16 E374BE6EE7C86B1D
#3 TRACK-NUM ZD 17:3 011
#4 TRACK-ID ZD 20:4 2103
#5 NAME AN 24:120 Someone Like You
51 - 100
101 - 120
#6 ARTIST AN 144:70 Adele
51 - 70
#7 ALBUM AN 214:70 21
51 - 70
#8 TOTAL-TIME FB 284:4 285240
#9 FILE-SIZE FB 288:4 -958995243
#10 BIT-RATE FB 292:2 256
#11 SAMPLE-RATE PD 294:3 44100
#12 YEAR ZD 297:4 2011
#13 NORMALIZATION PD 301:3 3362
#14 DISC-NUMBER ZD 304:3 001
#15 ALBUM-ARTIST AN 307:41 Adele
#16 RELEASE-DATE AN 348:20 2011-01-21T08:00:00Z
#17 DATE-ADDED AN 368:20 2012-08-02T11:30:36Z
#18 DATE-MODIFIED AN 388:20 2011-08-19T12:30:25Z
Se | Line=11 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vie
    
```

Figure 54. FileKit - SDE ZOOM.

Unformatted Single-Record (UNFMT) Display Mode

- Type **UNFMT** to set unformatted single-record display mode.
- Type **HEX** to toggle hexadecimal display on/off.
- Press **F7 / F8** to scroll along the length of a long record.
- Press **F10 / F11** to scroll the display to the previous/next record.

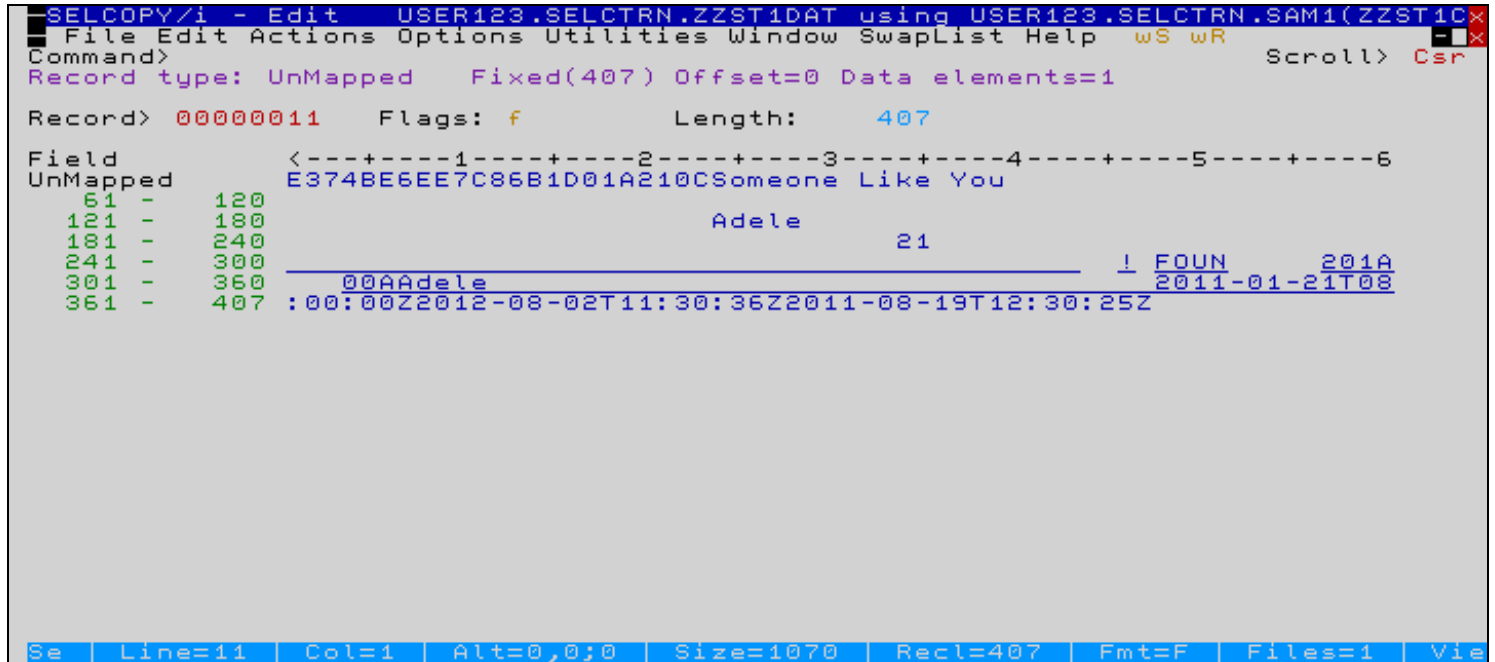


Figure 55. FileKit - SDE UNFMT.

Hex Dump (HEXD) Display Mode

- Type **HEXD** to set hex-dump display mode.
You may add the **NEW** parameter in order to open the display in a new window.
- Press **F7 / F8** to scroll along the length of a long record.
- Press **F10 / F11** to scroll the display to the previous/next record.
- Use the **SPM** command to show a popup menu providing display options for the hex-dump screen.
Type **Help HEXD** for full information.
- The offset field on the first displayed line of data may also be overtyped in order to scroll the display to the specified offset within the record.
- While in multi-record (table) view the **HEXD** line-command may also be typed into record the prefix area to show the selected record in hex-dump format.

```

-SELCPY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Record type: UnMapped  Fixed(407) Offset=0 Data elements=1
Record> 00000011  Flags: f  Length: 407
000000 C5F3F7F4 C2C5F6C5 C5F7C3F8 F6C2F1C4 E374BE6EE7C86B1D
000010 F0F1C1F2 F1F0C3E2 96948596 958540D3 01A210CSomeone L
000020 89928540 E896A440 40404040 40404040 ike You
000030 40404040 40404040 40404040 40404040
000040 40404040 40404040 40404040 40404040
000050 40404040 40404040 40404040 40404040
000060 40404040 40404040 40404040 40404040
000070 40404040 40404040 40404040 40404040
000080 40404040 40404040 40404040 404040C1 A
000090 84859385 40404040 40404040 40404040 dele
0000A0 40404040 40404040 40404040 40404040
0000B0 40404040 40404040 40404040 40404040
0000C0 40404040 40404040 40404040 40404040
0000D0 40404040 40F2F140 40404040 40404040 21
0000E0 40404040 40404040 40404040 40404040
0000F0 40404040 40404040 40404040 40404040
000100 40404040 40404040 40404040 40404040
000110 40404040 40404040 40404000 045A38C6 .!.F
000120 D6E4D501 0044100C F2F0F1C1 03362CF0 OUN. ...201A...0
000130 F0C1C184 85938540 40404040 40404040 0AAdele
000140 40404040 40404040 40404040 40404040
000150 40404040 40404040 404040F2 F0F1F160 2011-
000160 F0F160F2 F1E3F0F8 7AF0F07A F0F0E9F2 01-21T08:00:00Z2
000170 F0F1F260 F0F860F0 F2E3F1F1 7AF3F07A 012-08-02T11:30:
Se | Line=11 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vie
    
```

Figure 56. FileKit - SDE HEXD.

Formatted Multi-Record (VFMT) Display Mode

- Type **VFMT** to return to the default multi-record formatted display mode.

```

-SELPCOPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
PERSTENT-ID TRACK-NUM TRACK-ID NAME
#2 #3 #4 #5
AN 1:16 ZD 17:3 ZD 20:4 AN 24:120
<---+---1---> <--> <---+---1---2---+---3---
00000011 E3748E6EE7C86B1D 011 2103 Someone Like You
00000012 D4EB4EBF4651EF20 012 2105 I Found a Boy (Bonus Track)
00000013 CEC92B1BA3204A0A 013 2107 Adele 21 - A Track By Track Interv
00000014 6D4C2C7BA7E01593 001 4169 Hold On
00000015 E241B09CC251C386 002 4171 I Found You
00000016 E74C16BCB319870C 003 4173 Hang Loose
00000017 214ED5D95B84533C 004 4175 Rise to the Sun
00000018 0E421AFCD141D22D 005 4177 You Ain't Alone
00000019 FF47FB9E05DE8967 006 4179 Goin' to the Party
00000020 5D46C681552440BF 007 4181 Heartbreaker
00000021 C54FE77922485624 008 4183 Boys &#38; Girls
00000022 8D4B5913F78CEEE3 009 4185 Be Mine
00000023 B044D8ED2337A412 010 4187 I Ain't the Same
00000024 6E44D77A948E8A6D 011 4189 On Your Way
00000025 BD48544197975CAB 012 4191 Heavy Chevvy
00000026 0E9D90BEF653FB3D 001 2109 Converted
00000027 394900B434520082 002 2111 Speed Up the Sound of Loneliness
00000028 7CEC684D57FADD08 003 2113 Woke Up This Morning
00000029 10FEE2A0203CF89B 004 2115 U Don't Dans 2 Tekno
00000030 7CB7FD20ADBE19AD 005 2117 Bourgeoisie Blues
00000031 4179344748D283DC 006 2119 Ain't Goin' to Goa
00000032 D776D98916C07D6A 007 2121 Mao Tse Tung Said
00000033 F21C824DDCDD69F3 008 2123 Hypo Full of Love (The 12 Step Pla
Se | Line=11 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vie
    
```

Figure 57. FileKit - SDE VFMT.

Controlling Table Headings

- A fixed heading displays the **Record Type** name. Other items on this line are described in the following table.

Item	Description
Fixed(n)	Displayed when the record-type is of a fixed length n .
Variable(n1,n2)	Displayed when the record-type may vary in length. Its lower length limit being n1 . Its upper length limit being n2 .
Offset=n	Indicates the offset (n) into the record at which record-type mapping is applied.
Data Elements=n	Indicates the number of fields (n) mapped by this record-type.

- The first **column heading** is fixed and displays the **Field Name**.
- Subsequent **column headings** are optional. The table below indicates the primary commands used to control each one.

Item	Description	Primary Commands
Field Number	Displays the field reference number (#n).	REF ON REF OFF
Data Type	Optionally displays one of the following: 1. A combination field of the format data-type position:length . e.g. AN 111:30 2. A combination field of the format length/format . e.g. 30/CHAR 3. The position or offset defining the field's location within the record. e.g. 111 4. The field's picture string . e.g. X(30)	TYPE ON TYPE OFF TYPE FMT TYPE OFFSET TYPE PIC
Scale	Displays the scale. Use command OFST X to display a hexadecimal offset scale.	SCALE ON SCALE OFF OFST P OFST X

LAYOUT Command

- Type **LAY**out to display the current structure details in a separate list-window.
- Select the *Text* menu-bar item or type **TEXT** to place the information in a text-edit document window, which may be saved in the usual fashion.
- From the LAYOUT window, press **F3** to return to the edit/browse view.

```

SELCPY/i - Layout from USER123.SELCTRN.SAM1(ZZST1CPC)
View Refresh Back Forward FDB Text Help
Command>
-----Name----- Picture RefNo Start -End- Length
1 TRACK Group 1 1 407 407
5 PERSISTENT-ID X(016) 2 1 16 16
5 TRACK-NUM S9(003) 3 17 19 3
5 TRACK-ID S9(004) 4 20 23 4
5 NAME X(120) 5 24 143 120
5 ARTIST X(070) 6 144 213 70
5 ALBUM X(070) 7 214 283 70
5 TOTAL-TIME S9(007) 8 284 287 4
5 FILE-SIZE S9(009) 9 288 291 4
5 BIT-RATE S9(004) 10 292 293 2
5 SAMPLE-RATE S9(005) 11 294 296 3
5 YEAR S9(004) 12 297 300 4
5 NORMALIZATION S9(005) 13 301 303 3
5 DISC-NUMBER S9(003) 14 304 306 3
5 ALBUM-ARTIST X(041) 15 307 347 41
5 RELEASE-DATE X(020) 16 348 367 20
5 DATE-ADDED X(020) 17 368 387 20
5 DATE-MODIFIED X(020) 18 388 407 20

Line 1 of 18 | Col 1 of 50 | Views 1 | select *
  
```

Figure 58. FileKit - SDE VFMT.

Scrolling the Display to a specific field/record.

Locating a Field

- Use the **LOCATE** command to scroll a formatted (either multi- or single-record) display to a specific field. LOCATE may be abbreviated to **L**.
- Field names may be abbreviated.
- The field may be referred to either by its name or by its field reference number, e.g. using the supplied sample COBOL copybook the following commands are functionally equivalent.
 - ◆ L SAMP
 - ◆ L #11

The result of issuing either of these commands from a VFMT display is shown below.

- The parameters **FIRST**, **LAST**, **NEXT** or **PREV** may optionally be added to the command, with **NEXT** being the default.

```

SELPCOPY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
Record type: TRACK      Fixed(407) Offset=0 Data elements=18
      SAMPLE-RATE      YEAR  NORMALIZATION  DISC-NUMBER  ALBUM-ARTIST
      #11              #12      #13              #14  #15
      PD 294:3        ZD 297:4        PD 301:3        ZD 304:3  AN 307:41
      <---+>         <--->         <---+>         <-->  <---+-----1-----+-----2---
00000001      44100      2011      5151      001  Adele
00000002      44100      2011      7474      001  Adele
00000003      44100      2011      6529      001  Adele
00000004      44100      2011      5189      001  Adele
00000005      44100      2011      9255      001  Adele
00000006      44100      2011      3374      001  Adele
00000007      44100      2011      3615      001  Adele
00000008      44100      2011      10626     001  Adele
00000009      44100      2011      4629      001  Adele
00000010      44100      2011      2020      001  Adele
00000011      44100      2011      3362      001  Adele
00000012      44100      2011      3893      001  Adele
00000013      44100      2011      0          000  Adele
00000014      44100      2012      4808      001  Alabama Shakes
00000015      44100      2012      6070      001  Alabama Shakes
00000016      44100      2012      5761      001  Alabama Shakes
00000017      44100      2012      7294      001  Alabama Shakes
00000018      44100      2012      7353      001  Alabama Shakes
00000019      44100      2012      2058      001  Alabama Shakes
00000020      44100      2012      9197      001  Alabama Shakes
00000021      44100      2012      1145      001  Alabama Shakes
00000022      44100      2012      6287      001  Alabama Shakes
00000023      44100      2012      8411      001  Alabama Shakes
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 59. FileKit - SDE LOCATE field.

Locating a Record

- Use the **LOCATE nnn** command to scroll to a specific record number **nnn**.
- Alternatively you may use **:nnn**
e.g. the following commands are functionally equivalent.
 - ◆ L 1001
 - ◆ :1001
 The result of issuing either of these commands from a VFMT display is shown below.
- The LOCATE command may also be used to
 - ◆ scroll a VSAM ESDS to the record at a specific RBA.
 - ◆ scroll a VSAM KSDS to the record at a specific key, partial key or RBA.
- Type **Help Locate** for full information.

```

-SELCOPIY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
Record type: TRACK  Fixed(407) Offset=0 Data elements=18
  #2          TRACK-NUM TRACK-ID  NAME
  AN 1:16    ZD 17:3    ZD 20:4  AN 24:120
<---+---1---+>  <-->  <--->  <---+---1---+---2---+---3---
00001001 4D17E66D893AE49E      005    1969 Vagabond of the Western World
00001002 D48D5001F4E2E9F0      010    1973 Black Boys on the Corner
00001003 92AC52CA6ACFEDFE      011    1975 Randolph's Tango
00001004 90559B50A6E0F362      012    1977 Broken Dreams
00001005 8A6F1BD714A9CEA6      006    1971 Little Girl In Bloom
00001006 C19C990E8700067B      005    4287 50 Ways to Say Goodbye
00001007 43EED60467C11B25      003    4479 Drops of Jupiter
00001008 A02159C78BD2DB08      001    4289 Hey, Soul Sister
00001009 D0CAE063307BE777      003    2015 When I Look To The Sky
00001010 B0F4DD08C25311E8      002    4291 Ordinary
00001011 E0E14542481D9232      001    2007 Calling All Angels - Radio Version
00001012 1164825C5AD2CC49      001    3893 Blue Hour
00001013 BCA7AB8D236B0F94      002    3895 Average Man
00001014 DE2FF2860345143D      003    3897 Long Distance
00001015 8E1B2E243367374B      004    3899 Self Help
00001016 0BF4067BF1653873      005    3901 Falling Down
00001017 9C5EA59620F7E953      006    3903 Stone Thrown
00001018 A593C29E5F969670      007    3905 Clear Blue Air
00001019 F0B61DAA1CF007A8      008    3907 Pain Killer (Summer Rain)
00001020 5DFA5E0D57590C8F      009    3909 Full Of Stars
00001021 1D5C6B0F4E3F51AF      010    3911 Panic Attack
00001022 78FF0C2A18C3FB36      011    3913 Little Brother
00001023 45D95EB9E8EB45C3      012    3915 Rain City
Se | Line=1001 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | V

```

Figure 60. FileKit - SDE LOCATE record.

Selecting/Ordering Visible Fields

- Type **SElect** followed by a comma separated list of fields in order to restrict the display to those fields of particular interest.
- Fields may be referred to either by their name or by their field reference number.
- Type either of the following commands to produce the results displayed below.
 - ◆ **SEL TRACK-NUM,ALBUM,ARTIST,NAME**
 - ◆ **SEL #3,#7,ARTIST,NAME**

```

SELCOPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
TRACK-NUM ALBUM
#3 #7
ZD 17:3 AN 214:70
<--> <-----1-----2-----3-----4-----5-----6
00000001 001 21
00000002 002 21
00000003 003 21
00000004 004 21
00000005 005 21
00000006 006 21
00000007 007 21
00000008 008 21
00000009 009 21
00000010 010 21
00000011 011 21
00000012 012 21
00000013 013 21
00000014 001 Boys &#38; Girls
00000015 002 Boys &#38; Girls
00000016 003 Boys &#38; Girls
00000017 004 Boys &#38; Girls
00000018 005 Boys &#38; Girls
00000019 006 Boys &#38; Girls
00000020 007 Boys &#38; Girls
00000021 008 Boys &#38; Girls
00000022 009 Boys &#38; Girls
00000023 010 Boys &#38; Girls
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 61. FileKit - SDE SELECT 1.

- The following results will be displayed after scrolling right once.

```

SELCOPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
ALBUM ARTIST
#7 #6
AN 214:70 AN 144:70
-----+-----> <-----1-----2-----3-----4-----5-----+-----
00000001 Adele
00000002 Adele
00000003 Adele
00000004 Adele
00000005 Adele
00000006 Adele
00000007 Adele
00000008 Adele
00000009 Adele
00000010 Adele
00000011 Adele
00000012 Adele
00000013 Adele
00000014 Alabama Shakes
00000015 Alabama Shakes
00000016 Alabama Shakes
00000017 Alabama Shakes
00000018 Alabama Shakes
00000019 Alabama Shakes
00000020 Alabama Shakes
00000021 Alabama Shakes
00000022 Alabama Shakes
00000023 Alabama Shakes
Se | Line=1 | Col=61 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vie
    
```

Figure 62. FileKit - SDE SELECT 2.

- Type **SElect *** to reset the display to show all fields in their default order

Preventing Fields from Scrolling Off-screen (HOLD)

- By adding the **Hold** keyword following the field-name/ref, that field will be prevented from scrolling off the screen.
- **HOLD** need only be specified once i.e. for the last (right-most) of a sequence of held fields.
- Type the following command to produce the results displayed below.
SEL #3 HOLD,#5,ALBUM,ARTIST
- Held fields are highlighted in a different colour.
Type **Help COLOUR** for full information.

```

-SELCPY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST10
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
Record type: TRACK      Fixed(407) Offset=0 Data elements=18
      TRACK-NUM  NAME
      #3 #5
      ZD 17:3 AN 24:120
      <--> <--+---1---+---2---+---3---+---4---+---5---+---6
00000001      001 Rolling In the Deep
00000002      002 Rumour Has It
00000003      003 Turning Tables
00000004      004 Don't You Remember
00000005      005 Set Fire to the Rain
00000006      006 He Won't Go
00000007      007 Take It All
00000008      008 I'll Be Waiting
00000009      009 One and Only
00000010      010 Lovesong
00000011      011 Someone Like You
00000012      012 I Found a Boy (Bonus Track)
00000013      013 Adele 21 - A Track By Track Interview
00000014      001 Hold On
00000015      002 I Found You
00000016      003 Hang Loose
00000017      004 Rise to the Sun
00000018      005 You Ain't Alone
00000019      006 Goin' to the Party
00000020      007 Heartbreaker
00000021      008 Boys &#38; Girls
00000022      009 Be Mine
00000023      010 I Ain't the Same
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 63. FileKit - SDE SELECT 3.

Adding All Previously Unselected Fields to the Display

- By adding the pseudo-field **asterisk (*)** to the end of the SELECT command, all previously unselected fields will be included in their default order.
- Type the following command then scroll right to produce the results displayed below.
SEL #3 H,#5,ALBUM,ARTIST,*

```

-SELCOPY/i - Edit  USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
Record type: TRACK      Fixed(407) Offset=0 Data elements=18
      TRACK-NUM      SAMPLE-RATE      YEAR      NORMALIZATION      DISC-NUMBER      ALBUM-ARTIST
      #3      #11      #12      #13      #14      #15
      ZD 17:3      PD 294:3      ZD 297:4      PD 301:3      ZD 304:3      AN 307:41
      <-->      <---+>      <--->      <---+>      <--->      <---+----1---
00000001      001      44100      2011      5151      001      Adele
00000002      002      44100      2011      7474      001      Adele
00000003      003      44100      2011      6529      001      Adele
00000004      004      44100      2011      5189      001      Adele
00000005      005      44100      2011      9255      001      Adele
00000006      006      44100      2011      3374      001      Adele
00000007      007      44100      2011      3615      001      Adele
00000008      008      44100      2011      10626      001      Adele
00000009      009      44100      2011      4629      001      Adele
00000010      010      44100      2011      2020      001      Adele
00000011      011      44100      2011      3362      001      Adele
00000012      012      44100      2011      3893      001      Adele
00000013      013      0      2011      0      000      Adele
00000014      001      44100      2012      4808      001      Alabama Shake
00000015      002      44100      2012      6070      001      Alabama Shake
00000016      003      44100      2012      5761      001      Alabama Shake
00000017      004      44100      2012      7294      001      Alabama Shake
00000018      005      44100      2012      7353      001      Alabama Shake
00000019      006      44100      2012      2058      001      Alabama Shake
00000020      007      44100      2012      9197      001      Alabama Shake
00000021      008      44100      2012      1145      001      Alabama Shake
00000022      009      44100      2012      6287      001      Alabama Shake
00000023      010      44100      2012      8411      001      Alabama Shake
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View

```

Figure 64. FileKit - SDE SELECT 4.

Adjusting Field Display Column-widths

- Use **COLWidth** command to control the number of characters occupied by any particular field.
- Type the following sequence of commands to produce the results below.
 - ◆ **SEL #3,#5 H,ALBUM,ARTIST,***
 - ◆ **COLW NAME 20**
 - ◆ **COLW #7 20**
 - ◆ **COLW #6 18**

```

SELCOPIY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Record type: TRACK      Fixed(407) Offset=0 Data elements=18
      TRACK-NUM  NAME          ALBUM          ARTIST
      #3 #5          #7          #6
      ZD 17:3 AN 24:120 AN 214:70 AN 144:70
      <--> <---+-----1-----> <---+-----1-----> <---+-----1----->
00000001 001 Rolling In the Deep 21 Adele
00000002 002 Rumour Has It 21 Adele
00000003 003 Turning Tables 21 Adele
00000004 004 Don't You Remember 21 Adele
00000005 005 Set Fire to the Rain 21 Adele
00000006 006 He Won't Go 21 Adele
00000007 007 Take It All 21 Adele
00000008 008 I'll Be Waiting 21 Adele
00000009 009 One and Only 21 Adele
00000010 010 Lovesong 21 Adele
00000011 011 Someone Like You 21 Adele
00000012 012 I Found a Boy (Bonus 21 Adele
00000013 013 Adele 21 - A Track B 21 Adele
00000014 001 Hold On Boys &#38; Girls Alabama Shakes
00000015 002 I Found You Boys &#38; Girls Alabama Shakes
00000016 003 Hang Loose Boys &#38; Girls Alabama Shakes
00000017 004 Rise to the Sun Boys &#38; Girls Alabama Shakes
00000018 005 You Ain't Alone Boys &#38; Girls Alabama Shakes
00000019 006 Goin' to the Party Boys &#38; Girls Alabama Shakes
00000020 007 Heartbreaker Boys &#38; Girls Alabama Shakes
00000021 008 Boys &#38; Girls Boys &#38; Girls Alabama Shakes
00000022 009 Be Mine Boys &#38; Girls Alabama Shakes
00000023 010 I Ain't the Same Boys &#38; Girls Alabama Shakes
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 65. FileKit - SDE VFMT.

After pressing **F11** the display will be updated as follows.

```

SELCOPIY/i - Edit  USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Record type: TRACK      Fixed(407) Offset=0 Data elements=18
      TRACK-NUM  NAME          PERSISTENT-ID  TRACK-ID  TOTAL-TIME
      #3 #5          #2          #4          #8
      ZD 17:3 AN 24:120 AN 1:16 ZD 20:4 FB 284:4
      <--> <---+-----1-----> <---> <---+-----1----->
00000001 001 Rolling In the Deep CB12DD714D51828C 2083 228093
00000002 002 Rumour Has It 2648A25633D15404 2085 223266
00000003 003 Turning Tables 9815923C6D2E6830 2087 250000
00000004 004 Don't You Remember 7D003FF752074C18 2089 243200
00000005 005 Set Fire to the Rain AED739D8574AA4C5 2091 242973
00000006 006 He Won't Go E755BCE1CF5CDEA7 2093 278040
00000007 007 Take It All 6798C2AB0AFB2571 2095 228293
00000008 008 I'll Be Waiting 962B35D1647DE75E 2097 241351
00000009 009 One and Only D8A6C8FDC2802177 2099 348226
00000010 010 Lovesong 2502515DEB535010 2101 316240
00000011 011 Someone Like You E374BE6EE7C86B1D 2103 285240
00000012 012 I Found a Boy (Bonus D4EB4EBF4651EF20 2105 217338
00000013 013 Adele 21 - A Track B CEC92B1BA3204A0A 2107 875000
00000014 001 Hold On 6D4C2C7BA7E01593 4169 226186
00000015 002 I Found You E241B09CC251C386 4171 179653
00000016 003 Hang Loose E74C16BCB319870C 4173 144200
00000017 004 Rise to the Sun 214ED5D95884533C 4175 188613
00000018 005 You Ain't Alone 0E421AFCD141D22D 4177 284600
00000019 006 Goin' to the Party FF47FB9E05DE8967 4179 105653
00000020 007 Heartbreaker 5D46C681552440BF 4181 227440
00000021 008 Boys &#38; Girls C54FE77922485624 4183 205986
00000022 009 Be Mine 8D4B5913F78CEEE3 4185 254760
00000023 010 I Ain't the Same B044D8ED2337A412 4187 175800
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 66. FileKit - SDE VFMT.

The SELECT panel

- The **SELECT** panel provides an interactive alternative to typing both the SELECT and COLWIDTH primary commands.

During Data-Edit/Browse, the SELECT panel may be started for the focus record-type using any of the following methods:

- Type **SELECT** (SEL) from the command line.
- Type **SEL** in the prefix area.
- Press the **Options** key (default is F16), then select option 8.

```

SELCPY/i - Select Display Fields for a Record Type
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
ZZSGSELD
Structure Name: USER123.SELCTRN.SAM1(ZZST1CPC)
Record Type: TRACK
Perm/Temp: TEMP Show unselected fields at the end: N Y/N
Select record type fields 17 Rows
S H Seq Width Name Type Start Length Picture Data type
+ + +
S H 1 5 PERSISTENT-ID AN 1 16 X(016) CHARACTER 001
S H 2 5 TRACK-NUM ZD 17 3 9(003) ZONED 002
S H 3 5 TRACK-ID ZD 20 4 9(004) ZONED 003
S H 4 20 5 NAME AN 24 120 X(120) CHARACTER 004
S 4 18 5 ARTIST AN 144 70 X(070) CHARACTER 005
S 3 20 5 ALBUM AN 214 70 X(070) CHARACTER 006
5 5 TOTAL-TIME FB 284 4 9(007) FIXED 007
5 5 FILE-SIZE FB 288 4 9(009) FIXED 008
5 5 BIT-RATE FB 292 2 9(004) FIXED 009
5 5 SAMPLE-RATE PD 294 3 9(005) DECIMAL 010
5 5 YEAR ZD 297 4 9(004) ZONED 011
5 5 NORMALIZATION PD 301 3 9(005) DECIMAL 012
5 5 DISC-NUMBER ZD 304 3 9(003) ZONED 013
5 5 ALBUM-ARTIST AN 307 41 X(041) CHARACTER 014
5 5 RELEASE-DATE AN 348 20 X(020) CHARACTER 015
5 5 DATE-ADDED AN 368 20 X(020) CHARACTER 016
5 5 DATE-MODIFIED AN 388 20 X(020) CHARACTER 017
*** End of Data ***
F5=SELALL F6=DESELALL F16=EXECUTE F22=UNDO F23=REDO
  
```

Figure 67. FileKit - SDE SELECT panel.

- Enter S in the "S" column to make a field visible.
- Enter H in the "H" column to HOLD a field.
- Enter a number in the "Seq" to control the order of visible fields.
- Enter a number in the "Width" to control the column width of a field.
- Selected fields that are not given an explicit Sequence number will be displayed in the order they appear in the panel table.
- The panel table may be manipulated using standard line-commands entered into the numeric "suffix" area on the right hand side of each table row. Table rows may be moved or excluded, but not deleted.
- Use primary command **SELALL** (on function key **F5** by default) to select all (unexcluded) fields.
- Use primary command **DESELALL** (on function key **F6** by default) to deselect all (unexcluded) fields.
- Use primary command **RESET** without parameters to reset (to blank) all enterable columns, or add the column name to reset each individual column. e.g. *RES H*
- Selecting **Y** in the "Show unselected fields at the end" option is the equivalent of adding ",*" to the end of the SELECT command, as discussed earlier.
- If option **PERM** is selected then the select/colwidth combination will saved in the applied structure (SDO). If mapping direct from a COBOL/PL1 copybook then you will be prompted to create a structure or continue without saving.
- Panel input will be obeyed on normal (F3) exit. The **EXECUTE** (EXEC) primary command (on function key **F16** by default) may be used to obey input without exiting the panel. This is particularly useful when running in "windowed" display mode on a large dynamic screen, where both the SELECT panel and the Data-Edit window to which it will apply are simultaneously visible.

Using FIND, EXCLUDE and ONLY commands

Searching for Data (FIND/F)

Type the following commands to produce the results displayed below.

- SEL *
- L 1
- F HEART

Press **F5** (RFIND) to search for the next occurrence.

```

SELCOPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
PERSTENT-ID TRACK-NUM TRACK-ID NAME ARTIST
#2 #3 #4 #5 #6
AN 1:16 ZD 17:3 ZD 20:4 AN 24:120 AN 144:70
<---+---1---+> <--> <---+---1---+---> <---+---1---
00000001 CB12DD714D51828C 001 2083 Rolling In the Deep Adele
00000002 2648A25633D15404 002 2085 Rumour Has It Adele
00000003 9815923C6D2E6830 003 2087 Turning Tables Adele
00000004 7D003FF752074C18 004 2089 Don't You Remember Adele
00000005 AED739D8574AA4C5 005 2091 Set Fire to the Rain Adele
00000006 E7558CE1CF5CDEA7 006 2093 He Won't Go Adele
00000007 6798C2AB0AFB2571 007 2095 Take It All Adele
00000008 962B35D1647DE75E 008 2097 I'll Be Waiting Adele
00000009 D8A6C8FDC2802177 009 2099 One and Only Adele
00000010 2502515DEB535010 010 2101 Lovesong Adele
00000011 E3748E6EE7C86B1D 011 2103 Someone Like You Adele
00000012 D4EB4EBF4651EF20 012 2105 I Found a Boy (Bonus Adele
00000013 CEC92B1BA3204A0A 013 2107 Adele 21 - A Track B Adele
00000014 6D4C2C7BA7E01593 001 4169 Hold On Alabama Shake
00000015 E241B09CC251C386 002 4171 I Found You Alabama Shake
00000016 E74C16BCB319870C 003 4173 Hang Loose Alabama Shake
00000017 214ED5D95884533C 004 4175 Rise to the Sun Alabama Shake
00000018 0E421AFCD141D22D 005 4177 You Ain't Alone Alabama Shake
00000019 FF47FB9E05DE8967 006 4179 Goin' to the Party Alabama Shake
00000020 5D46C681552440BF 007 4181 Heartbreaker Alabama Shake
00000021 C54FE77922485624 008 4183 Boys &#38; Girls Alabama Shake
00000022 8D4B5913F78CEEE3 009 4185 Be Mine Alabama Shake
00000023 B044D8ED2337A412 010 4187 I Ain't the Same Alabama Shake
Se Line=1 Col=1 Alt=0,0;0 Size=1070 Recl=407 Fmt=F Files=1 View
    
```

Figure 68. FileKit - SDE FIND 1.

Restricting the Search to a Specific Field

The search may be restricted to a specific field e.g.

- F ALABAMA #5

If fields are to be referred to by name, then they must be specified in brackets e.g.

- F ALABAMA (ARTIST)

If none are specified then the search will be restricted to those fields specified by the most recent SELECT command, provided one has been issued. Otherwise all fields will be searched in their default order.

```

SELCOPI/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
  TRACK-#3 TRACK-#4 TRACK-#5 ARTIST #6
  AN 1:16 ZD 17:3 ZD 20:4 AN 24:120 AN 144:70
  <---+---1---+---> <--> <---> <---+---1---+---> <---+---1---
00000653 7A380D28DA910A7B 001 3363 Sweet Home Alabama Lynyrd Skynyr
00000654 FA976D14F7EEF623 002 3339 I Ain't the One Lynyrd Skynyr
00000655 7D828FF66DE1B03D 002 3365 Crossroads Lynyrd Skynyr
00000656 8FE27D812957B9A5 003 3341 Saturday Night Speci Lynyrd Skynyr
00000657 6BC665A358DB5475 003 3367 Free Bird (Undubbed) Lynyrd Skynyr
00000658 25533C315171FCE5 004 3343 Searching Lynyrd Skynyr
00000659 F06C5E8FF9E73897 004 3369 Introduction By Alex Lynyrd Skynyr
00000660 F6775CC2575D9F02 005 3371 I Ain't the One (Alt Lynyrd Skynyr
00000661 8F12ADFE0A2D3C4B 005 3345 Travellin' Man Lynyrd Skynyr
00000662 1C83C54551DA904B 006 3373 Searchin' (Alternate Lynyrd Skynyr
00000663 3A8D35D8E4E94317 006 3347 Simple Man Lynyrd Skynyr
00000664 AF1B4500D8892FE5 007 3375 Gimme Three Steps Lynyrd Skynyr
00000665 90B364BC56E5D4D9 007 3349 Whiskey Rock-A-Rolle Lynyrd Skynyr
00000666 FB62E8C234527D6E 008 3351 The Needle and the S Lynyrd Skynyr
00000667 94627829ECA49843 008 3377 Call Me the Breeze Lynyrd Skynyr
00000668 458342D207B0BC77 009 3353 Gimme Back My Bullet Lynyrd Skynyr
00000669 8D0B7C18B78DE112 009 3379 Sweet Home Alabama ( Lynyrd Skynyr
00000670 867C61A98F5AC380 010 3381 Crossroads (Alternat Lynyrd Skynyr
00000671 94EE123CE522DEF4 010 3355 Tuesday's Gone Lynyrd Skynyr
00000672 4F8AF925660E6850 011 3357 Gimme Three Steps Lynyrd Skynyr
00000673 30956502EC125D30 011 3383 Free Bird Lynyrd Skynyr
00000674 3B3298C3172E369E 012 3359 Call Me the Breeze Lynyrd Skynyr
00000675 3CF5025D22F1607E 013 3361 T for Texas (Blue Yo Lynyrd Skynyr
Se | Line=653 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vi
    
```

Figure 69. FileKit - SDE FIND 2.

Restricting the Search to a List of Fields

- The search may be restricted to a list of comma separated fields e.g.
 - ◆ F ALABAMA #5,#6
- Again, if fields are to be referred to by name, then they must be specified in brackets e.g.
 - ◆ F ALABAMA (NAME,ARTIST)

```

SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
PERSISTENT-ID TRACK-NUM TRACK-ID NAME ARTIST
#2 #3 #4 #5 #6
AN 1:16 ZD 17:3 ZD 20:4 AN 24:120 AN 144:70
<---+---1---+> <--> <---> <---+---1---+> <---+---1---
00000001 CB12DD714D51828C 001 2083 Rolling In the Deep Adele
00000002 2648A25633D15404 002 2085 Rumour Has It Adele
00000003 9815923C6D2E6830 003 2087 Turning Tables Adele
00000004 7D003FF752074C18 004 2089 Don't You Remember Adele
00000005 AED739D8574AA4C5 005 2091 Set Fire to the Rain Adele
00000006 E755BCE1CF5CDEA7 006 2093 He Won't Go Adele
00000007 6798C2AB0AFB2571 007 2095 Take It All Adele
00000008 962835D1647DE75E 008 2097 I'll Be Waiting Adele
00000009 D8A6C8FDC2802177 009 2099 One and Only Adele
00000010 2502515DEB535010 010 2101 Lovesong Adele
00000011 E374BE6EE7C86B1D 011 2103 Someone Like You Adele
00000012 D4EB4EBF4651EF20 012 2105 I Found a Boy (Bonus Adele
00000013 CEC92B1BA3204A0A 013 2107 Adele 21 - A Track B Adele
00000014 6D4C2C7BA7E01593 001 4169 Hold On Alabama Shake
00000015 E241B09CC251C386 002 4171 I Found You Alabama Shake
00000016 E74C16BCB319870C 003 4173 Hang Loose Alabama Shake
00000017 214ED5D95B84533C 004 4175 Rise to the Sun Alabama Shake
00000018 0E421AFCD141D22D 005 4177 You Ain't Alone Alabama Shake
00000019 FF47FB9E05DE8967 006 4179 Goin' to the Party Alabama Shake
00000020 5D46C681552440BF 007 4181 Heartbreaker Alabama Shake
00000021 C54FE77922485624 008 4183 Boys &#38; Girls Alabama Shake
00000022 8D4B5913F78CEEE3 009 4185 Be Mine Alabama Shake
00000023 B044D8ED2337A412 010 4187 I Ain't the Same Alabama Shake
Se Line=1 Col=1 Alt=0,0;0 Size=1070 Recl=407 Fmt=F Files=1 View
    
```

Figure 70. FileKit - SDE FIND 3.

Restricting the Search to a Range of Fields

- A range of fields may also be specified by separating the start and end field with a colon e.g.
 - ◆ F ALABAMA #2:#6
- Again, if any field is to be referred to by name, then they must be specified in brackets e.g.
 - ◆ F ALABAMA (#2:ARTIST)
- Type **Help Change** for full information.

Excluding Records Based on Field Content (EXCLUDE/X)

- The **EXCLUDE** command takes the same parameters as **FIND** e.g.
 - ◆ **X ALL ALABAMA #5,#6**

```

SELCPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
ZZSD187I 27 lines of record type TRACK containing string "alabama" were
excluded.
#2 #3 #4 #5 #6
AN 1:16 ZD 17:3 ZD 20:4 AN 24:120 AN 144:70
<---+---1---+> <--> <---> <---+---1---+> <---+---1---
00000001 CB12DD714D51828C 001 2083 Rolling In the Deep Adele
00000002 2648A25633D15404 002 2085 Rumour Has It Adele
00000003 9815923C6D2E6830 003 2087 Turning Tables Adele
00000004 7D003FF752074C18 004 2089 Don't You Remember Adele
00000005 AED739D8574AA4C5 005 2091 Set Fire to the Rain Adele
00000006 E755BCE1CF5CDEA7 006 2093 He Won't Go Adele
00000007 6798C2AB0AFB2571 007 2095 Take It All Adele
00000008 962B35D1647DE75E 008 2097 I'll Be Waiting Adele
00000009 D8A6C8FDC2802177 009 2099 One and Only Adele
00000010 2502515DEB535010 010 2101 Lovesong Adele
00000011 E3748E6EE7C86B1D 011 2103 Someone Like You Adele
00000012 D4EB4EBF4651EF20 012 2105 I Found a Boy (Bonus Adele
00000013 CEC92B1BA3204A0A 013 2107 Adele 21 - A Track B Adele
00000014 ----- 24 line(s) excluded: record type TRACK -----
00000038 3042FAD7E89FCDF3 016 2133 Uninvited Alanis Moriss
00000039 D1EF53B14D5A4790 001 2135 All I Really Want Alanis Moriss
00000040 02EACE532929B38F 002 2137 You Oughta Know Alanis Moriss
00000041 C63A3B24DB37898D 003 2139 Perfect Alanis Moriss
00000042 B26EEC33174DCC60 004 2141 Hand In My Pocket Alanis Moriss
00000043 8276C65D2939EE38 005 2143 Right Through You Alanis Moriss
00000044 74E398087479A309 006 2145 Forgiven Alanis Moriss
00000045 D6876CE5B59004CF 007 2147 You Learn Alanis Moriss
00000046 AF138361B3B3E268 008 2149 Head Over Feet Alanis Moriss
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View

```

Figure 71. FileKit - SDE EXCLUDE.

Excluding Records Based on Field Content (ONLY/O)

- The **ONLY** primary command may be used to display only the matching records and also takes the same parameters as **FIND** e.g.
 - ◆ **ONLY ALABAMA #5,#6**
- **ONLY** may be abbreviated to **O**.
- The **ALL** parameter is unnecessary (and therefore illegal) on the **ONLY** command.
- Use the **ALL** primary command (with no parameters) to redisplay any excluded records.

```

-SELCOPI/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
ZZSD186I 27 occurrences of string "alabama" were found in records of type
TRACK.

```

PERSISTENT-ID	TRACK-NUM	TRACK-ID	NAME	ARTIST
#2	#3	#4	#5	#6
AN 1:16	ZD 17:3	ZD 20:4	AN 24:120	AN 144:70
<---+---1---+>	<-->	<-->	<---+---1---+>	<---+---1---
00000014 6D4C2C7BA7E01593	001	4169	Hold On	Alabama Shake
00000015 E241B09CC251C386	002	4171	I Found You	Alabama Shake
00000016 E74C16BCB319870C	003	4173	Hang Loose	Alabama Shake
00000017 214ED5D95B84533C	004	4175	Rise to the Sun	Alabama Shake
00000018 0E421AFCD141D22D	005	4177	You Ain't Alone	Alabama Shake
00000019 FF47FB9E05DE8967	006	4179	Goin' to the Party	Alabama Shake
00000020 5D46C681552440BF	007	4181	Heartbreaker	Alabama Shake
00000021 C54FE77922485624	008	4183	Boys & Girls	Alabama Shake
00000022 8D4B5913F78CEEE3	009	4185	Be Mine	Alabama Shake
00000023 B044D8ED2337A412	010	4187	I Ain't the Same	Alabama Shake
00000024 6E44D77A948E8A6D	011	4189	On Your Way	Alabama Shake
00000025 BD48544197975CAB	012	4191	Heavy Chevy	Alabama Shake
00000026 0E9D90BEF653FB3D	001	2109	Converted	Alabama 3
00000027 394900B434520082	002	2111	Speed Up the Sound o	Alabama 3
00000028 7CEC684D57FADD0B	003	2113	Woke Up This Morning	Alabama 3
00000029 10FEE2A0203CF89B	004	2115	U Don't Dans 2 Tekno	Alabama 3
00000030 7CB7FD20ADBE19AD	005	2117	Bourgeoisie Blues	Alabama 3
00000031 4179344748D283DC	006	2119	Ain't Goin' to Goa	Alabama 3
00000032 D776D98916C07D6A	007	2121	Mao Tse Tung Said	Alabama 3
00000033 F21C824DDCDD69F3	008	2123	Hypo Full of Love (T	Alabama 3
00000034 84788B78C8571DC9	009	2125	The Old Purple Tin (Alabama 3
00000035 B6787CDA1A22AAA6	010	2127	The Night We Nearly	Alabama 3

```

Se | Line=1 | Col=1 | Alt=0,0;0 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View

```

Figure 72. FileKit - SDE ONLY 1.

Searching Numeric Data-Type Fields

- Numeric fields may also be searched without needing to be concerned about the underlying data-type (i.e. zoned-decimal, packed-decimal, binary or floating-point). e.g.
 - ◆ **ONLY 1 (TRACK-NUM)**
- Type **HIDE** to suppress display of shadow records.
- Type **RES HIDE** or **SHAD ON** resume display of shadow records.

```

-SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
  PERSISTENT-ID TRACK-NUM TRACK-ID NAME ARTIST
  #2 #3 #4 #5 #6
AN 1:16 ZD 17:3 ZD 20:4 AN 24:120 AN 144:70
<---+---1---+> <--> <---+---1---+> <---+---1---
00000001 CB12DD714D51828C 001 2083 Rolling In the Deep Adele
00000014 6D4C2C7BA7E01593 001 4169 Hold On Alabama Shake
00000026 0E9D90BEF653FB3D 001 2109 Converted Alabama 3
00000039 D1EF53B14D5A4790 001 2135 All I Really Want Alanis Moriss
00000052 ADDD7342D220CF76 001 7973 Mitzi Alex Harvey
00000061 498B4E8E921A948F 001 4407 Hells Bells AC/DC
00000071 043219699220BB08 001 2053 Rock 'N Roll Train AC/DC
00000086 8D9AD7F812B6E6CB 001 4349 Dirty Deeds Done Dir AC/DC
00000096 1ED550900D5C62FD 001 4337 It's A Long Way To T AC/DC
00000107 62ED978238D09CFE 001 4391 Highway To Hell AC/DC
00000119 B5715E2E8212B99E 001 4365 Go Down AC/DC
00000126 3A2C9735E5A76418 001 4379 Rock 'N' Roll Damnat AC/DC
00000137 244EF5D18EB0FF6A 001 4205 Blowin' In the Wind Bob Dylan
00000138 A9F9DB70A52F83F0 001 4257 Shelter from the Sto Bob Dylan
00000174 4B1E571BFAF437F2 001 2171 Red Headed Woman Bruce Springs
00000187 F4FD7E6EAB695B06 001 2529 Dead Man Walkin' Bruce Springs
00000188 67383B3AA37BF798 001 2197 Devils &#38; Dust Bruce Springs
00000190 BB3105139E236692 001 2201 Human Touch Bruce Springs
00000192 F3A02A1F4EB809E0 001 2205 Better Days Bruce Springs
00000196 53A457A1BE068EFF 001 2211 The Ghost of Tom Joa Bruce Springs
00000209 E140BAA528E0A3D3 001 2235 Racing In the Street Bruce Springs
00000230 FDDF99D83FBB06D9 001 2277 The Wrestler Bruce Springs
00000231 63BEA82C58843DB4 001 2281 Leavin' Train Bruce Springs
Se Line=1 Col=1 Alt=0,0;0 Size=1070 Recl=407 Fmt=F Files=1 View
    
```

Figure 73. FileKit - SDE ONLY 2.

Using a Relational Operator (EQ/NE/GT/GE/LT/LE)

- A relational operator (defaulting to EQ) may also be specified before the search value. Supported operators are as follow:

Operator	Description
EQ	Data must be equal to <i>value</i> . (Default)
NE	Data must be not equal to <i>value</i> .
GT	Data must be greater than <i>value</i> .
GE	Data must be greater than or equal to <i>value</i> .
LT	Data must be less than <i>value</i> .
LE	Data must be less than or equal to <i>value</i> .

- Type the following commands to produce the results displayed below, illustrating record selection based on the content of the **binary** numeric field *BIT-RATE*.
 - ◆ SEL BIT-RATE,*
 - ◆ ONLY GT 300 (BIT-RATE)

```

SELCPY/I - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
BIT-RATE PERSISTENT-ID TRACK-NUM TRACK-ID NAME
#10 #2 #3 #4 #5
FB 292:2 AN 1:16 ZD 17:3 ZD 20:4 AN 24:120
<----+> <----+-----1-----+> <--> <----> <----+-----1-----+>
00000091 320 2914E5BA132025B3 006 6641 There's Gonna Be Som
00000099 320 FAE8D4D8AF11B744 004 6995 Live Wire
00000597 320 20D7CEDE6E323CB0 002 1701 Babe I'm Gonna Leave
00000600 320 11BAC51E6846898C 001 1693 Black Dog
00000605 320 734A4EED8255AC47 007 1367 Tea For One
00001071 *** End of Data ***
    
```

Figure 74. FileKit - SDE ONLY 3.

Searching for INVALID Data

- The keyword **INVALID** may also be specified to search for fields containing data that is invalid according to its defined data-type. e.g. 'X'ABCD' in a **packed-decimal** field.
- Type the following commands to produce the results displayed below.
 - ◆ **SEL #11,#13 H,***
 - ◆ **HEX ON**
 - ◆ **ONLY INVALID #11,#13**

```

-SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
SAMPLE-RATE NORMALIZATION PERSISTENT-ID TRACK-NUM TRACK-ID
#11 #13 #2 #3 #4
PD 294:3 PD 301:3 AN 1:16 ZD 17:3 ZD 20:4
<----+> <----+> <---+---1---+> <--> <-->
00000208 *****
400 000 BCE177B1DB2B983A 016 1383
800 00C CCCFFFCFFCFFFC 016 1383
00000551 44100 ***** 58CF2C29F7A472F0 003 3147
410 139 FFCCFCFFCFFCFFCF FFC FFFC
40C 0EC 5836232967147260 003 3147
00000703 ***** 0 67BCBC8407B6204C 018 3441
410 000 FFCCCFFFFCFFFC FFC FFFC
400 00C 6723238407262043 018 3441
00000769 44100 ***** 43444409245FB890 003 4069
410 076 FFFFFFFFCCFF FFC FFFC
40C A0C 4344440924562890 003 4069
00000966 ***** 0 99D68F50F8BC243F 023 3821
410 000 FFCFFCFFCFFCFFFC FFC FFFC
400 00C 9946865068232436 023 3821
00001007 44100 4923 43EED60467C11B25 003 4479
410 093 FFCCFFFCFFCFFCF FFC FFFC
40C 42C 4355460467311225 003 4479
Se Line=208 Col=1 Alt=0,0;0 Size=1070 Recl=407 Fmt=F Files=1 Vi
    
```

Figure 75. FileKit - SDE ONLY 4.

Using CHANGE commands

- Type the following commands to produce the results displayed below.
 - ◆ **SEL TRACK-NUM,NAME HOLD,ALBUM,ARTIST,***
 - ◆ **;Change '&' '&'**
- Note:** Semi-colon (;) is the default command-separator character. In order to use the separator character as a legitimate part of a command string we must suspend its normal handling. This can be done by either
 - Updating the separator character in the Settings panel, issuing the command, then resetting the separator character. This is cumbersome and upsetting!
 - As in the above example, let **FileKit** automatically suspend separator handling for the duration of a single command, simply by prefixing that command with semi-colon (i.e. the prevailing separator character).
- Press **F5** (RFIND) to search for the next occurrence.
- Press **F6** (RCHANGE) to change it.
- Or add the **ALL** parameter to the CHANGE command to change all occurrences.
- Type **Help Change** for full information.

```

SELCOPY/1 - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST10
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: TRACK Fixed(407) Offset=0 Data elements=18
          TRACK-NUM NAME ALBUM ARTIST
          #3 #5 #7 #6
          ZD 17:3 AN 24:120 AN 214:70 AN 144:70
          <--> <---+-----1-----+----> <---+-----1-----+----> <---+-----1-----+---->
00000001 001 Rolling In the Deep 21 Adele
00000002 002 Rumour Has It 21 Adele
00000003 003 Turning Tables 21 Adele
00000004 004 Don't You Remember 21 Adele
00000005 005 Set Fire to the Rain 21 Adele
00000006 006 He Won't Go 21 Adele
00000007 007 Take It All 21 Adele
00000008 008 I'll Be Waiting 21 Adele
00000009 009 One and Only 21 Adele
00000010 010 Lovesong 21 Adele
00000011 011 Someone Like You 21 Adele
00000012 012 I Found a Boy (Bonus 21 Adele
00000013 013 Adele 21 - A Track B 21 Adele
==CHG> 001 Hold On Boys & Girls Alabama Shakes
==CHG> 002 I Found You Boys & Girls Alabama Shakes
==CHG> 003 Hang Loose Boys & Girls Alabama Shakes
==CHG> 004 Rise to the Sun Boys & Girls Alabama Shakes
00000018 005 You Ain't Alone Boys &#38; Girls Alabama Shakes
00000019 006 Goin' to the Party Boys &#38; Girls Alabama Shakes
00000020 007 Heartbreaker Boys &#38; Girls Alabama Shakes
00000021 008 Boys &#38; Girls Alabama Shakes
00000022 009 Be Mine Boys &#38; Girls Alabama Shakes
00000023 010 I Ain't the Same Boys &#38; Girls Alabama Shakes
Se | Line=1 | Col=1 | Alt=4,4;4 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View

```

Figure 76. FileKit - SDE CHANGE 1.

UNDO / REDO

Note that all modifications may be individually undone/redone using **F22 / F23** (normally Shift-F10 / F11) which are set to execute the **UNDO/REDO** primary commands.

- Consecutive modifications may be undone by pressing **F22** repeatedly.
- Consecutive modifications may be redone by pressing **F23** repeatedly.
- The **UNDOING** primary command controls the following aspects:
 - Whether the UNDO/REDO facility is activated.
 - The number of modification levels maintained.
 - The maximum amount of storage allocated.
- Type **Query UNDOING** to determine your current settings.
- Type **Help UNDOING** for full information.

Selecting only records affected by CHANGE

After applying the above **CHANGE** to all records, you may wish to display only the changed records. To do this type

- **ALL Changed**
- Type **Help ALL** for full information.

```

SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
ZZSD178I 158 lines of record type TRACK selected by all c.
      TRACK-NUM  NAME                ALBUM                ARTIST
      #3 #5                #7                #6
      ZD 17:3 AN 24:120      AN 214:70          AN 144:70
      <--> <---+----1-----> <---+----1-----> <---+----1----->
==CHG>      001 Hold On                Boys & Girls         Alabama Shakes
==CHG>      002 I Found You             Boys & Girls         Alabama Shakes
==CHG>      003 Hang Loose               Boys & Girls         Alabama Shakes
==CHG>      004 Rise to the Sun          Boys & Girls         Alabama Shakes
==CHG>      005 You Ain't Alone          Boys & Girls         Alabama Shakes
==CHG>      006 Goin' to the Party       Boys & Girls         Alabama Shakes
==CHG>      007 Heartbreaker              Boys & Girls         Alabama Shakes
==CHG>      008 Boys & Girls              Boys & Girls         Alabama Shakes
==CHG>      009 Be Mine                   Boys & Girls         Alabama Shakes
==CHG>      010 I Ain't the Same          Boys & Girls         Alabama Shakes
==CHG>      011 On Your Way               Boys & Girls         Alabama Shakes
==CHG>      012 Heavy Chevy                Boys & Girls         Alabama Shakes
==CHG>      013 Rainy Day Women #12       The Essential Bob Dy Bob Dylan
==CHG>      001 Devils & Dust              Devils & Dust        Bruce Springsteen &
==CHG>      005 Black Cowboys             Devils & Dust        Bruce Springsteen
==CHG>      001 Long Time Comin'          Live In Dublin       Bruce Springsteen
==CHG>      001 Atlantic City              Live In Dublin       Bruce Springsteen
==CHG>      002 Old Dan Tucker             Live In Dublin       Bruce Springsteen
==CHG>      002 Open All Night              Live In Dublin       Bruce Springsteen
==CHG>      003 Pay Me My Money Down      Live In Dublin       Bruce Springsteen
==CHG>      003 Eyes On the Prize          Live In Dublin       Bruce Springsteen
==CHG>      004 Growin' Up                 Live In Dublin       Bruce Springsteen
Se | Line=14 | Col=1 | Alt=5,5;5 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vie

```

Figure 77. FileKit - SDE ALL CHANGED.

Restricting the CHANGE to Specific Fields

Just like FIND, EXCLUDE and ONLY, the **CHANGE** command may be restricted to one or more specific fields. e.g.

- C ALL '21' 'Twenty-One' (NAME)

```

SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST10
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> c all '21' 'Twenty-One' (Name) Scroll> Csr
00000000 *** Top of Data ***
Record type: TRACK Fixed(407) Offset=0 Data elements=18
TRACK-NUM NAME ALBUM ARTIST
#3 #5 #7 #6
ZD 17:3 AN 24:120 AN 214:70 AN 144:70
<--> <--+---1-----+> <--+---1-----+> <--+---1-----+>
00000001 001 Rolling In the Deep 21 Adele
00000002 002 Rumour Has It 21 Adele
00000003 003 Turning Tables 21 Adele
00000004 004 Don't You Remember 21 Adele
00000005 005 Set Fire to the Rain 21 Adele
00000006 006 He Won't Go 21 Adele
00000007 007 Take It All 21 Adele
00000008 008 I'll Be Waiting 21 Adele
00000009 009 One and Only 21 Adele
00000010 010 Lovesong 21 Adele
00000011 011 Someone Like You 21 Adele
00000012 012 I Found a Boy (Bonus 21 Adele
==CHG> 013 Adele Twenty-One - A 21 Adele
00000014 001 Hold On Boys & Girls Alabama Shakes
00000015 002 I Found You Boys & Girls Alabama Shakes
00000016 003 Hang Loose Boys & Girls Alabama Shakes
00000017 004 Rise to the Sun Boys & Girls Alabama Shakes
00000018 005 You Ain't Alone Boys & Girls Alabama Shakes
00000019 006 Goin' to the Party Boys & Girls Alabama Shakes
00000020 007 Heartbreaker Boys & Girls Alabama Shakes
00000021 008 Boys & Girls Boys & Girls Alabama Shakes
00000022 009 Be Mine Boys & Girls Alabama Shakes
Se | Line=0 | Col=1 | Alt=6,6;6 | Size=1070 | Recl=407 | Fmt=F | Files=1 | View
    
```

Figure 78. FileKit - SDE CHANGE 2.

CHANGEing Numeric Data-Type Fields

Next we'll demonstrate **CHANGE** of a numeric data-type field, using a relational operator.

Type the following command to change all values greater than or equal to 10, in the TRACK-NUM field only, to 999.

```
• C ALL GE 10 999 #3
```

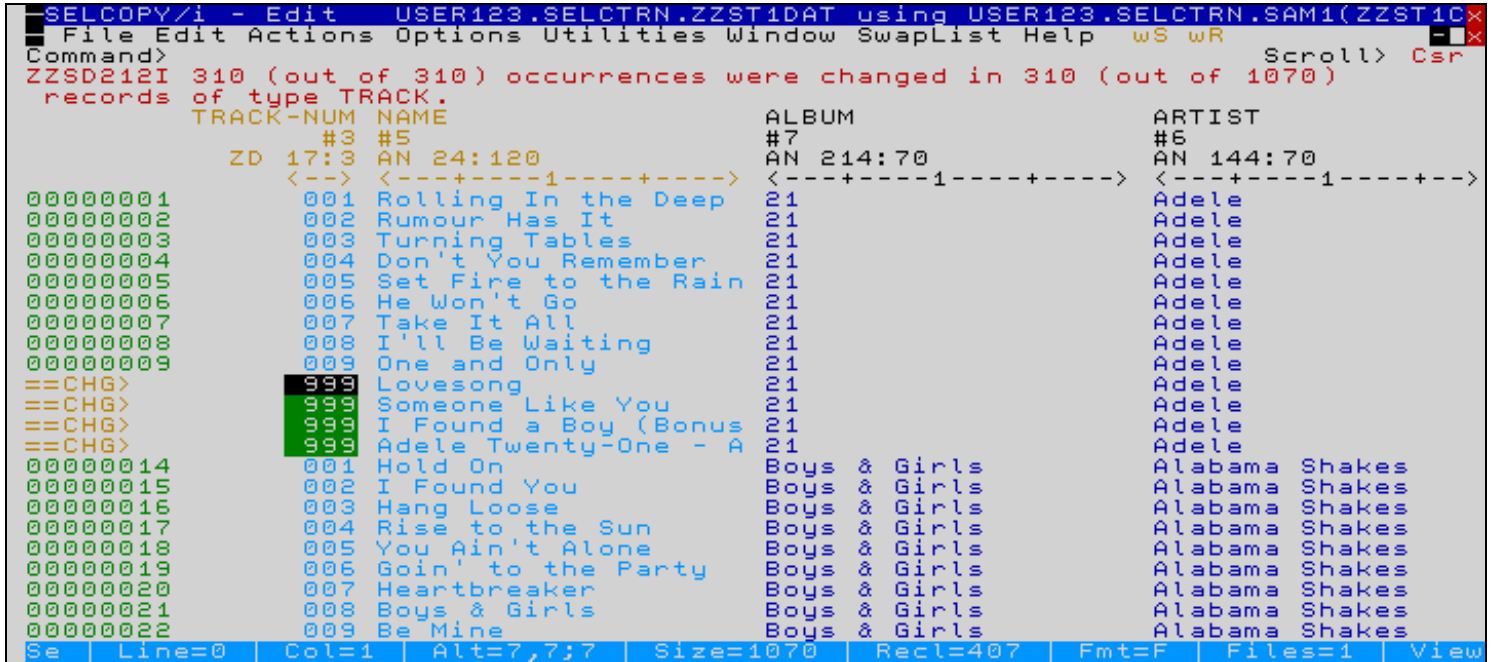


Figure 79. FileKit - SDE CHANGE 3.

Filtering records using ALL(WHERE)/MORE/LESS commands

As an alternative to using the ONLY, FIND and EXCLUDE commands, records may be 'filtered' by a (potentially complex) SQL-style expression using the ALL, MORE and LESS commands.

- **ALL** excludes all records except those that match the selection criteria.
- **MORE** re-includes any currently excluded records that match the selection criteria.
- **LESS** excludes any included records that match the selection criteria.
- **Where** is a synonym for **ALL**.

Type the following commands to produce the results below.

- **SELECT #10,#3,#5 H,#7,#6,***
- **ALL BIT-RATE > 300**

```

SELCPY/i - Edit USER123.SELCTR.N.ZZST1DAT using USER123.SELCTR.N.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> all bit-rate > 300
Record type: TRACK Fixed(407) Offset=0 Data elements=18
BIT-RATE TRACK-NUM NAME ALBUM ARTIST
#10 #3 #5 #7 #6
FB 292:2 ZD 17:3 AN 24:120 AN 214:70 AN 144:70
<----+> <--> <----+-----1-----+-----> <----+-----1-----+-----> <----+-----
00000091 320 006 There's Gonna Be Som Dirty Deeds Done Dir AC/DC
00000099 320 004 Live Wire High Voltage AC/DC
00000597 320 002 Babe I'm Gonna Leave Led Zeppelin I Led Zeppe
00000600 320 001 Black Dog Led Zeppelin IV Led Zeppe
00000605 320 007 Tea For One Presence Led Zeppe
00001071 *** End of Data ***

```

Se | Line=91 | Col=1 | Alt=7,7;7 | Size=1070 | Recl=407 | Fmt=F | Files=1 | Vie

Figure 80. FileKit - SDE ALL 1.

Using Multiple Selection Criteria

Selection criteria expressions may specify multiple conditions.

- ALL BIT-RATE > 300 OR #10 < 128

```

SELCPY/i - Edit USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> all bit-rate > 300 or #10 < 128 Scroll> Csr
Record type: TRACK Fixed(407) Offset=0 Data elements=18
BIT-RATE TRACK-NUM NAME ALBUM ARTIST
#10 #5 #7 #6
FB 292:2 ZD 17:3 AN 24:120 AN 214:70 AN 144:70
<----+> <--> <----+-----1-----+-----> <----+-----1-----+-----> <----+-----
00000091 320 006 There's Gonna Be Som Dirty Deeds Done Dir AC/DC
00000099 320 004 Live Wire High Voltage AC/DC
00000597 320 002 Babe I'm Gonna Leave Led Zeppelin I Led Zeppe
00000600 320 001 Black Dog Led Zeppelin IV Led Zeppe
00000605 320 007 Tea For One Presence Led Zeppe
00000708 96 004 Wish You Were Here Wish You Were Here Pink Floy
00000795 125 001 You Are the Best Thi Gossip In the Grain Ray LaMon
00000796 125 002 Let It Be Me Gossip In the Grain Ray LaMon
00000797 125 003 Sarah Gossip In the Grain Ray LaMon
00000798 125 004 I Still Care for You Gossip In the Grain Ray LaMon
00000799 125 005 Winter Birds Gossip In the Grain Ray LaMon
00000800 125 006 Meg White Gossip In the Grain Ray LaMon
00000801 125 007 Hey Me, Hey Mama Gossip In the Grain Ray LaMon
00000802 125 008 Henry Nearly Killed Gossip In the Grain Ray LaMon
00000803 125 009 A Falling Through Gossip In the Grain Ray LaMon
==CHG> 125 999 Gossip In the Grain Gossip In the Grain Ray LaMon
00001071 *** End of Data ***

```

Figure 81. FileKit - SDE ALL 2.

Increasing the size of the Command Input Area

Complex expressions may require more space to type than is available on a single command line.

Type **CLN** to show an options dialog that allows you increase the number of command lines visible for the current display window.

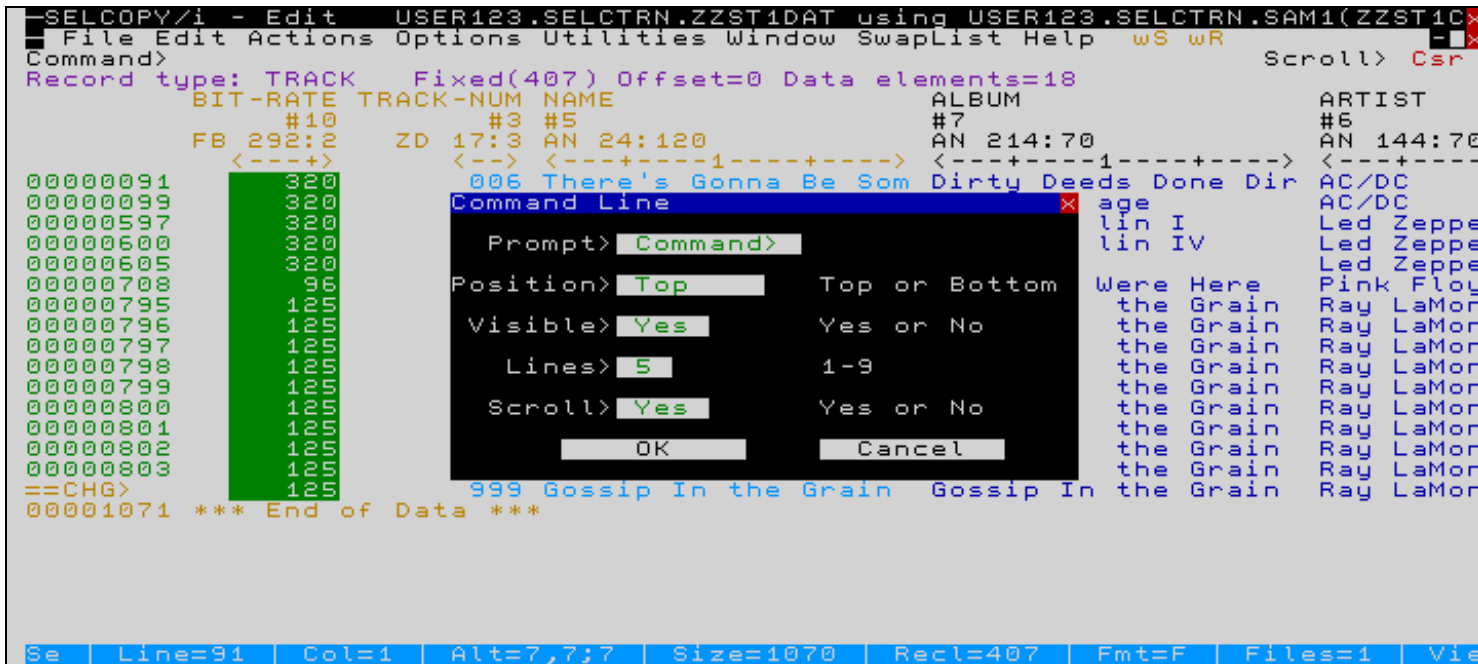


Figure 82. FileKit - SDE Command Line Options.

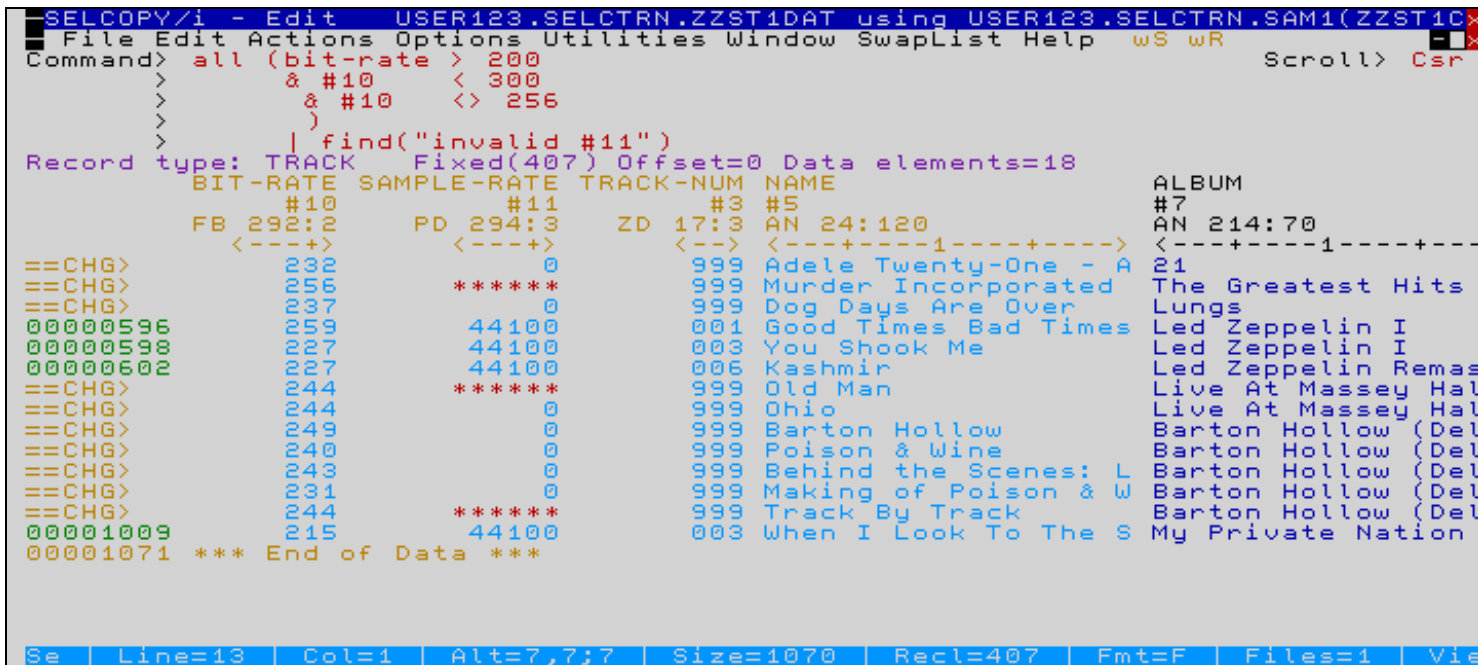


Figure 83. FileKit - SDE ALL 3.

Using a FILTER to Select Records on Load

You may wish to select records based on specific criteria during initial load of the file into the **FileKit** Structured Data Editor.

For example, to load only the first 20 records that contain a value in **position 348** (the year component of RELEASE-DATE)

- that is **greater than '0000'**
- but **less than '1980'**

Choose the **Quick Filter** feature from the SDE Edit / Browse Entry Panel (=2).

- Activate the *Filter* option by entering a / in the left margin field.
- Enter **Q** to select *Quick* filter.
- Type **FILT** (or press **F6**) to define or modify the filter selection-criteria.

```

-SELCPY/i - Structured Data Browse/Edit
File Command Structure Replace Help
Command>
ZZSGSDE0
PDS/PDSE member, Sequential, VSAM or HFS path:
Name> USER123.SELCTR.N.ZZST1DAT + Member>
Volume> If dataset is uncataloged.

Action:
Browse Data.
Edit Full. (Insert/Update/Delete) - Edit Full Auxiliary. (AUX File)
Edit In-Place. (Update only) - Edit Full Read-Only. (DISP=SHR)
- Edit Full Read-Only & Auxiliary.

Structure/Copybook overlay:
Dsn> USER123.SELCTR.N.SAM1 Member> ZZST1CPC
Type: - SDO - AData / Cobol - PL1

Record Selection:
Start> + / Record - Key - RBA
For> @ # records
Filter> Q Filter selected records. (F=File; Q=Quick) (PF6=Edit Filter)
File> Member>

Additional Options: - (Enter "/" to display HFS and Profile options.)

```

Figure 84. FileKit - SDE Quick Filter 1.

Specifying Simple FILTER Selection Criteria

- Enter **20** in the *Limit*> field to restrict the number of records selected.
- Enter **I** in the *Type*> field to specify that selected records should be **included** in the load.
- Enter **348** into the *Position* column of table row 1.
- Enter **4** into the *Length* column.
- Enter **>** (greater-than) into the *ROp* (Relational Operator) column.
Alternatively enter blank to get a list of available operators from which you may make your selection (by placing the cursor and pressing ENTER).
- Enter **'0000'** into the *Value* column.
 - ◆ For simple case-insensitive character strings there is no need to add quotes (this will be done automatically).
 - ◆ You may specify the string using **C'AbCd'** notation if case-sensitivity is required.
 - ◆ Hex strings may be specified using **X'1234'** notation.
- Replicate table entry line 1 by typing **R** into the table prefix area (*000001*).
The *AND/OR* column on the new line will automatically set to **AND**.
- Enter **<** (less-than) into the *ROp* (Relational Operator) column of inserted table row 2.
- Enter **'1980'** into the *Value* column.

```

SELCPY/i - Quick Filter - Selection Criteria
File Help
Command>
ZZSGFLTQ
Limit> 20 (0=No limit) Type> I (I=INCLUDE, X=EXCLUDE) PF1=Help
Quick FILTER - Selection Criteria. 2 Rows
AND/OR Position Length ROp Value (Character strings must be quoted)
<.> <...+> <...+> <.> <...+>...1...+...2...+...3...+...4...+>
000001
000002 AND 348 4 > '0000'
000003 *** End of Data ***

```

Figure 85. FileKit - SDE Quick Filter 2.

Activating/Deactivating a FILTER

- Press **F3** to return to the SDE Edit/Browse Entry Panel.
- Press **ENTER** to edit the sample file using the active filter.
- To **activate/deactivate** the filter simply check/uncheck the *Filter* option.
- A **saved filter** may be activated by specifying filter type **F** and entering the saved filter dataset / member name.
- To define a **saved filter** either:
 1. Select the *Filter* option (=10) from the **FileKit** Primary Option Menu.
 2. At the SDE Edit / Browse Entry Panel, specify filter type **F**, enter the saved filter dataset/member name then press **F6** (or type **FILTer**).
- If a structure is active then your filter will define selection criteria referring to the values of named (formatted) fields.
- Formatted selection criteria are individually specified for each defined record-type.

```

SELCPY/i - Edit(UP) USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST)
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
00000000 *** Top of Data ***
Record type: TRACK Fixed(407) Offset=0 Data elements=18
RELEASE-DATE          PERSISTENT-ID          TRACK-NUM TRACK-ID NAME
#16                   #2                      #3         #4 #5
AN 348:20             AN 1:16                 ZD 17:3    ZD 20:4 AN 24:120
<---+---1---+---> <---+---1---+---> <--> <---> <---+---1---
00000001 1974-02-01T00:00:00Z AD104CAC30071918    001      2841 Burn
00000002 1974-02-01T00:00:00Z E19E07D5918CB755    007      2843 Mistreated
00000003 1974-02-01T00:00:00Z B64042E3A5647B38    011      2845 Mistreated (2
00000004 1976-01-01T00:00:00Z 8827C471776C1CB8    003      3205 Dreamer Decei
00000005 1978-04-01T00:00:00Z 632197A321A2F00F    008      3207 Beyond the Re
00000006 1979-01-01T00:00:00Z 341F3309D106AA63    001      3209 Exciter
00000007 1979-01-01T00:00:00Z 9362F8DB07CB9807    002      3211 Running Wild
00000008 1979-01-01T00:00:00Z 97BE40132BEC0CC5    003      3213 Sinner
00000009 1979-01-01T00:00:00Z 8A60E8F214166BAF    004      3215 The Ripper
00000010 1979-01-01T00:00:00Z 2DFD45B36EEBACB7    005      3217 The Green Man
00000011 1979-01-01T00:00:00Z C820742072BD797C    006      3219 Diamonds and
00000012 1979-01-01T00:00:00Z 709AD86814498F84    007      3221 Victim of Cha
00000013 1979-01-01T00:00:00Z 75A1373877232049    008      3223 Genocide
00000014 1979-01-01T00:00:00Z CB175572940D4828    009      3225 Tyrant
00000015 1979-01-01T00:00:00Z 3B1A38FDD8E68DA4    010      3227 Rock Forever
00000016 1979-01-01T00:00:00Z 9185DB3E305E92F8    011      3229 Delivering th
00000017 1979-01-01T00:00:00Z 5EA55ECF45E8F83C    012      3231 Hell Bent for
00000018 1979-01-01T00:00:00Z AC886839D38851E7    013      3233 Starbreaker
00000019 1970-10-05T07:00:00Z 50151071B945EA89    004      3239 Since I've Be
00000020 1971-11-08T08:00:00Z 89D1B798019008B1    004      3241 Stairway to H
00000021 *** End of Data ***
Se | Line=0 | Col=1 | Alt=0,0;0 | Size=20 | Recl=407 | Fmt=F | Files=1 | Views=
    
```

Figure 86. FileKit - SDE Quick Filter 3.

Working with Multiple Record-Types

Files with multiple record-types may be mapped by:

1. Multiple (COBOL or PL1) copybooks.
2. A single copybook with multiple **01-LEVEL** entries, each defining a separate record-type.
3. A **FileKit Structured Data Object (SDO)** which may be generated from one or more copybooks, using the **Structure** option from the Primary Option Menu (=9).

The second sample dataset (userpfx.SELCTRN.ZZST2DAT) contains the same information as the first, but is comprised of three distinct record-types:

1. ARTIST
2. ALBUM
3. TRACK

To reproduce the following screen-shot browse the sample dataset in its raw state, i.e. without applying a copybook / structure overlay.

Use the Data Edit (=2) panel to:

- Specify the *Data File*:
 - ◆ Type **userpfx.SELCTRN.ZZST2DAT** in the *Name* field, where *userpfx* is your own user prefix. If wildcards are specified then a dataset list will be displayed from which you can make a selection.
- Specify the *Action*:
 - ◆ Activate option *Browse Data* by entering a *.*
- Deactivate the *Structure/Copybook overlay*:
 - ◆ Uncheck the option by removing the *.*. This option is provided so that you may deactivate or reactivate structure formatting without needing to remove or retype the dataset and member name.
- Press **ENTER** to edit the sample dataset.
- Type **RECLen** to switch on/off the display of record length column, which displays the length of each record in front of the data.

You will notice that:

- Record 1 is **length=71** and contains '1' in position 1 indicating it is an **ARTIST** record.
- Record 2 is **length=71** too, but contains '2' in position 1 indicating it is an **ALBUM** record.
- Records 3 - 15 are **length=268** and contain '3' in position 1 indicating they are **TRACK** records.

```

SELPCOPY/i - Browse USER123.SELCTRN.ZZST2DAT      268 V SEQ
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Record type: UnMapped      Variable(0,268) Offset=0 Data elements=1
      Length  UnMapped
      <---+---1---+---2---+---3---+---4---+---5---+---6---
00000001      71 1Adele
00000002      71 221
00000003     268 3CB12DD714D51828C00A208CRolling In the Deep
00000004     268 32648A25633D1540400B208ERumour Has It
00000005     268 39815923C6D2E683000C208GTurning Tables
00000006     268 37D003FF752074C1800D208IDon't You Remember
00000007     268 3AED739D8574AA4C500E209ASet Fire to the Rain
00000008     268 3E755BCE1CF5CDEA700F209CHE Won't Go
00000009     268 36798C2A80AFB257100G209ETake It All
00000010     268 3962B35D1647DE75E00H209GI'll Be Waiting
00000011     268 3D8A6C8FD0C280217700I209IOne and Only
00000012     268 32502515DEB53501001{210ALovesong
00000013     268 3E374BE6EE7C86B1D01A210CSomeone Like You
00000014     268 3D4EB4EBF4651EF2001B210EI Found a Boy (Bonus Track)
00000015     268 3CEC92B1BA3204A0A01C210GAdele 21 - A Track By Track Interview
00000016      71 1Alabama Shakes
00000017      71 2Boys &#38; Girls
00000018     268 36D4C2C7BA7E0159300A416IHold On
00000019     268 3E241B09CC251C38600B417AI Found You
00000020     268 3E74C16BCB319870C00C417CHang Loose
00000021     268 3214ED5D95B84533C00D417ERise to the Sun
00000022     268 30E421AFCD141D22D00E417GYou Ain't Alone
00000023     268 3FF47FB9E05DE896700F417IGoin' to the Party
00000024     268 35D46C681552440BF00G418AHeartbreaker
00000025     268 3C54FE7792248562400H418CBoys &#38; Girls
Se | Line=1 | Col=1 | Alt=0,0;0 | Size>228 | Recl=268 | Fmt=V | Files=1 | Views
  
```

Figure 87. FileKit - SDE Sample Dataset 2.

Automatic Record-Type Association (for Direct Copybook Overlay)

Exit unformatted browse of Sample Dataset 2, then re-edit specifying Structure / Copybook overlay using the second sample copybook (ZZST2CPx), which contains **01-LEVEL** entries for each of the 3 record-types.

- Specify the *Structure/Copybook overlay*:
 - ◆ Activate the option by entering a / in the left margin field.
 - ◆ Type **userpfx.SELCTRN.SAM1** in the *Dsn* field, to specify the PDS library containing the supplied COBOL / PL1 copybook. This dataset name should already be in place (same as previous sample).
 - ◆ Type **ZZST2CPC** in the *Member* field (for COBOL installations).
Type **ZZST2CPP** in the *Member* field (for PL1 installations).
 - ◆ Check the *Type* option for *Cobol* or *PL1* as appropriate. Note that *FileKit* uses its own internal "compiler" to parse *COBOL* and *PL1* copybooks, so you may use whichever sample copybook you please without the need for an available *IBM* compiler.
- Press **ENTER** to edit the sample dataset.

Unlike some other products, **FileKit** is able to display files with multiple record-types in Formatted Multi-Record (VFMT) Display Mode with all record-types **visible simultaneously**. A set of record-type column headings will be displayed for each new group of one or more consecutive records of the same type.

You will notice that **FileKit** has attempted to automatically assign record-types, by matching each individual record's length to the length (or range of lengths) defined by the copybook for each record-type. Where this process is unable to uniquely identify a record-type, the first matching record-type is assigned.

The initial view of the sample dataset shows that:

- **ARTIST** record #1 has automatically been assigned the correct record-type.
(first match on fixed record length=71).
- **ALBUM** record #2 has automatically been assigned the **incorrect** record-type (ARTIST).
(first match on fixed record length=71).
- **TRACK** record #3 has automatically been assigned the correct record-type.
(unique match on fixed record length=268).

```

SELCOPY/i - Browse USER123.SELCTRN.ZZST2DAT using USER123.SELCTRN.SAM1(ZZST2C
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
00000000 *** Top of Data ***
Record type: ARTIST Fixed(71) Offset=0 Data elements=3
      Length RT      ARTIST
      #2      #3
      AN 1:1 AN 2:70
      >      <---+---1---+---2---+---3---+---4---+---5---+
00000001 71 1      Adele
00000002 71 2      21

Record type: TRACK Fixed(268) Offset=0 Data elements=53
      Length RT      PERSISTENT-ID      TRACK-NUM TRACK-ID NAME
      #2      #3      #4      #5 #6
      AN 1:1 AN 2:16      ZD 18:3  ZD 21:4 AN 25:120
      >      <---+---1---+--->      <->      <--> <---+---1---+---2
00000003 268 3      CB12DD714D51828C      001      2083 Rolling In the Deep
00000004 268 3      2648A25633D15404      002      2085 Rumour Has It
00000005 268 3      9815923C6D2E6830      003      2087 Turning Tables
00000006 268 3      7D003FF752074C18      004      2089 Don't You Remember
00000007 268 3      AED739D8574AA4C5      005      2091 Set Fire to the Rain
00000008 268 3      E755BCE1CF5CDEA7      006      2093 He Won't Go
00000009 268 3      6798C2A80AFB2571      007      2095 Take It All
00000010 268 3      962B35D1647DE75E      008      2097 I'll Be Waiting
00000011 268 3      D8A6C8FDC2802177      009      2099 One and Only
00000012 268 3      2502515DEB535010      010      2101 Lovesong
00000013 268 3      E374BE6EE7C86B1D      011      2103 Someone Like You
00000014 268 3      D4EB4EBF4651EF20      012      2105 I Found a Boy (Bonus
00000015 268 3      CEC92B1BA3204A0A      013      2107 Adele 21 - A Track B
Se | Line=0 | Col=1 | Alt=0,0;0 | Size>228 | Recl=268 | Fmt=v | Files=1 | Views
    
```

Figure 88. FileKit - SDE Automatic Record-Type Id.

Record-Identification Criteria (for Direct Copybook Overlay)

When it isn't possible to automatically infer the correct record-type association from the record-length alone, then record-identification criteria must be explicitly specified.

As formatting is provided directly by our sample COBOL or PL1 copybook, then in order to specify record-identification we must use **either** of the following methods.

- Press **F16 (Shift-F4)** to display the **Utilities Menu** then:
 1. Select option **6 - Modify record-type Identification criteria.**
 2. In the **Use When** column for the ALBUM table entry, type any of following equally valid expressions:
 - ◊ **RT='2'**
 - ◊ **substr(record,1,1)='2'**
 - ◊ **left(record,1)='2'**
 3. Press **ENTER** to register the update..
 4. Press **F3** repeatedly to return to the browse/edit view..
- Type any of the following primary commands:
 1. **USE ALBUM WHEN RT='2'**
 2. **USE ALBUM WHEN SUBSTR(RECORD,1,1)='2'**
 3. **USE ALBUM WHEN LEFT(RECORD,1)='2'**

```

-SELCOPY/i - Browse USER123.SELCTRN.ZZST2DAT using USER123.SELCTRN.SAM1(ZZST2C
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: ARTIST Fixed(71) Offset=0 Data elements=3
  Length RT ARTIST
  #2 #3
  AN 1:1 AN 2:70
  > <---+---1---+---2---+---3---+---4---+---5---+
00000001 71 1 Adele

Record type: ALBUM Fixed(71) Offset=0 Data elements=3
  Length RT ALBUM
  #2 #3
  AN 1:1 AN 2:70
  > <---+---1---+---2---+---3---+---4---+---5---+
00000002 71 2 21

Record type: TRACK Fixed(268) Offset=0 Data elements=53
  Length RT PERSISTENT-ID TRACK-NUM TRACK-ID NAME
  #2 #3 #4 #5 #6

-SDEUTUS - CBL Structured Browse/Edit Utilities menu
Modify record-type identification criteria

Record Type Use Always Use Never Use When
ARTIST - - -
ALBUM - - RT='2'
TRACK - - -

00000011 268 3 D8A6C8FDC2802177 009 2099 One and Only
Te | Line=0 | Col=1 | Alt=0,0;1 | Size=0 | Recl=0 | Fmt= | Files=1 | Views=1

```

Figure 89. FileKit - SDE Explicit Record-Identification.

Record-Identification criteria defined for direct copybook overlay will persist throughout the **FileKit** session, but will need to be reestablished beyond that.

A **FileKit Structured Data Object (SDO)** permanently consolidates the information defined by one or more copybooks, potentially defining multiple record-types, along with the Record-Identification criteria for each.

An SDO is stored in a dataset (typically a library member), and provides significant performance improvement over direct copybook overlay for all **FileKit** Structured Data components that are capable of record formatting e.g. Browse / Edit, File-Search, File-Reformat, File-Compare.

Locating NEXT/PREV record by Record-Type

- In both formatted multiple-record (VFMT) and formatted single-record (FMT / MAP) display modes, the **NEXT (N)** and **PREV (P)** primary commands may be used to navigate to records, based on their record-type.
 - Type **NEXT ARTIST** to scroll to the next record of the type ARTIST.
 - Type **N /** to scroll to the next record of the same type as the focus record.
 - Type **N ?** to scroll to the next record of a different type from focus record.
 - Type **Help NEXT** for full information.
- It's often handy to set a **PF key** temporarily for the browse/edit session.

e.g. to temporarily set **F5 / F6** to jump to the previous/next ARTIST record, type the following primary commands.

- **PF 5 PREV ARTIST**
- **PF 6 NEXT ARTIST**

Selecting Visible Record-Types

Since **FileKit** is capable of displaying multiple record-types simultaneously in Formatted Multi-Record (VFMT) Display Mode, it is handy to be able to select precisely which record-types are visible at any given time.

Records of any unselected record-type are represented by "shadow" lines (just like excluded records). This feature is controlled by the **SHADOW** primary command.

Record-types may be selected / deselected using either:

- The **VIEW (V/V+/V-)** primary command. e.g.
 - ◆ To select only **TRACK** records type:
 - ◇ **V TRACK**
 - ◆ To reselect **all** record-types type:
 - ◇ **V ***
 - ◆ To select only **ARTIST** and **ALBUM** records type:
 - ◇ **V ARTIST,ALBUM**
 - ◆ To deselect **ARTIST** and **ALBUM** records type:
 - ◇ **V- ARTIST,ALBUM**
 - ◆ To additionally select **ALBUM** and **TRACK** records type:
 - ◇ **V+ ALBUM,TRACK**
- The **V, V+ or V-** line-commands (typed into the prefix area) .
 - ◆ Use **V** to select only records of the focus record-type.
 - ◆ Use **V+** to additionally select records of the focus (shadow line) record-type.
 - ◆ Use **V-** to deselect records of the focus record-type.

```

SELCOPY/1 - Browse USER123.SELCTRN.ZZST2DAT using USER123.SELCTRN.SDO(ZZST2)
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: ARTIST Fixed(71) Offset=0 Data elements=3
Length RT ARTIST
#2 #3
AN 1:1 AN 2:70
> < - - - + - - - 1 - - - + - - - 2 - - - + - - - 3 - - - + - - - 4 - - - + - - - 5 - - - +
00000001 71 1 Adele
V+ ----- 1 line(s) suppressed: record type ALBUM -----
00000003 ----- 13 line(s) suppressed: record type TRACK -----
00000016 71 1 Alabama Shakes
00000017 ----- 1 line(s) suppressed: record type ALBUM -----
00000018 ----- 12 line(s) suppressed: record type TRACK -----
00000030 71 1 Alabama 3
00000031 ----- 1 line(s) suppressed: record type ALBUM -----
00000032 ----- 12 line(s) suppressed: record type TRACK -----
00000044 71 1 Alanis Morissette
00000045 ----- 1 line(s) suppressed: record type ALBUM -----
00000046 ----- 1 line(s) suppressed: record type TRACK -----
00000047 ----- 1 line(s) suppressed: record type ALBUM -----
00000048 ----- 13 line(s) suppressed: record type TRACK -----
00000061 71 1 Alex Harvey
00000062 ----- 1 line(s) suppressed: record type ALBUM -----
00000063 ----- 9 line(s) suppressed: record type TRACK -----
00000072 71 1 AC/DC
00000073 ----- 1 line(s) suppressed: record type ALBUM -----
00000074 ----- 10 line(s) suppressed: record type TRACK -----
00000084 ----- 1 line(s) suppressed: record type ALBUM -----
00000085 ----- 15 line(s) suppressed: record type TRACK -----
00000100 ----- 1 line(s) suppressed: record type ALBUM -----
Se | Line=1 | Col=1 | Alt=0,0;0 | Size>228 | Recl=268 | Fmt=V | Files=1 | Views
  
```

Figure 90. FileKit - SDE Select Visible Record-Types.

Note: In Formatted (VFMT/MAP) Display Modes, some primary commands are record-type specific, meaning they act on records of one type only and are sensitive to the **focus record-type** i.e. the record-type of the record at the cursor (or at the top of screen if the cursor is on the command line).

For example, the following commands are **record-type sensitive**:

- FIND, CHANGE, EXCLUDE and ONLY
- LOCATE, ALL(WHERE), MORE and LESS

To avoid ambiguity when issuing any of these commands you may wish to either:

1. Select a single record-type using the **VIEW** command.
2. Temporarily suspend record-type formatting using the **CHAR** command.

Creating a Structured Data Object (SDO)

An **SDO** may be generated from **COBOL** or **PL1** copybooks using any of the following methods:

- Select option **9 - Structure** from the **FileKit** Primary Option Menu, then select option **1 - Copybook**.
- At any primary command prompt type **=9.1**.
- At any primary command prompt type **SDO**.

The following example will use the panel to generate an SDO from the **ZZST2CPC** (sample #2) COBOL copybook, containing three record-types along with their respective record-identification criteria.

- Specify the *Structure File to Create*:
 - ◆ Type **userpfx.SELCTRN.SDO** in the *Dsn* field, where *userpfx* is your own user prefix.
 - ◆ Type **ZZST2** in the *Member* field.
- Optionally Specify a *Title*:
 - ◆ Activate the option by entering a / in the left margin field.
 - ◆ Type a short (up to 30 characters) title e.g.
FileKit Training - Sample 2
- Optionally Specify a *Description*:
 - ◆ Activate the option by entering a / in the left margin field.
 - ◆ Type a longer (up to 124 characters) description e.g.
**Training Material: Sample Record Collection Structure
Multiple Record-Types (ARTIST,ALBUM,TRACK)**

```

SELCCOPY/I - Create STRUCTURE from COBOL/PL1 copybook(s)
File Help                                     wS wR
Command>                                     Scroll> Csr
ZZSGSD01                                     Lines 1-20 of 20
                                           PF1=Help

 1 Library          Specify source copybook libraries
 2 Record-type     Add/Delete record-types from COBOL/PL1 copybooks
 3 Replace         COBOL Replacing options
 4 Create          Create Structure (SDO) in the foreground
 5 Batch          Create Batch Job

Structure File to Create/Edit:                PDS/PDSE member
  Dsn> USER123.SELCTRN.SDO
  Member> ZZST2

/ Title      > SELCCOPY/I Training - Sampe 2
/ Description> Training Material: Sample Record Collection Structure
               Multiple Record-Types (ARTIST,ALBUM,TRACK)

```

Figure 91. FileKit - SDE Main Panel 1.

Specifying Copybook Libraries

Select option 1 to specify the dataset name(s) of the libraries containing your COBOL / PL1 copybooks using an editable table.

- Insert a new line into the Copybook Library table by typing **I** into the table prefix area (000001).
- Type **userpfx.SELCTR.N.SAM1** into inserted table row 1.
- Press **F3** to return to the SDO main panel.

```

SELCPY/1 - Create STRUCTURE from COBOL/PL1 copybook(s)
File Help
Command>
ZZSGSD0L

Ceeate Structure - Copybook Library List.
Copybook Library Dataset name

<...+...1...+...2...+...3...+...4...>
000001 USER123.SELCTR.N.SAM1
000002 *** End of Data ***
  
```

Figure 92. FileKit - SDE Copybook Libraries Panel.

Specifying Record-Type Details

Select option 2 to specify the source (copybook member name), identification criteria and other optional details for each **record-type**.

- Define the **ARTIST** record-type as follows:
 1. Insert a new line into the table by typing **I** into the table prefix area (000001).
 2. Type **ZZST2CPC** (for COBOL) or **ZZST2CPP** (for PL1) into the *Copybook Library Member* field of inserted table row 1.
 3. The *Type* field will automatically be set to **PRI** indicating a **primary** record-type (requiring explicit record-type identification criteria). This default is already correct. Press **F1** with cursor in this field for additional help information.
 4. The *Start Level* field will automatically be set to **1** indicating the record-type is defined at **LEVEL 01**. This default is also already correct. Press **F1** with cursor in this field for additional help information.
 5. Type **ARTIST** into the *Record-Type Name* field of inserted table row 1.
 6. The *Record Offset* field will automatically be set to **0** indicating the layout describes data from the beginning of the record. Again, this default is also already correct. Press **F1** with cursor in this field for additional help information.
 7. The *Lang* field will automatically be set to **COBOL**. Update this to **PL1** if necessary.

```

SELCOPY/1 - Create STRUCTURE from COBOL/PL1 copybook(s)
File Help                                     wS wR
Command>                                     Scroll > Csr
ZSGSDOR
Add a table row then press PF2 to specify its record identification-criteria
Create Structure - Define Record-Types.
Copybook Type Start Record-Type Name (01-Lev) Record Lang
Library      Level Offset
Member
<...+...> <.> <...> <...+...1...+...2...+...3...+...> <...+> <...>
000001 ZZST2CPC PRI 1 ARTIST 0 COBOL
000002 *** End of Data ***
  
```

Figure 93. FileKit - SDE Define Record-Types 1.

Specifying Record-Type Identification Criteria

- Define the **identification criteria** for the **ARTIST** record-type as follows:
 - With the cursor anywhere on inserted table row 1, press **F6** (ZOOM) to access a screen where details may be added / updated using a form.
 - In the **Id** field, type any of following equally valid expressions:
 - ◊ **RT='1'**
 - ◊ **substr(record,1,1)='1'**
 - ◊ **left(record,1)='1'**
 Longer expressions may be entered via a text-edit window by pressing **F14** (EXPAND).
 - Press **F3** to return to the record-types definition table panel.

```

SELCOPY/1 - Create STRUCTURE: Define record-type
File Help                               wS wR
Command>                                Scroll> Csr
ZZSGSDOR                                Lines 1-18 of 18

Member  >  ZZST2CPC                      Copybook Member Name
Level   >   1                            Starting Level Number (e.g. 01,05)
Name    >  ARTIST                         + Record-Type Name
                                             Normally defined by 01-Level Name

Type    >  PRI                            Default, Primary or Secondary
Language> COBOL                           Compiler Language
Offset  >   0                             Offset within record at which to start mapping
Id      >  RT='1'                         + Use PF2 to expand
                                             Record identification criteria

Press PF3 to return to the record-types list table.
  
```

Figure 94. FileKit - SDE Define Record-Type Identification Criteria.

Specifying Additional Record-Types

- Define the **ALBUM** record-type as follows:
 1. Replicate table entry line 1 by typing **R** into the table prefix area (000001).
 2. The *Copybook Library Member* field will already be correct as all of our sample record-types are defined by the same copybook.
 3. The *Type* field will already be correct.
 4. The *Start Level* field will already be correct.
 5. Type **ALBUM** into the *Record-Type Name* field of table row 2.
 6. The *Record Offset* field will already be correct.
 7. The *Lang* field will already be correct.
 8. Press **F6** (ZOOM) to access the form screen.
 9. In the **Id** field, type any of following equally valid expressions:
 - ◊ **RT='2'**
 - ◊ **substr(record,1,1)='2'**
 - ◊ **left(record,1)='2'**
 10. Press **F3** to return to the record-types definition table panel.
- Define the **TRACK** record-type as follows:
 1. Replicate table entry line 2 by typing **R** into the table prefix area (000002).
 2. Type **TRACK** into the *Record-Type Name* field of table row 3.
 3. Press **F6** (ZOOM) to access the form screen.
 4. In the **Id** field, type any of following equally valid expressions:
 - ◊ **RT='3'**
 - ◊ **substr(record,1,1)='3'**
 - ◊ **left(record,1)='3'**

```

SELCPY71 - Create STRUCTURE from COBOL/PL1 copybook(s)
File Help                               wS wR
Command>                                Scroll> Csr
ZZSGSDOR
Add a table row then press PF2 to specify its record identification-criteria
Create Structure - Define Record-Types.                                     3 Rows
Copybook Type Start Record-Type Name (01-Lev) Record Lang
Library      Level                                     Offset  Offset
Member
<...+...> <.> <...> <...+...1...+...2...+...3...+...> <...+> <...>
000001 ZZST2CPC PRI          1 ARTIST          0 COBOL
000002 ZZST2CPC PRI          1 ALBUM          0 COBOL
000003 ZZST2CPC PRI          1 TRACK          0 COBOL
000004 *** End of Data ***

```

Figure 95. FileKit - SDO Define Record-Types 2.

Generating the SDO

- Press **F3** to return to the record-types definition table panel.
- Press **F3** again to return to SDO main panel.
- Select option **3** should you wish to supply any **COBOL Replacing Options** (not necessary for our sample).
- Select either:
 - ◆ Option **4** to **Create the SDO in the foreground**.
 - ◆ Option **5** to **Create a Batch Job** to generate the SDO.

Note: To specify a **//JOB** statement that will be automatically inserted at the start of any z/OS batch job generated using **FileKit**, select option **6 Batch** from the **Settings** panel (=0.6).

- If created in the foreground, a message similar to the following should appear on completion:

```
ZZSD145I Structure USER123.SELCTR.N.SDO(ZZST2) created with 3 record type(s).
Maximum record length 268, minimum record length 71.
```

- Generated batch job displayed below.

```
SELCOPLY/1 - USER123.SELCOPLY1.SQL.02012325.1119177.JCL      80 F SEQ      Size=43x
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
00001 //USER123S JOB ,,CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID
00002 //*
00003 //* SELCOPLY/i 3.2B (C)2012 Compute(Bridgend) Ltd UK +44(1656)652222
00004 //*      JCL for: ZZSGSD01 SDE Create Structure.
00005 //* Created by: USER123   2012/11/20 11:19:17
00006 //*
00007 //SEL0001 EXEC PGM=SDEAMAIN,REGION=0M
00008 //STEPLIB DD DISP=SHR,DSN=CBL.CBLI320.EXE
00009 //        DD DISP=SHR,DSN=CBL.CBLI310.EXE
00010 //ZZSUSERI DD DISP=SHR,DSN=USER123.CBLI.INI
00011 //SDEPRINT DD SYSOUT=*
00012 //SDEIN DD *
00013 create structure USER123.SELCTR.N.SDO(ZZST2) replace
00014     title " SELCOPLY/i Training - Sampe 2 "
00015     descr " Training Material: Sample Record Collection Structure
00016     Multiple Record-Types (ARTIST,ALBUM,TRACK) "
00017     lib(
00018     )
00019     rec(
00020         primary
00021         name ARTIST
00022         level 1
00023         source cobol ZZST2CPC
00024         offset 0
00025         use if RT='1'
00026     )
00027     rec(
Te | Line=1 | Col=1 | Alt=0,0;0 | Size=43 | Recl=80 | Fmt=F | Files=2 | Views=2
```

Figure 96. FileKit - SDO Generated Batch Job.

Browse/Edit using a generated SDO

- Display the **Data-Edit** panel by typing **SDE**.
- Specify the *Data File*:
 - ◆ Type **userpfx.SELCTRN.ZZST2DAT** in the *Name* field, where *userpfx* is your own user prefix.
- Specify the *Structure/Copybook overlay*:
 - ◆ Activate the option by entering a / in the left margin field.
 - ◆ Type **userpfx.SELCTRN.SDO** in the *Dsn* field, to specify the PDS library containing the generated Structured Data Object (SDO).
 - ◆ Type **ZZST2** in the *Member* field.
 - ◆ Check the *Type* option for *SDO*. This is actually optional as FileKit will always check to see if the file specified is an SDO before attempting to parse it as COBOL or PL1.
- Press **ENTER** to edit the sample dataset.

```

SELCPY/1 - Structured Data Browse/Edit
File Command Structure Replace Help          wS wR
Command>                                     Scroll> Csr
ZZSGSDE0                                     Lines 1-21 of 21
PDS/PDSE member, Sequential, VSAM or HFS path:
Name> USER123.SELCTRN.ZZST2DAT              + Member>
Volume>                                     If dataset is uncataloged.

Action:
 / Browse Data.                               - Edit Full Auxiliary. (AUX File)
 - Edit Full. (Insert/Update/Delete)         - Edit Full Read-Only. (DISP=SHR)
 - Edit In-Place. (Update only)              - Edit Full Read-Only & Auxiliary.

Structure/Copybook overlay:
 / Dsn> USER123.SELCTRN.SDO                 Member> ZZST2
   Type: / SDO      - AData  - Cobol  - PL1

Record Selection:
 - Start>                                     + / Record  - Key  - RBA
 - For> @ # records
 - Filter> E Filter selected records. (F=File; Q=Quick) (PF6=Edit Filter)
   File> USER123.SELCOPYI.FLT              Member> TRACKA

Additional Options: _ (Enter "/" to display HFS and Profile options.)
  
```

Figure 97. FileKit - SDO Browse/Edit using an SDO.

Modifying Data

- In **Edit** mode individual record data may be modified by
 - ◆ Overtyping, inserting or deleting data in character or hex.
 - ◆ Executing a **CHANGE** command.
- In **Full Edit** mode, records may be inserted and deleted by
 - ◆ Typing the **INSERT (I)** primary-command.
 - e.g. to insert a new **ALBUM** record:
 - ◇ Type **I ALBUM**
 - ◇ The new record will be inserted following the focus record.
 - In multi-record (VFMT / CHAR) display modes focus is defined by the cursor position.
 - ◆ Using the **DELETE** primary-command.
- Additionally, in formatted (VFMT) or unformatted (CHAR) multi-record display modes, records may be inserted and deleted using the **standard line-commands**
 - ◆ **Inn** to **insert** records.
 - ◆ **Dnn, DD-DD** to **delete** records.
 - ◆ **Mnn, MM-MM** to **move** records.
- Modifications may be individually undone/redone using **F22 / F23** (normally Shift-F10 / F11) which are set to execute the **UNDO/REDO** primary commands.
 - ◆ Consecutive modifications may be undone by pressing F22 repeatedly.
 - ◆ Consecutive modifications may be redone by pressing F23 repeatedly.
 - ◆ The **UNDOING** primary command controls the following aspects:
 1. Whether the UNDO/REDO facility is activated.
 2. The number of modification levels maintained.
 3. The maximum amount of storage allocated.
 - ◆ Type **Query UNDOING** to determine your current settings.
 - ◆ Type **Help UNDOING** for full information.

Modifying Record Lengths

- In **Full Edit** mode, the length of a variable length record may be altered in the following ways:
 - ◆ In multi-record (VFMT / CHAR) modes,
 1. Type **RECLEN ON** to display the *Length* record prefix column.
 2. Overtyping the current *Length* value for any individual record.
 - ◆ In single-record (FMT / MAP / UNFMT / HEXD) modes,
 - ◇ Overtyping the current *Length* value.
 - ◆ Using the shift-left / right line-commands:
 - ◇ **(nn** or **((nn-((** to shift-left.
 - ◇ **)nn** or **)nn-))** to shift-right.

Note: Record-length modification may occur only where the right **BOUNDS** setting is higher than the individual record's length.
 - ◆ Using the **SHIFT** primary-command.
 - Type **Help SHifT** for full information.
 - ◆ Using the **CHANGE** primary-command, in particular when the **DATA** parameter is specified with different length search and replace values.
 - Type **Help Change** for full information.

Working with Segmented Records

Records may be organised in such a way that they are split into a number of logical segments, each segment being mapped by a unique structure (COBOL group or PL1 major/minor structure).

Segmented records begin with a single primary (base) segment immediately followed by any number of non-overlapping, secondary segments. A secondary segment may have the same or different segment record-type (RTO) mapping as other secondary segments in the record. e.g.

```
Record: 1
+-----+-----+-----+-----+-----+
| Primary_1 | Secondary_1 | Secondary_1 | Secondary_1 | Secondary_1 |
+-----+-----+-----+-----+-----+

Record: 2
+-----+-----+-----+-----+
| Primary_1 | Secondary_1 | Secondary_2 | Secondary_2 |
+-----+-----+-----+-----+

Record: 3
+-----+-----+-----+-----+
| Primary_2 | Secondary_1 | Secondary_4 |
+-----+-----+-----+-----+

Record: 4
+-----+-----+-----+-----+
| Primary_1 | Secondary_1 | Secondary_2 | Secondary_3 |
+-----+-----+-----+-----+
```

The record data must contain ID fields that identify which segment mapping is to be used to format individual segments of the record.

ID fields that identify a primary segment mapping must exist within the primary segment data. ID fields that identify a secondary segment mapping may exist within the secondary segment data, within the data of any previously mapped segment belonging to the same record, or, specifically, within the primary segment data.

The third sample dataset contains the same information as the second, but each physical record is comprised of three distinct segment-types:

- A single PRIMARY (BASE) (**ARTIST**) segment followed by....
- a number of SECONDARY (**ALBUM**) segments, each one followed by...
- a number of SECONDARY (**TRACK**) segments

To reproduce the following screen-shot browse the sample dataset in its raw state,

Use the Data Edit (=2) panel to:

- Specify the *Data File*:
 - ◆ Type **userpfx.SELCTRN.ZZST3DAT** in the *Name* field, where *userpfx* is your own user prefix.
- Deactivate the *Structure/Copybook overlay*.
 - ◆ Uncheck the option by removing the */*.

```
SELPCOPY/1 - Browse USER123.SELCTRN.ZZST3DAT 32752 V SEQ
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Record type: UnMapped Variable(0,32752) Offset=0 Data elements=1
Length UnMapped
<---+---1---+---2---+---3---+---4---+---5---+---6---
00000001 3626 1Adele
00000002 3358 1Alabama Shakes
00000003 3358 1Alabama 3
00000004 3965 1Alanis Morissette
00000005 2554 1Alex Harvey
00000006 21007 1AC/DC
00000007 3790 1Bob Dylan
00000008 25453 1Bruce Springsteen
00000009 6306 1Bruce Springsteen &#38; The Sessions Band
00000010 3090 1Burt Bacharach &#38; Elvis Costello
00000011 6109 1Christina Aguilera
00000012 410 1Christina Aguilera &#38; Dave Navarro
00000013 3090 1Coldplay
00000014 3358 1Crash Test Dummies
00000015 1750 1Damien Rice
00000016 10003 1David Gray
00000017 946 1Deep Purple
00000018 6787 1Del Amitri
00000019 2822 1Duffy
00000020 1482 1DJ Fresh
00000021 4233 1Embrace
00000022 4162 1Florence + The Machine
00000023 3090 1Gretchen Wilson
00000024 3894 1Guns N' Roses
00000025 946 1Jennifer Hudson
Se | Line=1 | Col=1 | Alt=0,0;0 | Size>26 | Recl=32752 | Fmt=V | Files=1 | View
```

Figure 98. FileKit - SDE Sample Dataset 3.

Creating an SDO defining Segmented Record-Types

Files with segmented record-types should be mapped by a **FileKit Structured Data Object (SDO)** generated from one or more copybooks.

The sample #3 segmented SDO (member name ZZST3) should be created using the (=9.1) panel in exactly the same way as for (non-segmented) sample #2, except that:

1. The **ARTIST** record-type is defined as *Type DEF*.
DEF record-types **must** be specified **without** identification criteria.
2. The **ALBUM** record-type is defined as *Type SEC*.
Identification criteria is required.
3. The **TRACK** record-type is defined as *Type SEC*.
Identification criteria is required.

```

SELCPY/i - Create STRUCTURE from COBOL/PL1 copybook(s)
File Help
Command>
ZZSGSDOR
Add a table row then press PF2 to specify its record identification-criteria
Create Structure - Define Record-Types.
Copybook Type Start Record-Type Name (01-Lev) Record Lang
Library Level Offset
Member
+
000001 ZZST2CPC DEF 1 ARTIST 0 COBOL
000002 ZZST2CPC SEC 1 ALBUM 0 COBOL
000003 ZZST2CPC SEC 1 TRACK 0 COBOL
000004 *** End of Data ***
3 Rows
Scroll > Csr

```

Figure 99. FileKit - SDO Create Segmented Structure.

If created in the foreground, a message similar to the following should appear on completion:

```

ZZSD403I Segmented Structure USER123.SELCTRN.SDO(ZZST3) created with 1 primary
(base) segment type(s) and 2 secondary type(s). Maximum segment length 268,
minimum segment length 71.

```

Browse/Edit using a Segmented SDO

At the SDE Browse / Edit panel:

- Specify the *Data File*:
 - ◆ Type **userpfx.SELCTRN.ZZST3DAT** in the *Name* field, where *userpfx* is your own user prefix.
- Specify the *Structure/Copybook overlay*:
 - ◆ Activate the option by entering a / in the left margin field.
 - ◆ Type **userpfx.SELCTRN.SDO** in the *Dsn* field, to specify the PDS library containing the generated Structured Data Object (SDO).
 - ◆ Type **ZZST3** in the *Member* field.
 - ◆ Check the *Type* option for *SDO*. This is actually optional as FileKit will always check to see if the file specified is an SDO before attempting to parse it as COBOL or PL1.
- Press **ENTER** to edit the sample dataset.

```

SELCOPIY/i - Browse USER123.SELCTRN.ZZST3DAT using USER123.SELCTRN.SDO(ZZST3)
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
Base(D): ARTIST      Fixed(71) Offset=0 Data elements=3
      Length RT      ARTIST
            #2      #3
            AN 1:1  AN 2:70
            >      <---+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+
00000001  71 1      Adele

Segment: ALBUM      Fixed(71) Offset=0 Data elements=3
      Length RT      ALBUM
            #2      #3
            AN 1:1  AN 2:70
            >      <---+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+
00000001  71 2      21

Segment: TRACK      Fixed(268) Offset=0 Data elements=53
      Length RT      PERSISTENT-ID      TRACK-NUM TRACK-ID NAME
            #2      #3      #4      #5 #6
            AN 1:1  AN 2:16      ZD 18:3  ZD 21:4 AN 25:120
            >      <---+-----1-----+ <-> <-> <---+-----1-----+-----2-----+
00000001  268 3      CB12DD714D51828C      001      2083 Rolling In the Deep
00000001  268 3      2648A25633D15404      002      2085 Rumour Has It
00000001  268 3      9815923C6D2E6830      003      2087 Turning Tables
00000001  268 3      7D003FF752074C18      004      2089 Don't You Remember
00000001  268 3      AED739D8574AA4C5      005      2091 Set Fire to the Rain
00000001  268 3      E755BCE1CF5CDEA7      006      2093 He Won't Go
00000001  268 3      6798C2A80AFB2571      007      2095 Take It All
00000001  268 3      962B35D1647DE75E      008      2097 I'll Be Waiting
00000001  268 3      D8A6C8FDC2802177      009      2099 One and Only
Se | Line=1 | Col=1 | Alt=0,0;0 | Size>7(P) | Recl=32752 | Fmt=V | Files=1 | Vi

```

Figure 100. FileKit - SDO Browse/Edit using a Segmented SDO.

Notes:

- By default, the prefix area indicates the **physical record number** to which each segment is attached.
- Type **PREFix LOGical** to display individual segment numbers in the prefix area.
- Type **PREFix Physical** to reset the prefix to display physical record numbers.
- Type **Help PREFix** for full information.
- The **LOCATE** command is sensitive to the **PREFIX** setting (PHYSICAL|LOGICAL) when used to locate an absolute record / segment number.

Navigating Segmented Datasets

- Whether in formatted (VFMT / FMT) or unformatted (CHAR / UNFMT / HEXD) display modes, all logical segments are displayed individually. To display the data in its raw state you must edit / browse the dataset with the structure (SDO) deactivated.
- For efficiency reasons the process of separating each physical record into its logical segment is performed once only, at initial load.
- In single-record modes, display is sensitive to the PREFIX setting (PHYSICAL|LOGICAL).

PREFIX Mode	Display
PHYSICAL	Segment> pppppppp / llllll ♦ "pppppppp" denotes the physical record number. ♦ "llllll" denotes the logical segment number within that physical record.
LOGICAL	Segment> ssssssss ♦ "sssssss" indicates the logical segment number within the whole file.

```

SELCOPY/i - Browse USER123.SELCTR.N.ZZST3DAT using USER123.SELCTR.SDO(ZZST3)
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Segment: TRACK Fixed(268) Offset=0 Data elements=53
Segment> 00000025 / 000004 Flags: f Length: 268

Ref Field Type <---+---1---+---2---+---3---+---4
#1 1 TRACK AN 1:268
#2 5 RT AN 1:1 3
#3 5 PERSISTENT-ID AN 2:16 EF4AB531C8FBF021
#4 5 TRACK-NUM ZD 18:3 007
#5 5 TRACK-ID ZD 21:4 4203
#6 5 NAME AN 25:120 You Pulled Me Through
41 - 80
81 - 120
#7 5 TOTAL-TIME FB 145:4 219133
#8 5 FILE-SIZE FB 149:4 7763606
#9 5 BIT-RATE FB 153:2 256
#10 5 SAMPLE-RATE PD 155:3 44100
#11 5 YEAR ZD 158:4 2008
#12 5 NORMALIZATION PD 162:3 4645
#13 5 DISC-NUMBER ZD 165:3 001
#14 5 ALBUM-ARTIST AN 168:41 Jennifer Hudson
41 - 41
#15 5 RELEASE-DATE AN 209:20
#16 7 RELEASE-YYYY AN 209:4 2008
#18 7 RELEASE-MM AN 214:2 09
#20 7 RELEASE-DD AN 217:2 29
#22 7 RELEASE-HH AN 220:2 07
#24 7 RELEASE-MN AN 223:2 00
Se Line=563 Col=1 Alt=0,0;0 Size>26(P) Recl=32752 Fmt=V Files=1
    
```

Figure 101. FileKit - SDE Formatted Single-Segment Dsplay Mode (FMT/MAP).

- In formatted (FMT / MAP) or unformatted (UNFMT / HEXD) single-record modes, the scrolling keys **F10** / **F11** will navigate to the next/prev **visible segment**, regardless of its type (PRIMARY/SECONDARY).
- In both formatted multiple- (VFMT) and single-record (FMT / MAP) display, the **NEXT (N)** and **PREV (P)** primary commands may be used to navigate more specifically to segments, based on their segment-type.
 - ♦ Type **N B** to scroll to the next base (primary) segment.
 - ♦ Type **N ALBUM** to scroll to the next segment of the type ALBUM.
 - ♦ Type **N /** to scroll to the next segment of the same type as the focus segment.
 - ♦ Type **N ?** to scroll to the next segment of a different type from focus segment.
 - ♦ Type **Help NEXT** for full information.

Modifying Segmented Datasets

- Individual segment data may be modified by
 - ◆ Overtyping, inserting or deleting data in character or hex.
 - ◆ Executing a **CHANGE** command.
- Segments may be inserted and deleted by
 - ◆ Typing the **INSERT** primary-command. e.g. to insert a new **ALBUM** segment:
 - ◇ Type **I ALBUM**
 - ◇ The new segment will be inserted following the focus segment.
In multi-segment (VFMT / CHAR) display modes focus is defined by the cursor position.
 - ◆ Using the **DELETE** primary-command.
- Additionally, in formatted (VFMT) or unformatted (CHAR) multi-segment display modes, both PRIMARY and SECONDARY segments may be inserted, deleted and moved using the **standard line-commands**
 - ◆ **Inn** to **insert** segments.
 - ◆ **Dnn, DD-DD** to **delete** segments.
 - ◆ **Mnn, MM-MM** to **move** segments.

Note that secondary segments may be **detached** and **reattached** to different primary segments using **move operations**.
- Modifications may be individually undone/redone using **F22 / F23** (normally Shift-F10 / F11) which are set to execute the **UNDO/REDO** primary commands.
 - ◆ Consecutive modifications may be undone by pressing F22 repeatedly.
 - ◆ Consecutive modifications may be redone by pressing F23 repeatedly.
 - ◆ The **UNDOING** primary command controls the following aspects:
 1. Whether the UNDO/REDO facility is activated.
 2. The number of modification levels maintained.
 3. The maximum amount of storage allocated.
 - ◆ Type **Query UNDOING** to determine your current settings.
- Modifications to fields referenced by **segment identification criteria** will result in the segment prefix area being flagged with **==ID>**.

This indicates that the modification will potentially cause the segment-type to re-assigned. Immediate re-assignment does not take place automatically. This is deliberate, since the user may be in the midst of several changes.

Re-assignment of segment-type may be explicitly requested using:
 - ◆ The **ID** line-command.
 - ◆ The **IDentify** primary-command.
Type **Help IDentify** for full information.
- The status of a segment being either **PRIMARY** or **SECONDARY** will not be altered by an **IDENTIFY** process.
To alter an individual segment's PRIMARY / SECONDARY status use:
 - ◆ The **STP** line-command to make the selected record a **PRIMARY** segment.
 - ◆ The **STS** line-command to make the selected record a **SECONDARY** segment.

Inserting/Deleting Primary (Base) Segments

- **Insert** of a primary (base) segment will cause a new physical record to be created in the file.
- **Delete** of a primary (base) segment will cause all its secondary segments to become attached to the **previous primary segment**. Beware that this may result in the creation of a physical record that exceeds the file's defined maximum

Modifying Segment Lengths

- The length of a segment may be altered in the following ways:
 - ◆ In multi-segment (VFMT / CHAR) modes,
 1. Type **RECLEN ON** to display the *Length* segment prefix column.
 2. Overtyping the current *Length* value for any individual segment.
 - ◆ In single-segment (FMT / MAP / UNFMT / HEXD) modes,
 - ◇ Overtyping the current *Length* value.
 - ◆ Using the shift-left / right line-commands:
 - ◇ **(nn** or **((nn-((** to shift-left.
 - ◇ **)nn** or **)nn-))** to shift-right.
 - ◆ Using the **SHIFT** primary-command.
 - ◆ Using the **CHANGE** primary-command.

Option 5 - File Copy/Reformat (FCOPY)

The FileKit File Copy/Reformat utility (FCOPY) copies records from one or more input file to a single output file, or to one or more members of a (PDS/PDSE) library. Input and output access methods, record-format and geometry may be mixed without restriction, and the copy process may be executed either online or in batch.

The output may be specified as:

- a single PDS/PDSE library member
- a PDS/PDSE library DSN (multiple member names implied by the input)
- a flat sequential dataset
- a VSAM KSDS, ESDS, RRDS/VRDS.
- a Hierarchical File System (HFS/ZFS) file.

The input may similarly be specified, with multiple input files defined using wildcards within each of the following file name components:

- Dataset name
- HFS path file-name (not directory)
- PDS/PDSE Member name
- Volume name

Access method, record-format and geometry for multiple input file may also be mixed without restriction.

Records may be selectively copied by specifying any combination of the following, which are applied to each input file:

- Start record number
- Start record key, or partial key (VSAM KSDS files only)
- Start relative-byte address (RBA) (VSAM ESDS/KSDS files)
- Number of records to process
- Record selection criteria (FILTER)

Records may be reformatted as they are copied by specifying an input and output structure/copybook. Specification of an input structure also enables record selection based on record-type and/or the content of fields defined by the structure.

Additionally, although not recommended for high volume output, copy to a VSAM KSDS may optionally be performed for records out of key sequence.

A handy aspect of the File Copy/Reformat utility is the ability to peek at the relevant files directly from the panel.

- F19 (Shift-F7) to browse the Input Data file
- F20 (Shift-F8) to browse the Output Data file
- F22 (Shift-F10) to browse the Input Copybook
- F23 (Shift-F11) to browse the Output Copybook

The File Copy/Reformat (FCOPY) Panel

The FCOPY panel may be started using any of the following methods:

- Select option **5** from the **FileKit** Primary Option Menu (=).
- At any primary command prompt type **=5**.
- At any primary command prompt type **FCOPY** (FC).
- From any dataset, library or HFS path list window, use the **C** line-command.

Copying a Standard Sequential Dataset

```

SELCOPY/i - File Copy
File Help JCL Command                               wS wR
Command>
ZZSGFC00                                           Lines 1-21 of 21
Input  PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTRN.ZZST1DAT
  Member Mask>
  Volume Mask>
  (All mask matches will be copied,
  press PF5 to view/deselect matches)

Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
  DSN/Path  > USER123.SELCTRN.ZZST1DAT.FCOPY1
  Member    >
  Volume    >
  Strip/Pad Char> e.g. X'FF' (If copying fixed<->var length records)

Record Selection:  For each input file, copy only selected records.
  _ Start>
  _ For> @ # records
  _ Filter> @ Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
  _ File>
  + Member>

Options:
  _ Reformat using structure/copybook layouts  _ Recurse HFS Sub-directories
  _ Append to existing Output                 _ Ignore HFS fileid case
  
```

Figure 102. FileKit - File Copy/Reformat (FCOPY) Panel (=5).

To follow the demonstration use the panel to make a complete copy of supplied sample dataset 1.

- Specify the *Input File*:
 - ◆ Type **userpfx.SELCTRN.ZZST1DAT** in the *DSN/Path Mask* field, where *userpfx* is your own user prefix.

If wildcards are specified then a dataset list will be displayed from which you can select one or more files for processing. Initially **ALL** files are selected, but you may press **F5/F6** to toggle back and forth between all files being selected or deselected. Further selection/deselection may be made by manually overtyping the *Sel* column for each individual entry.

Where PDS/PDSE datasets are to be processed a further member selection list may be accessed by placing the cursor on the library name and pressing **ENTER**. Within the dataset list, the member mask field may be overtyped to refine member selection individually for each library.

Press **F3** to return to the FCOPY panel once all input selections have been confirmed.
 - ◆ The *Member Mask* field should be left blank in this case, otherwise the dataset list will be restricted to PDS/PDSE libraries only.
 - ◆ The *Volume Mask* field should be left blank in this case, otherwise the dataset list will be restricted to files residing on matching volumes only.
- Specify the *Output File*:
 - ◆ Type **userpfx.SELCTRN.ZZST1DAT.FCOPY1** in the *DSN/Path* field. If wildcards are specified then a dataset list will be displayed from which you can make a selection.
 - ◆ If the name entered is for a dataset that does not yet exist, then you will be prompted to create it.
 - ◆ The *Member* field should be left blank. otherwise the dataset list will be restricted to PDS/PDSE libraries only.
 - ◆ The *Volume* field should be left blank.
 - Press **ENTER** to continue.

Choose New Output File Access Method

- If the output file does not yet exist, you will be prompted to create it and given the choice of the access method to be used.
- The *Dataset Organisation* input field will automatically be primed to match the input file, **N** for a **Non-VSAM** standard sequential file in this case.
- Permitted options are:

Option	Description
L	To allocate a new PDS/PDSE library.
N	To allocate a new standard sequential (Non-VSAM) file.
K	To define a new VSAM KSDS.
E	To define a new VSAM ESDS.
R	To define a new VSAM RRDS.

- Press **ENTER** or select the **OK** button to continue.

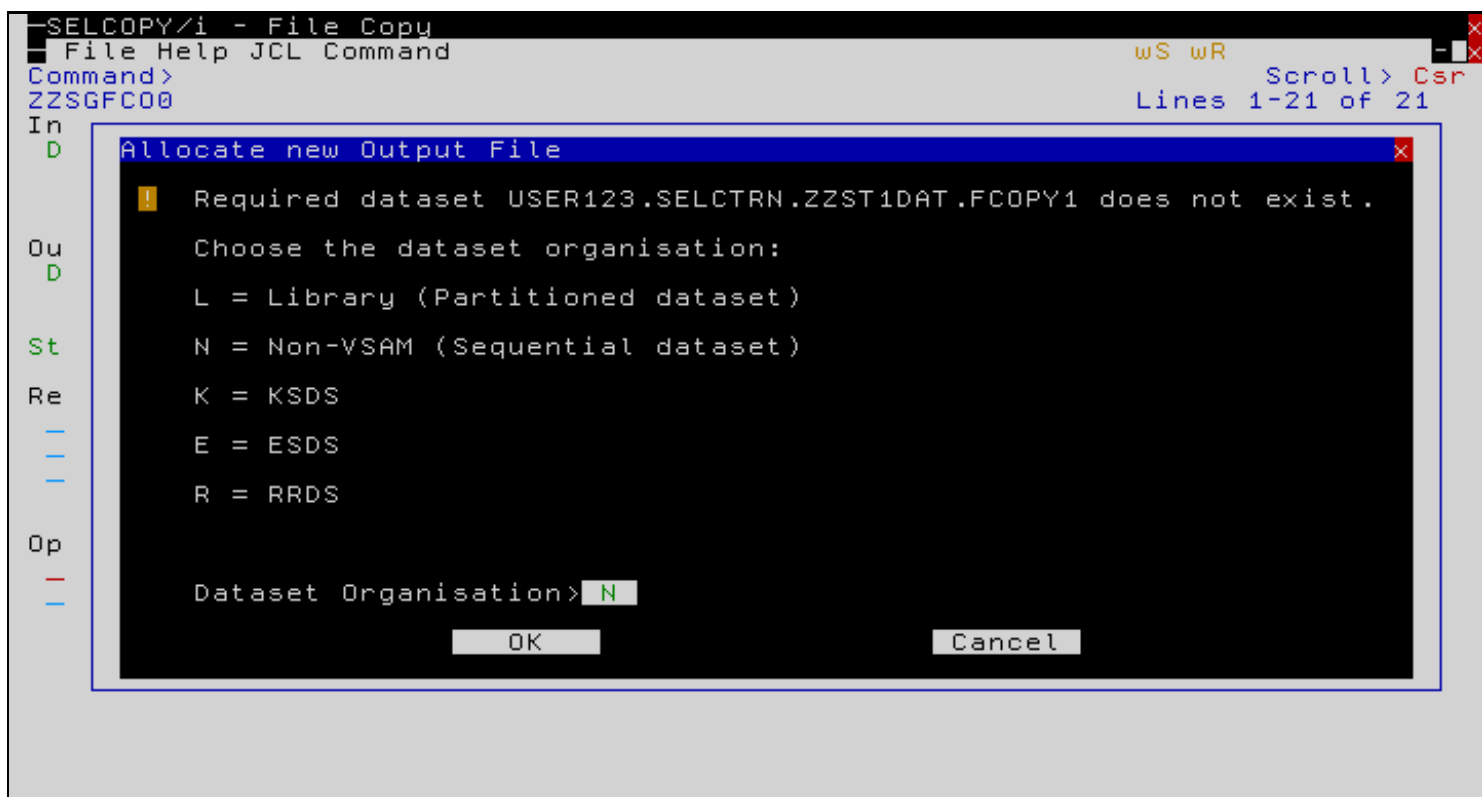


Figure 103. FileKit - Choose new Output file Access Method.

Allocate New Output File

- The allocation dialog will be displayed next allowing you to enter various details for your new file.
- Initial values will be primed using the input file as a model, provided it is of a compatible type.
- You may overwrite any of the values displayed in green, and/or enter an alternative model dataset then press ENTER to retrieve its details.
- Select the **Allocate** button to create the file (note that pressing ENTER the first time will place the cursor on the **Allocate** button).
- A message box will appear confirming the new file has been created.
- Press **F3** to continue with the copy process.
- For large file copies a progress window will be displayed, indicating how many records have so far been read, selected etc.
- You may use the **3270 Attention key** to interrupt the copy process. But remember to first unlock the keyboard by pressing the **3270 Reset key**. Please consult your 3270 emulator's keyboard settings/help if you're unsure of which physical keys are mapped to these 3270 functions.
- A summary message (detailing the number of records copied etc), will be displayed once the copy process has completed.

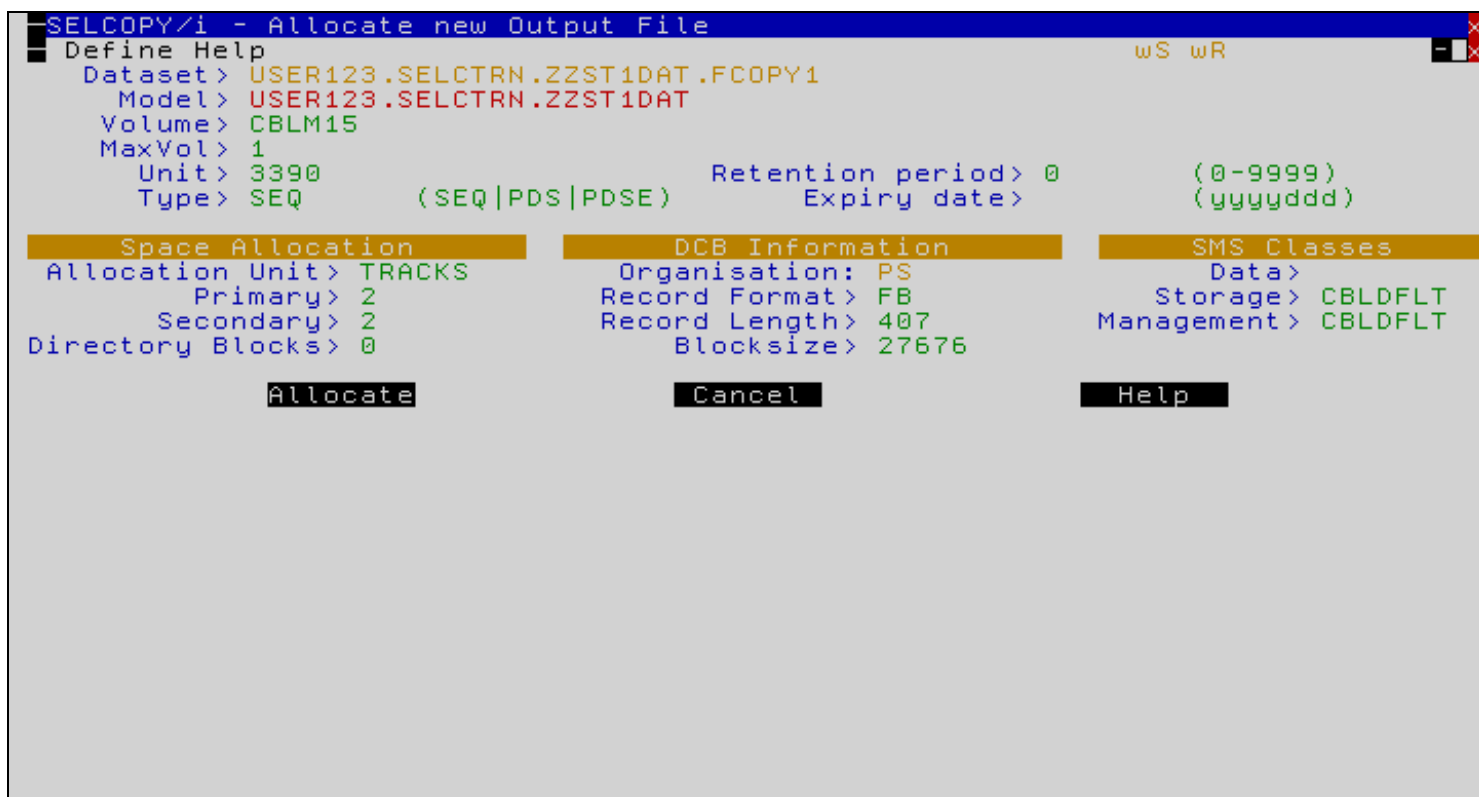


Figure 104. FileKit - Allocate new Non-VSAM file.

Copying PDS/PDSE Library members

- Specify the *Input File*:
 - ◆ Type **userpfx.SELCTRN.ZZST5DAT** in the *DSN/Path Mask* field, where *userpfx* is your own user prefix.
 - ◆ Type **TRACK02*** in the *Member Mask* field.
- Specify the *Output File*:
 - ◆ Type **userpfx.SELCTRN.ZZST5DAT.FCOPY1** in the *DSN/Path* field.
- Press **ENTER** to continue.

```

SELFCOPY/i - File Copy
File Help JCL Command          wS wR
Command>                      Scroll> Csr
ZZSGFC00                      Lines 1-21 of 21
Input PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTRN.ZZST5DAT
  Member Mask> TRACK02* + (All mask matches will be copied,
  Volume Mask>          press PF5 to view/deselect matches)

Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
  DSN/Path > USER123.SELCTRN.ZZST5DAT.FCOPY1
  Member >          - Replace existing members
  Volume >          (If output file is uncataloged)
Strip/Pad Char>          e.g. X'FF' (If copying fixed<->var length records)

Record Selection: For each input file, copy only selected records.
- Start>          + / Record _ Key _ RBA
- For>           @ # records
- Filter> @ Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
- File>          + Member>

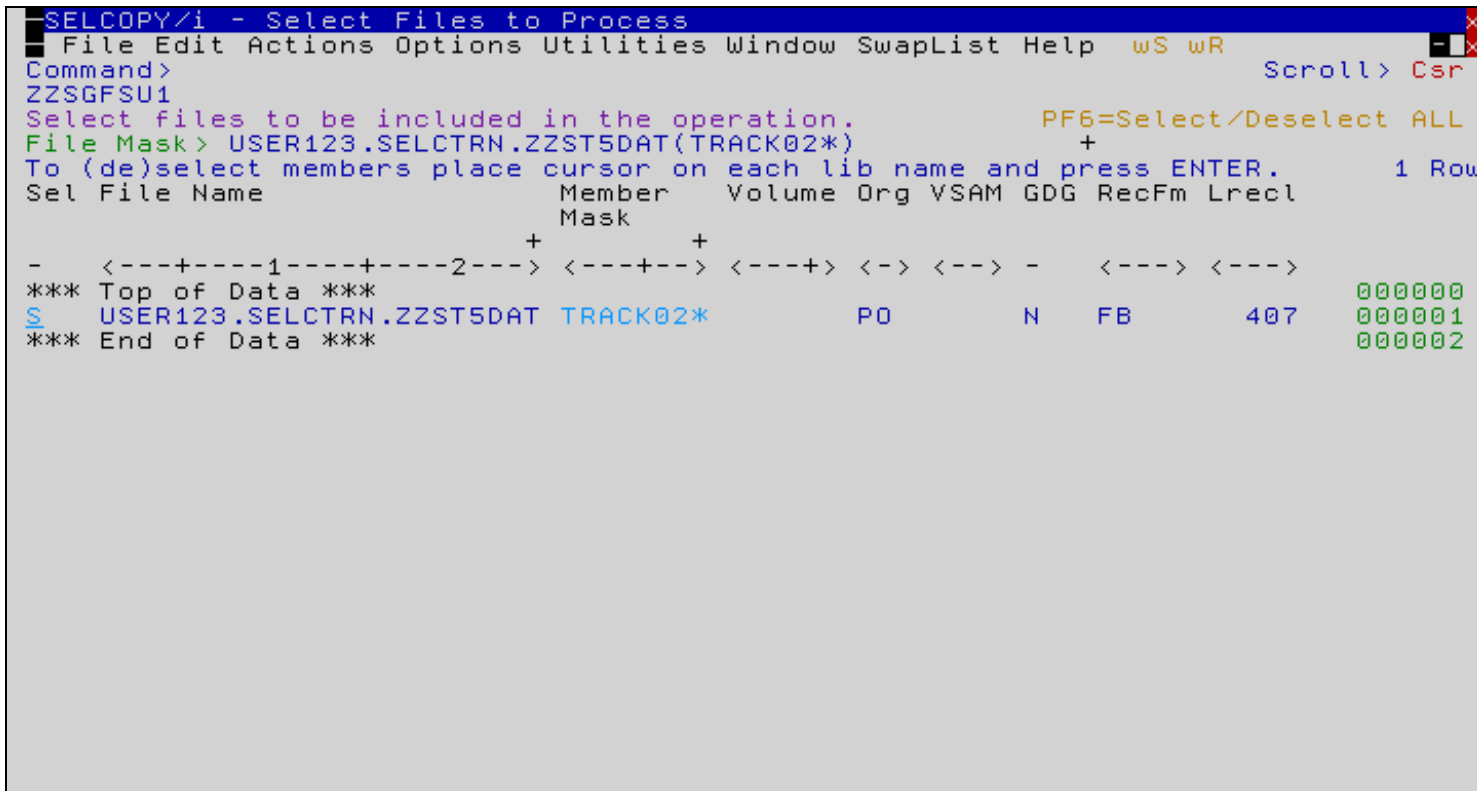
Options:
- Reformat using structure/copybook layouts _ Recurse HFS Sub-directories
- Append to existing Output _ Ignore HFS fileid case

```

Figure 105. FileKit - COPY Library Members.

Select Input Datasets List

- If the input file mask matches more than one dataset, or matches a PDS/PDSE library then a file selection list will be displayed.
- Within the dataset list, the member mask field may be overtyped to refine member selection individually for each selected library.
- Place your cursor on the library dataset then press **ENTER** to access the member selection panel if required. If the member selection panel is not accessed then all members matching the mask will be included in the copy process.



```

SELCOPY/i - Select Files to Process
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
ZZSGFSU1
Select files to be included in the operation.          PF6=Select/Deselect ALL
File Mask> USER123.SELCTRN.ZZST5DAT(TRACK02*)      +
To (de)select members place cursor on each lib name and press ENTER.      1 Row
Sel File Name          Member      Volume Org VSAM GDG RecFm Lrecl
                        Mask
-  <---+-----1-----+-----2---> <---+---> <---+> <-> <--> -  <---> <--->
*** Top of Data ***
S  USER123.SELCTRN.ZZST5DAT TRACK02*          PO          N   FB          407      000001
*** End of Data ***                               000002
  
```

Figure 106. FileKit - Select Input Library.

Select input Members

- Individual members may be selected/deselected for copy from this screen.
- Initially **ALL** members are selected, but you may press **F5/F6** to toggle back and forth between all files being selected or deselected.
- Further selection/deselection may be made by manually overtyping the *Sel* column for each individual entry.
- The sample screen shot below shows members **TRACK020** and **TRACK023** only selected for copy.

```

SELCOPY/i - Select Input Members
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
ZZSGFSU2
Select members to be included in the operation.          PF6=Select/Deselect ALL
Member Mask> TRACK02*
Select Members to process.
Sel Member      Alias Created      LastMod      Cursize Inisize TTR      Us      4 Rows
- <---+---> - <---+---> <---+---1---+> <---+> <---+> <---+> <---
*** Top of Data ***
S TRACK020 N                                0          0  0000F5  000001
- TRACK021 N                                0          0  0000F6  000002
- TRACK022 N                                0          0  0000F7  000003
S TRACK023 N                                0          0  0000F8  000004
*** End of Data ***
  
```

Figure 107. FileKit - Select Input Members.

Allocate New Output Library

- Press **F3** to return to the File Copy panel once all selections have been made, then press **ENTER** to continue with the copy.
- You will then be prompted to allocate your new output library.

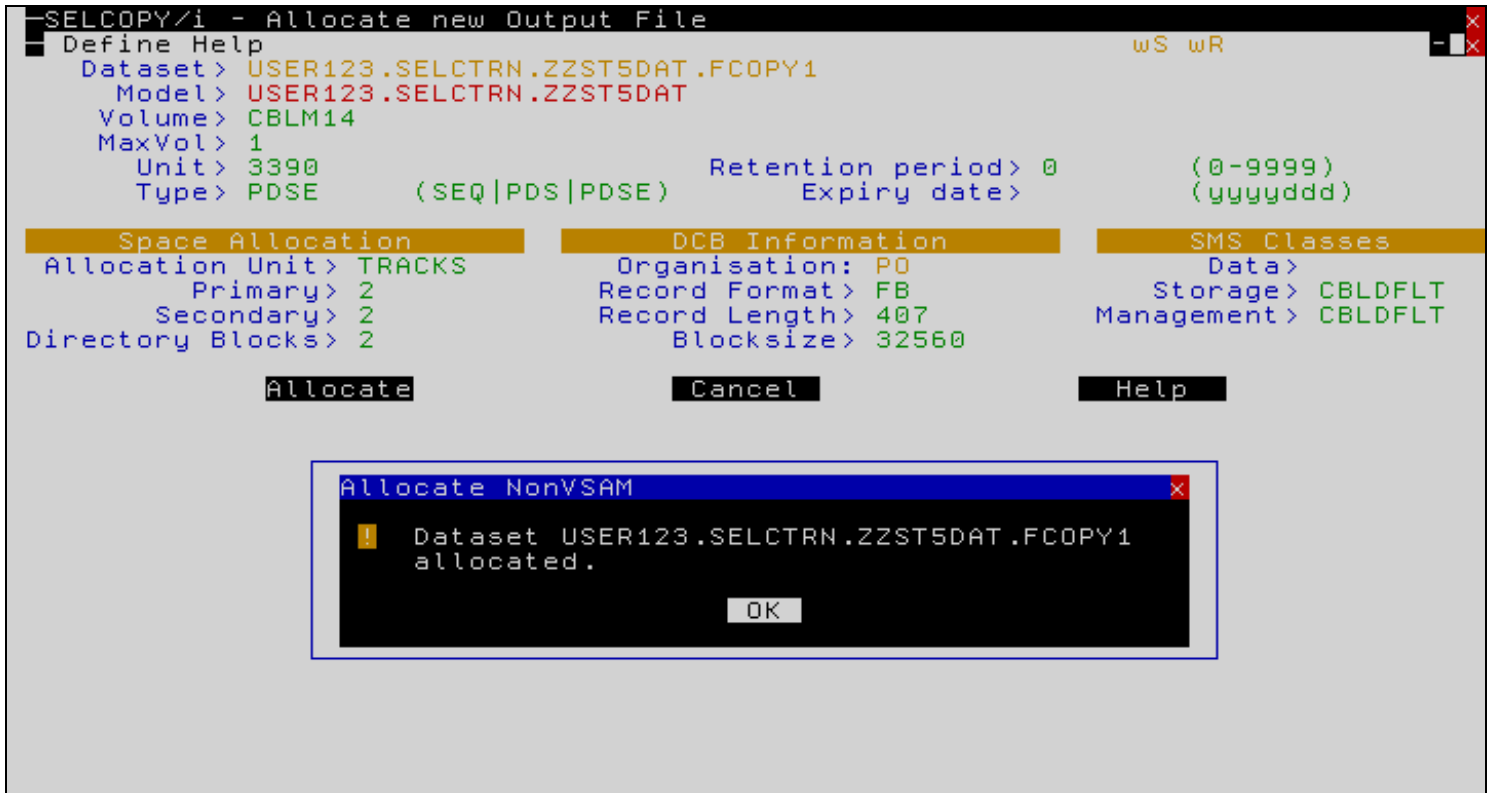


Figure 108. FileKit - Allocate New Output Library.

PDS Copy Statistics

- A summary message and the PDS Copy Statistics list are displayed once the copy process has completed.
- For each member processed the **Action** column will contain one of the following:

Action	Meaning
Copied	The member was copied to the output library.
Replaced	The member replaced an existing version in the output library.
*NoRepl	The member already existed in the output library, and the <i>Replace existing members</i> option was not selected.

- You may type the **TEXT** primary command or select the "Text" menu bar item to create a temporary text-edit document containing the statistics information.

```

-SELCPY/i - FSU - PDS Copy Statistics
View Refresh Back Forward FDB Text Help
Command>
-Member- -Action- AliasOf- Truncated RemapError
TRACK020 Copied
TRACK023 Copied

List Action
! ZZSW039W The following message(s) were generated by the last action:
ZZSD356I FCOPY Summary: COPY - 7 records from 2 file(s). 0 Remap
Errors. 0 I/O Errors.
OK

Line 1 of 2 | Col 1 of 47 | Views 1 | select * sort Member

```

Figure 109. FileKit - PDS Copy Statistics.

Record Selection

- Specify the *Input File*:
 - ◆ Type **userpfx.SELCTRN.ZZST2DAT** in the *DSN/Path Mask* field, where *userpfx* is your own user prefix.
- Specify the *Output File*:
 - ◆ Type **userpfx.SELCTRN.ZZST2DAT.ESDS1** in the *DSN/Path* field.

```

SELFCOPY/i - File Copy
File Help JCL Command          wS wR
Command>                        Scroll> Csr
ZZSGFC00                        Lines 1-21 of 21
Input PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTRN.ZZST2DAT
  Member Mask>
  Volume Mask>
Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
  DSN/Path > USER123.SELCTRN.ZZST2DAT.ESDS1
  Member >
  Volume >
Strip/Pad Char> e.g. X'FF'
Record Selection: For each input file, copy only selected records.
- Start>
- For> @ # records
- Filter> Q Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
  File>
Options:
- Reformat using structure/copybook layouts _ Recurse HFS Sub-directories
- Append to existing Output _ Ignore HFS fileid case
  
```

Figure 110. FileKit - Record Selection Intro.

Browse Input File

- In order to assist with record selection its very helpful to peek at the file you wish to select from.
- From the File Copy panel press **F19 (Shift-F7)** to **browse** the input file.
- We will initially select to copy records 16 to 20.

```

SELCOPY/i - Browse USER123.SELCTR.N.ZZST2DAT      268 V SEQ
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Press PF4 for Utilities menu including point/shoot options
Record type: UnMapped      Variable(0,268) Offset=0 Data elements=1
      Length UnMapped
      <---+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----
00000001      71 1Adele
00000002      71 221
00000003     268 3CB12DD714D51828C00A208CRolling In the Deep
00000004     268 32648A25633D1540400B208ERumour Has It
00000005     268 39815923C6D2E683000C208GTurning Tables
00000006     268 37D003FF752074C1800D208IDon't You Remember
00000007     268 3AED739D8574AA4C500E209ASet Fire to the Rain
00000008     268 3E755BCE1CF5CDEA700F209CHe Won't Go
00000009     268 36798C2AB0AFB257100G209ETake It All
00000010     268 3962B35D1647DE75E00H209GI'll Be Waiting
00000011     268 3D8A6C8FDC280217700I209IOne and Only
00000012     268 32502515DEB53501001{210ALovesong
00000013     268 3E374BE6EE7C86B1D01A210CSomeone Like You
00000014     268 3D4EB4EBF4651EF2001B210EI Found a Boy (Bonus Track)
00000015     268 3CEC92B1BA3204A0A01C210GAdele 21 - A Track By Track Interview
00000016      71 1Alabama Shakes
00000017      71 2Boys &#38; Girls
00000018     268 36D4C2C7BA7E0159300A416IHold On
00000019     268 3E241B09CC251C38600B417AI Found You
00000020     268 3E74C16BCB319870C00C417CHang Loose
00000021     268 3214ED5D95B84533C00D417ERise to the Sun
00000022     268 30E421AFCD141D22D00E417GYou Ain't Alone
00000023     268 3FF47FB9E05DE896700F417IGoin' to the Party
00000024     268 35D46C681552440BF00G418AHeartbreaker
Se | Line=0 | Col=1 | Alt=0,0;0 | Size>228 | Recl=268 | Fmt=V | Files=1 | Views

```

Figure 111. FileKit - Browse Input File.

Specifying Start Record / Number of Records to Copy

- Press **F3** to return to the File Copy panel.
- In the **Record Selection** section, activate the *Start* option by entering a / in the left margin field.
- Enter the start record number **16** in the *Start* field.
- Ensure that the *Record/Key/RBA* selectable option to the right is set to **Record**. This switch indicates the type of *Start* value provided.

Option	Meaning
Record	Start value is a record number. Value may be specified using 1234 or X'1234' notation.
Key	Start value is a VSAM KSDS key or partial key. Value may be specified using xxxx, 'xxxx', C'xxx' or X'1234' notation.
RBA	Start value is a VSAM ESDS/KSDS relative byte address (RBA). Value may be specified using 1234 or X'1234' notation.

- Activate the *For* option by entering a / in the left margin field.
- Enter the number of records to copy **5** in the *For* field.
- Press **ENTER** to continue.

```

SELFCOPY/i - File Copy
File Help JCL Command
Command>
ZZSGFC00
Input PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTR.N.ZZST2DAT
  Member Mask>
  Volume Mask>
Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
  DSN/Path > USER123.SELCTR.N.ZZST2DAT.ESDS1
  Member >
  Volume >
Strip/Pad Char> e.g. X'FF'
Record Selection: For each input file, copy only selected records.
 / Start> 16
 / For> 5 # records
- Filter> Q Select records to copy. (F=File; Q=Quick)
  File>
Options:
- Reformat using structure/copybook layouts
- Append to existing Output
  Recurse HFS Sub-directories
  Ignore HFS fileid case
  
```

Figure 112. FileKit - Start Record/For.

Choose New Output File Access Method

- The *Dataset Organisation* input field will automatically be primed to match the input file, **N** for a **Non-VSAM** standard sequential file in this case.
- But we wish to create a VSAM ESDS, so enter **E** instead.
- Press **ENTER** to continue.

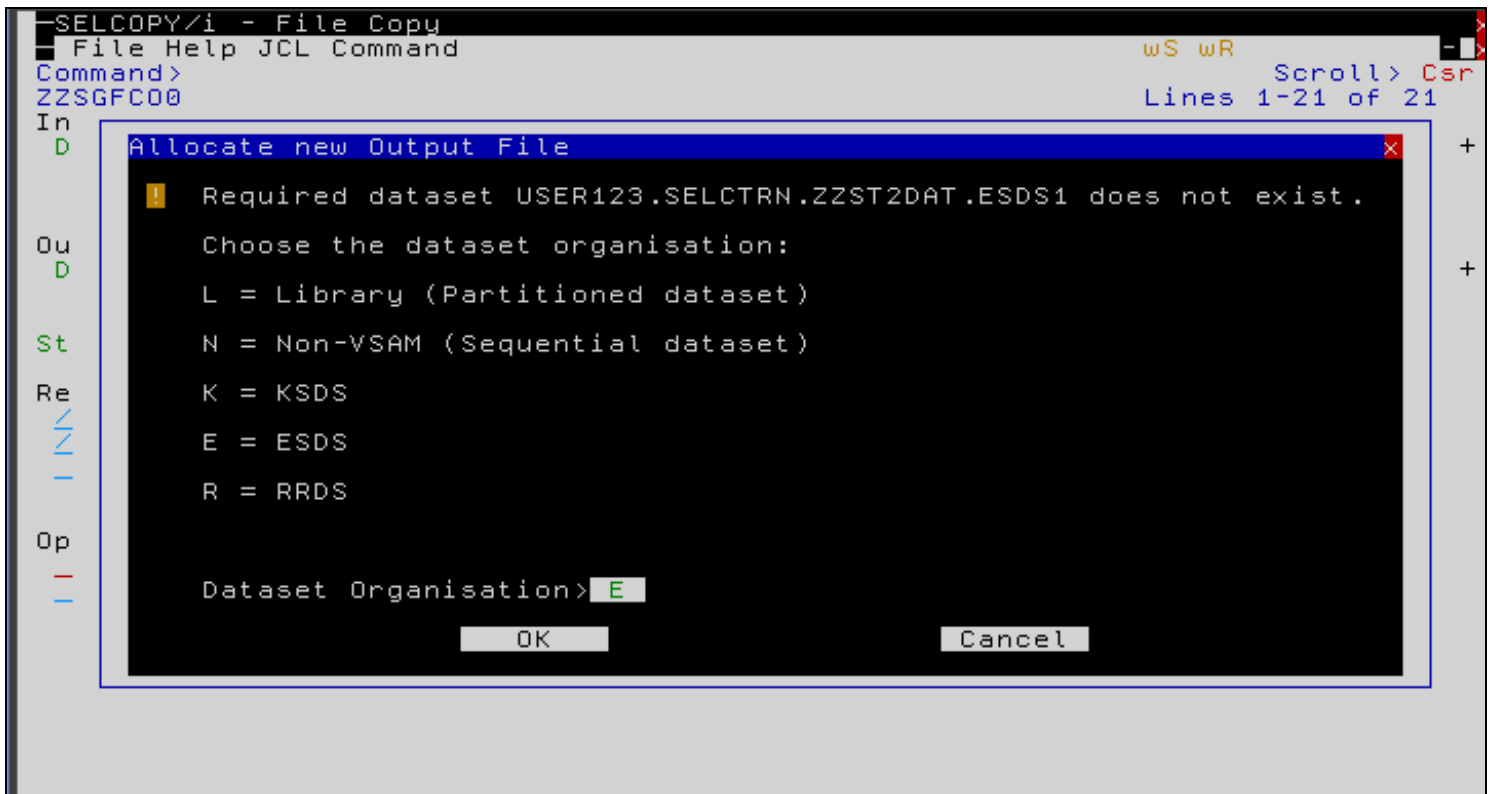


Figure 113. FileKit - SDE LOCATE field.

Define New VSAM Output File

- The Define ESDS dialog will be displayed next allowing you to enter various details for your new file.
- Initial values will NOT be primed using the input file as a model since, in this case, it is not of a compatible type.
- You may overwrite any of the values displayed in green, and/or enter an alternative model dataset then press ENTER to retrieve its details.
- Enter the value **268** in the *Avg rec len* field.
- Enter the value **268** in the *Max rec len* field.
- Select the **Define** button to create the file (note that pressing ENTER the first time will place the cursor on the **Define** button).
- A message box will appear confirming the new file has been created.

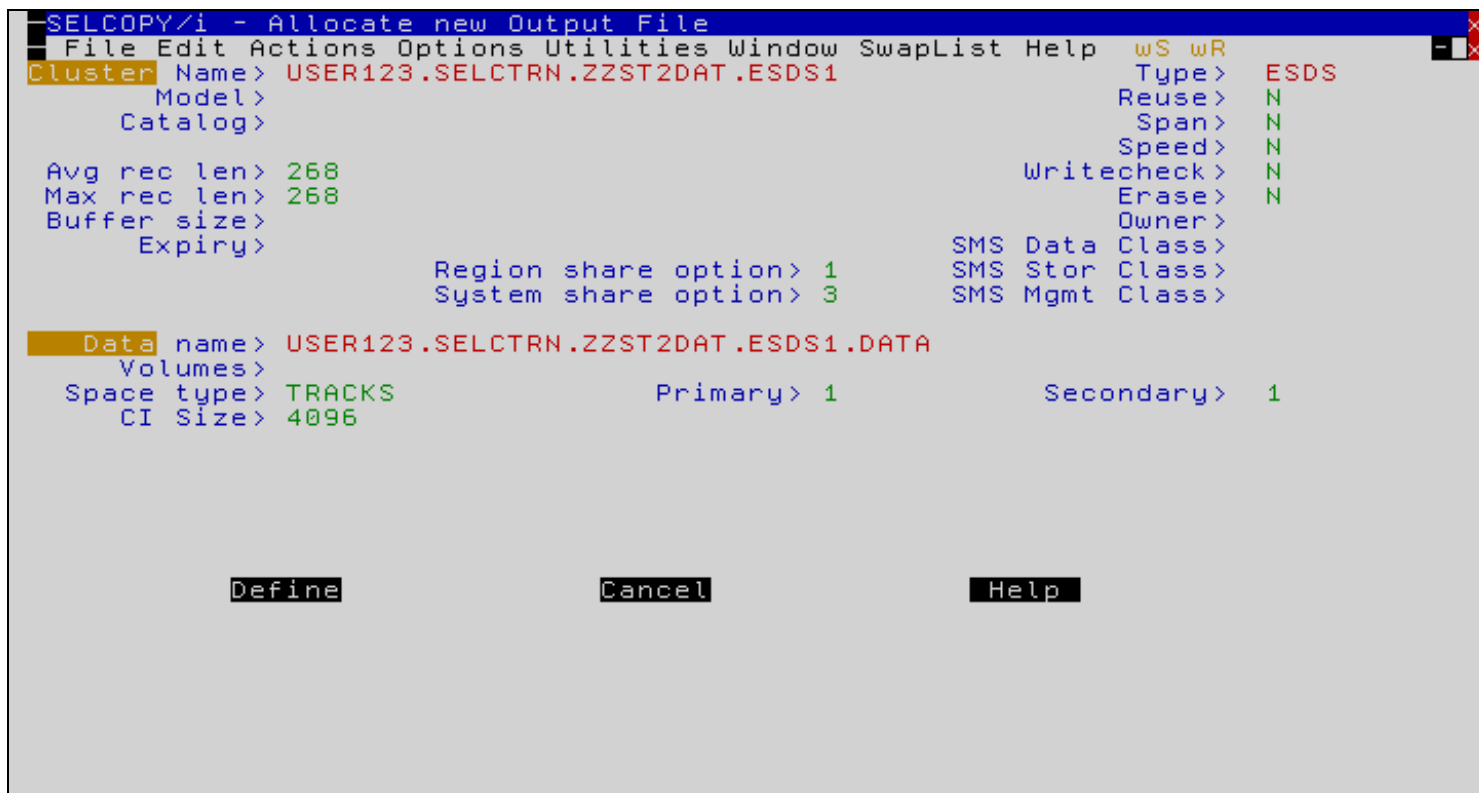


Figure 114. FileKit - Define ESDS.

Copy Summary Message

- Press **F3** to return to the File Copy dialog.
- Press **ENTER** to continue with the copy process.
- For large file copies a progress window will be displayed, indicating how many records have so far been read, selected etc.
- You may use the **3270 Attention key** to interrupt the copy process. But remember to first unlock the keyboard by pressing the **3270 Reset key**. Please consult your 3270 emulator's keyboard settings/help if you're unsure of which physical keys are mapped to these 3270 functions.
- A summary message (detailing the number of records copied etc), will be displayed once the copy process has completed.

```

SELFCOPY/i - File Copy
File Help JCL Command          wS wR
Command>                               Scroll> Csr
ZZSD485I FCOPY Summary: COPY - 5 record(s) selected (of 20 read) from 1
file(s). 0 Remap Errors. 0 I/O Errors.
DSN/Path Mask> USER123.SELCTRN.ZZST2DAT
Member Mask> _____ + (All mask matches will be copied,
Volume Mask> _____ press PF5 to view/deselect matches)

Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
DSN/Path      > USER123.SELCTRN.ZZST2DAT.ESDS1
Member        > _____ - Replace existing members
Volume        > _____ (If output file is uncataloged)
Strip/Pad Char> _____ e.g. X'FF' (If copying fixed->var length records)

Record Selection: For each input file, copy only selected records.
 / Start> 16 + / Record _ Key _ RBA
 / For> 5 # records
- Filter> Q Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
 File> _____ + Member> _____

Options:
- Reformat using structure/copybook layouts _ Recurse HFS Sub-directories
- Append to existing Output _ Ignore HFS fileid case

```

Figure 115. FileKit - Summary message.

Browse the Output File (F20)

- From the File Copy panel you may press **F20 (Shift-F8)** to **browse** the output file.

```

SELCPY/i - Browse USER123.SELCTRN.ZZST2DAT.ESDS1 407 V ESDS
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Press PF4 for Utilities menu including point/shoot options
Record type: UnMapped Variable(0,407) Offset=0 Data elements=1
Length UnMapped
<---+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----
00000001 71 1Alabama Shakes
00000002 71 2Boys &#38; Girls
00000003 268 36D4C2C7BA7E0159300A416IHold On
00000004 268 3E241B09CC251C38600B417AI Found You
00000005 268 3E74C16BCB319870C00C417CHang Loose
00000006 *** End of Data ***

Se | Line=0 | Col=1 | Alt=0,0;0 | Size=5 | Recl=407 | Fmt=V | Files=1 | Views=0

```

Figure 116. FileKit - Browse Output File (F20).

Using a FILTER to Select Records for Copy

You may wish to select records for copy based on specific selection criteria.

For example, to copy only the first 7 records that contain '3' in record position 1, and the string 'BLUES' anywhere in the record,

- Update the *Output File*:
 - ◆ Type `userpfx.SELCTRN.ZZST2DAT.ESDS2` in the *DSN/Path* field.
- In the **Record Selection** section, activate the *Filter* option by entering a `/` in the left margin field.
- Enter **Q** (Quick Filter) in the *Filter* field.
- The *Start* and *For* fields may be used to restrict records eligible for selection by the filter, but for our example these options should be deactivated.

```

SELCOPY/i - File Copy
File Help JCL Command          wS wR
Command>                        Scroll> Csr
ZZSGFC00                        Lines 1-21 of 21
Input PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTRN.ZZST2DAT
  Member Mask>
  Volume Mask>
Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
  DSN/Path > USER123.SELCTRN.ZZST2DAT.ESDS2
  Member >
  Volume >
Strip/Pad Char> e.g. X'FF'
Record Selection: For each input file, copy only selected records.
- Start>
  For> @ # records
  / Filter> Q Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
  File>
Options:
- Reformat using structure/copybook layouts - Recurse HFS Sub-directories
- Append to existing Output - Ignore HFS fileid case
  
```

Figure 117. FileKit - Specify Quick Filter.

Specifying Simple FILTER Selection Criteria

- Enter **7** in the *Limit* field to restrict the number of records selected.
- Enter **I** in the *Type* field to specify that selected records should be **included** in the copy process.
- Enter **1** into the *Position* column of table row 1 (this is the default).
- Enter **1** into the *Length* column.
- Enter **=** (equals) into the *ROp* (Relational Operator) column (this is the default).
Alternatively enter blank to get a list of available operators from which you may make your selection (by placing the cursor and pressing ENTER).
- Enter **3** into the *Value* column.
- Replicate table entry line 1 by typing **R** into the table prefix area (000001).
The *AND/OR* column will automatically set to **AND**.
- Enter **1** into the *Position* column of inserted table row 2 (this is the default).
- Enter **0** into the *Length* column of inserted table row 2 (this is the default). A length value of zero has a special meaning indicating the length of data from the start position to end of the record.
- Enter **<<** (which means "contains") into the *ROp* (Relational Operator) column of inserted table row 2.
- Enter **blues** into the *Value* column.
 - ◆ For simple case-insensitive character strings there is no need to add quotes (this will be done automatically).
 - ◆ You may specify the string using **C'ABCD'** notation if case-sensitivity is required.
 - ◆ Hex strings may be specified using **X'1234'** notation.

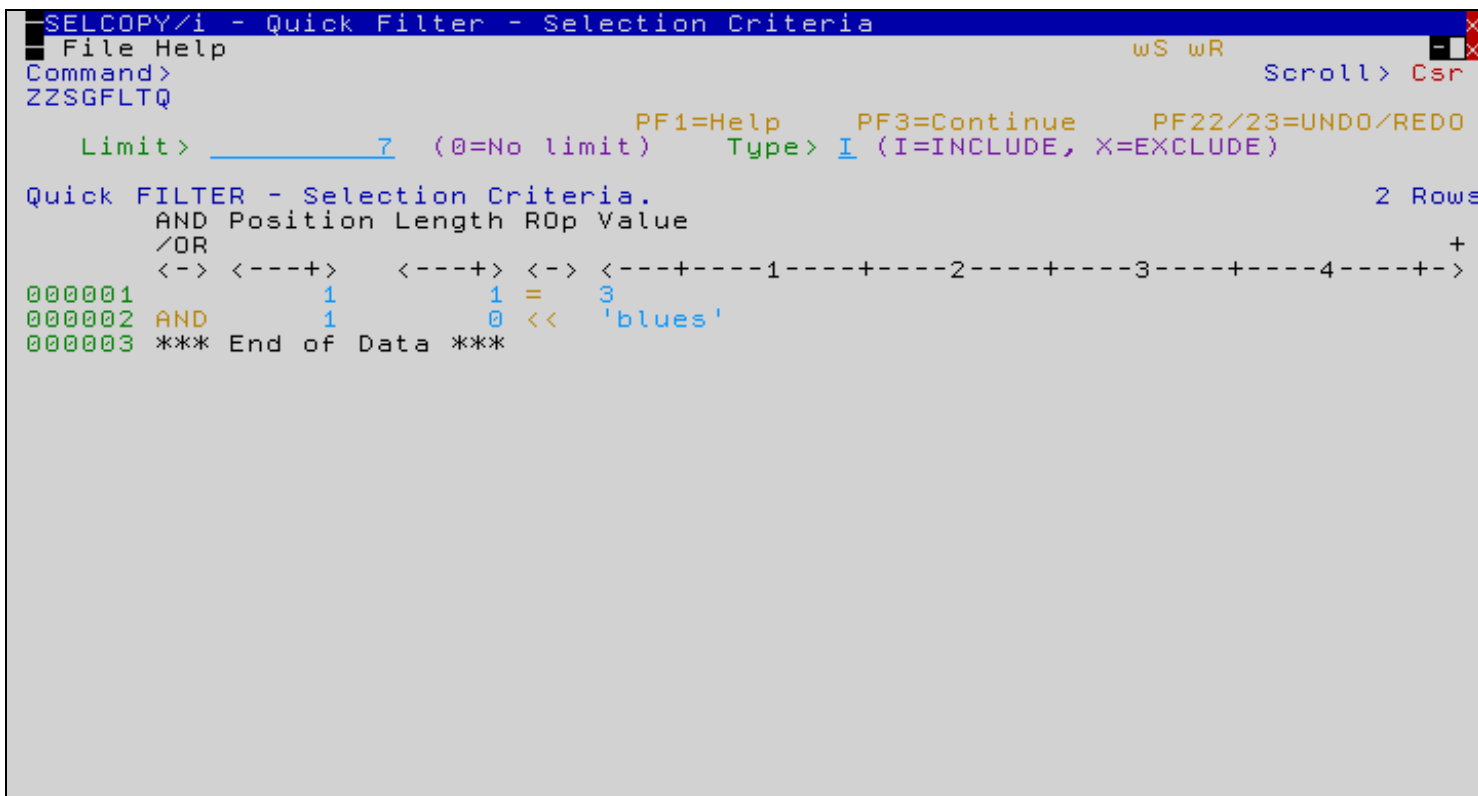


Figure 118. FileKit - Quick Filter.

Filtered Copy Summary Message

- Press **F3** to return to the File Copy dialog.
- Press **F6** (FILTER) should you wish to review/modify your filter selection criteria.
- Press **ENTER** to continue with the copy process. You will be prompted to create your new output file once again. You should choose to create another ESDS, entering the name of the ESDS created in the **previous example** as a model.
- Press **F3** to return to the File Copy dialog again, then press **ENTER** to continue with the copy process.
- A summary message (detailing the number of records selected etc), will be displayed once the copy process has completed.

```

SELFCOPY/i - File Copy
File Help JCL Command          wS wR
Command>                      Scroll> Csr
ZZSD485I FCOPY Summary: COPY - 7 record(s) selected (of 1072 read) from 1
file(s). 0 Remap Errors. 0 I/O Errors.
DSN/Path Mask> USER123.SELCTRN.ZZST2DAT
Member Mask> _____ + (All mask matches will be copied,
Volume Mask> _____ press PF5 to view/deselect matches)

Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
DSN/Path   > USER123.SELCTRN.ZZST2DAT.ESDS2
Member     > _____ - Replace existing members
Volume     > _____ (If output file is uncataloged)
Strip/Pad Char> _____ e.g. X'FF' (If copying fixed<->var length records)

Record Selection: For each input file, copy only selected records.
- Start> _____ + / Record _ Key _ RBA
  For> _____ @ # records
  Filter> @ Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
  File> _____ + Member> _____

Options:
- Reformat using structure/copybook layouts _ Recurse HFS Sub-directories
- Append to existing Output _ Ignore HFS fileid case

```

Figure 119. FileKit - Filtered Copy Summary Message.

Browse Output File

When you press **F20 (Shift-F8)** to browse the output file you should expect to see the following.

```

SELCPY/i - Browse USER123.SELCTRN.ZZST2DAT.ESDS2      268 V ESDS
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Press PF4 for Utilities menu including point/shoot options
Record type: UnMapped  Variable(0,268) Offset=0 Data elements=1
      Length UnMapped
      <---+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----
00000001      268 37CB7FD20ADBE19AD00E211GBourgeoisie Blues
00000002      268 3079FF06C1501FB9600D797IRoman Wall Blues
00000003      268 30EED324BEE2DD30100B438ADown Payment Blues
00000004      268 3924DD5148CDEF39F00H421ESubterranean Homesick Blues
00000005      268 32AF08B93888AEE8700F303AEveryday I Have the Blues (Live)
00000006      268 3FD4B86E2C95D53CF00H369AGus's Blues (Intro)
00000007      268 30C9E4EB0FF13BF8800B370CKilling the Blues
00000008      *** End of Data ***

Se | Line=0 | Col=1 | Alt=0,0;0 | Size=7 | Recl=268 | Fmt=V | Files=1 | Views=0

```

Figure 120. FileKit - Browse Output File.

Specifying brackets in the FILTER expression.

Multiple **AND/OR** conditions may be defined through the filter definition panel, but complex bracketed expressions may only be specified by manually modifying the FCOPY command generated by the panel.

For example, to select records based on the following complex filter criteria:

```
where position 1 = '3'
and
(   record contains "BLUES"           anywhere
  or record contains "ROCK 'N' ROLL" anywhere
  or record contains "SOUL"          anywhere
)
```

- Update the *Output File*:
 - ◆ Type **userpfx.SELCTRN.ZZST2DAT.ESDS3** in the *DSN/Path* field.
- Press **F6** (FILTER) to enter the filter definition panel.
- Type in the conditions as depicted in the following screen shot.

```
SELFCOPY/i - Quick Filter - Selection Criteria
File Help                                     wS wR
Command>                                     Scroll> Csr
ZSSGFLTQ
Limit> _____ @ (0=No limit)             PF1=Help   PF3=Continue   PF22/23=UNDO/REDO
Type> I (I=INCLUDE, X=EXCLUDE)
Quick FILTER - Selection Criteria.             4 Rows
AND Position Length ROp Value
/OR
<-> <---+>   <---+> <-> <---+---1---+---2---+---3---+---4---+>
000001          1          1 = 3
000002 AND          1          0 << c'Blues'
000003 OR          1          0 << "Rock 'n' Roll"
000004 OR          1          0 << c"Soul"
000005 *** End of Data ***
```

Figure 121. FileKit - Filter: Multiple Selection Criteria.

Generate FCOPY primary command

Press **F3** to return to the File Copy panel, then select item **Command** from the top menu bar.

You will be prompted once again to define your new output file (you should use the **previous sample** as the model dataset), following which the generated FCOPY primary command will be displayed in a text edit window (in a format suitable for point-and-shoot execution using the **ACTION**) key, which by default is **F16** (Shift-F4).

```

SELCOPY/i - USER123.SELCOPYI.SQL.D2013023.T1509371.CMX 80 F SEQ Size=17
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
<----+----1----+----2----+----3----+----4----+----5----+----6----+----7--
000001 < sd FCOPY
000002 (
000003 'USER123.SELCTRN.ZZST2DAT '
000004 )
000005 USER123.SELCTRN.ZZST2DAT.ESDS3
000006
000007 filter
000008 (
000009 include record
000010 where (
000011 substr(record, 1 , 1 ) = 3
000012 and substr(record, 1 ) << c'Blues'
000013 or substr(record, 1 ) << "Rock 'n' Roll"
000014 or substr(record, 1 ) << c"Soul"
000015 )
000016 )
000017 |||
000018 * * * End of File * * *

```

Te | Line=1 | Col=1 | Alt=0,0;0 | Size=17 | Recl=80 | Fmt=F | Files=2 | Views=2

Figure 122. FileKit - Generated Command.

Modify/Execute Generated FCOPY primary command

Brackets may now be added to the filter expression as required.

Although the filter expression is fairly free format, care must be taken to maintain a **backslash (\)** character in the right-most position of any newly added lines (the backslash character indicates that the command is continued on the following line). The recommended approach would be to replicate, then modify existing lines rather than to insert new ones.

The modified FCOPY command may then be executed simply by placing your cursor on the first line of the command (beginning with the **less-than (<)** sign), then pressing the **ACTION** key, which by default is **F16** (Shift-F4).

You may also want to consider copying the generated command into your **HOME file**, saving it there for future repeat executions.

```

SELCPY/i - USER123.SELCOPYI.SQL.D2013023.T1509371.CMX 80 F SEQ Size=19x
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
<----+----1----+----2----+----3----+----4----+----5----+----6----+----7---
000001 < sd FCOPY
000002 (
000003 'USER123.SELCTRN.ZZST2DAT '
000004 )
000005
000006 USER123.SELCTRN.ZZST2DAT.ESDS3
000007
000008 filter
000009 (
000010 include record
000011 where ( substr(record, 1 , 1 ) = 3
000012 and
000013 ( substr(record, 1 ) << c'Blues'
000014 or substr(record, 1 ) << "Rock 'n' Roll"
000015 or substr(record, 1 ) << c"Soul"
000016 )
000017 )
000018 )
000019 ||||| End of File |||||
000020 * * * End of File * * *

```

Te | Line=1 | Col=1 | Alt=4,4;4 | Size=19 | Recl=80 | Fmt=F | Files=2 | Views=2

Figure 123. FileKit - Modified Command.

Browse Output from Generated Command Window

You may wish to browse your output file before exiting (and discarding precious changes to) your generated FCOPY command. One handy way to do this is to:

1. Type the command **DSN B** on the command line (but do not press ENTER).
2. Place your cursor on the name of the dataset that you wish to browse, within the generated FCOPY command.
3. Press **ENTER**.

Alternatively, type the command **DSN** (without the **B**rowse option) to get a drop-down list of available utility functions including edit, delete and rename.

```

SELFCOPY/i - Browse USER123.SELCTRN.ZZST2DAT.ESDS3 268 V ESDS
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command>
00000000 *** Top of Data ***
Record type: UnMapped Variable(0,268) Offset=0 Data elements=1
Length UnMapped
<--+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----
00000001 268 37CB7FD20ADBE19AD00E211GBourgeoisie Blues
00000002 268 3079FF06C1501FB9600D797IRoman Wall Blues
00000003 268 31ED550900D5C62FD00A433GIt's A Long Way To The Top (If You Wann
00000004 268 306A9FB72A6AE79C100B433IRock 'n' Roll Singer
00000005 268 35524E0900D7B3C7900E143GSoul Stripper
00000006 268 33A2C9735E5A7641800A437IRock 'N' Roll Damnation
00000007 268 30EED324BEE2DD30100B438ADown Payment Blues
00000008 268 3924DD5148CDEF39F00H421ESubterranean Homesick Blues
00000009 268 32AF08B93888AEE8700F303AEveryday I Have the Blues (Live)
00000010 268 3DE36E78FD678857800C340ASoulmate
00000011 268 347E5BE872D4779C900D175ESoulmate
00000012 268 3FD4B86E2C95D53CF00H369AGus's Blues (Intro)
00000013 268 30C9E4EB0FF13BF8800B370CKilling the Blues
00000014 268 39D4FF395C75680EA00C189ARunaway Train
00000015 268 3988EE8137A14CDE000C382ILife and Soul
00000016 268 3A02159C78BD2DB0800A428IHey, Soul Sister
00000017 268 3EF3024088704CFF500C405GWalking In the Shadow of the Blues
00000018 *** End of Data ***
Se | Line=0 | Col=1 | Alt=0,0;0 | Size=17 | Recl=268 | Fmt=V | Files=1 | Views=

```

Figure 124. FileKit - Browse Filtered Output File.

Reformat

The **FCOPY** utility may also be used to reformat records as they are copied to the output file.

Reformat requires use of two, similar but not identical, structures that define the layout of the input and output records, with each output field being sourced from the corresponding input field of the same name (within the same record-type).

Input and output fields for any given record-type may (but need not necessarily) be:

- in a different order
- a different length
- a different data-type

Additionally fields may exist in either input or output without existing in the other.

- Specify the *Input File*:
 - ◆ Type **userpfx.SELCTRN.ZZST1DAT** in the *DSN/Path Mask* field, where *userpfx* is your own user prefix.
- Specify the *Output File*:
 - ◆ Type **userpfx.SELCTRN.ZZST1DAT.FCOPY2** in the *DSN/Path* field.
- Select *Reformat using structure/copybook layouts* from the **Options** section of the FCOPY panel.

```

SELCOPY/i - File Copy
File Help JCL Command          wS wR
Command>                      Scroll> Csr
ZZSGFCO0                      Lines 1-21 of 21
Input PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTRN.ZZST1DAT
  Member Mask> _____ + (All mask matches will be copied,
  Volume Mask> _____   press PF5 to view/deselect matches)

Output PDS/PDSE Library, Sequential, VSAM DSN or HFS path:
  DSN/Path      > USER123.SELCTRN.ZZST1DAT.FCOPY2
  Member        > _____ - Replace existing members
  Volume        > _____ (If output file is uncataloged)
Strip/Pad Char> _____ e.g. X'FF' (If copying fixed->var length records)

Record Selection: For each input file, copy only selected records.
  - Start> _____ + / Record _ Key _ RBA
  - For>   @ # records
  - Filter> @ Select records to copy. (F=File; Q=Quick) PF6=Edit Filter
  - File>  _____ + Member> _____

Options:
  / Reformat using structure/copybook layouts _ Recurse HFS Sub-directories
  - Append to existing Output                _ Ignore HFS fileid case
  
```

Figure 125. FileKit - Reformat 1.

Specify Input Copybook

- Press **ENTER** to proceed to the **File Reformat** panel.
- Specify the *Input Structure/Copybook File*:
 - ◆ Type **userpfx.SELCTRN.SAM1** in the *Dsn* field, to specify the PDS library containing the supplied COBOL/PL1 copybook. If wildcards are specified then a dataset list will be displayed from which you can make a selection.
 - ◆ Type **ZZST1CPC** in the *Member* field (for COBOL installations).
Type **ZZST1CPP** in the *Member* field (for PL1 installations).
If wildcards are specified then a member list will be displayed from which you can make a selection.
 - ◆ Check the *Type* option for *Cobol* or *PL1* as appropriate for your installation.
- Do **NOT** press **ENTER** yet!

```

SELCOPY/i - File Reformat
File Help JCL Command
Command>
ZZSGFC00

Input Structure/Copybook overlay:  Recompile> N
Dsn> USER123.SELCTRN.SAM1          Member> ZZST1CPC
Type:  _ SDO      _ AData  / COBOL  _ PL1

Output Structure/Copybook overlay:  Recompile> N
Dsn>                               Member>
Type:  _ SDO      _ AData  / COBOL  _ PL1

1. Help (PF1)      2. Execute (ENTER)  3. Back (PF3)      4. Exit (PF15)
  
```

Figure 126. FileKit - Input Copybook.

Use Input Copybook as Model

We'll now create an output copybook using a selection of the fields from the input copybook, but in a different order, and with some of the fields shortened.

- Press **F22 (Shift-F10)** to browse the input copybook. You should see that it has 18 records as below (assuming COBOL installation).
- Type **GO E** to switch from browse mode to text-edit.

```

SELCPY/i - Browse USER123.SELCTR.N.SAM1(ZZST1CPC) 80 F PDS
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Press PF4 for Utilities menu including point/shoot options
Record type: UnMapped Fixed(80) Offset=0 Data elements=1
UnMapped
<---+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7
00000001 01 TRACK .
00000002 05 PERSISTENT-ID PIC X(016).
00000003 05 TRACK-NUM PIC 9(003).
00000004 05 TRACK-ID PIC 9(004).
00000005 05 NAME PIC X(120).
00000006 05 ARTIST PIC X(070).
00000007 05 ALBUM PIC X(070).
00000008 05 TOTAL-TIME PIC 9(007) BINARY.
00000009 05 FILE-SIZE PIC 9(009) BINARY.
00000010 05 BIT-RATE PIC 9(004) BINARY.
00000011 05 SAMPLE-RATE PIC 9(005) PACKED-DECIMAL.
00000012 05 YEAR PIC 9(004).
00000013 05 NORMALIZATION PIC S9(005) PACKED-DECIMAL.
00000014 05 DISC-NUMBER PIC 9(003).
00000015 05 ALBUM-ARTIST PIC X(041).
00000016 05 RELEASE-DATE PIC X(020).
00000017 05 DATE-ADDED PIC X(020).
00000018 05 DATE-MODIFIED PIC X(020).
00000019 *** End of Data ***

Se | Line=0 | Col=1 | Alt=0,0;0 | Size=18 | Recl=80 | Fmt=F | Files=1 | Views=0

```

Figure 127. FileKit - Browse Input Copybook.

Create Output Copybook

- Move **05** field **ARTIST** following **01 TRACK**, and change **PIC X(070)** to **PIC X(020)**.
- Move **05** field **ALBUM** following **05 ARTIST**, and change **PIC X(070)** to **PIC X(024)**.
- Move **05** field **TRACK-NUM** following **05 ALBUM**.
- Move **05** field **NAME** following **05 TRACK-NUM**.
- Delete all other lines following **05 NAME**.
- Type **CREATE ZZSP1CPC** on the command line, but do NOT press ENTER.
- Make a mental note that total record length defined by the copybook is **167** (i.e. the sum of all the field lengths 20+24+3+120).
- Type **C*** in the prefix area of line 1 of the file, then press **ENTER**. to create the new member.

```

SELCPY/i - USER123.SELCTRN.SAM1(ZZST1CPC) 80 F PDS Size=5 Alt=7,7;7
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command> cre zzsp1cpc
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000000 * * * Top of File * * *
c*
000002      01 TRACK
000002      05 ARTIST          PIC X(020).
000003      05 ALBUM          PIC X(024).
000004      05 TRACK-NUM     PIC 9(003).
000005      05 NAME          PIC X(120).
000006 * * * End of File * * *

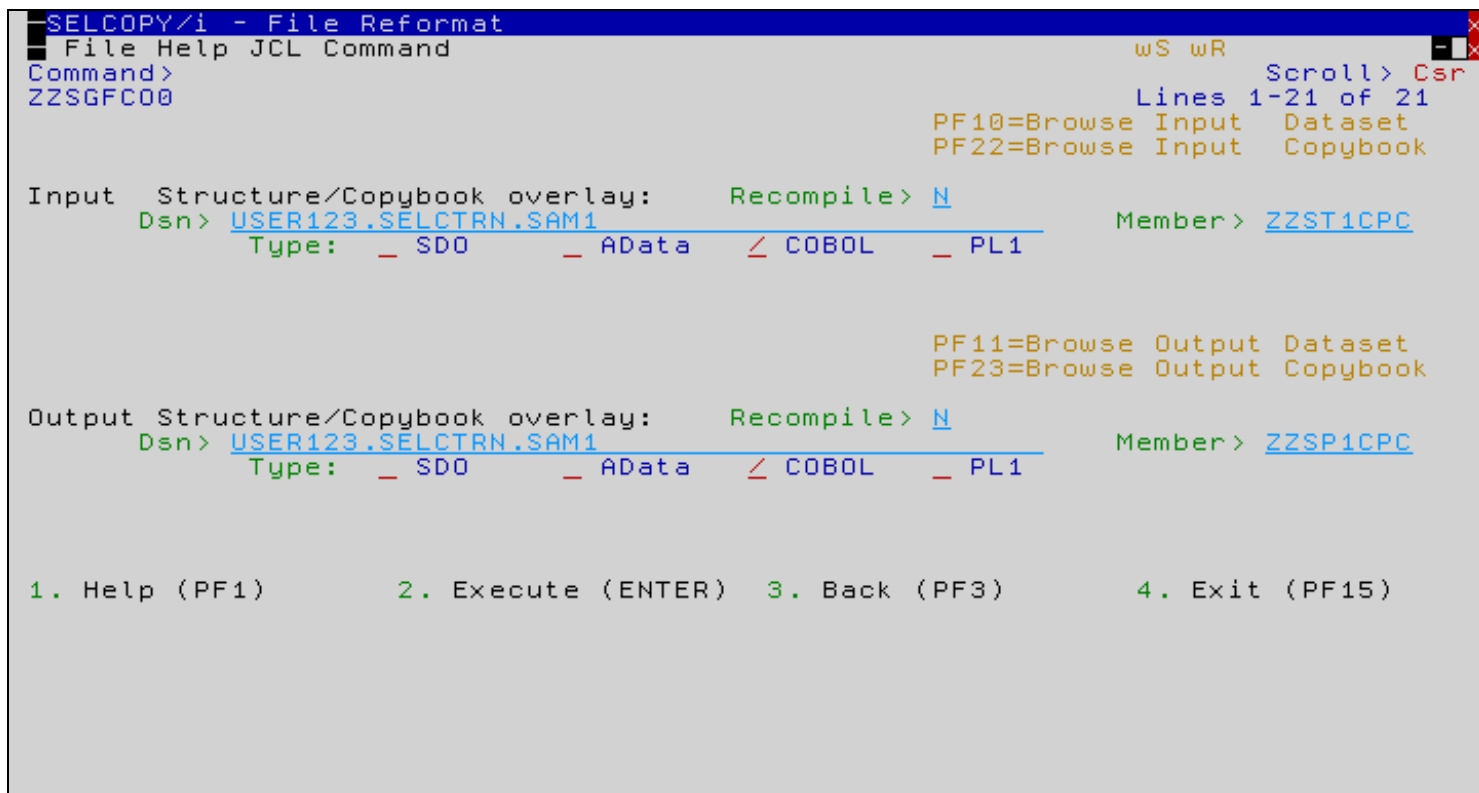
```

Te | Line=0 | Col=1 | Alt=7,7;7 | Size=5 | Recl=80 | Fmt=F | Files=2 | Views=2

Figure 128. FileKit - Create Output Copybook.

Specify Output Copybook

- Type **CANCEL** to discard changes to the input copybook and return to the File Reformat panel.
- Specify the *Output Structure/Copybook File*:
 - ◆ Type **userpfx.SELCTRN.SAM1** in the *Dsn* field.
 - ◆ Type **ZZSP1CPC** in the *Member* field (assuming COBOL installation).
 - ◆ Check the *Type* option for *Cobol* or *PL1* as appropriate for your installation.



```

SELCOPY/i - File Reformat
File Help JCL Command
Command>
ZZSGFC00
wS wR
Scroll> Csr
Lines 1-21 of 21
PF10=Browse Input Dataset
PF22=Browse Input Copybook

Input Structure/Copybook overlay: Recompile> N
Dsn> USER123.SELCTRN.SAM1 Member> ZZST1CPC
Type: _ SDO _ AData / COBOL _ PL1

PF11=Browse Output Dataset
PF23=Browse Output Copybook

Output Structure/Copybook overlay: Recompile> N
Dsn> USER123.SELCTRN.SAM1 Member> ZZSP1CPC
Type: _ SDO _ AData / COBOL _ PL1

1. Help (PF1) 2. Execute (ENTER) 3. Back (PF3) 4. Exit (PF15)

```

Figure 129. FileKit - Specify Output Copybook.

Execute Reformat

- Press **ENTER** to execute the reformat.
- You will be prompted to create you new output file, which should be allocated with **record length 167 (fixed) (and block size 0)**.
- A summary message will be displayed on completion.
- Press **F20 (Shift-F8)** to browse the output file in formatted mode.

```

SELFCOPY/i - Browse USER123.SELCTRN.ZZST1DAT.FCOPY2 using USER123.SELCTRN.SAM1
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
Use CHAR/MAP/VFMT/UNFMT to switch view mode. Press PF4 for Utilities menu.
Record type: TRACK Fixed(167) Offset=0 Data elements=5
ARTIST ALBUM TRACK-NUM NAME
#2 #3 #4 #5
AN 1:20 AN 21:24 ZD 45:3 AN 48:120
<---+---1---+---> <---+---1---+---2---> <-> <---+---1---
00000001 Adele 21 1 Rolling In the
00000002 Adele 21 2 Rumour Has It
00000003 Adele 21 3 Turning Tables
00000004 Adele 21 4 Don't You Reme
00000005 Adele 21 5 Set Fire to th
00000006 Adele 21 6 He Won't Go
00000007 Adele 21 7 Take It All
00000008 Adele 21 8 I'll Be Waitin
00000009 Adele 21 9 One and Only
00000010 Adele 21 10 Lovesong
00000011 Adele 21 11 Someone Like Y
00000012 Adele 21 12 I Found a Boy
00000013 Adele 21 13 Adele 21 - A T
00000014 Alabama Shakes Boys &#38; Girls 1 Hold On
00000015 Alabama Shakes Boys &#38; Girls 2 I Found You
00000016 Alabama Shakes Boys &#38; Girls 3 Hang Loose
00000017 Alabama Shakes Boys &#38; Girls 4 Rise to the Su
00000018 Alabama Shakes Boys &#38; Girls 5 You Ain't Alon
00000019 Alabama Shakes Boys &#38; Girls 6 Goin' to the P
00000020 Alabama Shakes Boys &#38; Girls 7 Heartbreaker
00000021 Alabama Shakes Boys &#38; Girls 8 Boys &#38; Gir
00000022 Alabama Shakes Boys &#38; Girls 9 Be Mine
Se | Line=0 | Col=1 | Alt=0,0,0 | Size>334 | Recl=167 | Fmt=F | Files=1 | Views
    
```

Figure 130. FileKit - Browse Formatted Output.

Updating the Output Copybook (1)

- Press **F3** to return to the File Reformat panel.
- Press **F23 (Shift-F11)** to browse the output copybook.
- Type **GO E** to switch from browse mode to text-edit.

```

SELCPY/i - Browse USER123.SELCTRN.SAM1(ZZSP1CPC) 80 F PDS
File Edit Actions Options Utilities Window SwapList Help wS wR Scroll> Csr
Command> go e
Press PF4 for Utilities menu including point/shoot options
Record type: UnMapped Fixed(80) Offset=0 Data elements=1
UnMapped
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7
00000001 01 TRACK
00000002 05 ARTIST PIC X(020).
00000003 05 ALBUM PIC X(024).
00000004 05 TRACK-NUM PIC 9(003).
00000005 05 NAME PIC X(120).
00000006 *** End of Data ***
Se | Line=0 | Col=1 | Alt=0,0;0 | Size=5 | Recl=80 | Fmt=F | Files=1 | Views=0

```

Figure 131. FileKit - Browse Output Copybook.

Updating the Output Copybook (2)

- Update 05 field **ARTIST** changing **PIC X(020)** to **PIC X(010)**.
- Update 05 field **ALBUM** changing **PIC X(024)** to **PIC X(010)**.
- Update 05 field **NAME** changing **PIC X(120)** to **PIC X(050)**.
- Make a mental note that total record length defined by the copybook is now **73** (i.e. the sum of all the field lengths 10+10+3+50).
- Press **F3** and save your changes before returning to the File Reformat panel.

The screenshot shows a FileKit window titled "SELCPY/1 - USER123.SELCTRN.SAM1(ZZSP1CPC)" with a menu bar including "File Edit Actions Options Utilities Window SwapList Help". The main area displays a copybook with the following content:

```

Command>
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000000 * * * Top of File * * *
000001      01 TRACK
000002      05 ARTIST                PIC X(010).
000003      05 ALBUM                 PIC X(010).
000004      05 TRACK-NUM             PIC 9(003).
000005      05 NAME                   PIC X(050).
000006 * * * End of File * * *

```

A dialog box titled "CBLEEDIT Close" is overlaid on the screen, asking: "Do you want to save the changes to file USER123.SELCTRN.SAM1(ZZSP1CPC)?" with "Yes", "No", and "Cancel" buttons.

The status bar at the bottom shows: Te | Line=0 | Col=1 | Alt=3,3;3 | Size=5 | Recl=80 | Fmt=F | Files=2 | Views=2

Figure 132. FileKit - Update Output Copybook.

Force Recompile of Updated Output Copybook (1)

If your structure/copybook file-id refers to a COBOL, PL1 or ADATA source file (not an SDO) then a compile step must be performed in order to turn the source copybook into FileKit's own internal structure (SDO) format.

A temporary SDO will be created, lasting the duration of the FileKit session, making subsequent reference to the same copybook during the session much faster by bypassing the compile stage.

If, however as in our case, the output copybook (or any of its included components) should be modified during the session, then a recompile of the source will normally be required.

For performance reasons **Recompile> N** (meaning no recompile should occur) is the default.

Specify **Recompile> Y** to force a copybook recompile each time the reformat process is executed.

Alternatively type the primary command:

```
SD DROP copybook_name
```

- Enter **Y** in the **Recompile** field for the Output Copybook.
- Press **ENTER** to repeat the reformat, using the updated copybook.

```

SELCOPY/i - File Reformat
File Help JCL Command
Command>
ZZSGFC00
wS wR
Scroll> Csr
Lines 1-21 of 21
PF10=Browse Input Dataset
PF22=Browse Input Copybook

Input Structure/Copybook overlay:  Recompile> N
Dsn> USER123.SELCTR.N.SAM1          Member> ZZST1CPC
Type:  _ SDO      _ AData  / COBOL  _ PL1

PF11=Browse Output Dataset
PF23=Browse Output Copybook

Output Structure/Copybook overlay:  Recompile> Y
Dsn> USER123.SELCTR.N.SAM1          Member> ZZSP1CPC
Type:  _ SDO      _ AData  / COBOL  _ PL1

1. Help (PF1)      2. Execute (ENTER)  3. Back (PF3)      4. Exit (PF15)

```

Figure 133. FileKit - Recompile=YES.

Force Recompile of Updated Output Copybook (2)

- Press **F20 (Shift-F8)** to browse the output file in formatted mode.
- Note that the **=LGTH>** flag appears in the prefix area for each record. This is expected, alerting you that the output record (the original fixed length=167) does not match the new version of the mapped record-type (length=73).

```

SELFCOPY/i - Browse USER123.SELCTRN.ZZST1DAT.FCOPY2 using USER123.SELCTRN.SAM1
File Edit Actions Options Utilities Window SwapList Help  wS wR  Scroll> Csr
Command>
Use CHAR/MAP/VFMT/UNFMT to switch view mode.      Press PF4 for Utilities menu.
Record type: TRACK      Fixed(73) Offset=0 Data elements=5
  ARTIST      ALBUM      TRACK-NUM  NAME
  #2          #3          #4 #5
AN 1:10      AN 11:10      ZD 21:3  AN 24:50
<---+-----> <---+-----> <-> <---+-----1-----+-----2-----+-----3-----+-----
=LGTH> Adele      21              1 Rolling In the Deep
=LGTH> Adele      21              2 Rumour Has It
=LGTH> Adele      21              3 Turning Tables
=LGTH> Adele      21              4 Don't You Remember
=LGTH> Adele      21              5 Set Fire to the Rain
=LGTH> Adele      21              6 He Won't Go
=LGTH> Adele      21              7 Take It All
=LGTH> Adele      21              8 I'll Be Waiting
=LGTH> Adele      21              9 One and Only
=LGTH> Adele      21             10 Lovesong
=LGTH> Adele      21             11 Someone Like You
=LGTH> Adele      21             12 I Found a Boy (Bonus Track)
=LGTH> Adele      21             13 Adele 21 - A Track By Track Interview
=LGTH> Alabama Sh Boys &#38; 1 Hold On
=LGTH> Alabama Sh Boys &#38; 2 I Found You
=LGTH> Alabama Sh Boys &#38; 3 Hang Loose
=LGTH> Alabama Sh Boys &#38; 4 Rise to the Sun
=LGTH> Alabama Sh Boys &#38; 5 You Ain't Alone
=LGTH> Alabama Sh Boys &#38; 6 Goin' to the Party
=LGTH> Alabama Sh Boys &#38; 7 Heartbreaker
=LGTH> Alabama Sh Boys &#38; 8 Boys &#38; Girls
=LGTH> Alabama Sh Boys &#38; 9 Be Mine
Se | Line=0 | Col=1 | Alt=0,0;0 | Size>334 | Recl=167 | Fmt=F | Files=1 | Views

```

Figure 134. FileKit - Browse Formatted Output 2.

Running File Copy/Reformat in Batch

- The File Copy/Reformat utility may also be run in batch, by selecting JCL from the panel menu bar.
- After typing the **SUB** primary command to submit the generated JCL deck, you will have the option to allow FileKit to automatically guide you into SDSF (starting a new ISPF split screen) in order to view the output.

```

SELFCOPY/i - USER123.SELCOPYI.SQL.D2013023.T1615254.JCL      80 F SEQ      Size=22x
File Edit Actions Options Utilities Window SwapList Help  wS wR      Scroll> Csr
Command>
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 //USER123S JOB ,,CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID
000002 //*
000003 //* SELFCOPY/i 3.2B (C)2012 Compute(Bridgend) Ltd UK +44(1656)652222
000004 //* JCL for: ZZSGFC00 SDE FCOPY Basic File Copy.
000005 //* Created by: USER123 2013/01/23 16:15:25
000006 //*
000007 //SELC0001 EXEC PGM=SDEAMAIN,REGION=0M
000008 //STEPLIB DD DISP=SHR,DSN=CBL.CBLI320.EXE
000009 // DD DISP=SHR,DSN=CBL.CBLI310.EXE
000010 //ZZSUSERI DD DISP=SHR,DSN=USER123.CBLI.INI
000011 //SDEPRINT DD SYSOUT=*
000012 //SDEIN DD *
000013 FCOPY
000014 (
000015 'USER123.SELCTRN.ZZST1DAT '
000016 )
000017 using cobol USER123.SELCTRN.SAM1(ZZST1CPC)
000018
000019 USER123.SELCTRN.ZZST1DAT.FCOPY2
000020 using cobol USER123.SELCTRN.SAM1(ZZSP1CPC)
000021
000022 /*
000023 * * * End of File * * *

```

Te | Line=1 | Col=1 | Alt=0,0;0 | Size=22 | Recl=80 | Fmt=F | Files=2 | Views=2

Figure 135. FileKit - Generated Batch Job.

Option 6 - File Search/Update/Copy/Reformat (FSU)

The File Search/Update/Copy/Reformat utility allows you to:

- Globally search and optionally update multiple sequential, PDS/PDSE, GDG, HFS and/or VSAM data sets.
- Restrict PDS/PDSE library search/update/copy:
 - ◆ to members with names that match a member name mask
 - ◆ to members satisfying directory element selection criteria e.g. select on timestamp, size, userid etc or any combination.
 - ◆ to members selected by one or more previous searches.
- Specify an output file to which **all** input records will be copied regardless of whether record data has been changed.
- Apply a filter in order to restrict search/update/copy to records matching specific selection criteria.
- Search and optionally update uncataloged data sets by generic volume id.
- Specify the start record for search/update/copy operations.
- Restrict the number of records read for search/update/copy operations.
- Restrict the search/update operation to specific columns within the file records.
- Apply a **structure** (copybook) overlay to format **input** file records.
- Optionally restrict search/update to records assigned to specific record types, and specific fields within those record-types.
- For **Formatted File Search/Update**, optionally specify an output file **and** output structure (copybook) to reformat input record fields (i.e. alter field data type, re-order and/or delete fields).
- Update character data using different length search and update CHANGE strings.
- Control use of blank padding or blank absorption when character search and update CHANGE strings are of different length. Note that the CHANGE operation will fail if the length of the updated record is greater than the file's maximum record length.

Following File Search/Update/Copy/Remap execution, report output is generated in a structured format suitable for presentation to the user in an SDE window view.

During execution, a progress window is displayed which allows the user to interrupt processing at any point using the **Attention key**.

The File Search/Update (FSU) Panel

The FSU panel may be started using any of the following methods:

- Select option **6** from the **FileKit** Primary Option Menu (=).
- At any primary command prompt type **=6**.
- At any primary command prompt type **FSU**.
- From any dataset, library or HFS path list window, use the **F** line-command.

Searching a PDS/PDSE Library

```

SELCOPY/i - FSU: Basic File Search
File Help JCL Command                               wS wR
Command>                                           Scroll> Csr
ZZSGFSU@                                           Lines 1-21 of 21
PDS/PDSE Library, Sequential, VSAM DSN mask or HFS path mask:
  DSN/Path Mask> USER123.SELCTRN.ZZST5DAT          +
  Member Mask>                                     + (All mask matches will be searched,
  Volume Mask>                                     press PF5 to view/modify selection list)
  HFS Options> _ Recurse Sub-directories.          _ Ignore fileid case.

Search Options:      FIND command applied to selected input records.
  Op> EQ           Relational operator. (Enter "/" for list)
  String> 'blues'
  Bounds> 1 (Start Column) 0 (End Column) 0=>Start Column only.
  As> / Unrestricted _ Word _ Prefix _ Suffix

Record Selection:   For each input file, search only selected records.
  Start>
  For> 0 # records
  Filter> 0 Filter selected records. (F=File; Q=Quick) PF6=Edit Filter
  File> Member>

Extended File Search/Update/Copy/Remap Tasks:
  Enter "/" to display a list of extended FSU utility tasks.
  
```

Figure 136. FSU - File Search/Update (FSU) Panel (=5)

To follow the demonstration use the panel to search the supplied sample library for a the character string **"blues"** (case-insensitive).

- Specify the *Input Library*:
 - ◆ Type **userpfx.SELCTRN.ZZST5DAT** in the *DSN/Path Mask* field, where *userpfx* is your own user prefix.
 - ◆ The *Member Mask* field may be left blank in order to search all members of the input library. Alternatively type "" or a member mask of your choice.
 - ◆ The *Volume Mask* field should be left blank in this case, otherwise the input dataset list will be restricted to files residing on matching volumes only.
- Specify the *Search Options*:
 - ◆ Enter **EQ** in the *Relational Operator (Op)* field.
 - ◆ Type **blues** in the *String* field.
 - ◇ For simple case-insensitive character strings there is no need to add quotes (this will be done automatically).
 - ◇ You may specify the string using **C'ABCD'** notation if case-sensitivity is required.
 - ◇ Hex strings may be specified using **X'1234'** notation.
 - ◆ Enter **0** in the *Limit* field in order to display **all hits** in each member. Alternatively, enter **1** to display the first hit only.
- Press **ENTER** to run the search. For operations lasting more than a second, a progress window will be displayed with the report in the background, (continually updating at one second intervals).
- Long running processes may be interrupted by pressing the **Attention key**.

Search Report Output (Standard 80-column Screen Width)

Following execution, the structured report output file is displayed as a formatted table view, with search matches displayed under the heading:

Record type: Hit

- The first record (Record type: Command) displays the following fields:

Field	Description
Timestamp	The date/time of execution.
Command	The FSU primary command generated by the panel.

- The second record (Record type: Summary) among other fields displays the following:

Field	Description
RecordsTot	The number of records processed.
FilesTot	The number of files/members processed.
Hits	The number of occurrences of the search value encountered.
RecordsHit	The number of records encountered with at least once occurrence of the search value.
FilesHit	The number of files/members encountered with at least once occurrence of the search value.

- For library searches on standard 80-column screens, view of the Hit records is restricted to two columns:

Field	Description
zMember	The name of the hit library member. zMember is a held field, meaning it will remain visible when the display is scrolled right.
zRecord	The contents of the hit record.

```

SELFCOPY/i - Edit USER123.SELCFSU.T103716.RPT using USER123.SELCFSU.T103716
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> Scroll> Csr
Record type: Command Fixed(315) Offset=0 Data elements=4
Timestamp Command
<---+---1---+---> <---+---1---+---2---+---3---+---4---+---5---+---
2013/02/25 10:37:16 FSU input ( 'USER123.SELCTRN.ZZST5DAT ( TRACK001 TRACK002 T

Record type: Summary Variable(51,52) Offset=0 Data elements=14
RunType RecordsTot FilesTot Hits RecordsHit FilesHit RemapErrs
<---+---> <---+---> <---+---> <---+---> <---+---> <---+--->
FIND 1070 25 8 8 6 0

Record type: Hit Variable(47,454) Offset=0 Data elements=13
zMember zRecord
<---+---> <---+---1---+---2---+---3---+---4---+---5---+---6---+---7
TRACK002 0EED324BEE2DD30100B438ADown Payment Blues
TRACK002 0C9E4EB0FF13BF8800B370CKilling the Blues
TRACK003 EF3024088704CFF500C405GWalking In the Shadow of the Blues
TRACK004 079FF06C1501FB9600D797IRoman Wall Blues
TRACK005 7CB7FD20ADBE19AD00E211GBourgeoisie Blues
TRACK006 2AF08B93888AEE8700F303AEveryday I Have the Blues (Live)
TRACK008 924DD5148CDEF39F00H421ESubterranean Homesick Blues
TRACK008 FD4B86E2C95D53CF00H369AGus's Blues (Intro)
*** End of Data ***

---- Press PF1 for Help, PF6 to edit file at cursor line ----
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=10 | Recl=454 | Fmt=V | Files=1 | Views=
    
```

Figure 137. FSU - Search Report

Displaying Additional Hit Information Fields

To view additional information fields that are normally suppressed from view on a narrow screen, place the cursor on the hit record of interest then press the ZOOMW key, **F17 (Shift-F5)**.

The chosen hit record will be displayed individually, in a separate **single-record (zoomed) format** window with the following additional fields made visible.

Field	Description
zDsn	The library dataset name.
zRecNo	The hit record number.
zHitNo	The hit record number within the file/member.
zLrecl	The logical record length of the hit record.
zHits	The number search value occurrences within this hit record.

Press **F3** to return to the table view.

```

SELCPY/i - Edit  USER123.SELCFSU.T103716.RPT:2 using USER123.SELCFSU.T103716
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
Record type: Hit  Variable(47,454) Offset=0 Data elements=13
Record> 00000009  Flags: f          Length: 454

Field          <---+---1---+---2---+---3---+---4---+---5---+---6
3 zDsn         USER123.SELCTRN.ZZST5DAT
3 zMember      TRACK008
3 zRecNo       14
3 zHitNo       1
3 zLrecl       407
3 zHits        1
3 zRecord      924DD5148CDEF39F00H421ESubterranean Homesick Blues
61 - 120
121 - 180          Bob Dylan
181 - 240          The Essential Bob Dylan
241 - 300          C b 200f
301 - 360          A@@@ABob Dylan
361 - 407          :00:00Z2012-08-02T14:08:36Z2012-08-02T14:13:20Z

--- Press PF1 for Help, PF6 to edit file at cursor line ---
Se | Line=9 | Col=1 | Alt=0,0;0 | Size=10 | Recl=454 | Fmt=V | Files=1 | Views=
    
```

Figure 138. FSU - Search Report (Zoomed)

Using F6 to edit the Hit File/Record

From the report table-view, you may place your cursor on any **Hit** record, then press **F6** to edit the hit file. The edit view will be automatically scrolled in order to place the hit record at the top of the screen.

This feature may be adjusted using the **Settings->List (=0.5)** panel to select the required action:

Option	Action
Edit	Text Editor (Edit)
View	Text Editor (Read-only)
Browse	Data Editor (read-only)
SDE	Data Editor (Full Edit)
SDEU	Data Editor (Update-in-place)
None	No Action

The screen below shows the display after pressing **F6** from the table view with the cursor on the first hit from member **TRACK008**

```

SELCOPY/i - USER123.SELCTRN.ZZST5DAT(TRACK008) 407 F PDSE Size=76 AltX
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
<---+----1----+----2----+----3----+----4----+----5----+----6----+----7----
00014 924DD5148CDEF39F00H421ESubterranean Homesick Blues
00015 A5DCEE01334C978100H427ANot Dark Yet
00016 77122BAF414692C100H218EI Wish I Were Blind
00017 581F8F3BFE2255DA00H222EDry Lightning
00018 4BA23CA33D44938000H224IThe Brokenhearted
00019 12B8896F463EF68500H229ELoose Change
00020 021F64833305EB3300H232EMy Oklahoma Home
00021 B7108A3D38675A3600H238IBlinded By the Light
00022 DCE8E9AC177C5D5200H236CIf I Should Fall Behind
00023 705E6B8E80D761F400H240IThe Long Division
00024 10F86F5F12AAF76200H243CLoving Me 4 Me
00025 809FD6E1ECC0AD5F00H247EWarning Sign
00026 1E4259709E7E552400H415EHow Does a Duck Know?
00027 2E37AC8F0FED003200H278ETransformation
00028 0A6FBD6949EB62DF00H280IJanuary Rain
00029 E172577B0D0EF8D400H283ASilver Lining
00030 46CD09047022D8A200H286ACrashing Down
00031 87020728ED2F19BC00H288EEmpty
00032 FC844197CA33747100H291EDelayed Devotion
00033 8232305C8FBBF92700H293GI Want The World
00034 0BA50B44B05165DB00H296GBetween Two Lungs
00035 9F4E3EF9F63B3C5E00H413AOne of the Boys
00036 2AFD30D86BE2862B00H299IScraped
00037 4BC6E5B1677D896600H303EWho Did You Think I Was (Live)
00038 5713F8AAF2422ADB00H307GBetween a Laugh and a Tear
00039 230FFC80DC91F5CA00H310ADead or Alive
00040 254664C17E6213F600H312IBack Talk
Te | Line=14 | Col=1 | Alt=0,0;0 | Size=76 | Recl=407 | Fmt=F | Files=2 | Views
    
```

Figure 139. FSU - Edit Hit Member

Adjusting Report Table View

If you wish to display suppressed fields while in table view, you may use the **SELECT** primary command as depicted below.

Note that, by default, the **SELECT** command operates on the **focus record-type** (i.e. the record at the top of the screen, or at the cursor if it is placed in the file-area).

To avoid this complication add "**FROM HIT**" to your usual **SELECT** primary command. e.g.

```
select zMember,zRecNo hold, zRecord from Hit
```

Enter the **SELECT (SEL)** primary command without parameters to adjust your visible columns using an interactive dialog panel.

Alternatively, the **SEL** line-command may entered into the prefix area of any record. Although the prefix area is normally suppressed when the report is being displayed on a standard 80-column screen width, you may enter the primary command **PREFIX ON** to re-show it.

```
SELCOPY/i - Edit USER123.SELCFSU.T103716.RPT using USER123.SELCFSU.T103716
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> sel zMember,zRecNo hold, zRecord Scroll> Csr
Record type: Command Fixed(315) Offset=0 Data elements=4
Timestamp Command
<---+---1---+---> <---+---1---+---2---+---3---+---4---+---5---+---
2013/02/25 10:37:16 FSU input ( 'USER123.SELCTRN.ZZST5DAT ( TRACK001 TRACK002 T

Record type: Summary Variable(51,52) Offset=0 Data elements=14
RunType RecordsTot FilesTot Hits RecordsHit FilesHit RemapErrs
<---+---> <---+---> <---+---> <---+---> <---+---> <---+--->
FIND 1070 25 8 8 6 0

Record type: Hit Variable(47,454) Offset=0 Data elements=13
zMember zRecNo zRecord
<---+---> <---+---> <---+---1---+---2---+---3---+---4---+---5---+---
TRACK002 12 0EED324BEE2DD30100B438ADown Payment Blues
TRACK002 75 0C9E4EB0FF13BF8800B370CKilling the Blues
TRACK003 90 EF3024088704CFF500C405GWalking In the Shadow of the Blues
TRACK004 5 079FF06C1501FB9600D797IRoman Wall Blues
TRACK005 3 7CB7FD20ADBE19AD00E211GBourgeoisie Blues
TRACK006 39 2AF08B93888AEE8700F303AEveryday I Have the Blues (Live)
TRACK008 14 924DD5148CDEF39F00H421ESubterranean Homesick Blues
TRACK008 65 FD4B86E2C95D53CF00H369AGus's Blues (Intro)
*** End of Data ***

---- Press PF1 for Help, PF6 to edit file at cursor line ----
Se | Line=1 | Col=1 | Alt=0,0;0 | Size=10 | Recl=454 | Fmt=V | Files=1 | Views=
```

Figure 140. FSU - Report with Tailored SELECT

Selecting Library Members for Search/Update

At the Search/Update front panel, if input refers to a library and the **Member Mask** field is either left blank, or includes wildcard characters, then by default **all** member mask matches will be processed, without the need to confirm via a member selection list.

However, you may press the SELECT key **F5** to access the member selection list, when required.

Manual selection for individual members is made by adding/removing "S" in the **Sel** column.

Initially all members matching the mask will be selected, but this may be toggled using the **F5 (Select)** and **F6 (Deselect)** keys once the list is displayed.

```

SELFCOPY/i - Select Input Members
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>
ZZSGFSU2
Select members to be included. F5=Select All, F6=Deselect All
Library DSN: USER123.SELCTRN.ZZST5DAT
Member Mask>
Use primary commands FIND, ALL/MORE/LESS to condense member list. 25 Rows
Sel Member LastMod Created Cursize Inisize User Alias Of
- <---+---> <---+---1---+> <---+---> <---+> <---+> <---+---> <---+--->
|S| TRACK001 2013/02/21 16:47 2013/02/21 98 98 USER123 0001
|S| TRACK002 2013/02/21 16:47 2013/02/21 87 87 USER123 0002
|S| TRACK003 2013/02/21 16:47 2013/02/21 90 90 USER123 0003
|S| TRACK004 2013/02/21 16:47 2013/02/21 89 89 USER123 0004
|S| TRACK005 2013/02/21 16:47 2013/02/21 80 80 USER123 0005
|S| TRACK006 2013/02/21 16:47 2013/02/21 83 83 USER123 0006
|S| TRACK007 2013/02/21 16:47 2013/02/21 80 80 USER123 0007
|S| TRACK008 2013/02/21 16:47 2013/02/21 76 76 USER123 0008
|S| TRACK009 2013/02/21 16:47 2013/02/21 77 77 USER123 0009
|S| TRACK010 2013/02/21 16:47 2013/02/21 70 70 USER123 0010
|S| TRACK011 2013/02/21 16:47 2013/02/21 62 62 USER123 0011
|S| TRACK012 2013/02/21 16:47 2013/02/21 51 51 USER123 0012
|S| TRACK013 2013/02/21 16:47 2013/02/21 34 34 USER123 0013
|S| TRACK014 2013/02/21 16:47 2013/02/21 25 25 USER123 0014
|S| TRACK015 2013/02/21 16:47 2013/02/21 14 14 USER123 0015
|S| TRACK016 2013/02/21 16:47 2013/02/21 13 13 USER123 0016
|S| TRACK017 2013/02/21 16:47 2013/02/21 10 10 USER123 0017
|S| TRACK018 2013/02/21 16:47 2013/02/21 8 8 USER123 0018
|S| TRACK019 2013/02/21 16:47 2013/02/21 8 8 USER123 0019
F1=HELP F2=SPLIT F4=WINDOW F5=Select F6=Deselect F9=SWAP
F12=CRETRIEV F14=EXPAND F17=ZOOM F22=UNDO F23=REDO
    
```

Figure 141. FSU - Member Selection List

Condensing Selected Members by Timestamp/Size/Userid

Listed members will be **active in the Search/Update process** provided **both** of the following are true.

1. The list entry is **selected** ("S" in the **Sel** column).
2. The list entry is **not excluded**.

List entries may be **selected/deselected** as follows:

1. Individually, by entering or removing "S" from the **Sel** column.
2. On mass, by pressing **F5/F6**, which will select/deselect, all entries.
Note: **Excluded** entries are not affected by pressing F5/F6.

List entries may be **included/excluded** as follows:

1. By entering "X" and other related "line-commands" into the numeric area at the right-hand side, as if working in an edit environment.
2. Using the **ALL**, **MORE** and **LESS** primary commands with an associated selection criteria **expression**.

Option	Action
ALL	Includes only entries satisfying the expression.
MORE	Additionally includes entries satisfying the expression.
LESS	Excludes entries satisfying the expression.

- **ALL** with no parameters will re-include all list entries. **LESS** with no parameters will exclude all list entries.

Excluded entries are represented in the display by **shadow-lines**.

Type primary command **HIDE** to suppress display of shadow-lines, and **RESET HIDE (RES H)** to redisplay them.

Examples:

- To include only members whose last modified date is in the range **2010/05/01** to **2010/12/12**, type:
`all LastMod >= 2010/05/01 & LastMod < 2011`
- To exclude all members whose current size is zero records, type:
`less CurSize=0`
- To reinclude all excluded members whose last modified userid is **USER123** or begins with **USER321**, type:
`more user=user123 | user >> user321`

```

SELCPY/i - Select Input Members
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> less CurSize >= 90 or CurSize < 10 Scroll> Csr
ZZSGFSU2
Select members to be included in the operation. PF6=Select/Deselect ALL
Library DSN: USER123.SELCTR.N.ZZST5DAT
Member Mask >
Use primary commands FIND, ALL/MORE/LESS to condense member list. 25 Rows
Sel Member LastMod Created CurSize Inisize User Alias Of
- <---+---> <---+---> 1 row(s) excluded ----- 0001
|S| TRACK002 2013/02/21 16:47 2013/02/21 87 87 USER123 0002
|----- 1 row(s) excluded ----- 0003
|S| TRACK004 2013/02/21 16:47 2013/02/21 89 89 USER123 0004
| TRACK005 2013/02/21 16:47 2013/02/21 80 80 USER123 0005
| TRACK006 2013/02/21 16:47 2013/02/21 83 83 USER123 0006
| TRACK007 2013/02/21 16:47 2013/02/21 80 80 USER123 0007
| TRACK008 2013/02/21 16:47 2013/02/21 76 76 USER123 0008
| TRACK009 2013/02/21 16:47 2013/02/21 77 77 USER123 0009
| TRACK010 2013/02/21 16:47 2013/02/21 70 70 USER123 0010
| TRACK011 2013/02/21 16:47 2013/02/21 62 62 USER123 0011
| TRACK012 2013/02/21 16:47 2013/02/21 51 51 USER123 0012
| TRACK013 2013/02/21 16:47 2013/02/21 34 34 USER123 0013
| TRACK014 2013/02/21 16:47 2013/02/21 25 25 USER123 0014
| TRACK015 2013/02/21 16:47 2013/02/21 14 14 USER123 0015
|S| TRACK016 2013/02/21 16:47 2013/02/21 13 13 USER123 0016
|S| TRACK017 2013/02/21 16:47 2013/02/21 10 10 USER123 0017
|----- 8 row(s) excluded ----- 0018
*** End of Data *** 0026
    
```

Figure 142. FSU - Member Selection (ALL/MORE/LESS)

Condensing Selected Members using FIND

The FIND panel is displayed when primary command **FIND (F)** is executed from a member selection list and may be used to condense the list of selected members. Only those members that contain at least one record which satisfies the find operation are selected for subsequent processing.

Following execution of the find operation, the FIND panel remains open to allow further find/condense operations on the list of remaining members.

To follow the demonstration use the panel to pre-select members containing the string **"soul"** (case-insensitive).

- Type **soul** in the *Find string* field.
 - ◆ For simple case-insensitive character strings there is no need to add quotes (this will be done automatically).
 - ◆ You may specify the string using **C'ABCD'** notation if case-sensitivity is required.
 - ◆ Hex strings may be specified using **X'1234'** notation.
- Enter **1** in the *Limit* field in order to display the first hit only. Since the purpose of running the FIND is only to condense the member selection list for a subsequent search, then establishing the presence of more than one hit would be wasteful.
- Enter **Yes** in the *View report* field in order to display the FIND report. This will allow us to use the **F6** facility from the report to edit the hit member. Set this option to **No** if you are not interested in the detail.
- Enter **Yes** in the *Condense member list* field so that, for subsequent FSU operations, any member without at least one search match will be deleted from the selection list.

Press **ENTER** to execute the search.

```

SELCOPY/i - Select Input Members - FIND
File Help                               wS wR
Command>                                Scroll> Csr
ZZSGFSU9                                Lines 1-21 of 21

Find string      ==> 'soul'
Limit           ==> 1      Max number of hits per file/member (0=>All)
Scope          ==> CHARS  (CHARS, WORD, PREFIX, SUFFIX)
Start column    ==> 0      (0=>All columns)
End column      ==> 0      (0=>Start column only)
Start record    ==> 1
Number of records ==> 0    (0=>All)
Relational operator ==> EQ   (EQ, NE, GT, GE, LT, LE)
View report     ==> Yes    Display FSU FIND report output
Condense member list ==> Yes  Include only members containing hit(s)
  
```

Figure 143. FSU - Member Selection (FIND)

Condensed Member Selection List

```

SELCPY/i - Edit USER123.SELCFSU.T111618.RPT using USER123.SELCFSU.T111618
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
*** Top of Data ***
Record type: Command Fixed(177) Offset=0 Data elements=4
Timestamp Command
<---+---> <---+---1---+---> <---+---2---+---3---+---4---+---5---+---
2013/02/25 11:16:18 FSU input ( 'USER123.SELCTRN.ZZST5DAT ( TRACK001 TRACK0

Record type: Summary Variable(51,52) Offset=0 Data elements=14
RunType RecordsTot FilesTot Hits RecordsHit FilesHit RemapErrs
<---+---> <---+---> <---+---> <---+---> <---+---> <---+--->
FIND 214 4 4 4 4 0

Record type: Hit Variable(47,454) Offset=0 Data elements=13
zMember zRecord
<---+---> <---+---1---+---2---+---3---+---4---+---5---+---6---+---7
TRACK001 A02159C78BD2DB0800A428IHey, Soul Sister
TRACK003 DE36E78FD678857800C340ASoulmate
TRACK004 47E5BE872D4779C900D175ESoulmate
TRACK005 5524E0900D7B3C7900E143GSoul Stripper
*** End of Data ***

---- Press PF1 for Help, PF6 to edit file at cursor line ----
Se | Line=0 | Col=1 | Alt=0,0;0 | Size=6 | Recl=454 | Fmt=V | Files=1 | Views=0

```

Figure 144. FSU - FIND Report with LIMIT=1

Exit (**F3**) from the report (if requested) will return to the **FIND** panel where you may execute further search operations to progressively condense the member list.

Exit (**F3**) from the **FIND** panel will return to the condensed member selection list.
Should you wish to **reset** the condensed list, then just overwrite the *Member Mask* input field and press **ENTER**.

```

SELCPY/i - Select Input Members
File Edit Actions Options Utilities Window SwapList Help wS wR
Command>
ZZSGFSU2
Select members to be included in the operation. PF6=Select/Deselect ALL
Library DSN: USER123.SELCTRN.ZZST5DAT
Member Mask > *
Use primary commands FIND, ALL/MORE/LESS to condense member list. 4 Rows
Sel Member LastMod Created Cursize Inisize User Alias Of
- <---+---> <---+---1---+---> <---+---> <---+> <---+> <---+---> <---+--->
S TRACK001 2013/02/21 16:47 2013/02/21 98 98 USER123 0001
S TRACK003 2013/02/21 16:47 2013/02/21 90 90 USER123 0002
S TRACK004 2013/02/21 16:47 2013/02/21 89 89 USER123 0003
S TRACK005 2013/02/21 16:47 2013/02/21 80 80 USER123 0004
*** End of Data ***

```

Figure 145. FSU - Condensed Member Selection List

Condensed Member Search Results

Exit (F3) will return to the main FSU panel, where you can run the original search for the string "blues" using your condensed member list.

Expected results are displayed below.

```

SELCPY/i - Edit USER123.SELCFSU.T112212.RPT using USER123.SELCFSU.T112212.
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> Scroll> Csr
*** Top of Data ***
Record type: Command Fixed(126) Offset=0 Data elements=4
Timestamp Command
<---+---1---+---> <---+---1---+---2---+---3---+---4---+---5---+---
2013/02/25 11:22:12 FSU input ( 'USER123.SELCTRN.ZZST5DAT ( TRACK001 TRACK003 T

Record type: Summary Variable(51,52) Offset=0 Data elements=14
RunType RecordsTot FilesTot Hits RecordsHit FilesHit RemapErrs
<---+---> <---+---> <---+---> <---+---> <---+---> <---+--->
FIND 357 4 3 3 3 0

Record type: Hit Variable(47,454) Offset=0 Data elements=13
zMember zRecord
<---+---> <---+---1---+---2---+---3---+---4---+---5---+---6---+---7
TRACK003 EF3024088704CFF500C405GWalking In the Shadow of the Blues
TRACK004 079FF06C1501FB9600D797IRoman Wall Blues
TRACK005 7CB7FD20ADBE19AD00E211GBourgeoisie Blues
*** End of Data ***

---- Press PF1 for Help, PF6 to edit file at cursor line ----
Se | Line=0 | Col=1 | Alt=0,0;0 | Size=5 | Recl=454 | Fmt=V | Files=1 | Views=0
    
```

Figure 146. FSU - Condensed Member Search Results"

Option 8.1 - Debug SELCOPY/batch language

The SELCOPY/debug utility allows you to:

- Interactively step through SELCOPY control statements and set run **break points**.

In doing so, a developer can "**watch**" the values of variables and expressions and also display and update areas of storage.

Coloured highlighting may be used to "track" the location of any **@name** pointer that is visible in a dump style storage window.

The purpose of this is typically either to **analyse a problem** with existing code or simply gain an understanding of how a job operates.

The tool is also invaluable when **developing new SELCOPY job steps**, as the control statements may be **modified** and **rerun** without leaving the debug environment.

- SELCOPY/debug runs as separate application under FileKit.
This means it has its own "**ring**" of movable/resizable **windows** used to display:

- ◆ SYSIN control statements
- ◆ SYSPRINT output listing
- ◆ Watch List for variable and storage locations
- ◆ Dump format storage for Work Area, POS Expressions and @ Pointers
- ◆ EQUated names/values
- ◆ Execution TRACE
- ◆ IMS PCB
- ◆ SQL Log
- ◆ WTO Log

- Debug SELCOPY step(s) from an **existing Batch Job**.

Input/Output files will be allocated automatically using **DD statements** extracted from the job.

Any SELCOPY step may be selected to run either in interactive debug mode, or as a (foreground) subtask.

Any non-SELCOPY step may also be selected to run as a subtask, but execution of PROCs is not supported.

- Debug SELCOPY/batch control statements from a dataset.

In which case it is the user's responsibility to ensure that all necessary input/output datasets are allocated to the appropriate filenames prior to execution.

Alternatively, you may use SELCOPY's own **dynamic allocation**.

e.g.

```
READ  INDD  DSN='MY.INPUT.DATASET.NAME '  
WRITE OUTDD DSN='MY.OUTPUT.DATASET.NAME '
```

Locate Sample SELCOPY JCL

We'll use a supplied sample SELCOPY batch job to explore the debug utility.

To locate the sample JCL, if available, first we'll need to identify the high-level qualifier (HLQ) under which the SELCOPY package was installed.

To do this, first select option **1** from the FileKit **Primary Option Menu** (=) to access the **Settings** panel.

At the bottom of this panel you'll see the REXX Macro Path library definitions.

Make a note of the library name indicated for

CBL Supplied Library:

The library name should take the form *hlq.SZZSDIST.CBLE* as shown in the sample below.

Make a note of this HLQ as we'll refer to it later as **SiteHLQ**.

```

SELCOPY/i - Settings
File Help
Command>
ZZSGSET0
wS wR
Scroll> Csr
Lines 1-20 of 20

1 Startup          Startup options
2 System          System options
3 Text Edit       Text Editor (CBLe) options
4 Data Edit       Structured Data Editor (SDE) options
5 List           List window options
6 Batch           JCL Information for generated Batch Jobs
7 DB2            DB2 options
8 Function Keys   Maintain Personal and Installation-wide PF Key Settings
9 Search/Update   Set Search/Update (FSU) utility report options

REXX Macro Library Path:      Modify and/or press F14 to specify additional
                               libraries, then press ENTER or F3 to activate
  User Library>  USER123.SELCOPYI.CBLE          + #1 of 1
  Site Library>  CBL.INST.CBL17202.SELCOPYI.SITE.CBLE  + #1 of 1
  CBL Supplied Library> CBL.INST.CBL17202.SZZSDIST.CBLE

F1=HELP      F2=SPLIT      F4=WINDOW      F9=SWAP      F12=CRETRIEV  s2=EXPAND

```

Figure 147.01 SELCOPY/debug Menu (=8.1)

List the sample JCL library

Now type in the primary command: LL *SiteHLQ*..INIT.JCL

A Library List will be displayed as shown below.

```

SELCOPY/i - Library List: CBL.INST.CBL17202.INIT.JCL      80 F PDSE  2017/08/0
View Refresh Back Forward FDB Text Help                wS wR
Command>
Library> CBL.INST.CBL17202.INIT.JCL
-Member- Alias VV- MM- -Created-- ----LastMod----- CurSize IniSize Mod
AZZI340 -
AZZS340 -
AZZV340 -
GIMUNZIP - 1 1 2017/07/21 2017/07/21 16:43 81 81
RFNJOB - 1 1 2017/07/21 2017/07/21 16:43 1 1
ZZIADABL - 1 12 2010/02/08 2012/04/11 13:05 74 109
ZZIDB2B - 1 40 2007/10/01 2014/06/30 14:37 139 68
ZZIIVP1 - 1 10 2010/02/08 2011/09/22 17:41 72 102
ZZIIVP2 - 1 33 2007/01/26 2010/04/20 11:59 85 76
ZZIIVP3 - 1 8 2010/12/01 2011/09/22 17:41 72 68
ZZISAMP - 1 11 2010/05/12 2010/05/13 13:55 68 10
ZZISD01 - 1 14 2002/03/19 2009/01/16 14:01 154 149
ZZISD02 - 1 3 2010/09/29 2010/09/29 15:50 164 164
ZZISJ01 - 1 9 2009/01/19 2010/04/14 13:58 30 26
ZZISJ02 - 1 4 2009/01/19 2010/05/13 11:58 26 26
ZZISJ03 - 1 2 2009/01/19 2010/05/13 11:59 27 27
ZZISJ04 - 1 2 2009/01/19 2010/05/13 11:59 33 33
ZZISJ05 - 1 3 2009/01/19 2010/05/13 12:02 72 71
ZZISMSG - 1 12 2010/05/11 2011/09/22 17:40 86 182
ZZISNAM - 1 22 2008/04/04 2011/09/22 17:40 188 157
ZZISV01 - 1 0 2010/05/13 2010/05/13 11:06 238 238
ZZIS001 - 1 32 2002/03/21 2010/05/13 10:49 35 39
ZZIS002 - 1 26 2002/03/21 2010/05/13 10:50 23 39
ZZIS003 - 1 23 2002/03/21 2010/05/13 10:51 63 7
ZZIS004 - 1 16 2002/03/21 2010/05/13 10:51 11 20
Line 1 of 97 | Col 1 of 97 | Views 1 | select * sort Member
F5=RFIND | F6=SRT-DATE | s4=Popup | s5=ZOOMLIST | s6=SELECT
    
```

Figure 148. 02 SELCOPY/debug Menu (=8.1)

Copy the Sample Job to a personal library

From the Library List, locate member **ZZSSDB1** and use the FileKit Text-Editor to edit it.

This sample job uses SELCOPY to selectively read members of the FileKit supplied help library (sourced in **HTML**) in order to produce a report of all embedded **hyper-links**.

Hyper-links are defined using an HTML tag such as

```
<A NAME="LinkName" >
```

The JCL is supplied with references to dataset names that require tailoring for your installation and userid, so you will need to take a copy of the JCL in order to modify it.

e.g. With **"C"** inserted in the prefix area of the first line, type:

```
CREATE userpfx.SELCTR.N.JCL(ZZSSDB1)
```

```
SELCOPY/i - CBL.INST.CBL17202.INIT.JCL(ZZSSDB1) 80 F PDSE Size=76 Alt=x
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> cre USER123.SELCTR.N.JCL(ZZSSDB1) Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
C* //ZZSSDB1 JOB (ACCT#), 'CBLINST',
000002 // USER=, /* RACF */
000003 // GROUP=, /* RACF */
000004 // PASSWORD=, /* RACF */
000005 // NOTIFY=,
000006 // CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1)
000007 /*
000008 /*
000009 /*
000010 //DELETE EXEC PGM=IDCAMS,REGION=0M
000011 //SYSPRINT DD SYSDOUT=*
000012 //SYSIN DD *
000013 DELETE JGE.ZZSSDB1.OUTPUT PURGE
000014 /*
000015 /*
000016 /*
000017 //SETPAR1 SET ALLOC='TRK',PRI='2',SEC='1' Output file geometry.
000018 //SETPAR2 SET DISP=(NEW,CATLG),UNIT=SYSALLDA
000019 /*
000020 //ZZSSDB1A EXEC PGM=SELCOPY,REGION=0M
000021 //HELPLIB DD DISP=SHR,DSN=NBJ.INST.CBL13295.SZZSHELP.HTML
000022 //OUTFILE DD DISP=&DISP,DSN=JGE.ZZSSDB1.OUTPUT,
000023 // UNIT=&UNIT,
000024 // DCB=(DSORG=PS,RECFM=VB,LRECL=256,BLKSIZE=0),
000025 // SPACE=(&ALLOC,(&PRI,&SEC),RLSE)
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=0,0;0 | Size=76 | Recl=80 | Fmt=F | Files=1 | Views=1
```

Figure 149. 03 SELCOPY/debug Menu (=8.1)

Tailor the Sample Job

Use your preferred method to copy the JCL into a library called **userpfx.SELCTRN.JCL**, then issue the following **CHANGE** commands to tailor the job so it may be run locally.

- **CHANGE ALL 'NBJ.INST.CBL13295' 'SiteHLQ'**

Where "SiteHLQ" is the high-level qualifier determined earlier.

- **CHANGE ALL 'JGE' 'userpfx'**

Where "userpfx" is the user prefix used to create your own personal datasets.

```

SELCOPY/i - USER123.SELCTRN.JCL(ZZSSDB1) 80 F PDSE Size=76 Alt=4,4;5
File Edit Actions Utilities Window SwapList Help wS wR
Command> c all 'NBJ.INST.CBL13295' 'CBL.INST.CBL17202' Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 //ZZSSDB1 JOB (ACCT#), 'CBLINST',
000002 //          USER=, /* RACF */
000003 //          GROUP=, /* RACF */
000004 //          PASSWORD=, /* RACF */
000005 //          NOTIFY=,
000006 //          CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1)
000007 /**
000008 /**
000009 /**
000010 //DELETE EXEC PGM=IDCAMS,REGION=0M
000011 //SYSPRINT DD SYSOUT=*
000012 //SYSIN DD *
==CHG> DELETE USER123.ZZSSDB1.OUTPUT PURGE
000014 /**
000015 /**
000016 /**
000017 //SETPAR1 SET ALLOC='CYL',PRI='2',SEC='1' Output file geometry.
000018 //SETPAR2 SET DISP=(NEW,CATLG),UNIT=SYSALLDA
000019 /**
000020 //ZZSSDB1A EXEC PGM=SELCOPY,REGION=0M
==CHG> //HELPLIB DD DISP=SHR,DSN=CBL.INST.CBL17202.SZZSHELP.HTML
==CHG> //OUTFILE DD DISP=&DISP,DSN=USER123.ZZSSDB1.OUTPUT,
000023 //          UNIT=&UNIT,
000024 //          DCB=(DSORG=PS,RECFM=VB,LRECL=256,BLKSIZE=0),
000025 //          SPACE=(&ALLOC,&PRI,&SEC),RLSE)
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=1 | Col=1 | Alt=4,4;5 | Size=76 | Recl=80 | Fmt=F | Files=1 | Views=1

```

Figure 150.04 SELCOPY/debug Menu (=8.1)

Run the Sample Job in Batch

Once the job has been correctly tailored, SAVE the changes then submit the job to check it runs OK.

Then we can take a look at the expected output report which will have been written to dataset **userpfx.ZZSSDB1.OUTPUT**.

Edit the report file and note it tells us that help library member "ZZSIABOU" has hyper-links on records 49, 56, 57, 58 and 69.

```

SELCOPY/i - Browse USER123.ZZSSDB1.OUTPUT      252 V SEQ
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                         Scroll> Csr
Record type: UnMapped  Variable(0,252) Offset=0 Data elements=1
UnMapped
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7
00000002 Member  RecNo      ***
00000003 -----
00000004 ZZSIABOU 00049 <a name="zzsiabou">
00000005          00056 <a HREF="zzsisumc.html"          >
00000006          00057 <a HREF="zzsigett.html"          >
00000007          00058 <a HREF="zzsicont.html"          >
00000008          00069 <A NAME="AboutCBLi">
00000009
00000010 Member  RecNo      ***
00000011 -----
00000012 ZZSIABOU 00044 <A NAME="zzsiabo0">
00000013          00051 <A HREF="zzsiccom.html"          >
00000014          00052 <A HREF="zzsialia.html"          >
00000015          00053 <A HREF="zzsicont.html"          >
00000016          00064 <A NAME="ABOUT">
00000017          00070 <A NAME="syn">
00000018          00076 <A NAME="des">
00000019          00079 <A HREF="zzsisabo.html#zzsisabo">
00000020
00000021 Member  RecNo      ***
00000022 -----
00000023 ZZSIACTN 00055 <a name="ZZSIACTN">
00000024          00062 <a HREF="zzsiccom.html"          >
F5=RFIND      F6=RCHANGE  s1=InsLine  s2=DelLine  s3=DupLine  s4=Options
s5=ZoomW      s10=UNDO    s11=REDO
Se | Line=2 | Col=1 | Alt=0,0;0 | Size>1276 | Recl=252 | Fmt=V | Files=1 | View
    
```

Figure 151. 05 SELCOPY/debug Menu (=8.1)

Cross-Check the Report (optional)

If you like, you can cross-check the results by editing member `SiteHLQ.SZZSHELP.HTML(ZZSIABOU)`.

```

SELCOPY/i - CBL.INST.CBL17202.SZZSHELP.HTML(ZZSIABOU) 252 V PDS Size=154x
File Edit Actions Options Utilities Window SwapList Help wS wR
Command> | Scroll> Csr
<----+----1----+----2----+----3----+----4----+----5----+----6----+----7--
000035 <!-- comment block beg -->
000036 <HEAD>
000037 <META NAME="CREATED" content="2004/02/03 15:30:29">
000038 <META HTTP-EQUIV="Content-Style-Type" CONTENT="text/css">
000039 <TITLE>About SELCOPYi</TITLE>
000040 <LINK HREF="zzsisumc.html" REL="prev" >
000041 <LINK HREF="zzsigett.html" REL="next" >
000042 <LINK HREF="zzsicont.html" REL="contents" >
000043 </HEAD>
000044 <!-- comment block end -->
000045
000046 <!-- comment block beg -->
000047 <BODY><DIV CLASS="body">
000048 </DIV>
000049 <span id="zzsiabou"><a name="zzsiabou"></a>
000050 <DIV CLASS="navigbar" >
000051 <HR>
000052 <table border="0" cellspacing="0" cellpadding="0">
000053 <colgroup width="60%"></colgroup>
000054 <colgroup width="40%"></colgroup>
000055 <tr><td align="left">
000056 &nbsp;<a HREF="zzsisumc.html" >previous </A>
000057 &nbsp;<a HREF="zzsigett.html" >next </A>
000058 &nbsp;<a HREF="zzsicont.html" >contents </A>
000059 </td>
s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine
s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox
Te | Line=35 | Col=1 | Alt=0,0;0 | Size=154 | Recl=252 | Fmt=V | Files=2 | View
    
```

Figure 152.06 SELCOPY/debug Menu (=8.1)

The SELCOPY/debug Menu

The SELCOPY/debug menu panel may be accessed using any of the following methods:

- Select option **8** from the FileKit **Primary Option Menu** (=) to access the **Utilities menu** then select option **1**..
- At any primary command prompt type =8.1.
- At any primary command prompt type **SELCOPY (SELC)**.

```

SELCOPY/i - Utilities Menu
File Help                                     wS wR
Command> 1_                                  Scroll> Csr
ZZSGUTIL                                     Lines 1-21 of 21

Primary Cmd
1 SELCOPY/debug      SELC  SELCOPY/batch language interactive debug
2 CBLVCAT            VCAT  Catalog/VTOC report online excution
3 IDCAMS             AMS   Execute IDCAMS commands interactively
4 Catalog ALIAS      AMSA  AMSA - Define new Catalog Alias
5 Library ALIAS      ALI   Create new PDS/PDSE library member Alias
6 IEBCOPY            IEBC  Execute IEBCOPY interactively
7 Favourites        FAV   Favourite Datasets/Commands
8 System            SY    Display System Information
9 Search            FS    Basic PDS/PDSE Library string search
10 Find Lib Member(s) LLX  Search for member(s) across multiple libraries
11 Compare Files    COMPF Compare Files
12 Compare Libraries COMPL Compare Libraries
13 Calendar        CAL   Basic Calendar
14 Calculator      CALC  REXX expression calculator
15 Alloc/Define    Create new VSAM or Sequential datasets
16 XML-Gen         XML   Produce eXtensible Markup Language from Data File
17 CSV-Gen         CSV   Produce Comma Separated Variables from a Data File
18 JSON-Gen        JSON  Produce JavaScript Object Notation from Data File
19 Merge Datasets  MERGE Merge a number datasets sorted by a key field

F1=HELP      F2=SPLIT      F4=WINDOW      F9=SWAP      F12=CRETRIEV  s2=EXPAND

```

Figure 153.07 SELCOPY/debug Menu (=8.1)

Select option to supply JCL

Since we have an existing batch job, select option 1 to "Supply JCL".

```

SELCOPY/i - SELCOPY/Debug Menu
File Help
Command> -
ZZSGSDB0

1 Supply JCL
    Debug SELCOPY step(s) from an existing Batch Job.
    Input/Output files will be allocated automatically
    using DD statements extracted from the job.

    Any SELCOPY step may be selected to run either in
    interactive debug mode, or as a (foreground) subtask.

    Any non-SELCOPY step may also be selected to run as a
    subtask, but execution of PROCs is not supported.

2 Supply SYSIN
    Debug SELCOPY/batch control statements from a dataset.
    It is the user's responsibility to ensure that all
    necessary input/output datasets are allocated
    to the appropriate filenames prior to execution.

    Alternatively, use SELCOPY's own dynamic allocation.
    e.g.
        READ INDD DSN='MY.INPUT.DATASET.NAME '
        WRITE OUTDD DSN='MY.OUTPUT.DATASET.NAME '

F1=HELP      F2=SPLIT    F4=WINDOW    F9=SWAP     F12=CRETRIEV  s2=EXPAND
  
```

Figure 154.08 SELCOPY/debug Menu (=8.1)

Specify JCL to debug

- Type **userpfx.SELCTR.N.JCL** in the *Dsn* field, to specify the JCL library.
- Type **ZZSSDB1** in the *Member* field, or leave blank to select from a member list.
- You now have the option of pressing Function key **F5** to edit the job before proceeding.
- When you're ready to proceed press **ENTER** to analyse the JCL.

This process will create some local work datasets.
These will be automatically deleted once the debug session has ended.

The created work datasets will include separate library members corresponding to any **in-stream (DD *) datasets** encountered in the job.

```

SELCOPY/i - SELCOPY/Debug - JCL Batch Job Input
File Edit Actions Options Utilities Window SwapList Help  wS wR
Command> ZZSGSDB2                                     Scroll> Csr
Lines 1-26 of 26
Source JCL:
Dsn> USER123.SELCTR.N.JCL                             Member> ZZSSDB1

Debug SELCOPY step(s) from an existing Batch Job.

Input/Output files will be allocated automatically
using DD statements extracted from the job.

Any SELCOPY step may be selected to run either in
interactive debug mode, or as a (foreground) subtask.

Any non-SELCOPY step may also be selected to run as a
subtask, but execution of PROCs is not supported.

From the multi-windowed SELCOPY/debug environment you may:
- Step through your control statements one by one.
- Set, then run to, multiple strategic "break-points".
- "Watch" program storage areas and @xxxx variable values.
- "Track" @xxxx positional variables in all storage windows
  by assigning each variable a separate hilight colour.
- Modify control statements then restart execution without
  leaving the debug environment.

F5=Edit-JCL  s1=REMIND

```

Figure 155.09 SELCOPY/debug Menu (=8.1)

Job Step Selection

Once the JCL analysis has completed you will be presented with a **Job Step Selection panel**, which lists all the steps found in the JCL.

Initially all steps are selected to run, with any steps that run **PGM=SELCOPY** or **PGM=SLC** set to run in **Debug mode**.

Our sample job has only two steps.

The first runs **PGM=IDCAMS** in order to delete the output dataset ahead of the second step which creates it afresh.

Only the second step which runs **PGM=SELCOPY** is set to run in **debug mode**, but please be aware that this too is optional.

If you have a JCL deck containing several SELCOPY steps, with the early ones only required in order to set up for the step(s) you wish to debug, then it makes sense to just run them normally in the foreground, just like any other program.

To do this just blank out the **"Y"** in the **"Debug"** column for those steps.

Press the **HELP** key for more information if required.

Press **ENTER** to run the selected job steps.

The **"DELETE"** step will run IDCAMS in the TSO foreground first.

Then the SELCOPY/debug application will start to run the **"ZZSSDB1A"** step interactively.

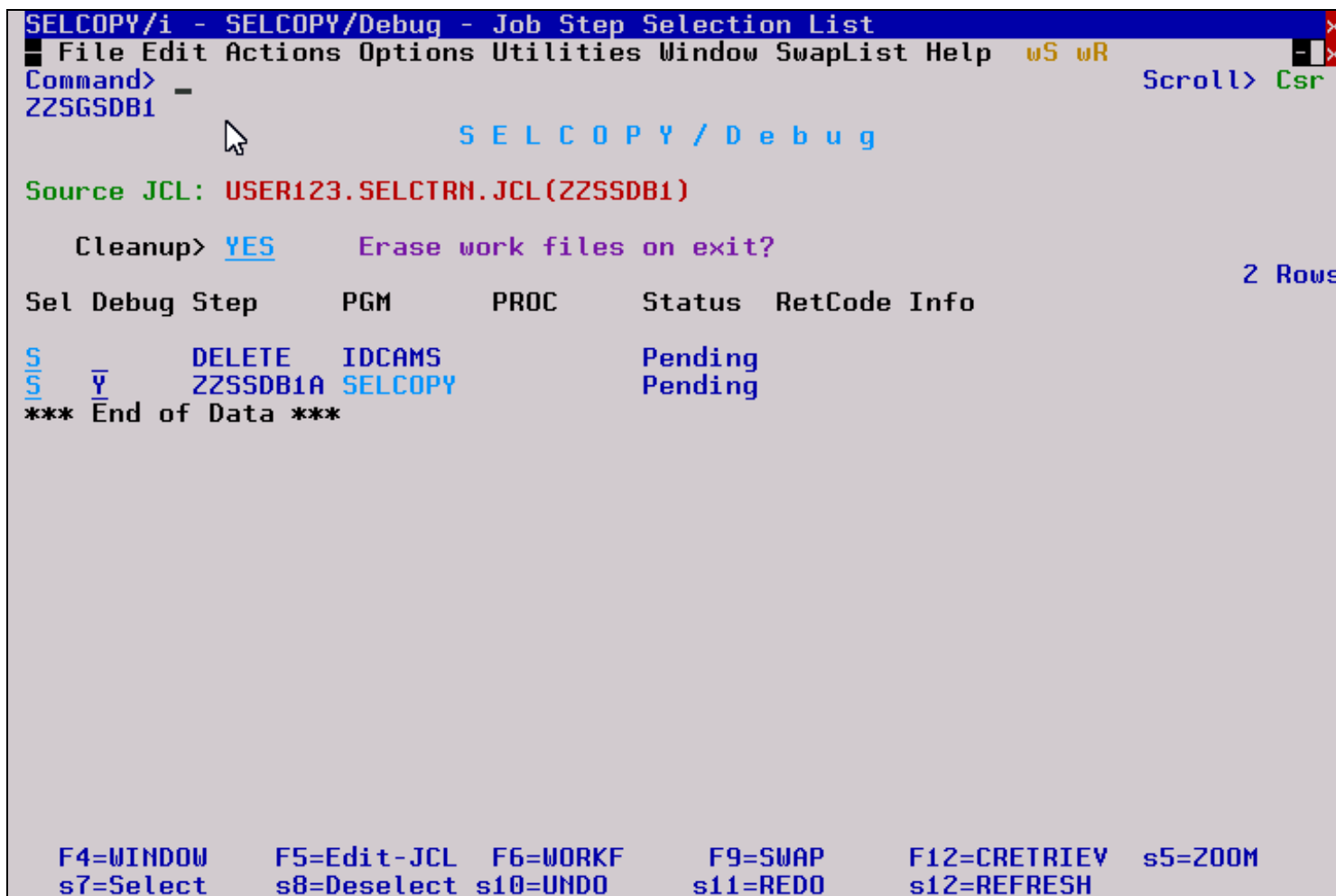


Figure 156. 10 SELCOPY/debug Menu (=8.1)

Non-windowed Display Mode for Standard Screen Sizes

Although not recommended, the SELCOPY/debug application may be used on a one of the **standard 3270 models** that provide a very basic number of rows/columns (e.g. Model 3 provides **32 rows x 80 columns**).

In this case the debugger starts in **non-windowed display mode** and, as depicted below, you will see the "SYSIN" window in "full-screen" mode.

The other "windows" that we are about to encounter will still be available, either by using the "WINDOW" key (F4) to scroll around the window ring, or by using the "View" menu-bar item to directly access any window from a drop-down selection list.

Alternatively, although not really very practical, you may switch to windowed-mode even on a small screen size.

To do this select the "Restore" button located one character to the left of the red "x" (close button) at the top right of the screen.

Entering the primary command **WIN RESTORE** will also achieve this.

```

SELCOPY: SELCOPY Assembler Interactive Debug for z/OS 2.1.0 - USER123.SELCDEBUG
File View Go StepOver StepInto ReRun Window Help          wS wR
Command> hilite selc|                                     Scroll> Csr
<---+---1---+---2---+---3---+---4---+---5---+---6---+---7---
000001 ** USER123.SELCDEBUG.ZZSSDB1.COMB.ZZSSDB1A(SYSIN) *** L=001 --- 2017/08/0
000002 *<<SELCDBJ>>|e 'user123.selctrn.jcl(zzssdb1)'
000003
000004     equ  Member          1
000005     equ  InputRec       1001
000006     equ  OutputRec     2001
000007
000008     option worklen=4096
000009
000010     read HELPLIB into InputRec   dirdata
000011
000012 ** Select member **
000013     if dir
000014         then do SelectMember
000015         then goto get
000016
000017
000018 ** Select data records from selected members **
000019     if pos InputRec,InputRec+Lrecl-1 = '<A '
000020     or pos InputRec,InputRec+Lrecl-1 = '<a '
000021         then if pos @,InputRec+Lrecl-1 = '>'      ptr=@END
000022             then cvbc 4 at uxincount to OutputRec+8+1 format='99999'
000023             then @LEN=@END-@+1
000024             then pos OutputRec+8+1+6 = @LEN AT @
000025             then do SetMember
s1=StepOver  s2=StepInto  s3=Go          s4=Popup      s5=MrkBox   s6=MrkLine
s7=BreakPt  s8=BoxFuncs  s10=UNDO       s11=REDO     s12=ResetBox
Te | Line=1 | Col=1 | Alt=0,0;1 | Size=49 | Recl=80 | Fmt=F | Files=4 | Views=4

```

Figure 157. 11 SELCOPY/debug Menu (=8.1)

SELCOPY/debug Operation

- When the debugger starts in windowed display mode then a number of windows are displayed automatically.
 - "SYSIN" displays the active SELCOPY control statements in a Text-Edit style window. Its default location is at the **top-left** of the screen.
 - "SYSPRINT" displays SELCOPY's printed output in another Text-Edit style window. Its default location is at the **bottom-right** of the screen.
 - "Work Area" displays the data starting at POS=1 in a dump-style storage window. Its default location is at the **top-right** of the screen.
- In the **SYSIN** window, the **current operation** (that will be executed next) is highlighted in **blue reverse-video**.

The screen shots that follow were recorded with "HILITE SELCOPY" activated to provide **syntax highlighting** for SELCOPY control statements. This is not set on by default and is not always desirable as too much colour highlighting can be distracting.

- The **SYSPRINT** window will refresh itself during the course of the run, automatically scrolling to the bottom to reveal any fresh print output.

The screen shots that follow were also recorded with "HILITE SELCOPY" activated in the SYSPRINT window. Again, this is not necessarily desirable.

- The "Work Area" storage window will initially display blanks since the first operation (which is likely to cause input) has not yet been executed.

Storage windows display data in rows of 4, 8, 16 or 32-bytes depending on the window width. They may be scrolled up and down to reveal more data, and that **data may be modified** at any time by **overtyping** either the hex or character areas.

The screenshot displays the SELCOPY debugger interface with three windows:

- SYSIN Window (Top Left):** Shows assembly code for 'USER123.SELCDBUG.ZZSSDB1.COMB.ZZSSDB1A(SYSIN)'. The current operation is highlighted in blue reverse-video: `read HELPLIB into InputRec dirdata`.
- Work Area Window (Top Right):** Shows a dump of memory starting at address 1, displaying hexadecimal values (e.g., 40404040).
- SYSPRINT Window (Bottom Right):** Shows the output of the program, including the command `.RUN1` and the start of the assembly code from the SYSIN window.

The status bar at the bottom indicates: `s1=InsLine s2=DelLine s3=DupLine s4=ACTION s5=MrkBox s6=MrkLine s7=SPLTJOIN s8=BoxFuncs s10=UNDO s11=REDO s12=ResetBox` and `Te | Line=1 Col=1 Att=0,0;2 | Size=67 | Recl=133 | Fmt=U | Files=4 | Views=4 | 2017/08/03 09:43:24`.

Figure 158. 12 SELCOPY/debug Windowed

Customisable Window Locations

- All debug windows may be moved and resized in the standard fashion.
Any customised window locations will be **preserved across debug sessions**.
- Recommended layout for standard initial windows shown below.

```

SELCOPY: SELCOPY Assembler Interactive Debug for z/OS 2.1.0
File View Go Stepmover StepInto ReRun Window Help      wS wR

-USER123.SELCDBG.ZZSSDB1.COMB.ZZSSDB1A(SYSIN)  80 F PDSE  Size=4-+
Command>
<---+---1---+---2---+---3---+---4---+---5---+---6---+
000001  ** USER123.SELCDBG.ZZSSDB1.COMB.ZZSSDB1A(SYSIN)  *** L=001 --- 20
000002  *<SELCOBJ>>|e 'user123.selctrn.jcl(zzsdb1)'
000003
000004      equ Member          1
000005      equ InputRec        1001
000006      equ OutputRec       2001
000007
000008      option worklen=4096
000009
000010      read HELPLIB into InputRec  dirdata
000011
000012  ** Select member **
000013      if dir
000014          then do SelectMember
000015              then goto get
000016
000017
000018  ** Select data records from selected members **
000019      if pos InputRec,InputRec+Lrecl-1 = '<A '
000020      or pos InputRec,InputRec+Lrecl-1 = '<a '
000021          then if pos @,InputRec+Lrecl-1 = '>' ptr=@END
000022              then cvbc 4 at ukincount to OutputRec+8+1  format='99999'
000023              then @LEN=@END-@+1
000024              then pos OutputRec+8+1+6 = @LEN AT @
000025              then do SetMember
000026                  then print          from OutputRec  length=@LEN+8+1+6 s=100
000027                  then write OUTFILE from OutputRec  length=@LEN+8+1+6
000028
000029      goto get
000030
000031

-USER123.SELCOPY.SYSIN.SYSPRINT  133 U SEQ  Size=67  Alt=
Command>
<---+---1---+---2---+---3---+---4---+---5---+
.RUN1  1*** Debug Run 1 of user123.selcdbg.zzsdb1.comb.zzsdb1a(sysin) 2017/08/03 10:09:35
000002  1SELCOPY REL 3.40 AT CBL - Bridgend UK (Internal Only) 2017/08/03 10:09 PAGE
000003
000004
000005
000006
000007      ** USER123.SELCDBG.ZZSSDB1.COMB.ZZSSDB1A(SYSIN)  *** L=001 --- 2017/08/03 09:43:
000008      *<SELCOBJ>>|e 'user123.selctrn.jcl(zzsdb1)' ;:00027
000009
000010      equ Member          1
000011      equ InputRec        1001

s1=StepOver s2=StepInto s3=Go s4=Popup s5=MrkBox s6=MrkLine s7=BreakPt s8=BoxFuncs s10=UNDO s11=REDO
s12=ResetBox
Te | Line=1 | Col=1 | Alt=0,0;1 | Size=49 | Recl=80 | Fmt=F | Files=4 | Views=4 | 2017/08/03 10:09:35
  
```

Figure 159. 13 SELCOPY/debug Windowed

Stepping through Control Statements (1)

- To gain an understanding of the way this particular SELCOPY job operates, we'll start by tracing through a few statements one at a time.
- The first statement will read a record from our input **HTML library** into a location within our work area defined as position **InputRec**, which is a symbolic name (EQUate) for **1001**.

Before we execute the **READ statement**, in order to **monitor** the input from **HELPLIB**, we'll open up a new **storage window** to display the data at **POS InputRec**.

This could be done by typing in a simple primary command: **WIN POS InputRec**

Alternatively, with focus on the SYSIN window, move your cursor onto any occurrence of the word **InputRec**. Then press Function Key **F4** to display the cursor sensitive **popup menu** as shown below.

This key provides menu access to a variety of SELCOPY/debug features. Among them, the item **Storage@Pos "xxx"** will open a dump window for the specified position ("**xxx**" being the word at the cursor location).

To select an item from the popup, simply move your cursor to it and press **ENTER**, or select it with your mouse if you have your **3270 emulator** set up for this useful feature.

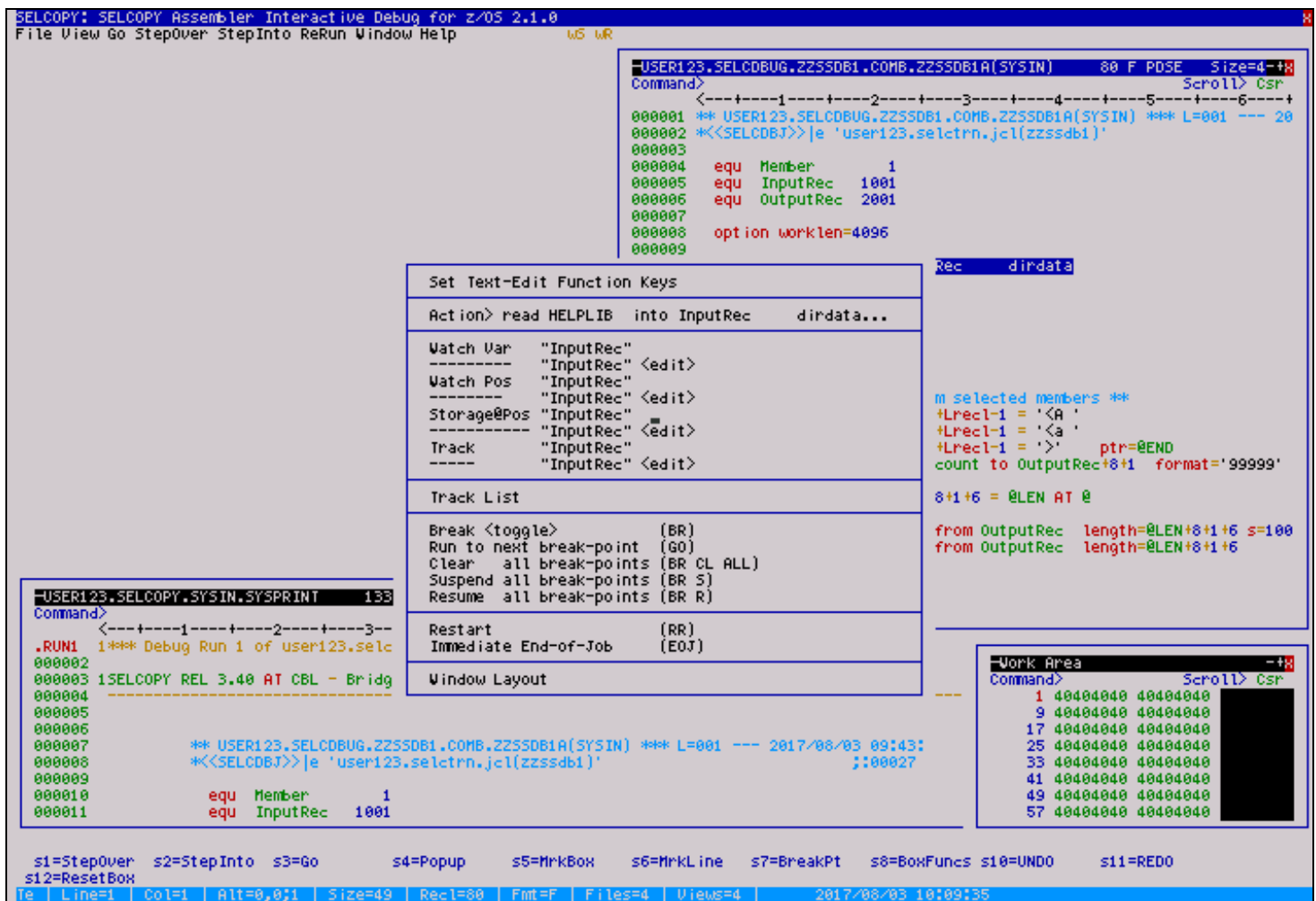


Figure 160. 14 SELCOPY/debug Windowed

Stepping through Control Statements (2)

- Initially we'll be tracing through the statements using the **StepOver** function.

StepOver and **StepInto** are distinct from each other in only one particular respect (to be revealed in due course).

- To trace the next statement use any one of the following:
 - Select the **StepOver** item from the main menu-bar at the top of the screen.
 - Type the primary command **STEPOver (SO)**.
 - Press function key **Shift-F1 (F13)**.

- The storage window for **POS InputRec** will now display the first record from **HELPLIB**, and the next statement ("**if dir**") will be highlighted.

Since the **READ** statement just executed uses the **DIRDATA** keyword, (which indicates input of **DIR**ectory and **DATA** records from a PDS/PDSE library is required) we see the directory record for the **first member** of **HELPLIB**.

The member name "**@@@INDEX**" occupies the first 8 bytes of this record.

Other directory information such as **timestamps**, **member size** etc follow but are not in readable character format.

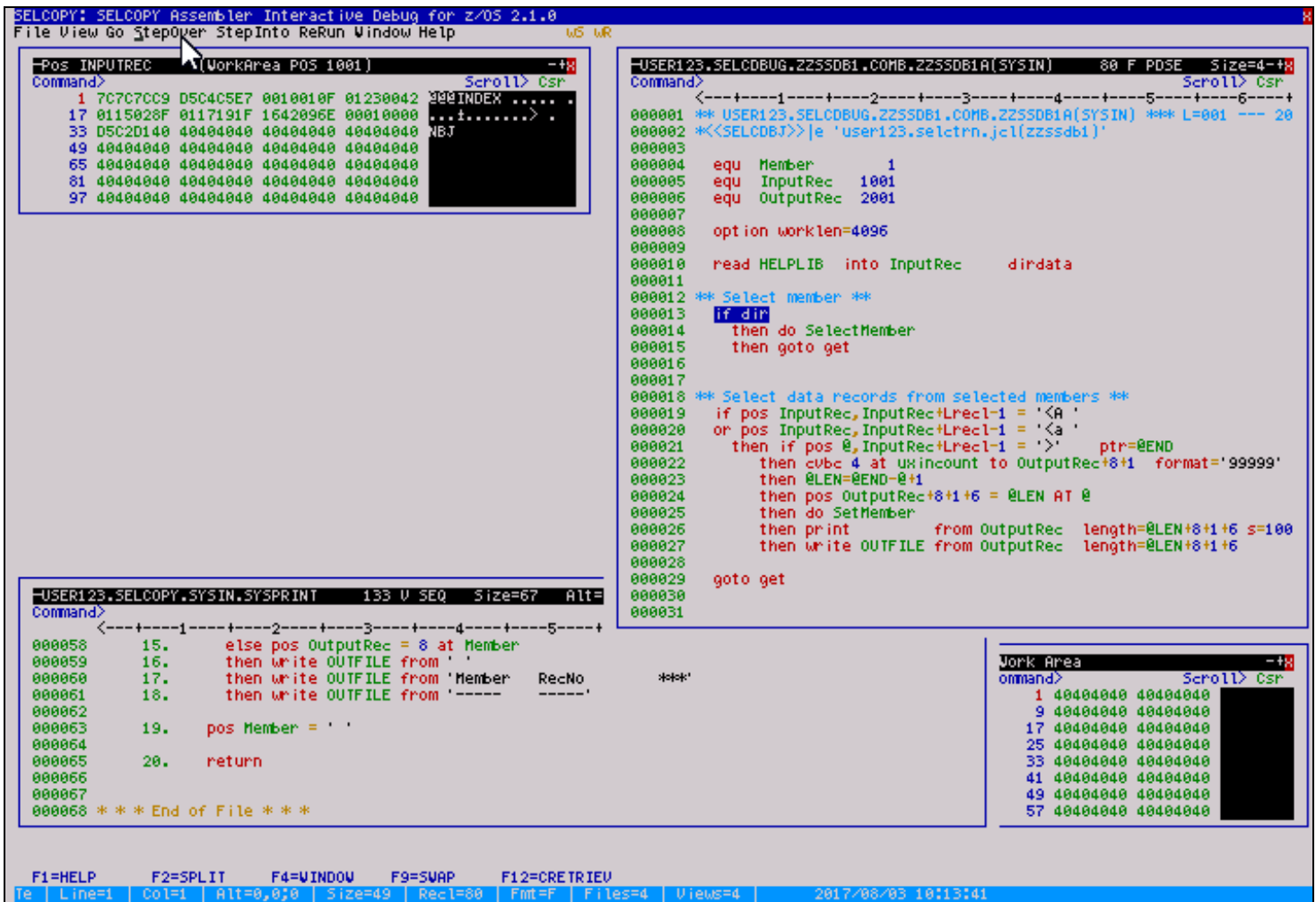


Figure 161. 15 SELCOPY/debug Windowed

StepOver/StepInto sub-routines

- Use **StepOver** again to trace through the "if dir" statement, which tests if the most recently read record was a directory record.

We expect the test to succeed in this case so we logically proceed to the immediately following "THEN" statement, which will be highlighted.

- The statement "then do SelectMember" will cause SELCOPY to perform a **sub-routine** defined within its control statements using a **label**.

The debugger provides a choice when tracing is halted at a **DO** statement (synonyms are **PERFORM** and **GOSUB**).

Do you want to trace **INTO** or **OVER** the sub-routine?

The **StepInto** function subsequently allows the user to step through individual statement within the performed sub-routine.

The **StepOver** function treats the sub-routine call as a single statement, **breaking** next on the statement that **logically** follows the **return** from that sub-routine.

To be absolutely clear, if you choose **StepOver**, the statements within the performed sub-routine are still executed, it's just that the debugger will not **break** on each one.

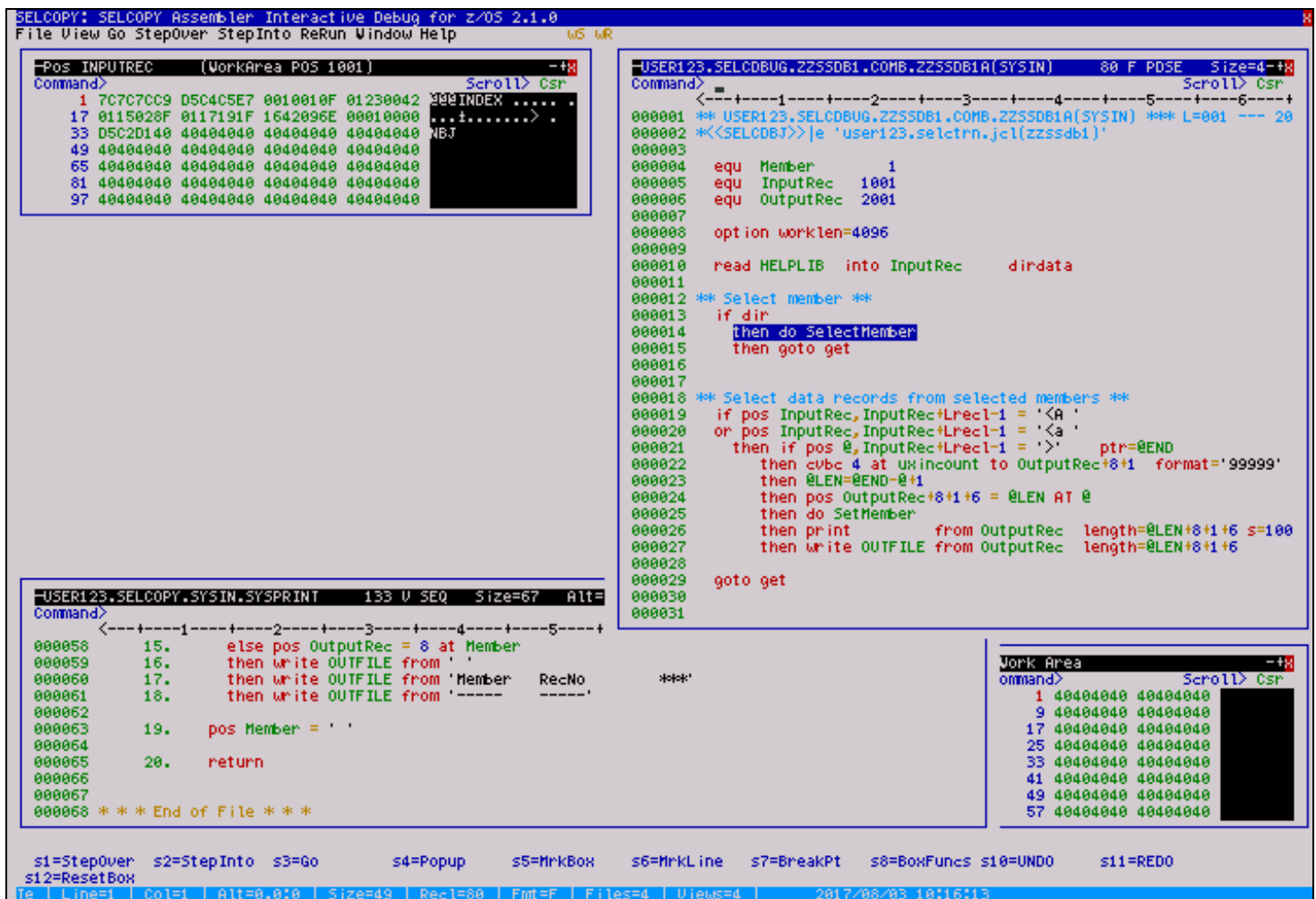


Figure 162. 16 SELCOPY/debug Windowed

Setting a run BREAK point

- Use the **StepInto** function this time, so we can trace through the statements within the sub-routine.

StepInto may be selected from the menu-bar or by pressing **Shift-F2 (F14)**.

The SYSIN window will automatically scroll to the first statement following the sub-routine user-label. In addition, provided that the current statement is still visible, the debugger will attempt to scroll the top line of the display to the nearest preceding **"heading"**. A "heading" in this context is defined as a line containing at least **two consecutive asterisks** or **equals-signs**.

So, to ensure that the sub-routine name label appears at the top of the screen, just enclose your label names in **"=="** (which are not treated as part of the name) as shown below.

- The **"SelectMember"** sub-routine tests for library member names beginning with either **"ZZSI"** or **"ZZSS"**, and forces **bypass** of all further processing for those that fail this selection.

Since this is a large library, and we don't want to trace through failing selection of hundreds of members, this is a perfect opportunity to set our first **break-point**.

- Place your cursor anywhere within the SYSIN statement ...

```
then pos Member = 8 at InputRec
```

... then set a break-point on that statement using one of the following methods:

- ◆ Press **F4** to display the popup, then select **"Break"**.
- ◆ Press function key **Shift-F7 (F19)** which executes the primary command **BReakpoint (BRK)**.

Repeating the operation will **toggle** an existing break-point OFF then ON again.

Type **"HELP BR"** for more information about this command.

- Any statement set as a **break-point** will be highlighted in **red reverse-video**.

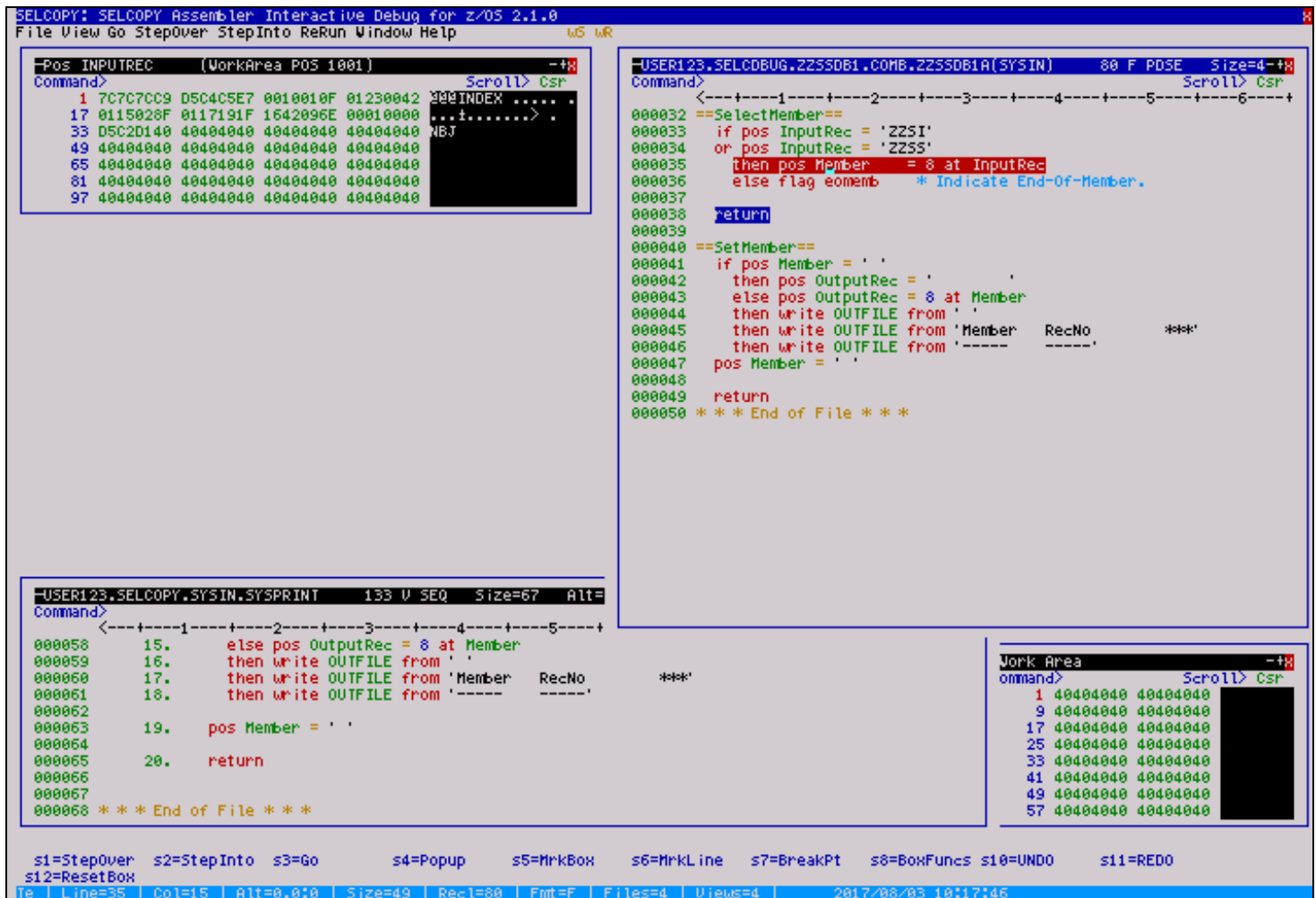


Figure 163. 17 SELCOPY/debug Windowed

WATCH List (1)

- With one or more break points set, you may now perform the **GO** operation using any of the following methods:
 1. Select the **Go** item from the main menu-bar at the top of the screen.
 2. Type the primary command **GO**.
 3. Press function key **Shift-F3 (F15)**.
- **GO** causes the debugger to run through the SELCOPY control statements (without pausing on each one) up until the next logically encountered break-point.
- Having hit our break-point, we are about to save our current library member name at the work-area position referred to as **MEMBER** (which is a symbolic name (EQUate) for 1).
- The **WATCH List** window allows us to monitor multiple variables and work-area locations without opening a separate storage window for each one.
- To watch the **MEMBER** field:
 1. Place your cursor on any occurrence of the word "Member" within the control statements.
 2. Press **Shift-F4** to display the **popup** menu.
 3. Select item **Watch Pos "Member"** to display the WATCH panel (shown below).
 4. Update the **Length**> field to **8**.
 5. Update the **Data-Type**> field to **CHA**.
 6. Press **ENTER** to display the item in the Watch List, or press **F1** for help.

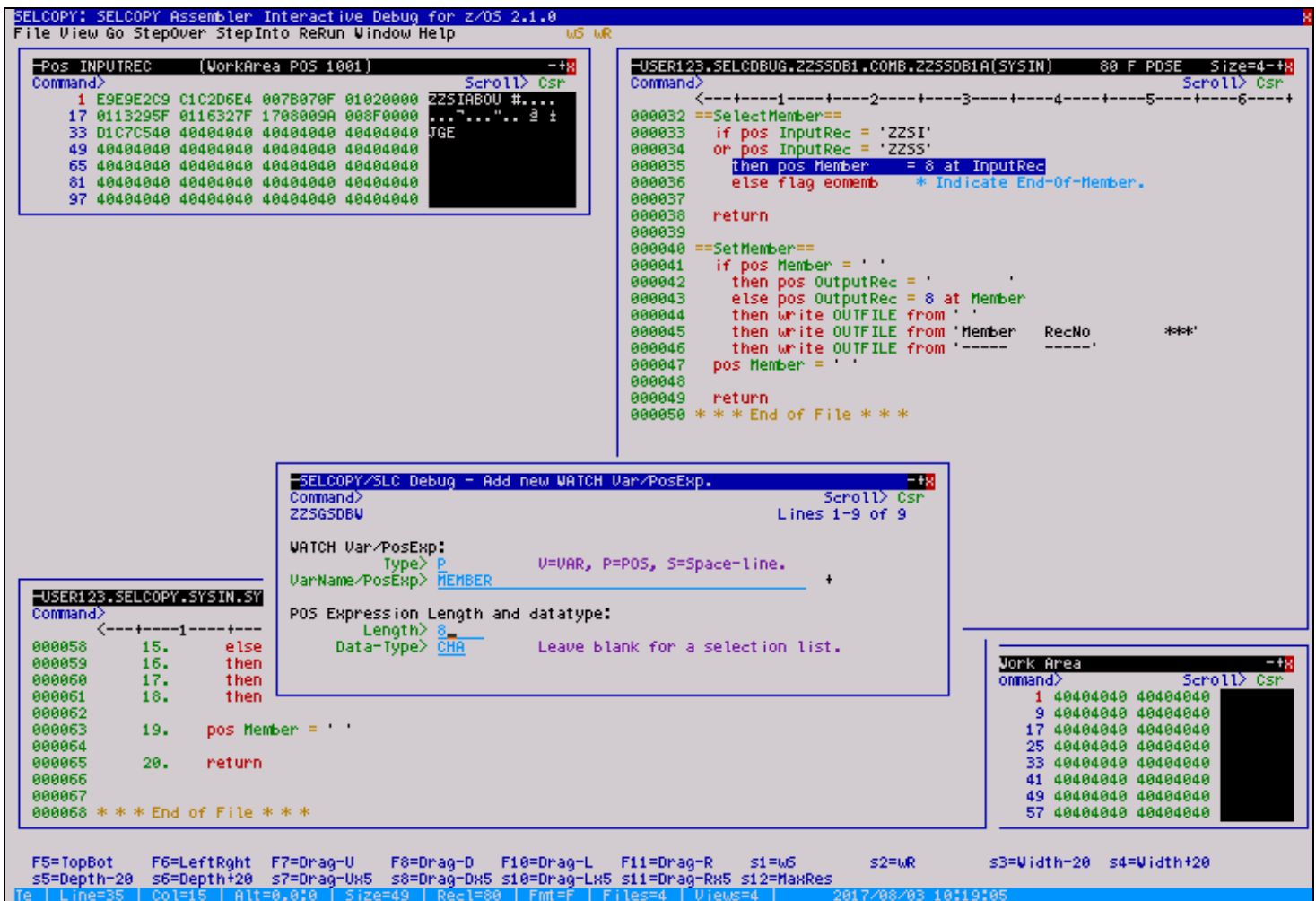


Figure 164. 18 SELCOPY/debug Windowed

WATCH List (2)

- The **WATCH List** window will open in its initial default location.

But note that focus will not automatically be placed on it, and if your **SYSIN** window is placed as suggested below, then it may completely obscure the new **WATCH** window.

In this case, use the **WINDOW key (F4)** to scroll through your open windows until you find it.

Then move the new **WATCH** window so it is visible, as shown below.

- Next press **Shift-F1** to step-over the statement

```
then pos Member = 8 at InputRec
```

- The **WATCH List** window will automatically update to reflect the value **"ZZSIABOU"** for item **P_MEMBER**.
- Press **F1** for further information on the Watch-List window, including supported **primary-** and **line-commands** e.g.
 - ◆ Line-command **"I"** to insert a new watch item. An alternative to using the popup method.
 - ◆ Line-command **"SC"** to display a **scale** for the current value.
 - ◆ Line-command **"SP"** to add a **space** line which is useful to visually separate groups of watched items.
 - ◆ Line-command **"PW"** to open a separate **storage-window** for the watched item (P_xxxx).

This is particularly useful if you ever need to modify the value, which is not supported directly through the Watch-List itself.

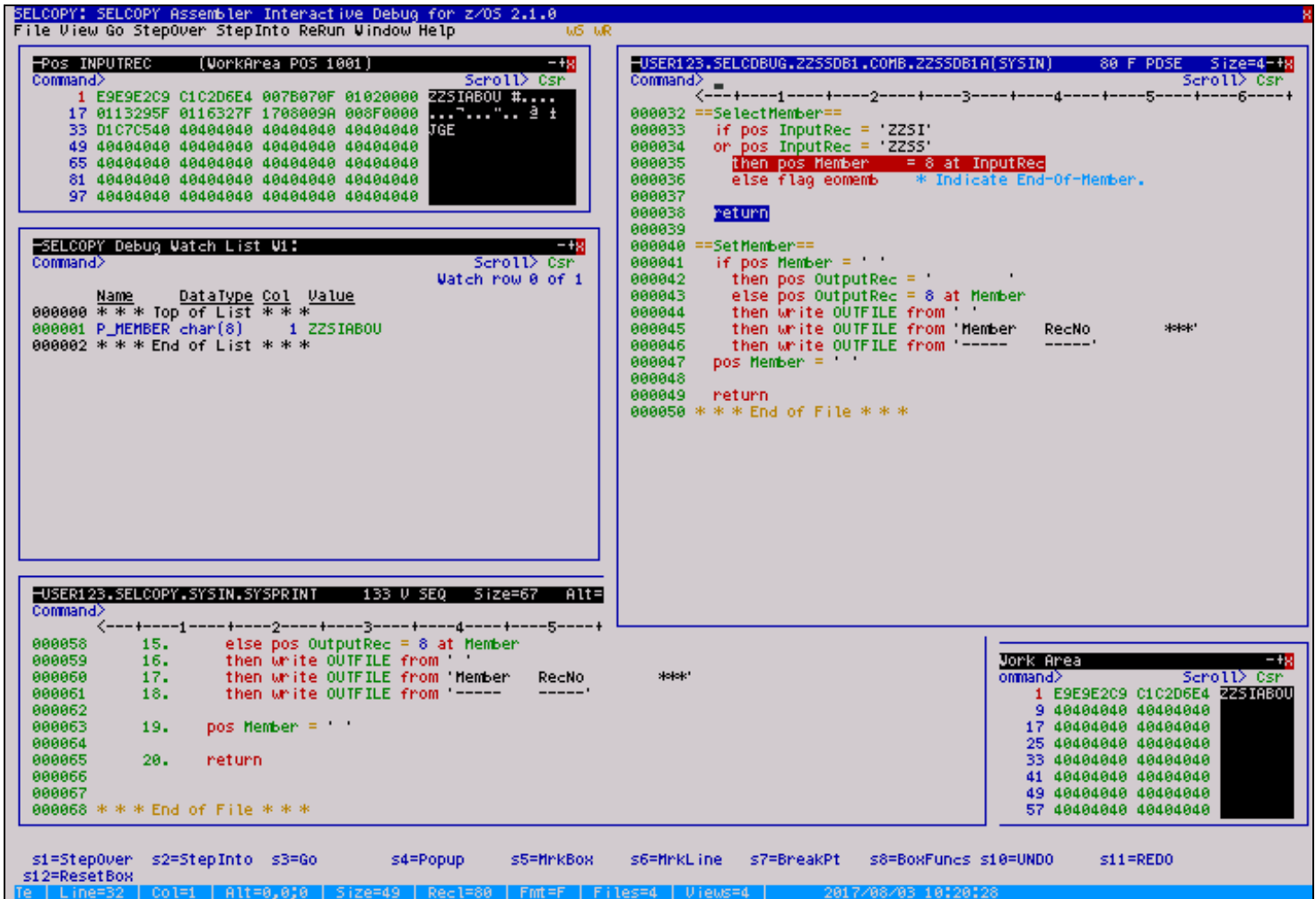


Figure 165. 19 SELCOPY/debug Windowed

Setting a second run BREAK point

- Use **StepOver** function a few more times to trace through the statements executed following location of a member within the required name range.

The next records read from **HELPLIB** will be **DATA** (not **DIRectory** records), so processing will continue with the **IF/OR** tests (starting on line 20) to determine the presence of the string "**<A**" (in either upper- or lower-case).

- Once again, for debugging purposes, we are not interested in any data record that doesn't contain a **hyper-link**, so it's sensible to set another **break-point** on the "**THEN**" sttement following this condition (line 21).
- Place your cursor anywhere within the SYSIN statement ...

```
then if pos @,InputRec+Lrecl-1 = '>' ptr=@END
```

... then press **Shift-F7 (F19)** to set the break-point. which again will be highlighted in **red reverse-video**.

- Press the "**GO**" function key **Shift-F3 (F15)** to run to the next break-point.

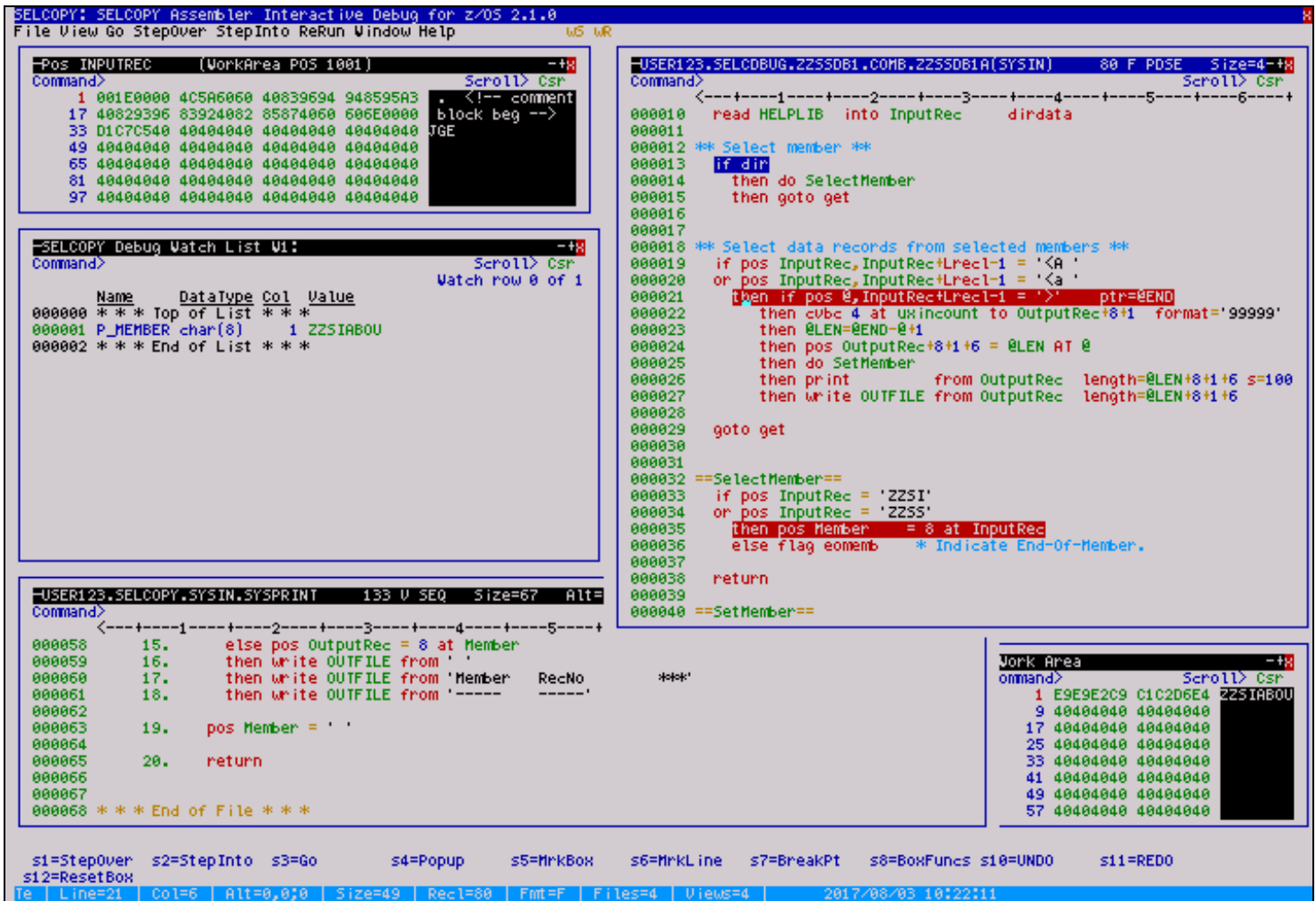


Figure 166. 20 SELCOPY/debug Windowed

Tracking a @xxx "pointer" location (1)

- The storage-window for "Pos INPUTREC" will now display the first input data record containing a **hyper-link**.

Note that the first 4-bytes of the record are occupied by the **record descriptor word (RDW)** prefix to all records read from Physical Sequential (**DSORG=PS**) files defined as containing variable length (**RECFM=V**) records.

SELCOPY's inclusion of the RDW within the input record may be controlled using the **RDW/NORDW** options.

- Although in this particular case it's not too difficult to spot the position of the "<a" string within the input record, a visual highlight of the location can often be extremely useful.

Since it has already been determined by SELCOPY at this point, the location is referable using the default "@" pointer variable (automatically set by a positional range-test).

- Place your cursor on the "@" symbol (on line 21 of control statements) then press **Shift-F4** to display the **popup** menu.

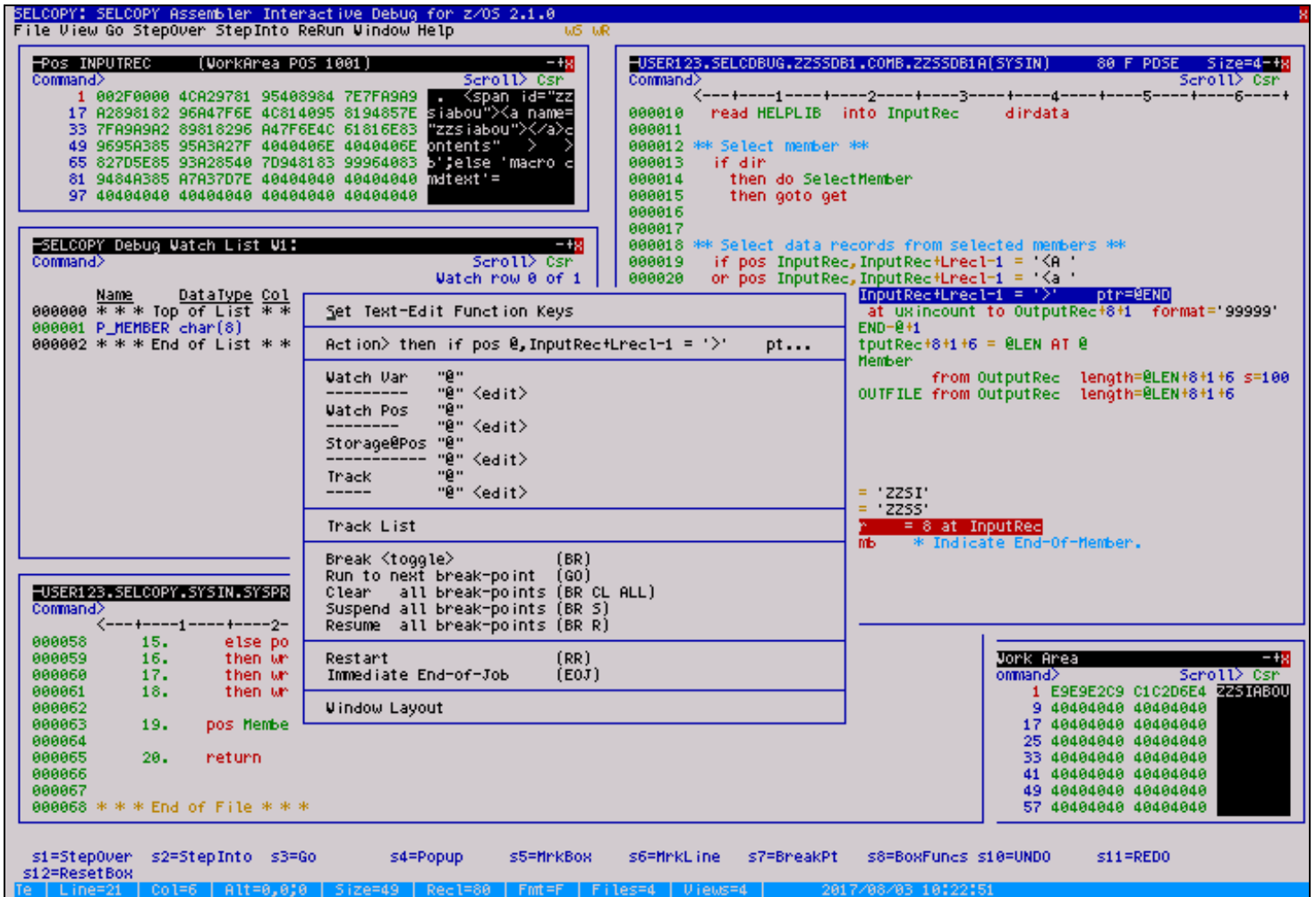


Figure 167.21 SELCOPY/debug Windowed

Tracking a @xxx "pointer" location (2)

- From the popup menu, select item **Track "@"** to display a selectable highlight colour list.

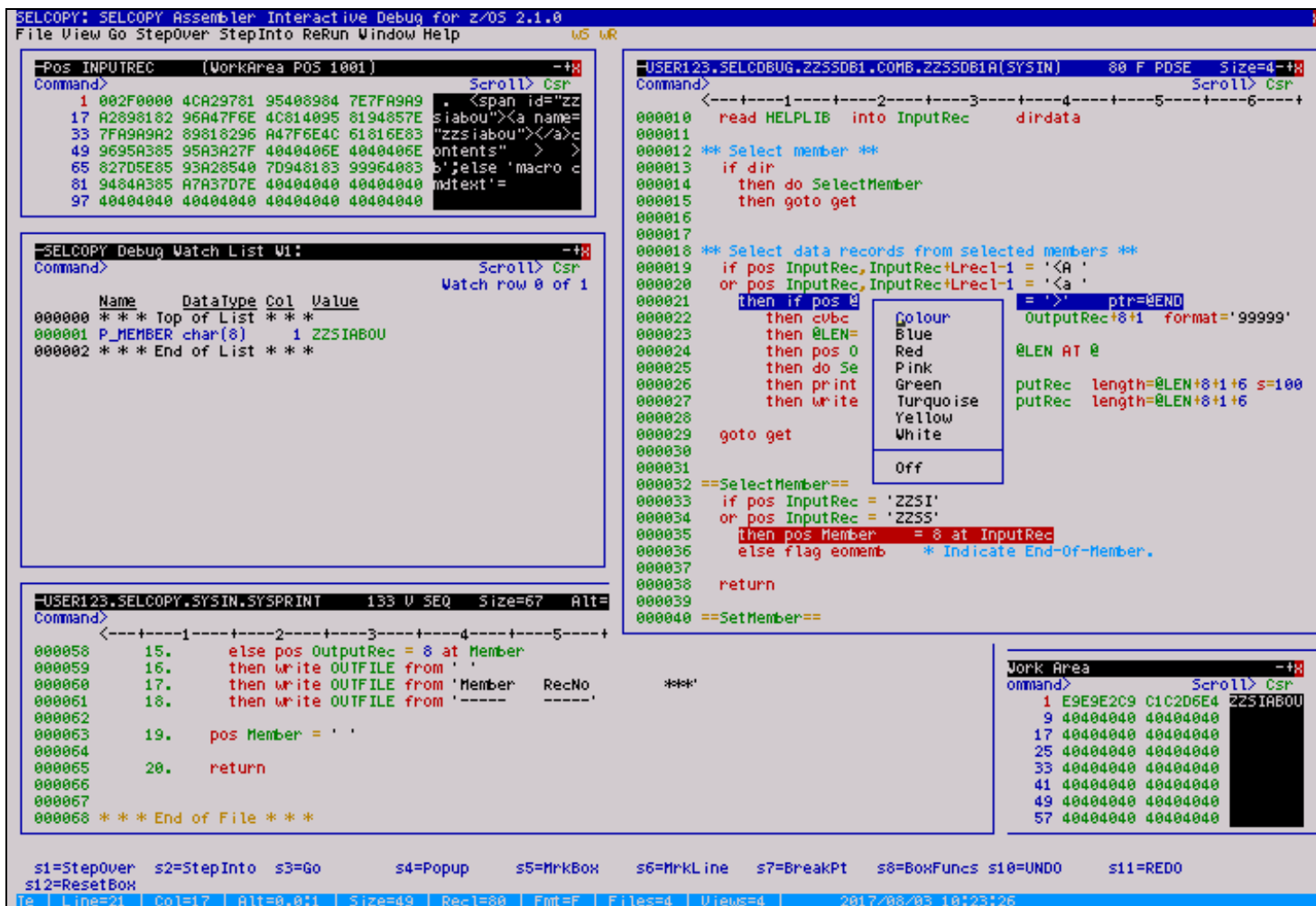


Figure 168. 22 SELCOPY/debug Windowed

Adding further WATCH list items (1)

- Select **Green** from the list of colours.

The location of the pointer variable @ will now be highlighted in **green reverse-video**.

Hilighting of tracked locations is applied to all storage windows.

Select **"Track List"** from the popup menu at any time if you need a reminder of your tracked items and their respective colours.

- The next statement determines the presence of the closing tag (">") and explicitly sets pointer variable @END to its location. Use the above technique again to track @END in **PINK**.
- Other positional expressions may also be tracked. Use the above technique once more to track **InputRec+Lrecl-1** in **RED**.

This mark will make it clear where the current input record ends, all data beyond being residue from previous records that still remains in the work area.

- Next we start to construct our output record. Line 22 of the control statements converts a 4-byte binary field (at pos **UXINCOUNT**) to numeric character at an offset within the output record (**OUTPUTREC+8+1**).

We'll monitor the construction of our output record by adding a WATCH item.

1. Place your cursor on any occurrence of the word **"OutputRec"** within the control statements.
2. Press **Shift-F4** to display the **popup** menu.
3. Select item **Watch Pos "OutputRec"** to display the WATCH panel.
4. Update the **Length**> field to **100**.
5. Leave the **Data-Type**> field as **CHA**.
6. Press **ENTER** to add the item to the existing Watch List.

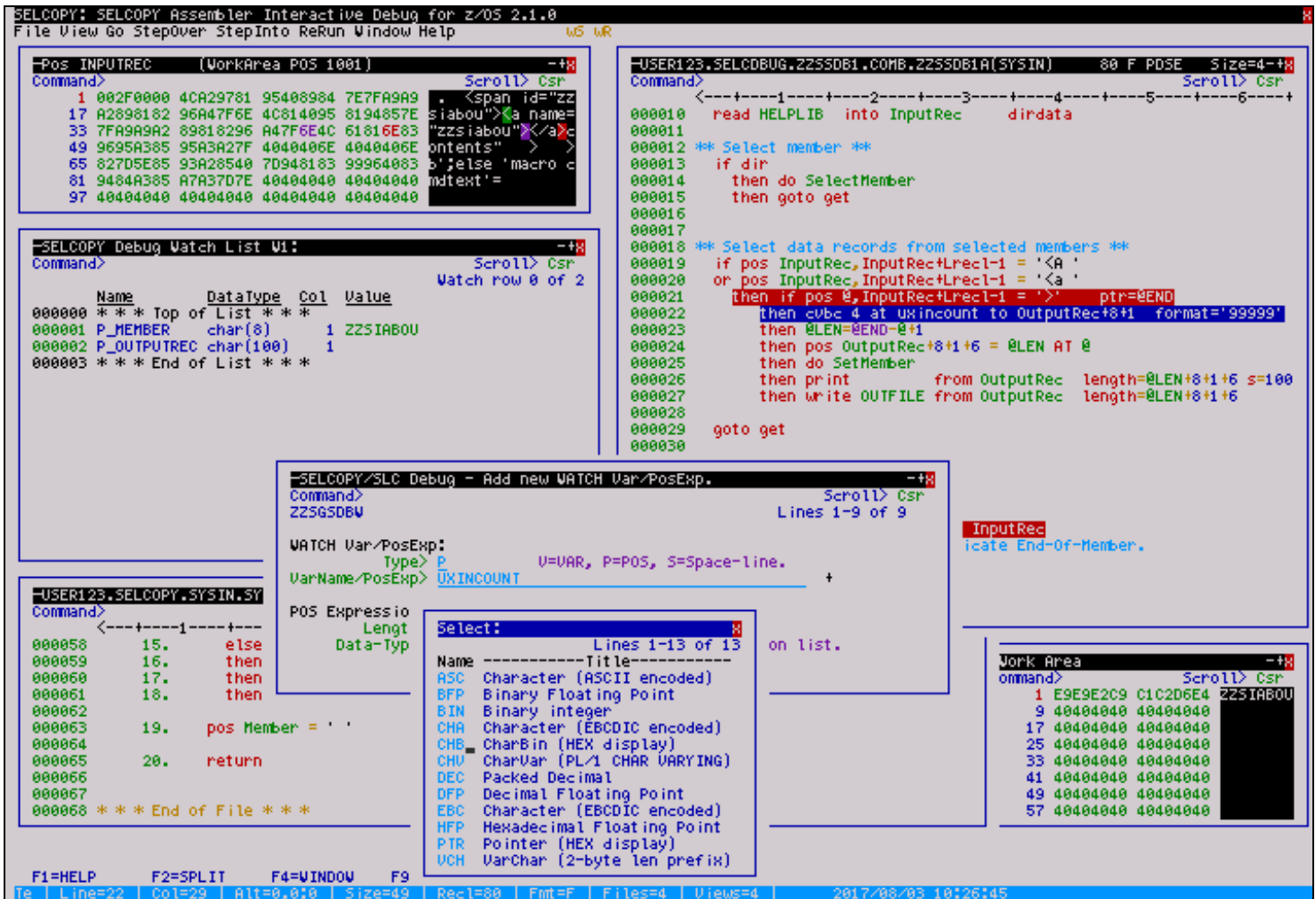


Figure 169. 22 SELCOPY/debug Windowed

Adding further WATCH list items (2)

- Repeat the previous technique to watch position **UXINCOUNT**, which is SELCOPY's internally maintained input record (4-byte binary) number .

For this item we'll select to display it using **hexadecimal** representation.

- Blank out the **Data-Type>** field and press **ENTER**.
- Select item **CHB** from the list

Alternatively we might choose to interpret the field as **BIN (Binary Integer)**.

- The next statement sets a numeric variable **@LEN**.

To watch the numeric value of **@LEN**:

- Place your cursor on any occurrence of the word "**@LEN**" within the control statements.
- Press **Shift-F4** to display the **popup** menu.
- Select item **Watch Var "@LEN"** to display the WATCH panel.
- Both the **Length>** and **Data-Type>** fields are ignored for **Type> V (V=VAR)** watch list items so just press **ENTER** to add the item to the Watch List.

- Items may also be added to the **Watch List** using a **command line interface**.

Type "**HELP WATCH**" for full information.

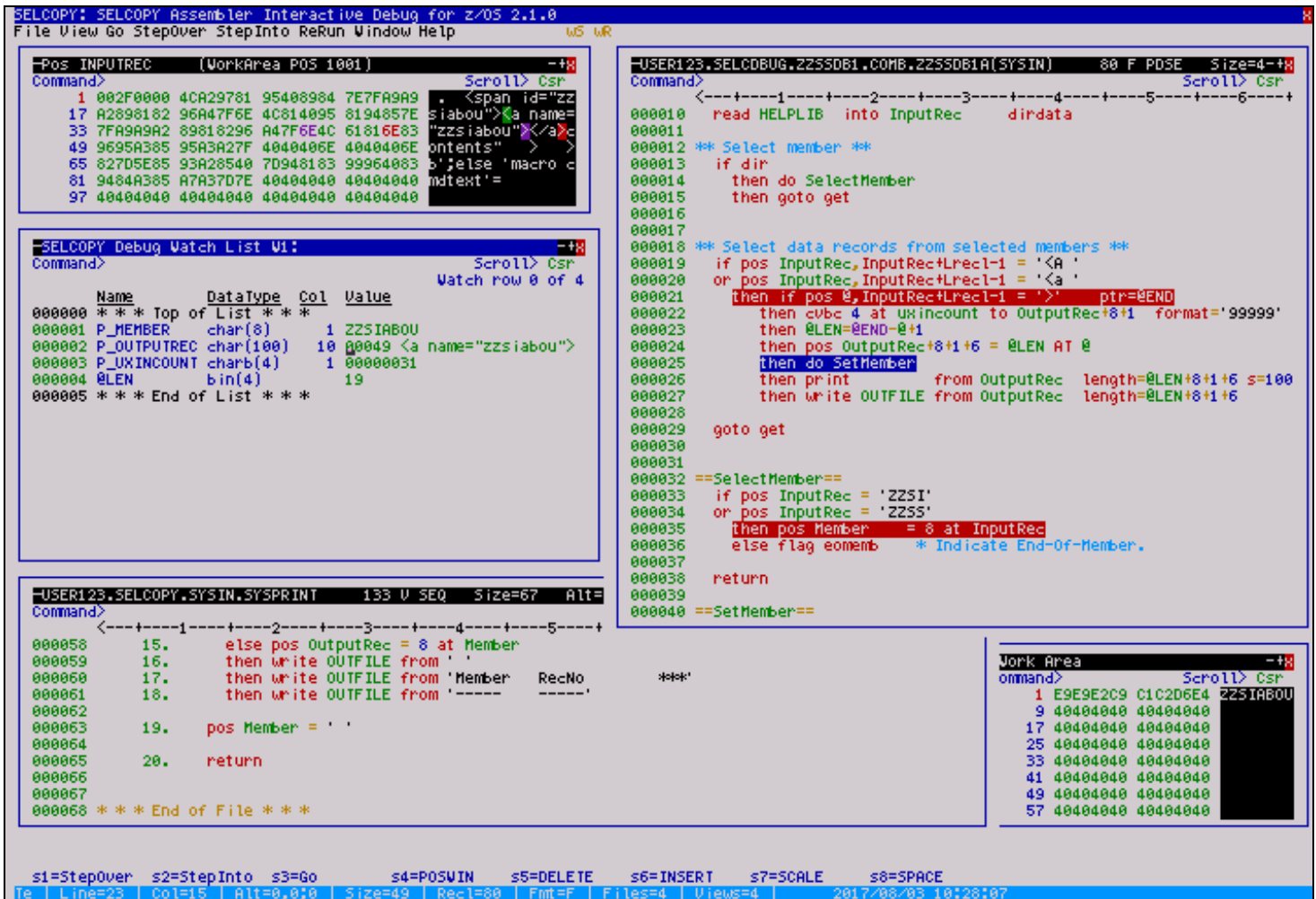


Figure 170. 23 SELCOPY/debug Windowed

Adding further WATCH list items (3)

- Use the **StepInto** operation to trace through the sub-routine **SetMember** which ensures that the member name is included in the output record for the first hit within each member only.

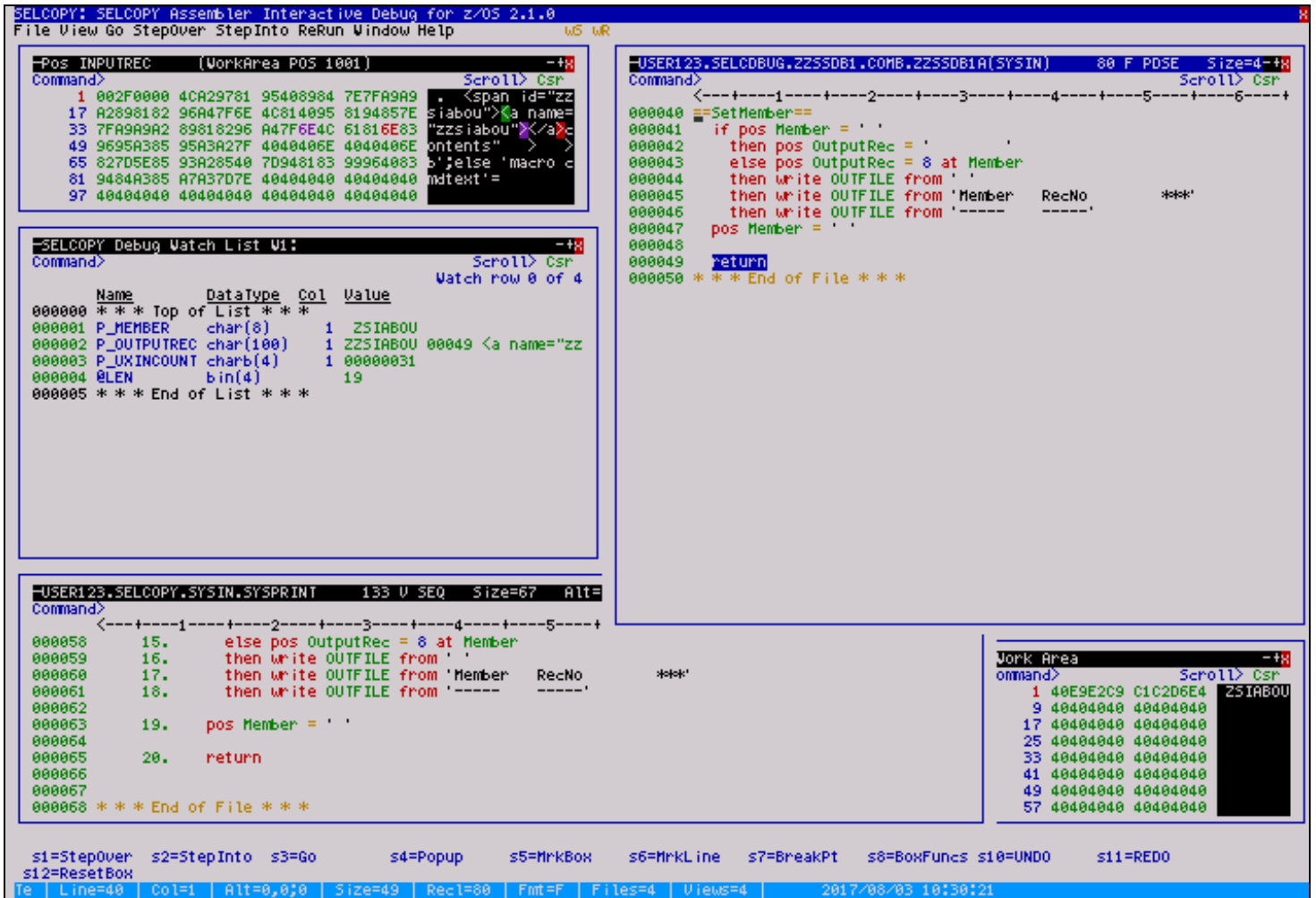


Figure 171.24 SELCOPY/debug Windowed

The SYSPRINT window

- Continue stepping through and past the **PRINT** statement on **line 26**.
- The **SYSPRINT** window will **automatically update** to display the printed output.

The screenshot displays the SELCOPY debugger interface with several windows open:

- INPUTREC (WorkArea POS 1001):** Shows assembly code with addresses and hex values. Line 26 is highlighted in red.
- Debug Watch List W1:** A table showing watched variables:

Name	Data Type	Col	Value
P_MEMBER	char(8)	1	Z5IABOU
P_OUTPUTREC	char(100)	1	Z25IABOU 00049
P_UXINCOUNT	charb(4)	1	00000031
LEN	bin(4)		19
- SYSPRINT:** Shows the execution flow. Line 26 is highlighted in red, showing the command: `then print from OutputRec length=@LEN+8+1+6 s=100`. Below it, the output of the print statement is visible: `pos Member = ' ' .`
- Work Area:** Shows a list of data records with columns for address, hex values, and the value 'Z5IABOU'.

At the bottom, a status bar contains keyboard shortcuts: s1=StepOver, s2=StepInto, s3=Go, s4=Popup, s5=MrkBox, s6=MrkLine, s7=BreakPt, s8=BoxFuncs, s10=UNDO, s11=REDO.

Figure 172. 25 SELCOPY/debug Windowed

Suspend/Resume all Break-Points

- Next remove each existing break point using the toggle key **Shift-F7**.
- Alternatively,
 - ◆ Type **"BReak ALL OFF"** to remove all existing break points at once.
 - ◆ Type **"BReak SUSPENDALL"** to suspend all existing break points.
 - ◆ Type **"BReak RESUMEALL"** to reinstate all suspended break points.
- With all other breaks removed or suspended add a new break on **line 27** (i.e. after execution of the PRINT statement).
- Now press the **GO** key (Shift-F3) repeatedly to see how the process progresses.

The SYSPRINT window should update after each GO operation.

- The screen shot below was recorded with **"HILITE OFF"** in effect (to remove syntax highlighting for the SELCOPY language)

... making it much clearer to see that:

- ◆ Pos expression **"InputRec+Lrecl-1"** is tracked in **red**.
- ◆ Pos expression **"@"** is tracked in **green**.
- ◆ Pos expression **"@END"** is tracked in **pink**.

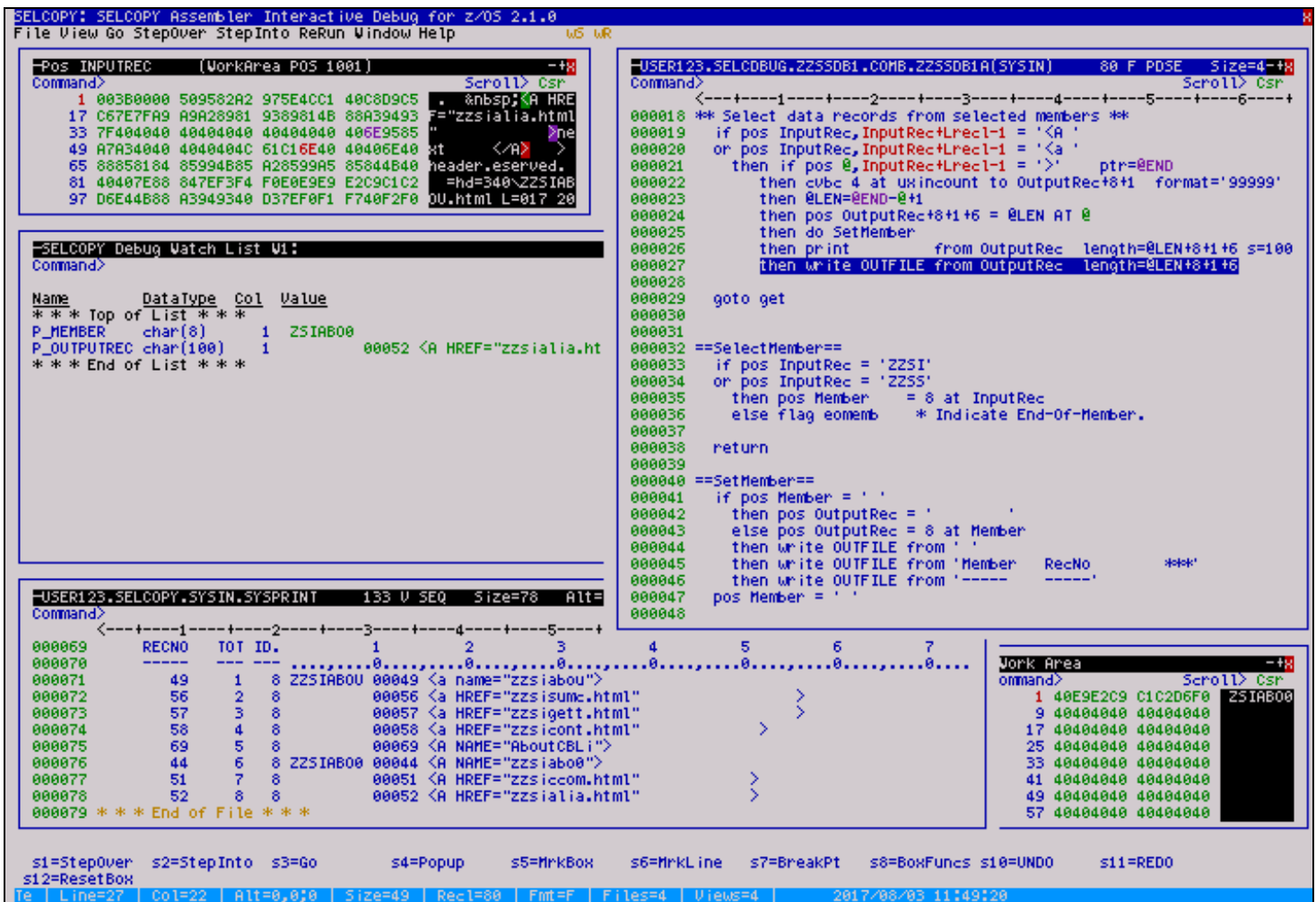


Figure 173. 26 SELCOPY/debug Windowed

WATCH List Options

- In order to optimise the visible area of your watch list window, you may wish to move its **prefix area** to the right and reduce its **width** to 2-characters.

Type **"PREFIX RIGHT 2"** (**PREF R 2**) from the command-line of the WATCH list window to do this.

- Type **"HELP SET"** (**H S**) from the command-line of the WATCH list window for more information on its customisable aspects.

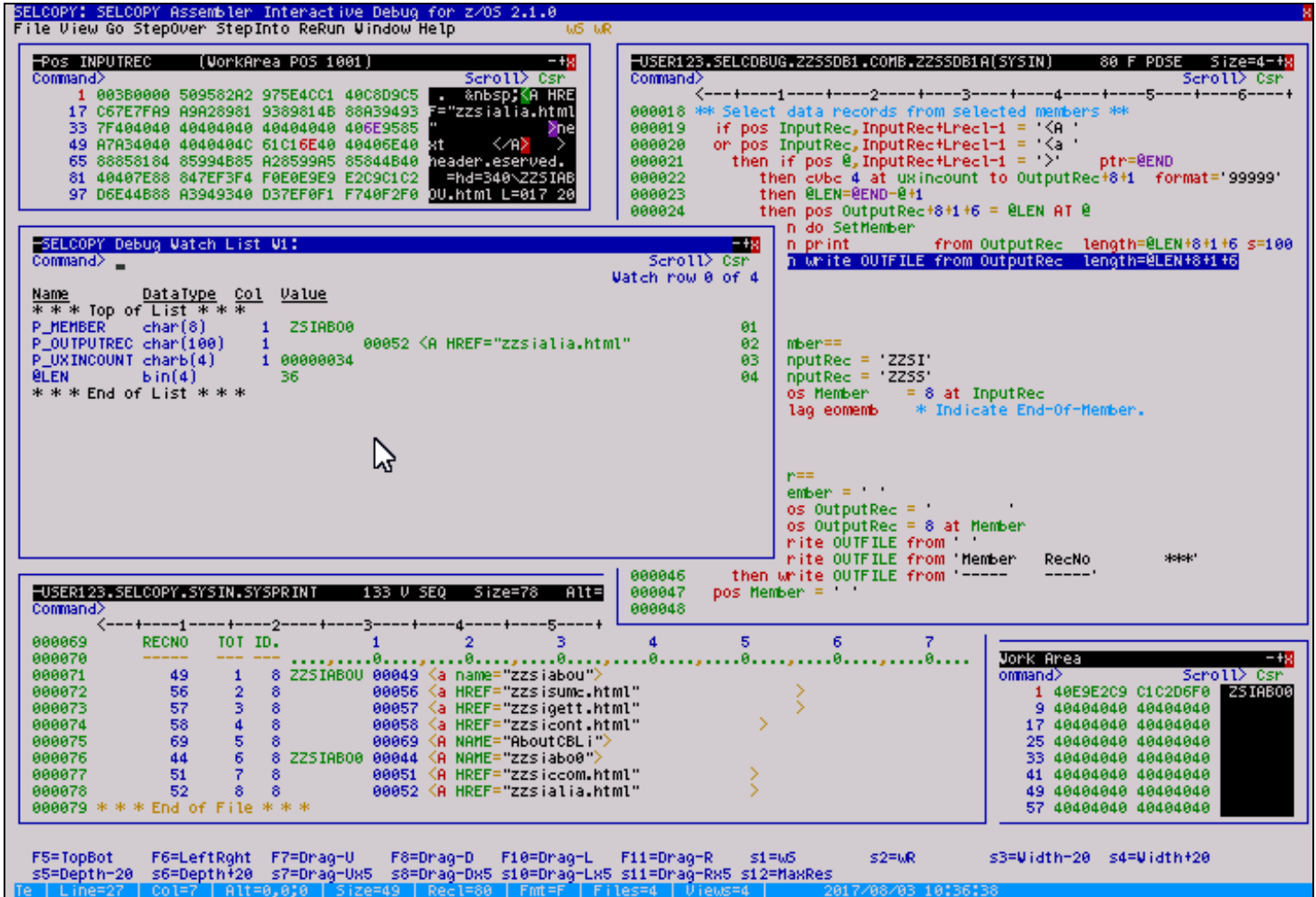


Figure 174. 27 SELCOPY/debug Windowed

Automatic BREAKIN threshold

- Next remove your last existing break point using the toggle key Shift-F7, then press the **GO** key (Shift-F3) with the intention of running to end-of job.
- Once all break points are removed, or the logic of your SELCOPY determines that none are actually hit, then to guard against infinite loops or unintentionally excessive I/O, the debugger will automatically break in after a certain number of statements have been processed.
- The default is 10,000 statements, but this may be overridden by typing **"SET BREAKIN nnn"** from the command-line of the SYSIN window.

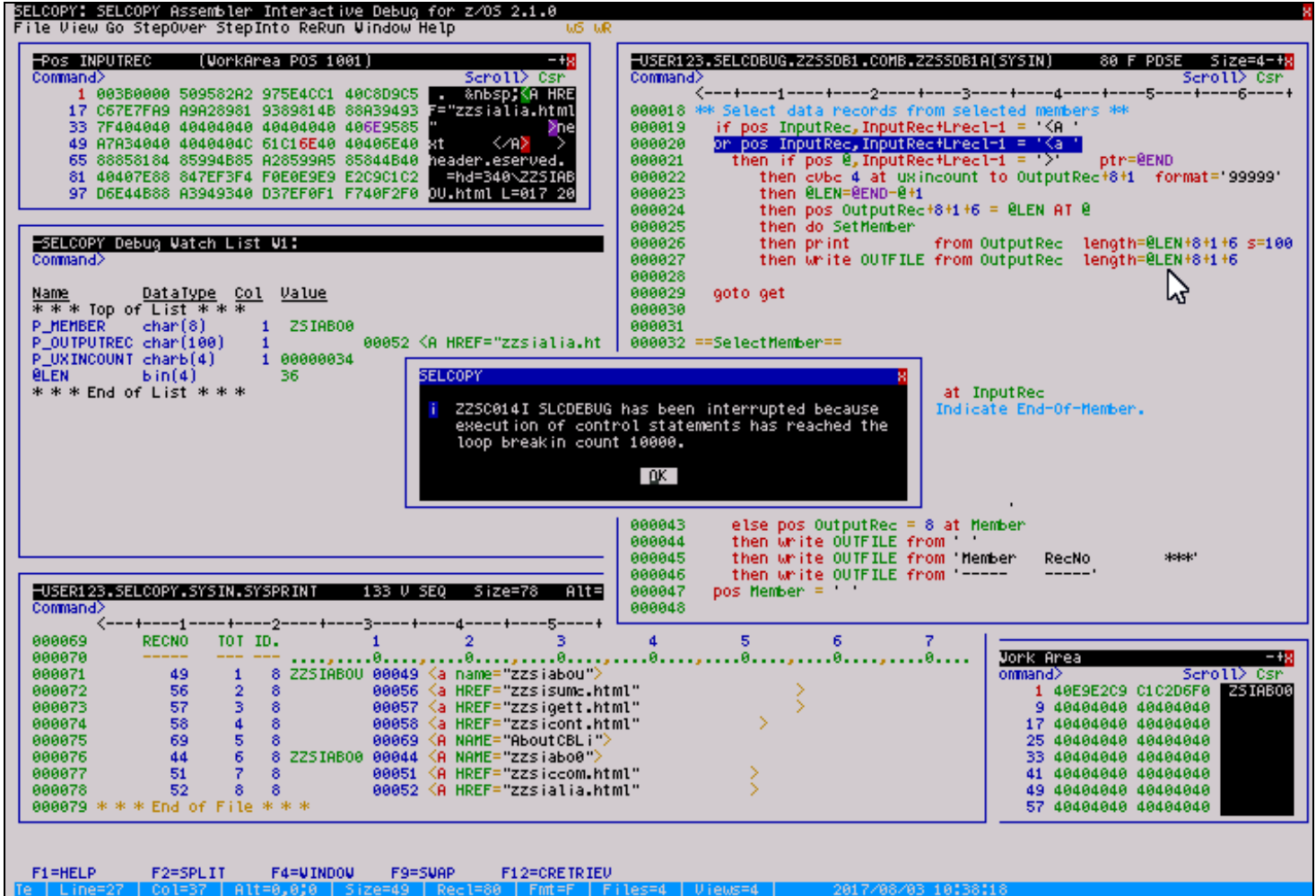


Figure 175. 28 SELCOPY/debug Windowed

EOJ/RERUN

- Once SELCOPY has reached **End-Of-Job** its run **statistics block** is displayed at the end of the SYSPRINT output.
- You may force early termination, and therefore display of the statistics block reflecting processing so far, by typing **"EOJ"** at any stage during the debug session.
- You may also restart your debug run from the beginning at any stage by typing **"RERUN (RR)"**.

Wherever possible **RERUN** will preserve all existing **BREAK** points, **WATCH** list items etc.

- You may modify and save your control statements at any time during the run, but if not already at **EOJ** then you will not be able to continue debugging without forcing a **RERUN**.
- Once SELCOPY has terminated, you may wish to examine one or more output files.

This can be done without leaving the debug environment, and since the SELCOPY selection summary usually contains the name of the output file required, you'll find it convenient to type **"DSN"** on the command-line then place your cursor on the dataset name before pressing **ENTER**.

See below.

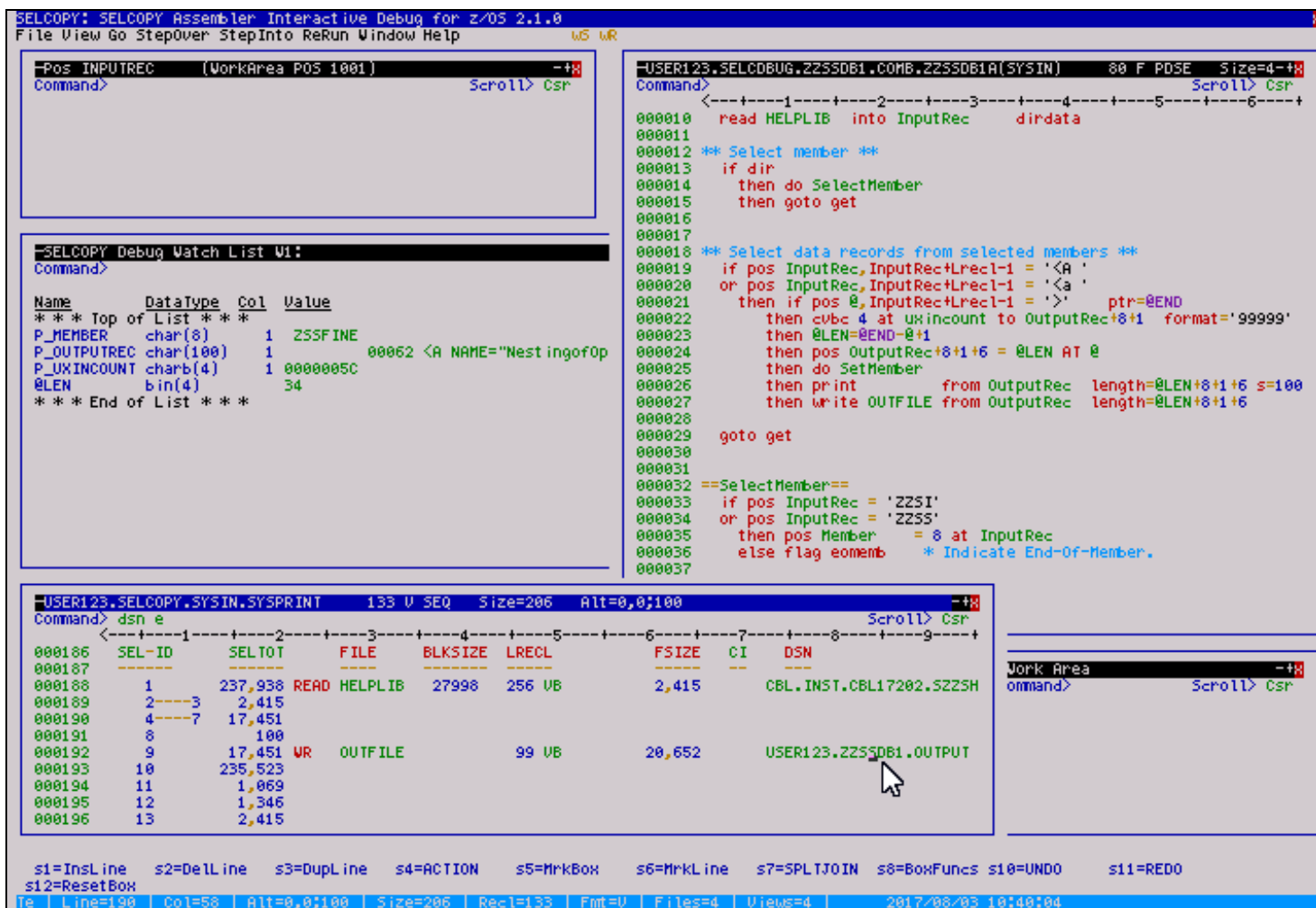


Figure 176. 29 SELCOPY/debug Windowed

View Output file(s) from debug environment

The screenshot displays the SELCOPY Assembler Interactive Debug interface for z/OS 2.1.0. The main window shows assembly code for a file named 'USER123.ZZSS0B1.OUTPUT'. The code consists of three sections, each starting with a 'Member' and 'RecNo' header, followed by HTML-like tags. A mouse cursor is visible over the code.

```

000001
000002 Member RecNo      ***
000003 -----
000004 ZZSIABOU 00049 <a name="zssiabou">
000005           00056 <a href="zssisumc.html"
000006           00057 <a href="zssiget.html"
000007           00058 <a href="zssicont.html"
000008           00059 <a name="AboutCBLi">
000009
000010 Member RecNo      ***
000011 -----
000012 ZZSIABOU 00044 <A NAME="zssiabo">
000013           00051 <A href="zssicom.html"
000014           00052 <A href="zssialia.html"
000015           00053 <A href="zssicont.html"
000016           00064 <A NAME="ABOUT">
000017           00070 <A NAME="syn">
000018           00076 <A NAME="des">
000019           00079 <A href="zssisabo.html#zssisabo">
000020
000021 Member RecNo      ***
000022 -----
000023 ZZSIACIN 00055 <a name="ZZSIACIN">
000024           00062 <a href="zssicom.html"
000025           00063 <a href="zssialia.html"
000026           00064 <a href="zssicont.html"
000027           00077 <A NAME="ACIION">
000028           00082 <A NAME="syn">
000029           00095 <A NAME="des">
000030           00251 <A NAME="par">
000031           00272 <A NAME="eha">
000032           00274 <A href="zssicom.html#zssicom">
000033           00278 <A href="zssiclos.html#zssiclos">
000034           00279 <A href="zssiwlay.html#clo">
000035           00304 <A href="zssixcbl.html#zssixcbl">
000036           00308 <A href="zssildas.html#zssildas">
000037           00312 <A href="zssilcat.html#zssilcat">
000038           00316 <A href="zssilcat.html#zssilcat">
000039           00320 <A href="zssillib.html#zssillib">
000040           00328 <A href="zssiwil0.html#zssiwil0">
000041           00332 <A href="zssicale.html#zssicale">
000042           00336 <A href="zssical1.html#zssical1">
000043           00355 <A NAME="see">
  
```

On the right side, there is a window titled '(SIN) 80 F PDSE Size=4-+X' showing assembly code for 'dirdata' and 'ed members **'. Below that is a 'Work Area' window with 'mmand>' and 'Scroll> Csr'.

At the bottom, there is a status bar with various settings: s1=InsLine, s2=DelLine, s3=DupLine, s4=ACTION, s5=MrkBox, s6=MrkLine, s7=SPLTJOIN, s8=BoxFuncs, s10=UNDO, s11=REDO. The bottom-most bar shows 'Te | Line=1 | Col=1 | Alt=0,0;0 | Size=20652 | Rec1=252 | Fmt=U | Files=5 | Views=5 | 2017/08/03 10:41:09'.

Figure 177. 30 SELCOPY/debug Windowed

Option 12 - DB2

DB2 support is included as a standard component of the FileKit program. i.e. it is not a separately licensable product.

As well as browsing and editing DB2 tables, FileKit provides tools to

- issue DB2 commands,
- execute SQL,
- list DB2 objects with extended functionality,
- create DB2 object (Tables, Indexes etc) using "wizard" style dialogs to generate SQL,

Focusing on table edit, during this section you will learn about:

- *Setting up sample DB2 Tables*
- *Display of DB2 Table detailed Information (INFO)*
- *DB2 Table Edit*
- *Editing selected table rows (using the "WHERE" dialog)*
- *Editing Related Tables (REDIT)*
- *Generating CSV, XML or JSON from selected table rows/columns*
- *Handling Relational Constraint Errors*

Setting up sample DB2 Tables

FileKit will create some sample DB2 Tables for you.

The table data will be copied from your own FileKit sample datasets (See chapter "Setup Training Material" if you haven't created these) and represents a simple recorded music collection.

The sample database comprises a hierarchy of **Artist**, **Album** and **Track** table rows.

To create your own personal tables, allowing you to follow the training manual in real time, first select option 12 from the main FileKit Primary Options Menu to display the **DB2 Primary Options Menu** as shown below.

If necessary fill in the name of the **DB2 Subsystem** and your **SQLID** in the enterable fields.

A further optional check box may be selected to request that FileKit DB2 auditing should occur. Audit of DB2 table edit views is managed separately and is not affected by this check box setting. If **Create Audit File** is selected, an audit log file will be allocated immediately before attempting to connect to the DB2 subsystem and closed when the connection is dropped.

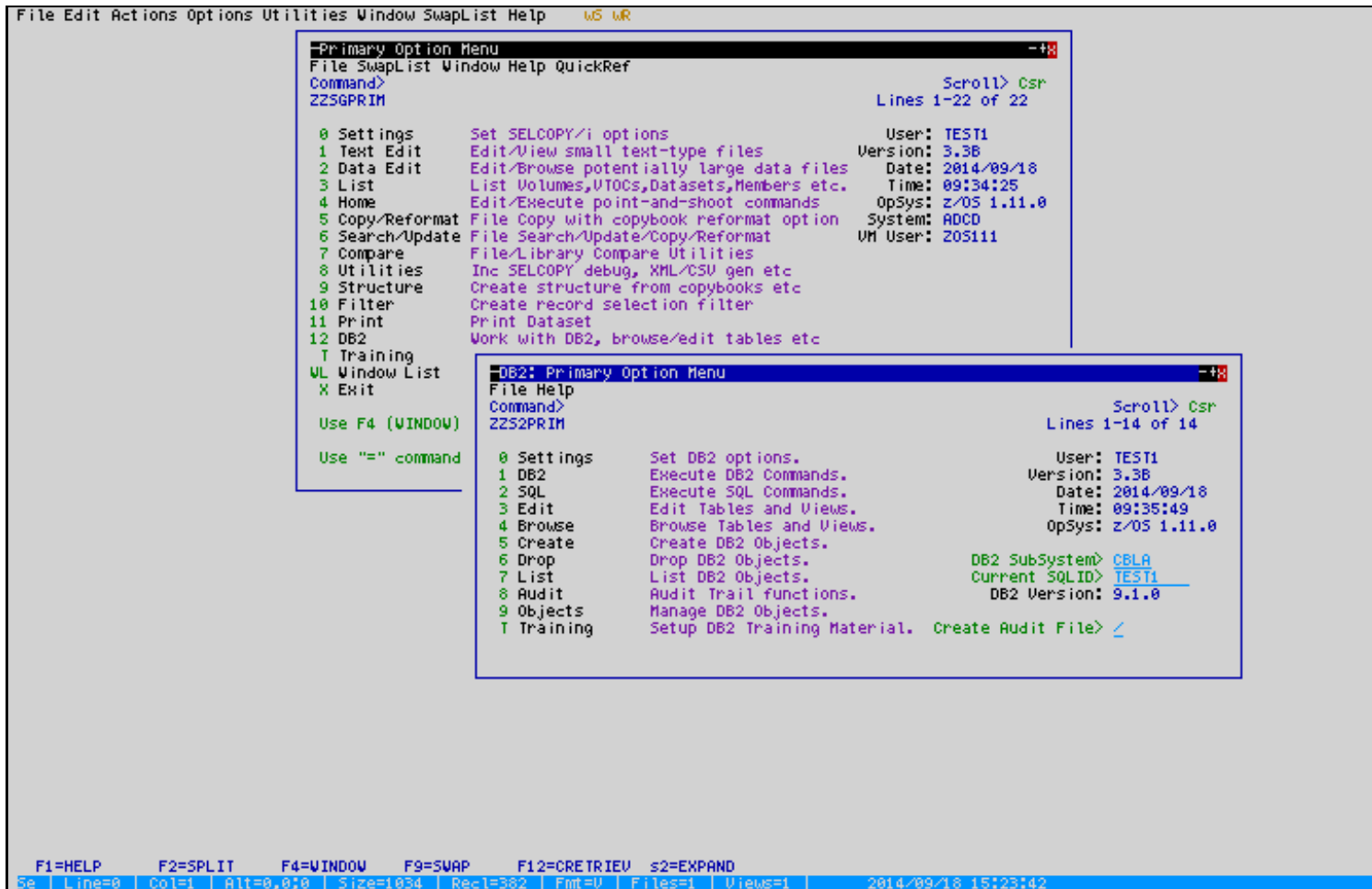


Figure 178. FileKit DB2 Figure 01

Setting up sample DB2 Tables (2)

- Select option **T - Setup DB2 Training Material**.

A new panel will be displayed as shown below.

- Enter the name of a DB2 Database in which you wish to create the sample tables.

This option defaults to your **current SQLID**.

If the database does not already exist, then it will be created using DB2 defaults and **CCSID EBCDIC**.

- Press **ENTER** to start the setup procedure.

While the setup is running you can expect the screen to update a few times, and for a number of messages to appear and disappear.

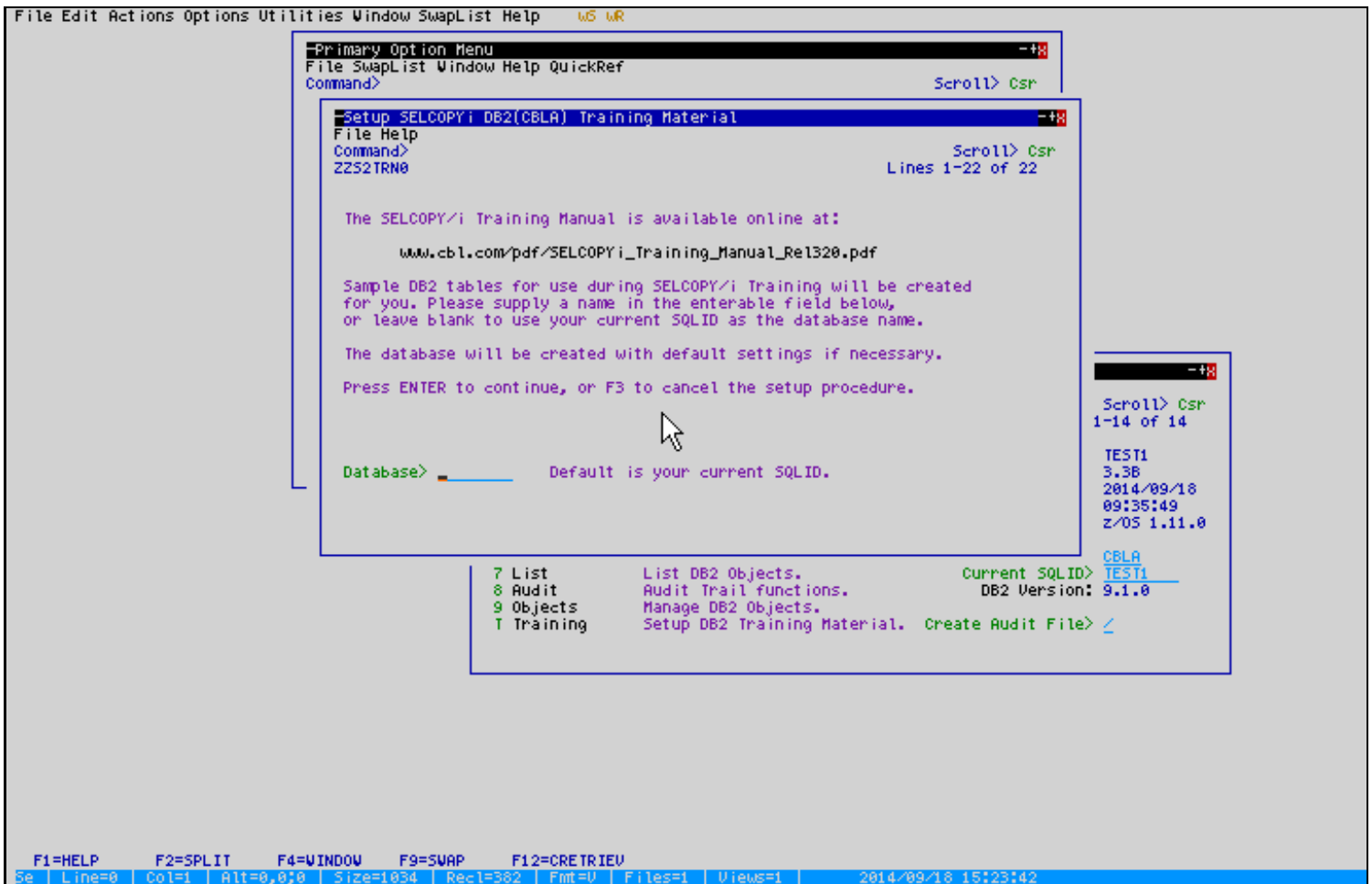


Figure 179. FileKit DB2 Figure 02

- Eventually, provided no serious errors occur, you should expect to see the following message box.

```

+-----+
| FileKit DB2 Training - Initial Setup Complete | x |
| The DB2 Training Material sample database and tables have been |
| successfully created. |
| Press PF3 to view the tables in a list window. |
| The FileKit Training Manual is available online at |
| www.cbl.com/pdf/FileKit_3.40_Training_Manual.pdf |
| OK |
+-----+

```

Press **ENTER** or **F3** to continue.

Setting up sample DB2 Tables (3)

- The sample tables will be displayed in a "List Tables" window, as shown below.
- "List" windows to display tables, and many other DB2 objects, may be opened by selecting **Option 7** from the DB2 Primary Options Menu.

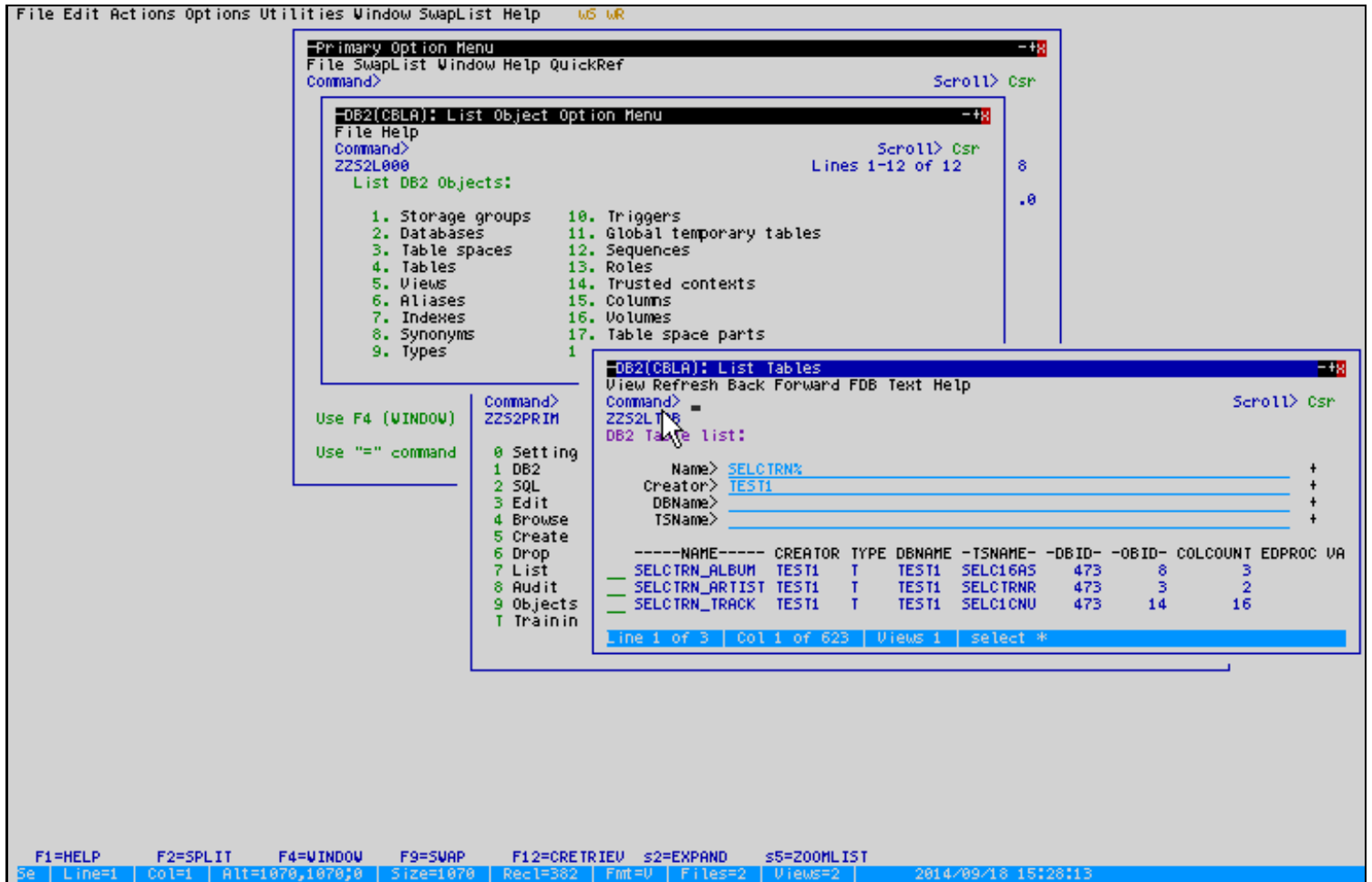


Figure 180. FileKit DB2 Figure 03

DB2 Table Information

- At the "List Tables" window, enter "/" (forward slash) in the prefix area for table *sqlid.SELCTR_N_ALBUM* (the first table in the list).

A popup window will be displayed detailing all of the line-commands available to this type of object list.

- Place your cursor anywhere on the "I - Table Information" entry in the popup list, then press ENTER.

Alternatively, enter the "I" line-command directly into the prefix area for table *sqlid.SELCTR_N_ALBUM*.

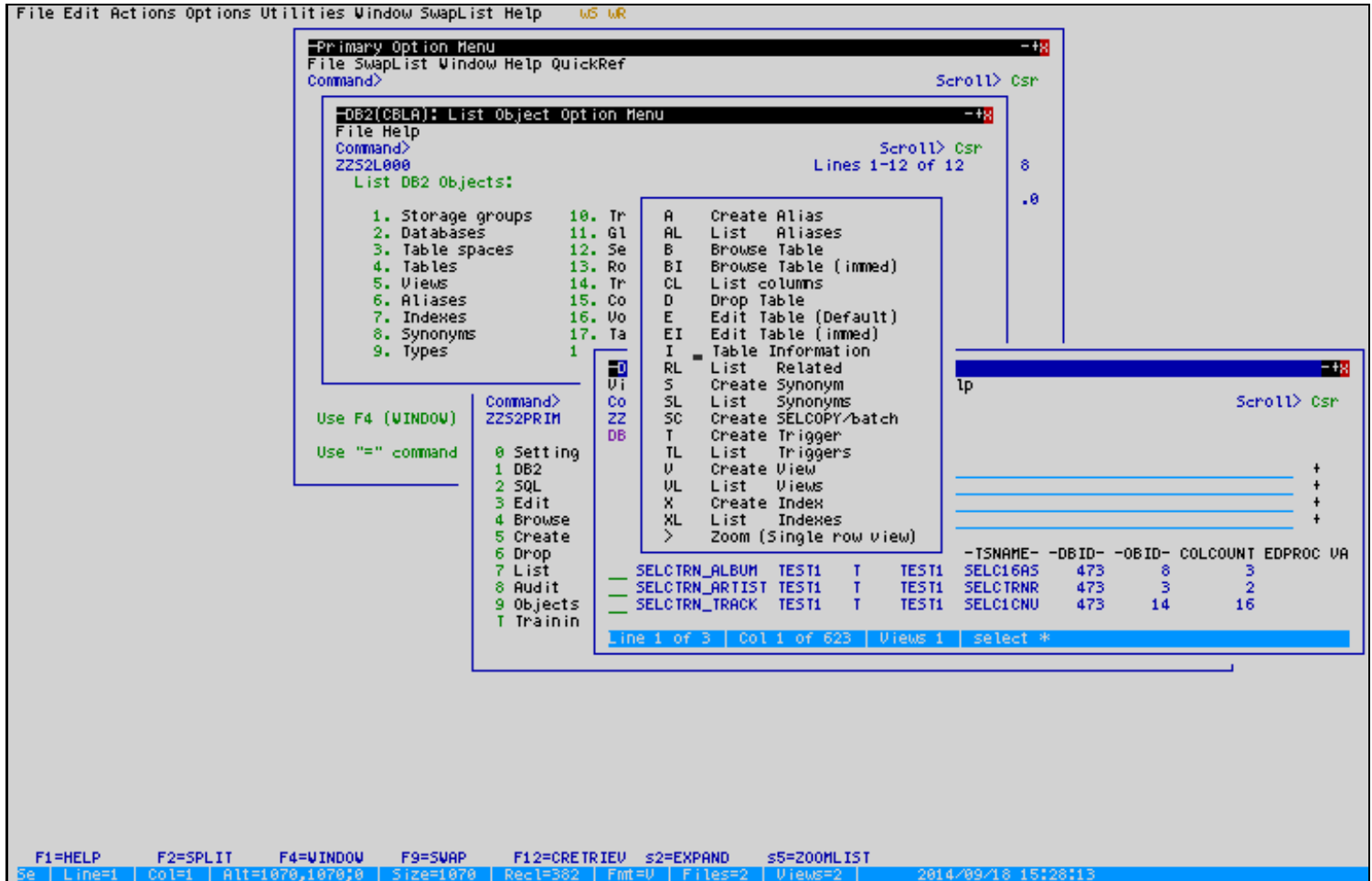


Figure 181. FileKit DB2 Figure 04

DB2 Table Information (2)

- An **HTML** document window will display detailed information about the selected DB2 table.
 - Underlined text denotes a **hyperlink** to other significant parts of the document.
- Use the **TAB** key to move the cursor immediately to the next/previous hyperlink.
- With your cursor on a link, press **ENTER** to make the jump.
- Press **F3** repeatedly to return from any number of nested hyperlink jumps.

The screenshot displays the DB2 command window interface. The left pane shows the 'List DB2 Objects' menu with the following options:

- 1. Storage groups
- 2. Databases
- 3. Table spaces
- 4. Tables
- 5. Views
- 6. Aliases
- 7. Indexes
- 8. Synonyms
- 9. Types

The right pane displays the table information for TEST1.SELCTR_N_ALBUM:

```

Table:          TEST1.SELCTR_N_ALBUM          Type:          Base table
In Database:    TEST1                          Tablespace:    SELC16A5

Table columns:  3                               Primary key columns:  1
Table indexes:  1                               Referential constraints:  1
Unique constraints:  1                         Check constraints:     0
Parent tables:  1                               Child tables:         1

Database object id:  473                       Table object id:      8
Encoding scheme:    EBCDIC                      Table access audit:   None
Edit procedure name:

Label:
Remarks:

Created by:        TEST1
Create time stamp: 2014-09-18 15:28:03.759226

Statistics for table TEST1.SELCTR_N_ALBUM
RUNSTATS time stamp: 0001-01-01 00.00.00.000000

Number of rows:    -1                          Pages used:          -1
DASD kilobytes:    -1

Columns of table TEST1.SELCTR_N_ALBUM

```

Column Number	Prime Key Seq	Name	Type	Length or Precision	Scale	Type Code	Null
1	1	<u>ID</u>	SMALLINT	2	0	500	No
2		<u>NAME</u>	VARCHAR	80	0	448	No
3		<u>ARTIST_ID</u>	SMALLINT	2	0	500	No

Line 1 of 170 Col 1 of 78 File: TEST1.D2014261.T1529576.HTML(TBINFO)

F3=BACK F5=TEXT F6=SOURCE F7=UP F8=DOWN s4=FORWARD
Se | Line=1 | Col=1 | Alt=1070,1070;0 | Size=1070 | Rec1=382 | Fmt=U | Files=2 | Views=2 | 2014/09/18 15:28:13

DB2 Table Information (3)

- Place your cursor on the link for "**Referential constraints:**" then press ENTER.
- We can see that **SELCTR_N_ALBUM** has both
 - ◆ a **parent** table (SELCTR_N_ARTIST), and
 - ◆ a **child** table (SELCTR_N_TRACK).
 and that the **Delete Rule** is **Restrict** in both cases.
- Press **F3** to exit the Table Information window and return to the Table List.

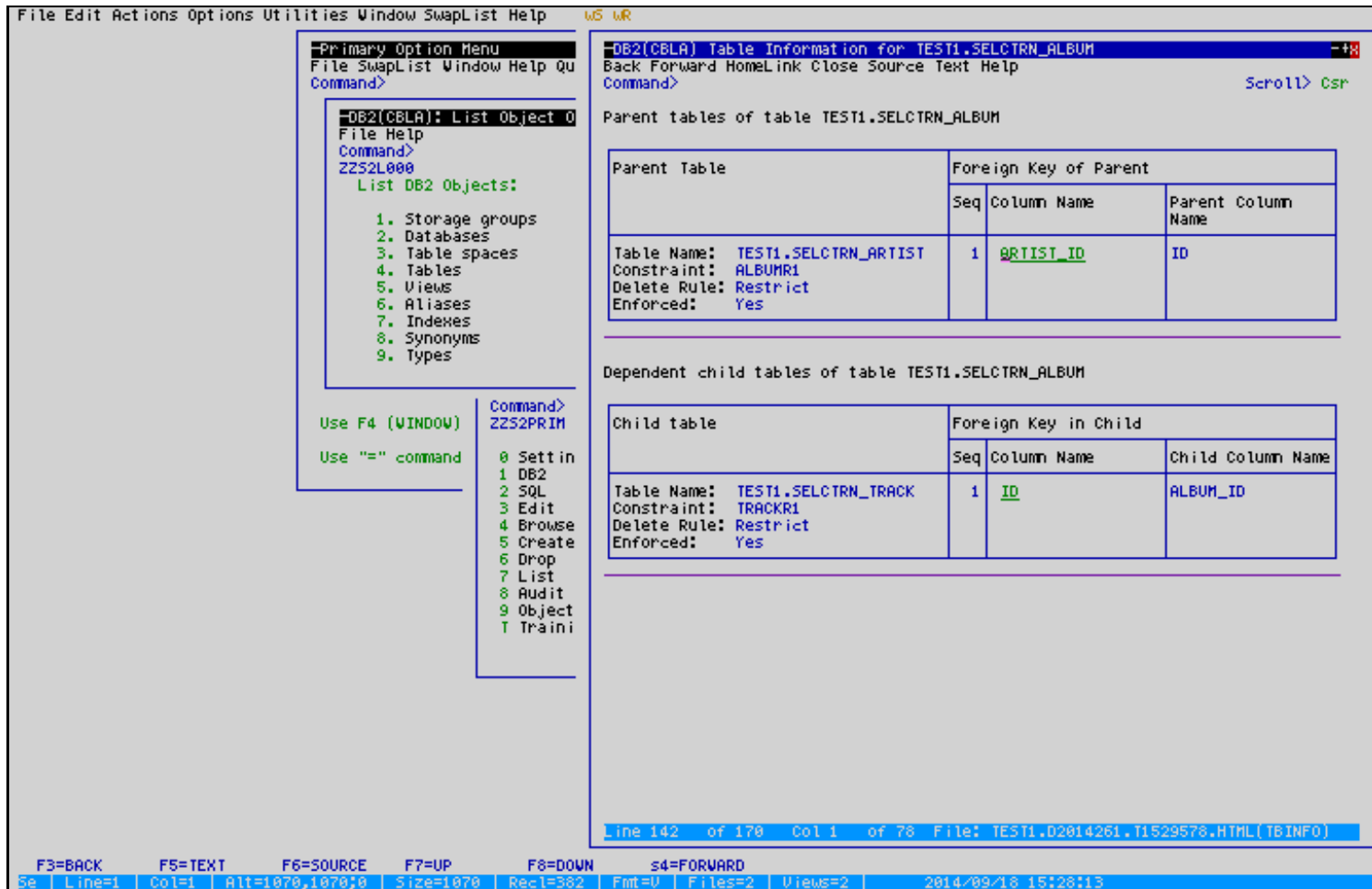


Figure 182. FileKit DB2 Figure 05

DB2 Table Edit

- In the prefix area for table **SELCTRN_TRACK** enter the line-command **"E"** to start the DB2 Edit Table dialog.
- Since **"E"** is the default line-command, you can actually just place your cursor anywhere on the line and press **ENTER**, or select it by double-clicking with your mouse.
- The DB2 Table edit dialog will appear with the selected table name already filled in.

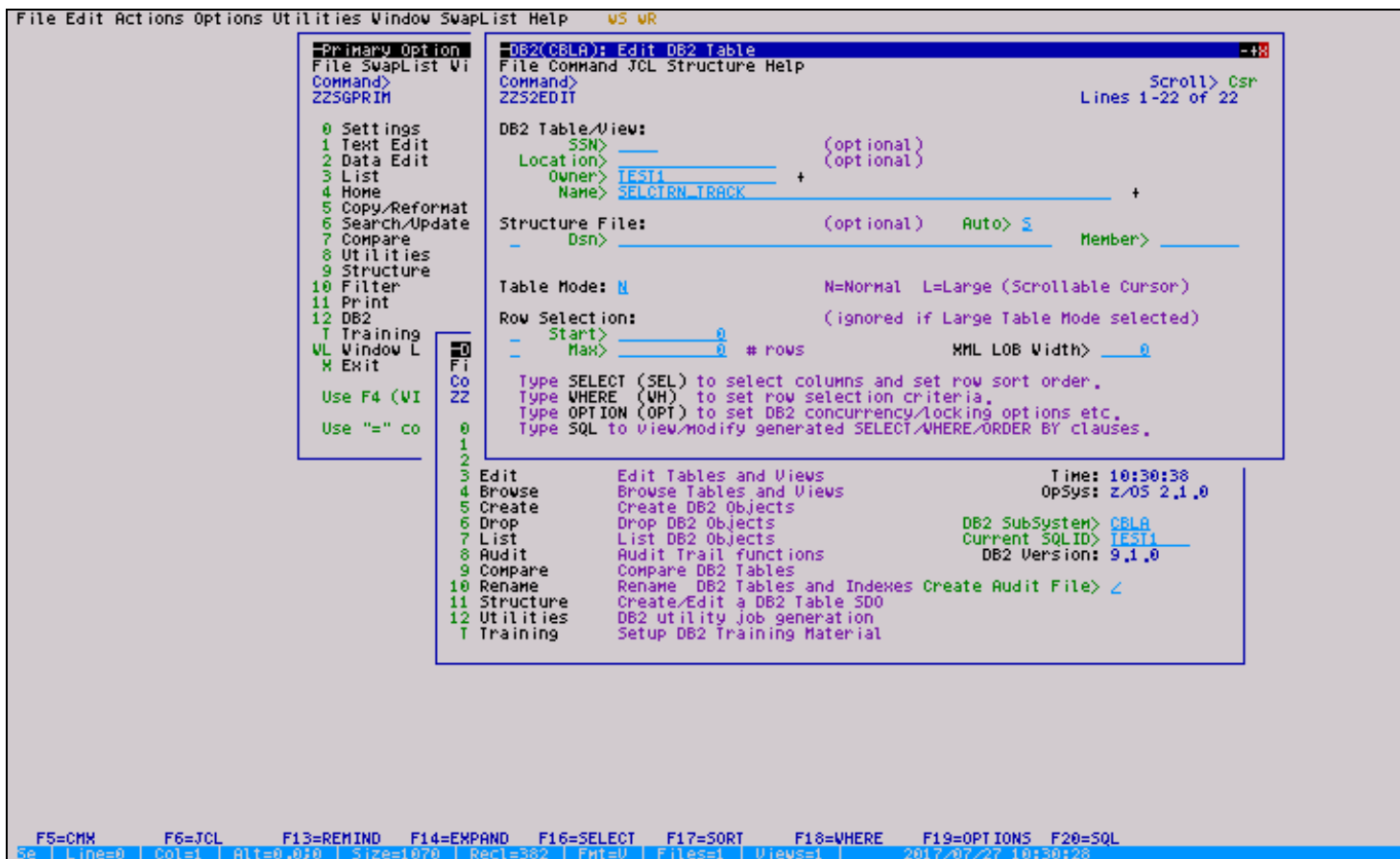


Figure 183. FileKit DB2 Figure 06

DB2 Table Edit (2)

- Ensure that none of the **Row/Column Selection Options** are set, then press **ENTER** to edit the **TRACK** table.
- The table will be displayed in default multi-row format.

Scroll up/down using **F7/8** to view and edit further rows.
 Scroll left/right using **F10/F11** to view and edit further columns.

- Type the **INFO** primary command to display detailed information about the currently edited DB2 table.
- All the power of the FileKit **Data-Editor** is now at your finger tips.

e.g. to open another separately scrollable view of the same table just type the primary command **WIN NEW** or **WW**.

```

File Edit Actions Options Utilities Window SwapList Help  WS WR
-DB2(CBLA): Edit table TEST1_SELCTR_TRACK in tablespace TEST1_SELCP150
Command>                                     Scroll> CSR
                                               Top of 1070
Table: TEST1_SELCTR_TRACK
  ALBUM_ID  TRACK_NUM  NAME
    #1      #2 #3
  SMINT    SMINT  VARCHAR(120)
<---+>    <---+> <---+---1---+---2---+---3---+---4---+---5---+---6---+---7---+---8---+---9---
00000000 *** Top of Data ***
00000001    10      1 Rolling In the Deep<
00000002    10      2 Rumour Has It<
00000003    10      3 Turning Tables<
00000004    10      4 Don't You Remember<
00000005    10      5 Set Fire to the Rain<
00000006    10      6 He Won't Go<
00000007    10      7 Take It All<
00000008    10      8 I'll Be Waiting<
00000009    10      9 One and Only<
00000010    10     10 Lovesong<
00000011    10     11 Someone Like You<
00000012    10     12 I Found a Boy (Bonus Track)<
00000013    10     13 Adele 21 - A Track By Track Interview<
00000014    20      1 Hold On<
00000015    20      2 I Found You<
00000016    20      3 Hang Loose<
00000017    20      4 Rise to the Sun<
00000018    20      5 You Ain't Alone<
00000019    20      6 Goin' to the Party<
00000020    20      7 Heartbreaker<
00000021    20      8 Boys & Girls<
00000022    20      9 Be Mine<
00000023    20     10 I Ain't the Same<
00000024    20     11 On Your Way<
00000025    20     12 Heavy Chevy<
00000026    30      1 Converted<
00000027    30      2 Speed Up the Sound of Loneliness<
00000028    30      3 Woke Up This Morning<
00000029    30      4 U Don't Dans 2 Tekno<
00000030    30      5 Bourgeoisie Blues<
00000031    30      6 Ain't Goin' to Goa<

F5=RFIND  F6=RCHANGE  F13=InsLine  F14=DelLine  F15=DupLine  F16=Options  F17=ZoomW  F22=UNDO  F23=REDO
Se | Line=0 | Col=1 | Alt=0,070 | Size=1070 | Rec1=382 | Fmt=U | Files=1 | Views=1 | 2017-07-27 10:33:59
  
```

Figure 184. FileKit DB2 Figure 07

The Zoom Window

- With your cursor anywhere on a particular row, press the "ZoomW" key (Shift-F5) to open a separate window displaying the selected row in "zoomed" format.
- Additional DB2 specific column attribute information is displayed in a zoomed view.
Type primary command "HELP COLATTR" (H COLA) for more details on the content of these columns.
- Any number of zoomed view windows may be opened at the same time, then moved/resized as desired, making visual comparison of multiple rows beautifully simple.

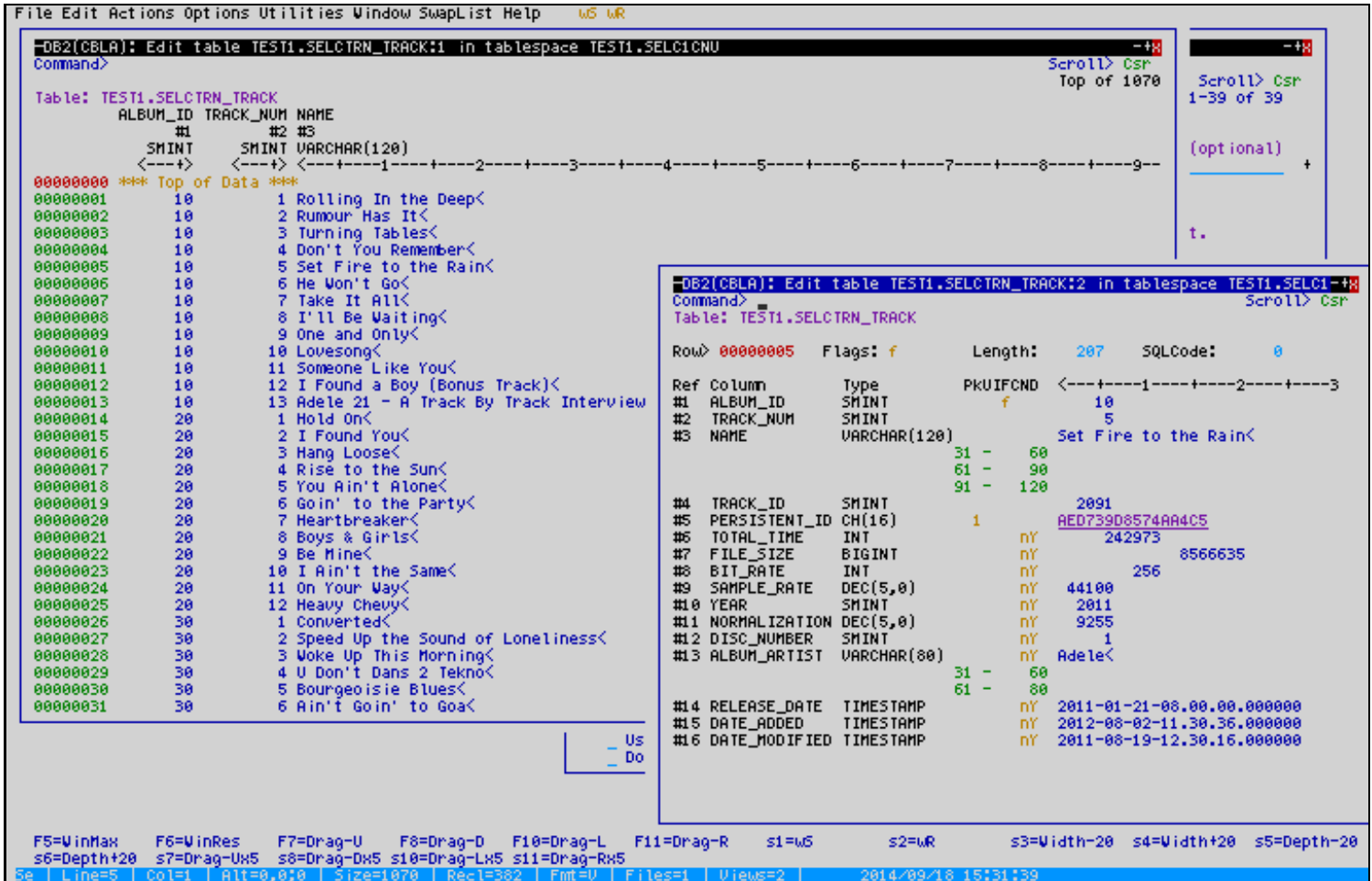


Figure 185. FileKit DB2 Figure 08

Editing selected table columns and rows

- Press **F3** to exit the edit session and return to the Table Edit dialog.
- Type **SELECT (SEL)**, or press Shift-F4 to start a dialog that allows you specify the columns you wish to see.
- The same dialog is used to define the sort order of your selected rows.

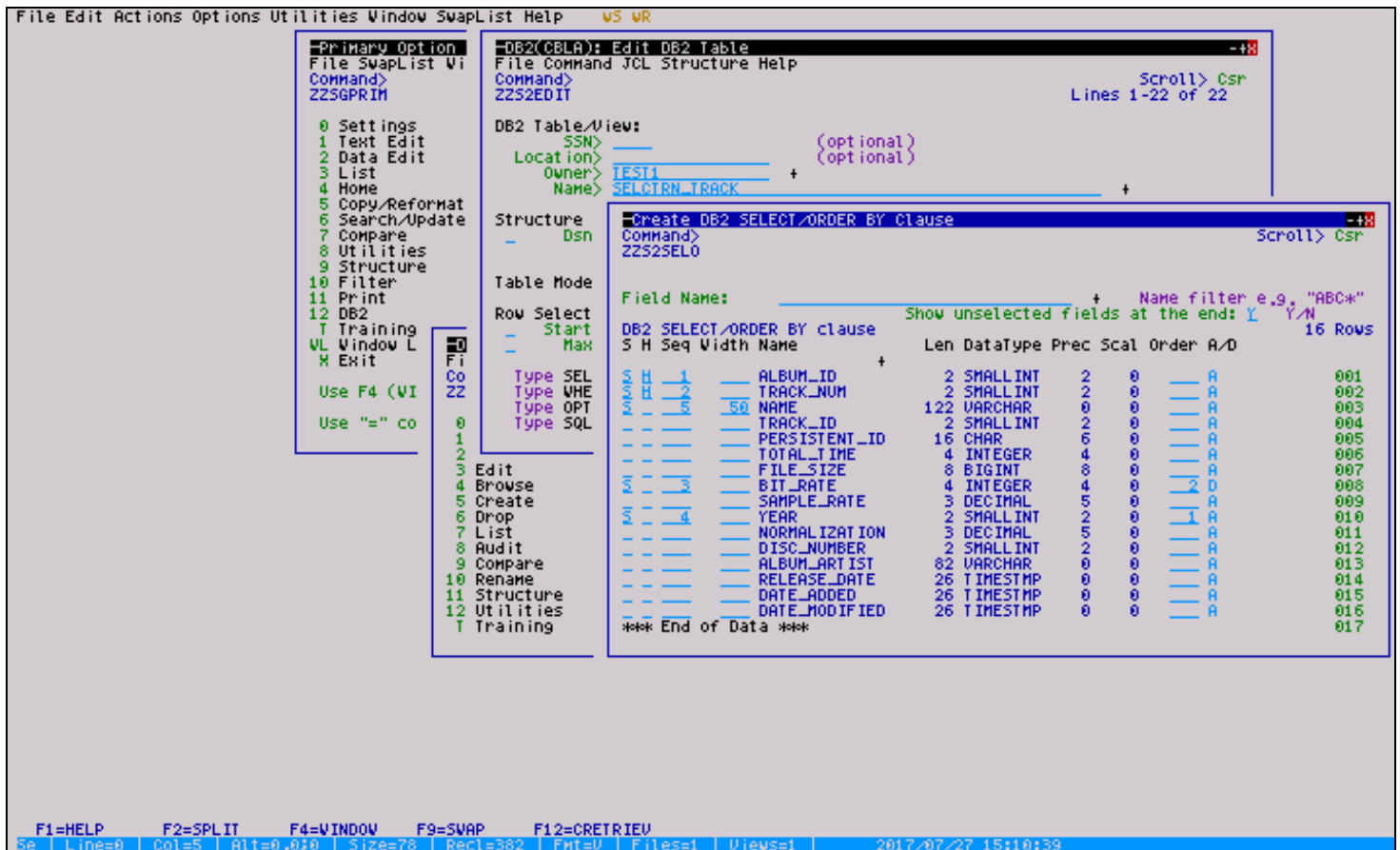


Figure 186. FileKit DB2 Figure 09

The screen shot above shows specification of the following:

- Explicit selection of columns in the following order:-
 1. **ALBUM_ID**
 2. **TRACK_NUM**
 3. **BIT_RATE**
 4. **YEAR**
 5. **NAME**
 with all other "unselected" columns following at the end.
- Columns **ALBUM_ID** and **TRACK_ID** are defined as *held*, meaning they will always stay visible when the screen is scrolled right to reveal further columns.
- The row sort order is defined as
 1. **YEAR** in ascending sequence
 2. **BIT_RATE** in descending sequence
- The **NAME** column width is restricted to **50** characters.

Using the "WHERE" dialog

Type **WHERE (WH)**, or press Shift-F6 to start a dialog that allows you to enter one or more row selection conditions against each of the listed table columns.

As an exercise we'll select all **TRACK** rows that have the string "Live", either in **round-** or **square-brackets**.

We'll also make the selection **case insensitive** and add an extra condition to deselect rows with zero in the **"YEAR"** column.

Once we've selected the rows, we'll standardise by changing all the **square-bracketed** versions to use **round-brackets**.

- Place your cursor in the **Op** (Relational Operator) input field for table column **"NAME"**, then enter **"/"** and press ENTER to display a list of valid operators.
- Select **LK** (Like) from the list by placing the cursor and pressing ENTER. Alternatively, just enter **"LK"** directly into the **Op** field.
- Tab to the **Value** input field, then enter **"%(Live)%"**. There is no need to put the value in quotes, FileKit will add them for you.
- Tab again to the **VO** (Value Option) input field, then enter **"/"**. Select **"A - Any Case"** to indicate case insensitivity.
- Use the **Back-Tab** key to get to the numeric prefix area then enter **"R"** to replicate the dialog table row for **"NAME"**. Now we can enter a second condition based on the contents of this DB2 table column.
- On the duplicate line, change the **Con** (Connector) field from **"AND"** to **"OR"**, then enter **"%[Live]%"** in the **Value** input field.
- In the **Op** (Relational Operator) input field for table column **"YEAR"**, enter **"<>"** which indicates a "not equal" condition is required.
- Tab to the **Value** input field, then enter **0**.
- On the line defining the first condition for the **"NAME"** column (line 3), enter **"("** into the opening parenthesis field, and on the line defining the second condition (line 4), enter **")"** into the closing parenthesis field. This will make the NAME (OR) conditions and the YEAR condition independent of each other.

The screenshot displays the FileKit DB2 interface with several windows open:

- Primary Option**: Shows a menu with options like Settings, Text Edit, Data Edit, List, Home, Copy/Reformat, Search/Update, Compare, Utilities, Structure, Filter, Print, DB2, Training, Window, and Exit.
- DB2(CBLA): Edit DB2 Table**: Shows the table structure for TEST1_SELCTR_TRACK with columns SSN, Location, Owner, and Name.
- DB2(CBLA): Select table rows by column value**: Shows the 'DB2 row selector' dialog for table TEST1_SELCTR_TRACK. It lists 17 rows with columns: Con, Column name, Data type, Op, Value. The conditions are:

Con	Column name	Data type	Op	Value
001	ALBUM_ID	SMINT	+	
002	TRACK_NUM	SMINT	+	
003	NAME	VC(120)	LK	%(Live)%
004	NAME	VC(120)	LK	%(Live)%
005	TRACK_ID	SMINT	+	
006	PERSISTENT_ID	CH(16)	+	
007	TOTAL_TIME	INTEGER	+	
008	FILE_SIZE	BIGINT	+	
009	BIT_RATE	INTEGER	+	
010	SAMPLE_RATE	DEC(5,0)	+	
011	YEAR	SMINT	<>	0
012	NORMALIZATION	DEC(5,0)	+	
013	DISC_NUMBER	SMINT	+	
014	ALBUM_ARTIST	VC(80)	+	
015	RELEASE_DATE	TIMESTAMP	+	
- Select: Value type option**: Shows a dialog with options: Name, Any case, Ignore case, and Respect case. 'Any case' is selected.

The status bar at the bottom shows: F1=HELP, F2=SPLIT, F4=WINDOW, F9=SWAP, F12=RETRIEV, 2017/07/27 17:06:02

Figure 187. FileKit DB2 Figure 10

Using FIND/CHANGE

- Press **F3** to exit the WHERE dialog then **ENTER** to edit the selected rows.
- Type **FIND [LIVE]** to hilite the square-bracketed versions of the string.
- Type **CHANGE ALL [LIVE] '(Live)'** to update them all to use round-brackets.

Note that the CHANGE command requires that the string "(Live)" is enclosed in quotes, whereas "[Live]" needn't be. That is because **round-brackets** have a special meaning when used in **FIND/CHANGE** command syntax (type "HELP CHANGE" for more info).

- Press **F3** to exit and save changes.

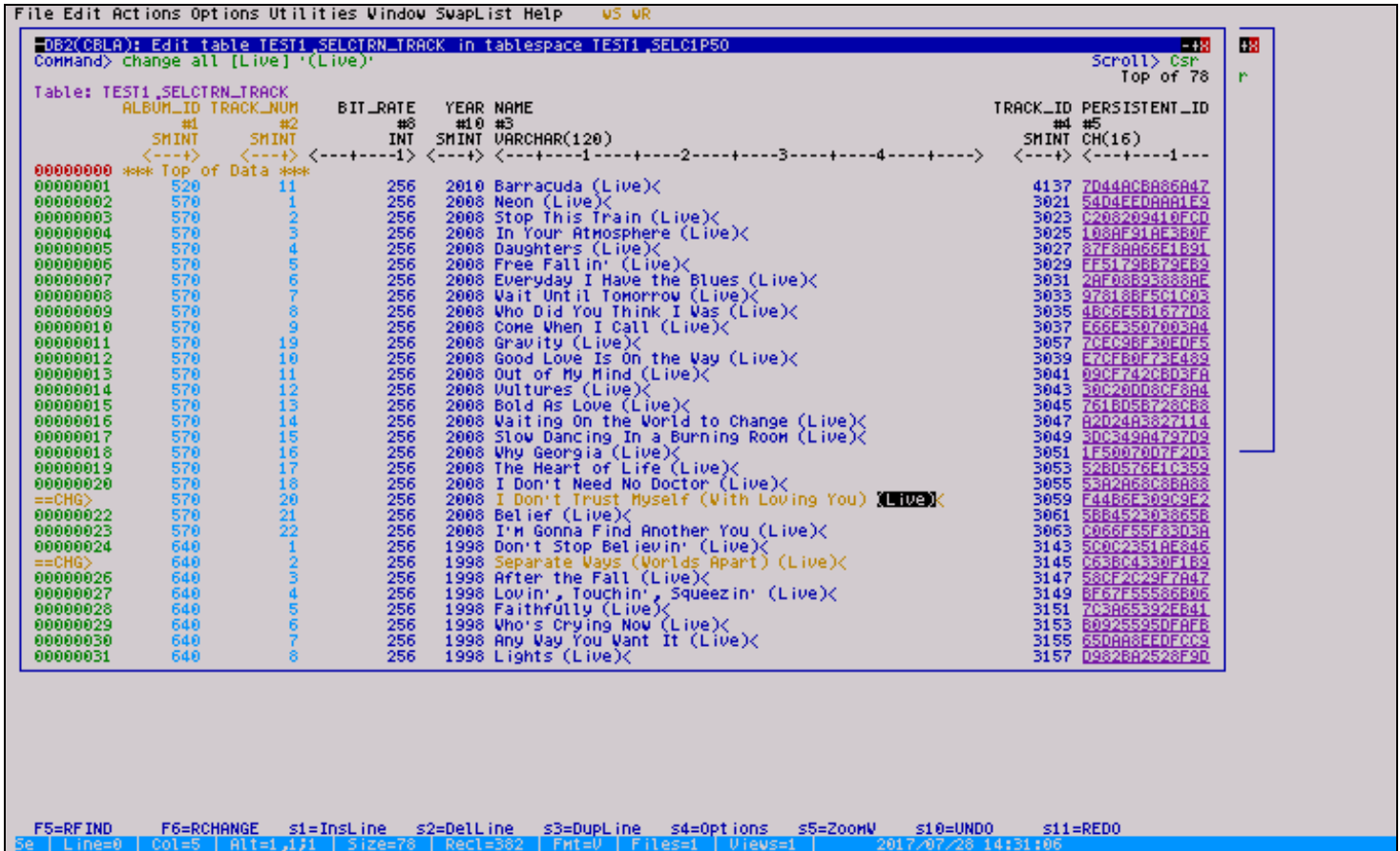


Figure 188. FileKit DB2 Figure 11

Editing Related Tables (REDIT)

- At the "List Tables" window, enter "EI" (Edit Immediate) in the prefix area for table *sqlid.SELCTRN_ARTIST*.
- The "EI" and "BI" (Browse Immediate) line-commands bypass the dialogs that allow you to specify row selection and other edit/browse options, making them suitable only for tables small enough to be loaded completely into available storage.

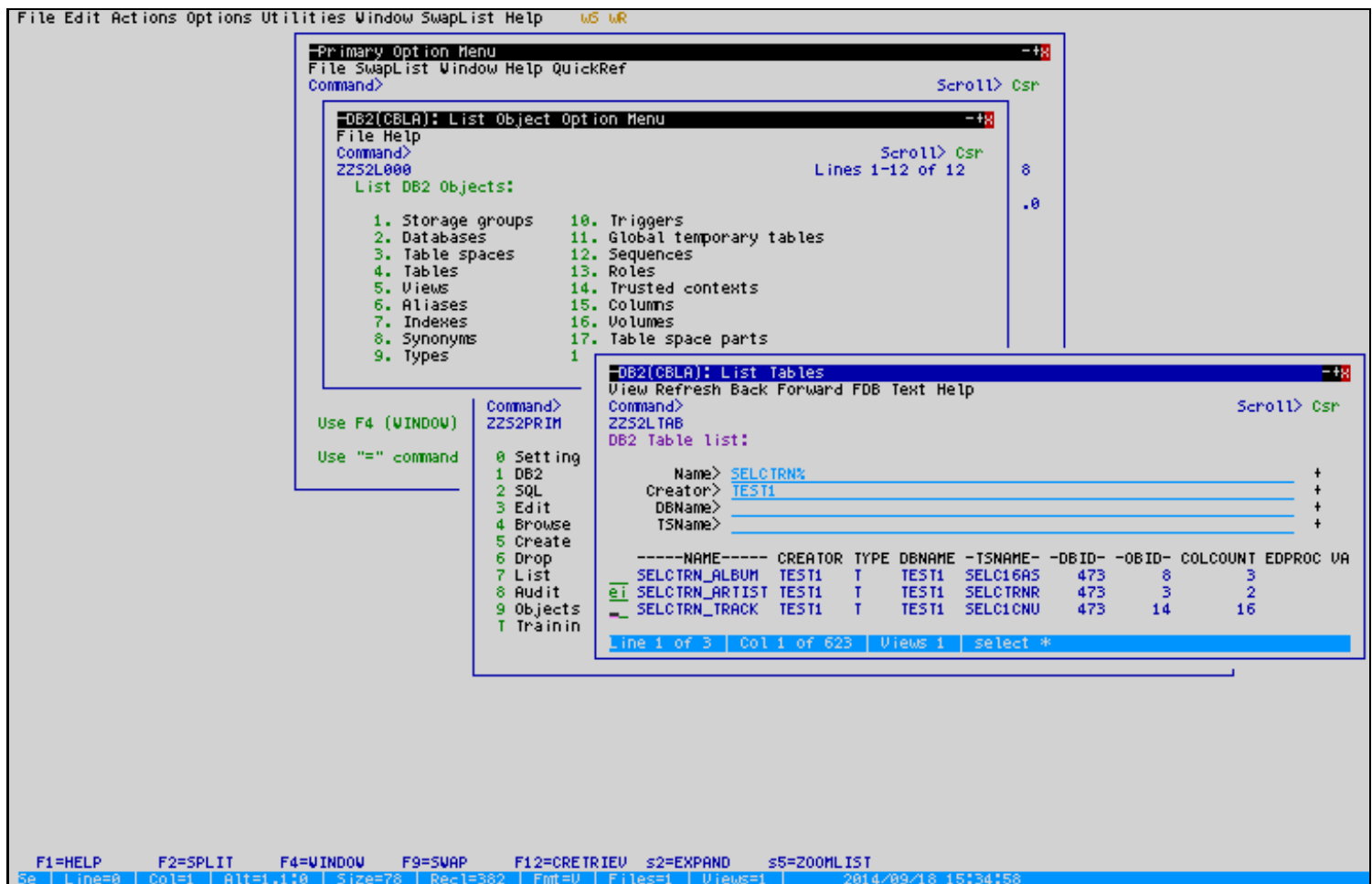


Figure 189. FileKit DB2 Figure 12

The "RE" line-command

- To explore the Artist "Alanis Morissette" enter "RE" in the prefix area.

The screenshot shows the FileKit DB2 interface with the following components:

- Main Window:** Displays the table `TEST1.SELCTR_ARTIST` with columns `ID`, `NAME`, `#1`, and `#2`. The table contains 31 rows of artist data. The current row is highlighted in red, showing `40 Alanis Morissette<`. The command `RE` is entered in the prefix area.
- Table Data:**

ID	NAME
10	Adele<
20	Alabama Shakes<
30	Alabama 3<
40	Alanis Morissette<
50	Alex Harvey<
60	AC/DC<
70	Bob Dylan<
80	Bruce Springsteen<
90	Bruce Springsteen & The Sessions Band<
100	Burt Bacharach & Elvis Costello<
110	Christina Aguilera<
120	Christina Aguilera & Dave Navarro<
130	Coldplay<
140	Crash Test Dummies<
150	Damien Rice<
160	David Gray<
170	Deep Purple<
180	Del Amitri<
190	Duffy<
200	DJ Fresh<
210	Embrace<
220	Florence + The Machine<
230	Gretchen Wilson<
240	Guns N' Roses<
250	Jennifer Hudson<
260	Jessie J<
270	John Mayer<
280	John Mellencamp<
290	Journey<
300	Judas Priest<
310	Kosheen<
- Right Panel:** Shows a scrollable list of the table data, currently displaying rows 1-12 of 12.
- Bottom Panel:** Displays a table with columns `PE`, `DBNAME`, `-TSNAME-`, `-DBID-`, `-OBID-`, `COLCOUNT`, and `EDPROC VA`.

PE	DBNAME	-TSNAME-	-DBID-	-OBID-	COLCOUNT	EDPROC VA
	TEST1	SELCL6AS	473	8	3	
	TEST1	SELCTRNR	473	3	2	
	TEST1	SELCL1CNU	473	14	16	
- Status Bar:** Shows keyboard shortcuts like `F5=RFIND`, `F6=RCHANGE`, and the current date/time: `2014/09/18 15:35:19`.

Figure 190. FileKit DB2 Figure 13

The Related Tables List

- A separate window will appear listing the all related tables.
- The **ARTIST** table has only one dependent (child), the **ALBUM** table.
- Enter **"RE"** in the list entry prefix area (or just select it with the mouse).

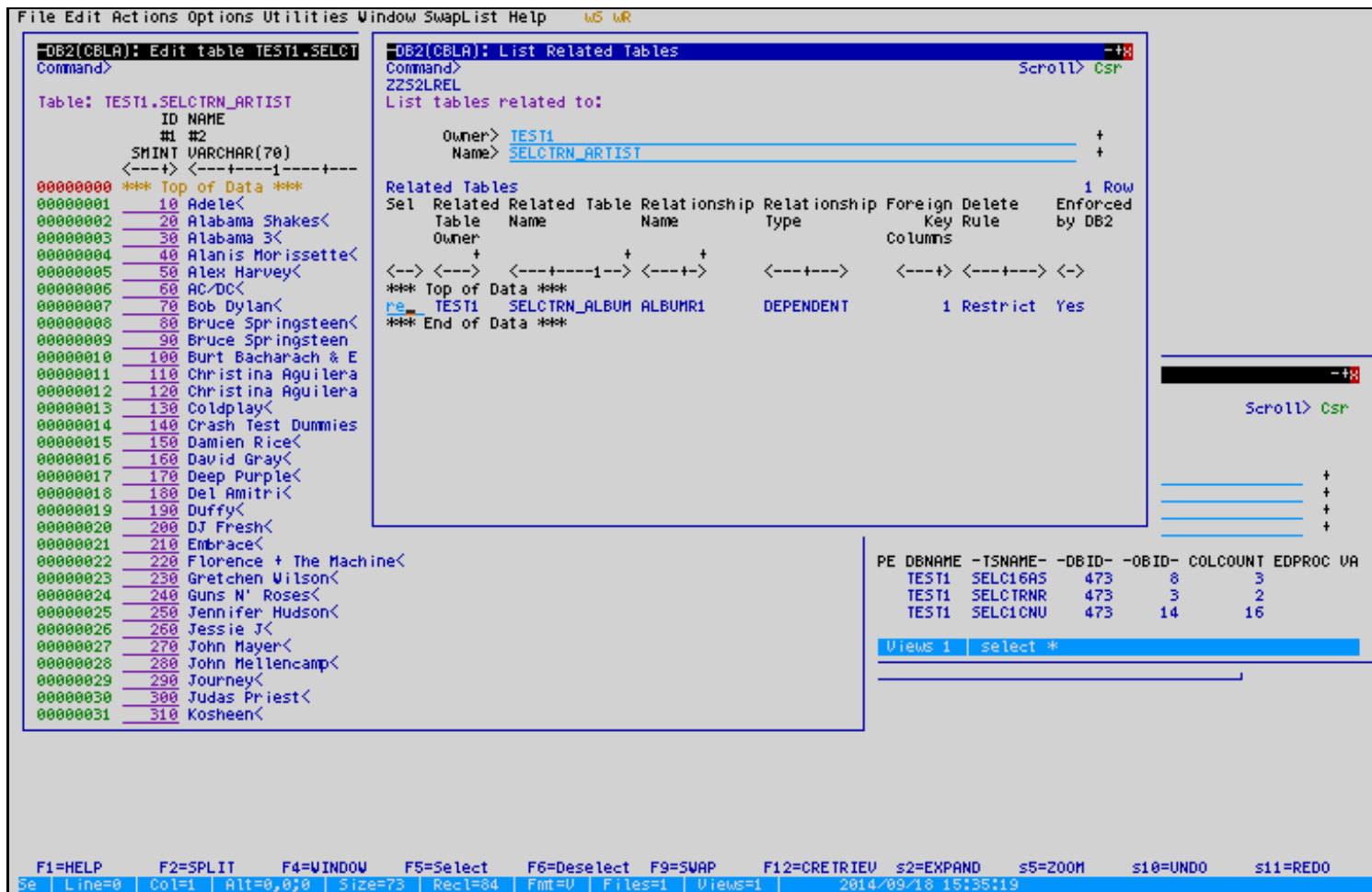


Figure 191. FileKit DB2 Figure 14

Related Table Edit Window (1)

- A separate edit window will display only the **ALBUM** rows for **Alanis Morissette** (ARTIST_ID = 40).
- To explore the album "**Jagged Little Pill**" enter "**RE**" in the prefix area.

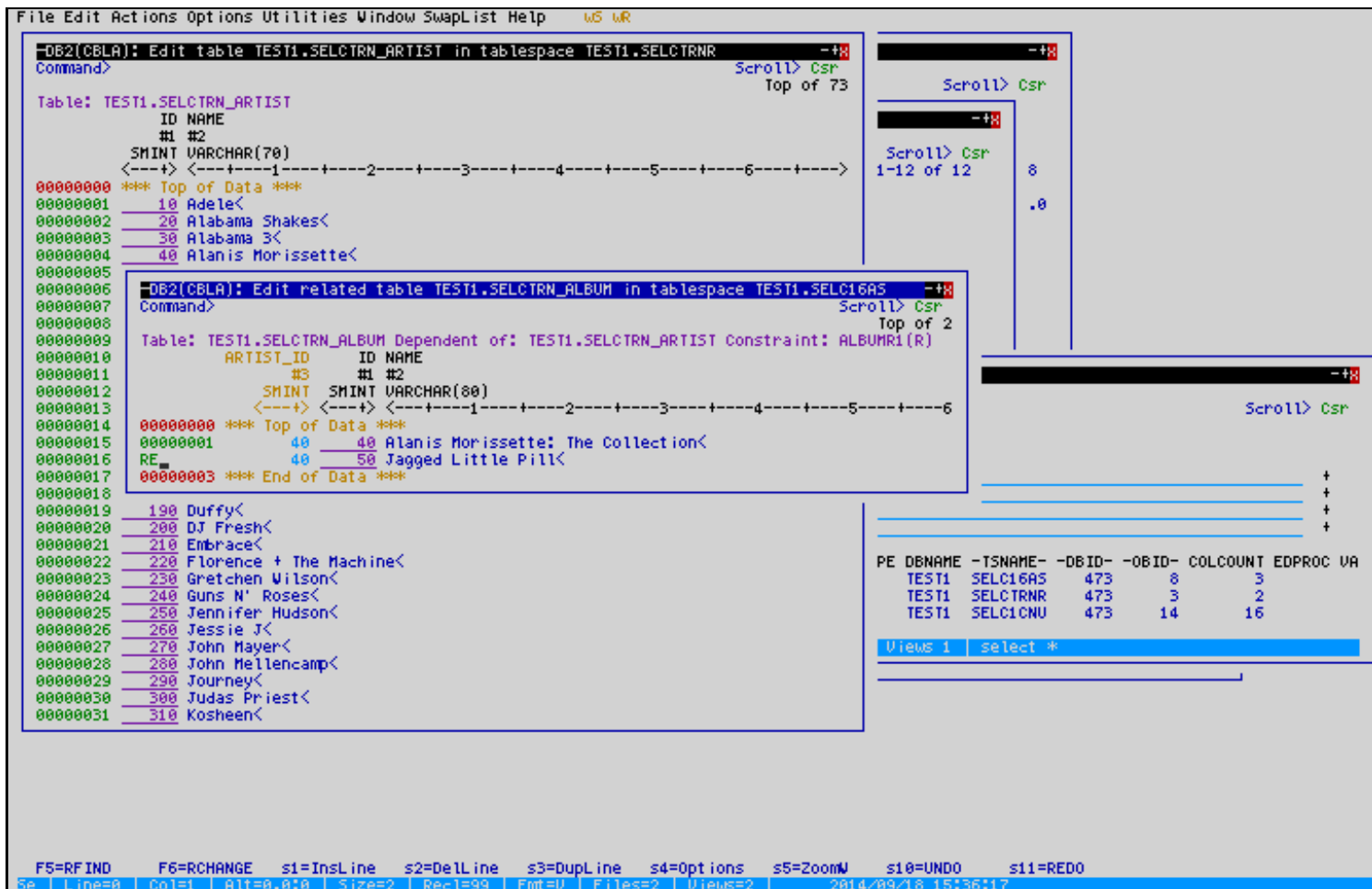


Figure 192. FileKit DB2 Figure 15

Related Table Edit Window (2)

- A separate window will once again appear listing the all related tables.
- The **ALBUM** table again has only one DEPENDENT, the **TRACK** table.
- Enter **"RE"** in the list entry prefix area (or select it with the mouse).
- A separate edit window will display only the **TRACK** rows for **Jagged Little Pill** (ALBUM_ID = 50).

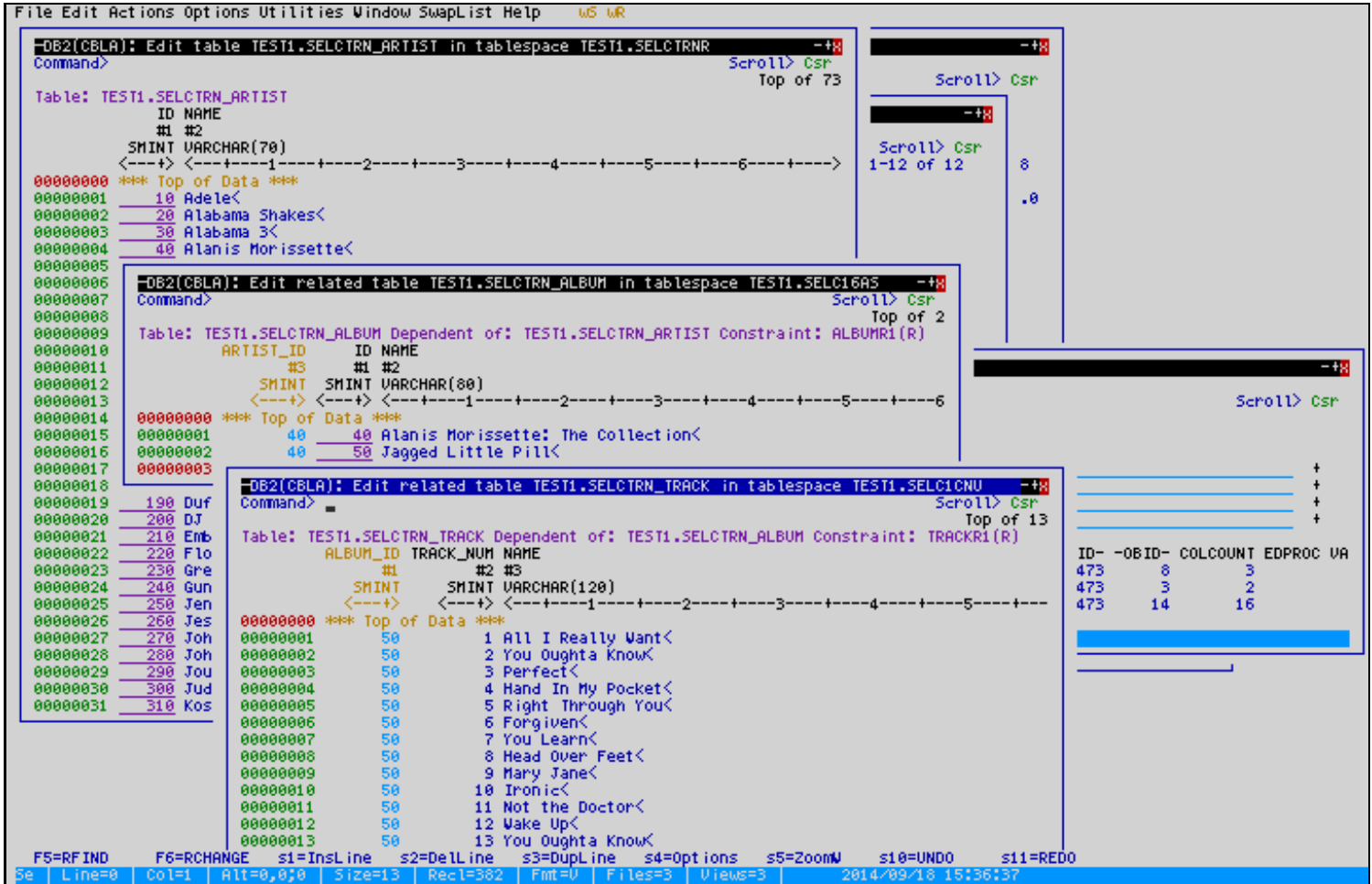


Figure 193. FileKit DB2 Figure 16

Generating CSV, XML or JSON from selected table rows/columns

Typically used for export to other platforms, **Comma Separated Variable (CSV)**, **Extended Markup Language (XML)** and **JavaScript Object Notation (JSON)** documents may be generated from the currently viewed DB2 table data.

To select the data columns required:

1. Press the **Options** key (**Shift-F4**) to display the DB2 options popup.
2. Select **Option 1** to **Select/Exclude visible field-names**.

Alternatively, just type the **SELECT (SEL)** primary command, with no parameters to display the field selection dialog.

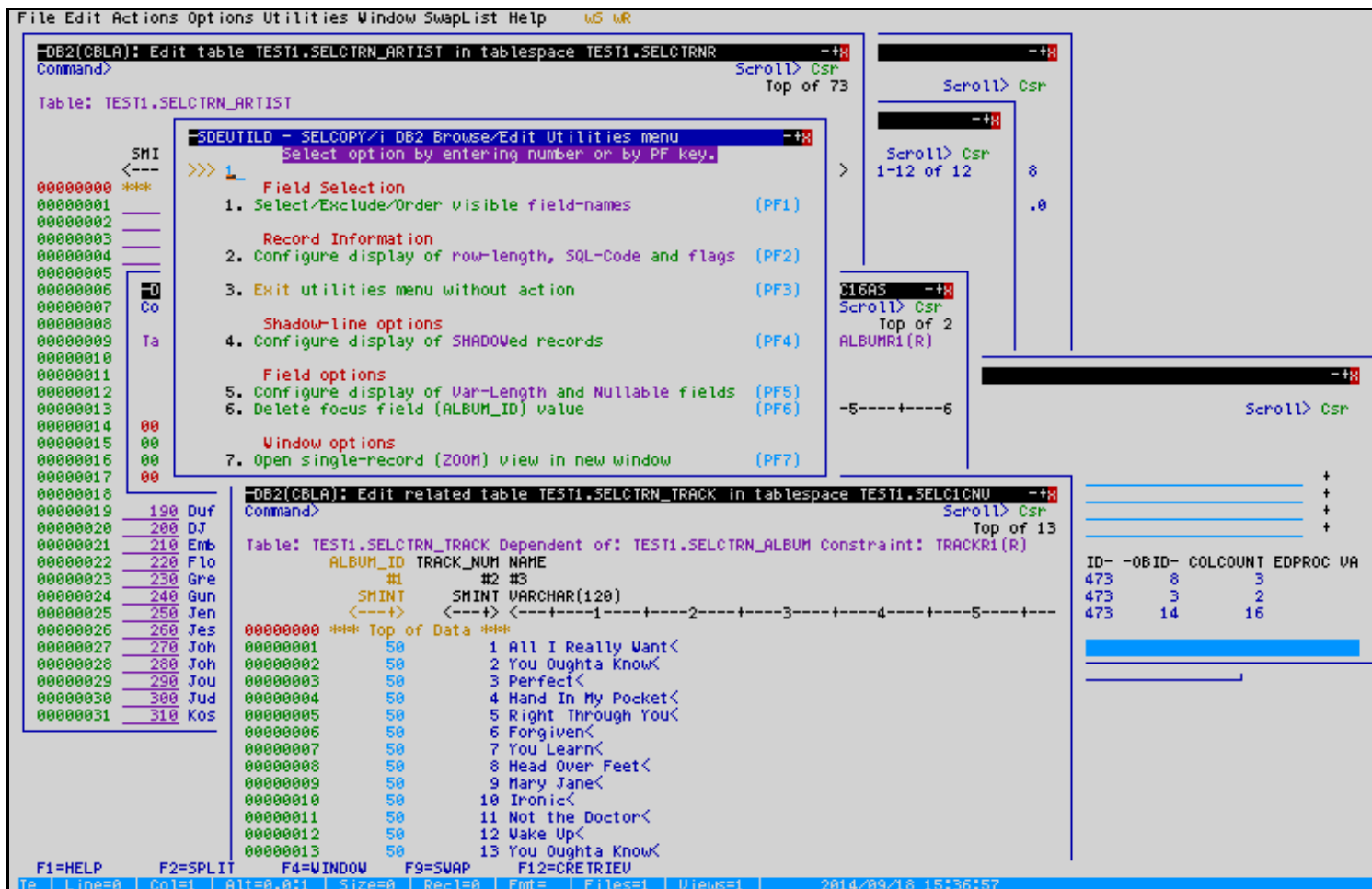


Figure 194. FileKit DB2 Figure 17

The "CSVGEN" dialog

Type the primary command **CSVGEN (CSV)** with no parameters to start the CSV dialog.

- Select option **"Start at Top-of-File"**.
- Select option **"End at End-of-File"**.
- Enter an **Output CSV Text File** name of your choice.

e.g. <userid>.FILEKIT.CSV(PILL)

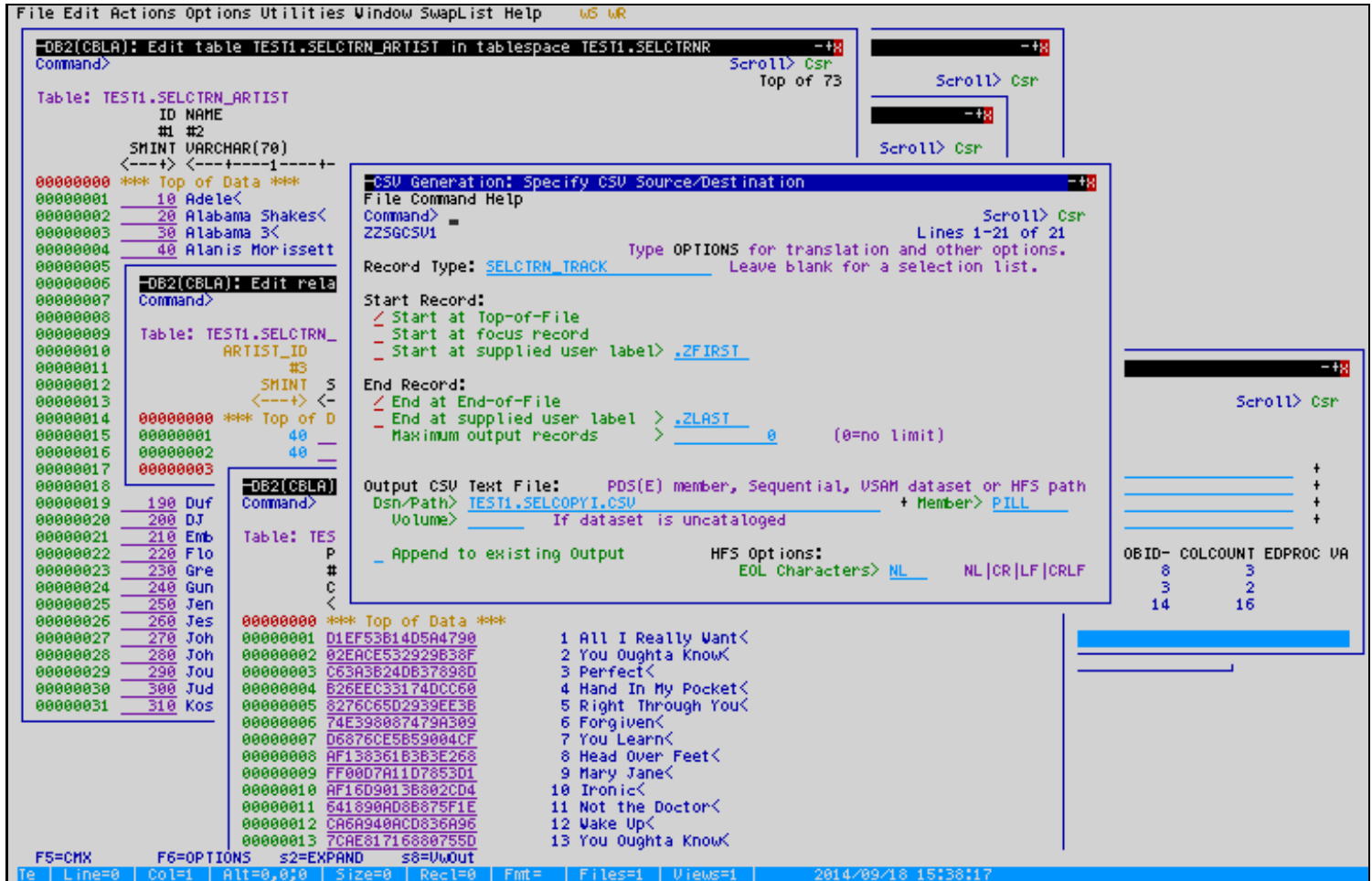


Figure 196. FileKit DB2 Figure 19

Sample "CSVGEN" output

Press the **OPTION** key (F6) if you wish to review other available CSVGEN options, otherwise just press **ENTER** to generate your **Comma Separated Variable** document.

DB2(CBLA): Edit table TEST1.SELCTRN_ARTIST in tablespace TEST1.SELCTRNR

Browse TEST1.SELCOPYI.CSV(PILL) 16380 U PDSE

Command> Z25D569I CSVGEN has written 14 records of record type "SELCTRN_TRACK" to dataset TEST1.SELCOPYI.CSV(PILL) from 13 records in dataset TEST1.SELCTRN_TRACK.

UnMapped

PERSISTENT_ID	TRACK_NUM	NAME
"D1EF53B14D5A4798"	1	"All I Really Want"
"02EACE532929B38F"	2	"You Oughta Know"
"C63A3B24DB37898D"	3	"Perfect"
"B26EEC33174DCC68"	4	"Hand In My Pocket"
"8276C65D2939EE3B"	5	"Right Through You"
"74E398887479A309"	6	"Forgiven"
"D6876CE5B59004CF"	7	"You Learn"
"AF138361B3B3E268"	8	"Head Over Feet"
"FF00D7A11D7853D1"	9	"Mary Jane"
"AF16D9013B802CD4"	10	"Ironic"
"641890AD8B875F1E"	11	"Not the Doctor"
"CA6A940ACD836A96"	12	"Wake Up"
"7CAE81716880755D"	13	"You Oughta Know"

00000015 *** End of Data ***

00000009 FF00D7A11D7853D1 9 Mary Jane<
 00000010 AF16D9013B802CD4 10 Ironic<
 00000011 641890AD8B875F1E 11 Not the Doctor<
 00000012 CA6A940ACD836A96 12 Wake Up<
 00000013 7CAE81716880755D 13 You Oughta Know<

File Edit Actions Options Utilities Window SwapList Help WS WR

Scroll> Csr

COUNT EDPROC VA
3
2
16

F5=RFIND F6=RCHANGE s1=InsLine s2=DelLine s3=DupLine s4=Options s5=ZoomW s10=UNDO s11=REDO

Se Line=0 Col=1 Alt=0,0;0 Size=14 Rec1=16380 Fmt=U Files=4 Views=4 2014/09/18 15:38:27

Figure 197. FileKit DB2 Figure 20

The "XMLGEN" dialog

Exit the generated CSV, then type the primary command **XMLGEN (XML)** with no parameters to start the XML dialog.

- Select option "Start at Top-of-File".
- Select option "End at End-of-File".
- Enter an "Output XML Text File" name of your choice.

e.g. <userid>.FILEKIT.XML(PILL)

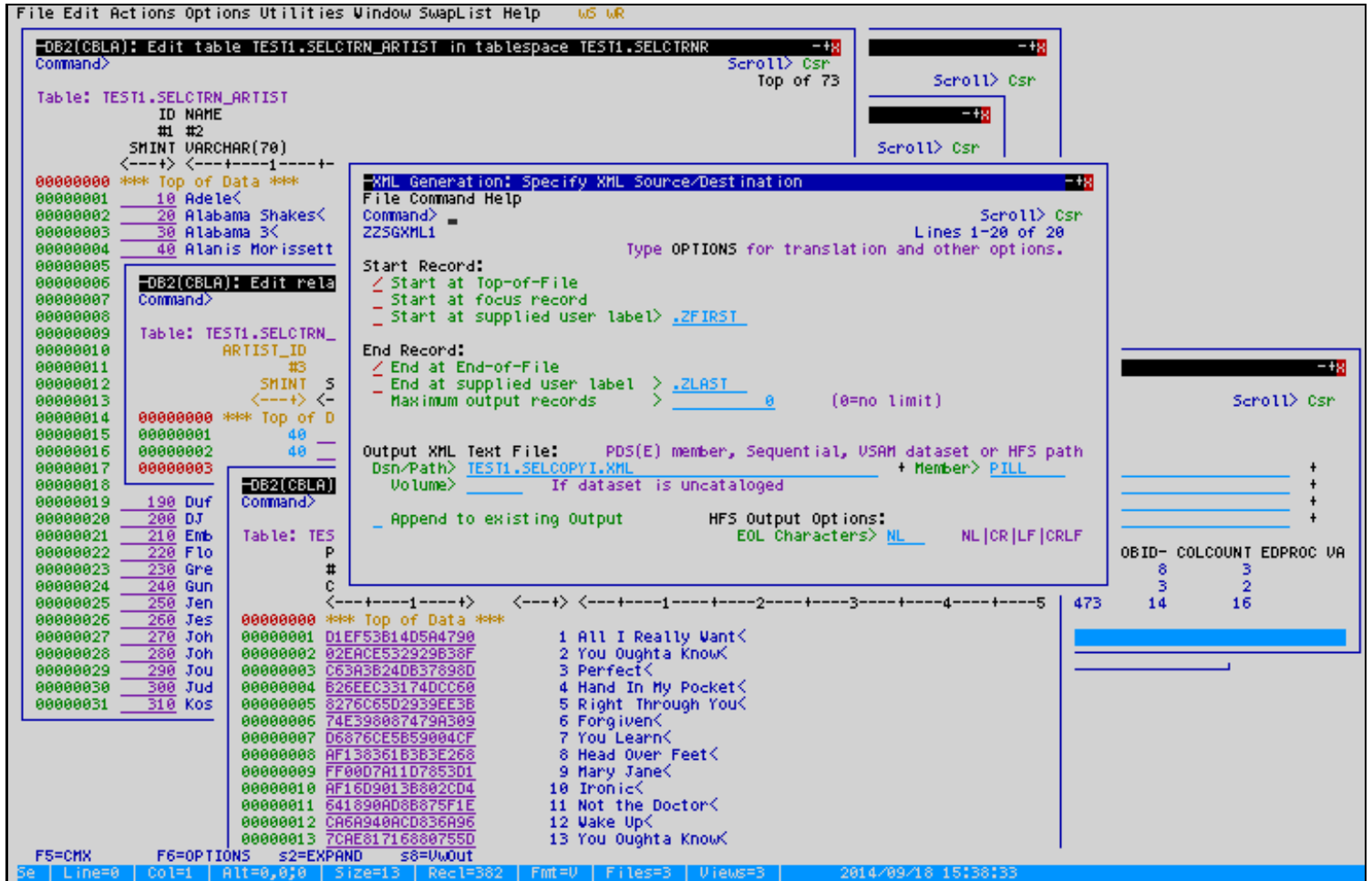


Figure 198. FileKit DB2 Figure 21

Sample "XMLGEN" output

Press the **OPTION** key (F6) if you wish to review other available XMLGEN options, otherwise just press **ENTER** to generate your **Extended Markup Language** document.

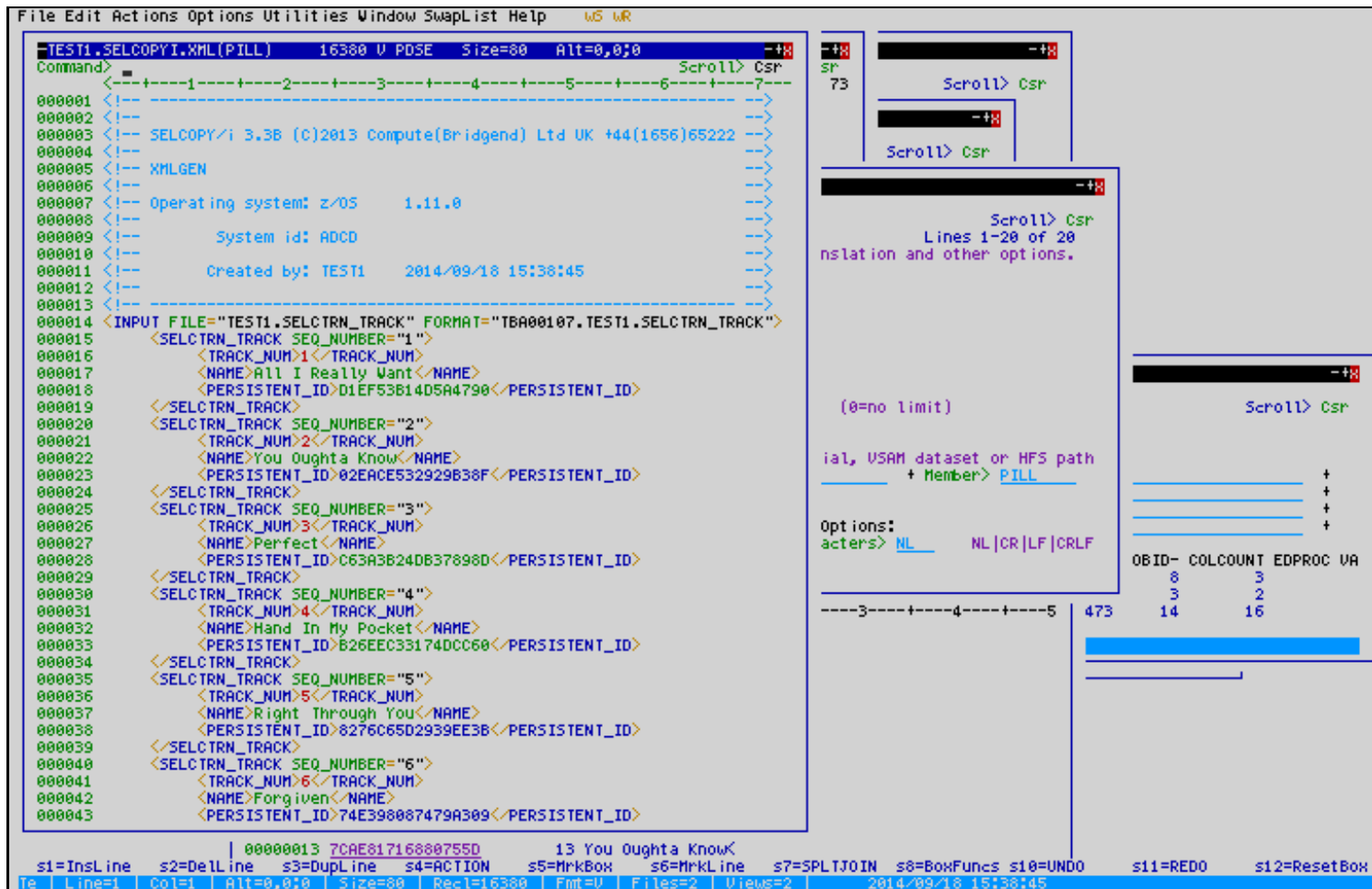


Figure 199. FileKit DB2 Figure 22

Type the primary command **JSON** with no parameters to start an equivalent dialog to generate your **JavaScript Object Notation**.

Handling Relational Constraint Errors

Next, as an exercise, we'll delete the artist **Bob Dylan** from our music collection.

- Use **F3** to exit as far as the **ARTIST** table.
- Enter "**D**" in the prefix area, or press the "**DelLine**" key (Shift-F2), to delete the **Bob Dylan** (ID=70) row.
- Press **F3** to exit and save, or type primary command **SAVE**.
- Because of the table's relational constraints, DB2 prevents an **ARTIST** row from being deleted while any **ALBUM** rows exist with the same foreign key.

In this case FileKit, reinserts the deleted row at the top of the screen.

The row is flagged with **R-532** in the prefix area, indicating the **SQLCODE** encountered by the **SAVE**.

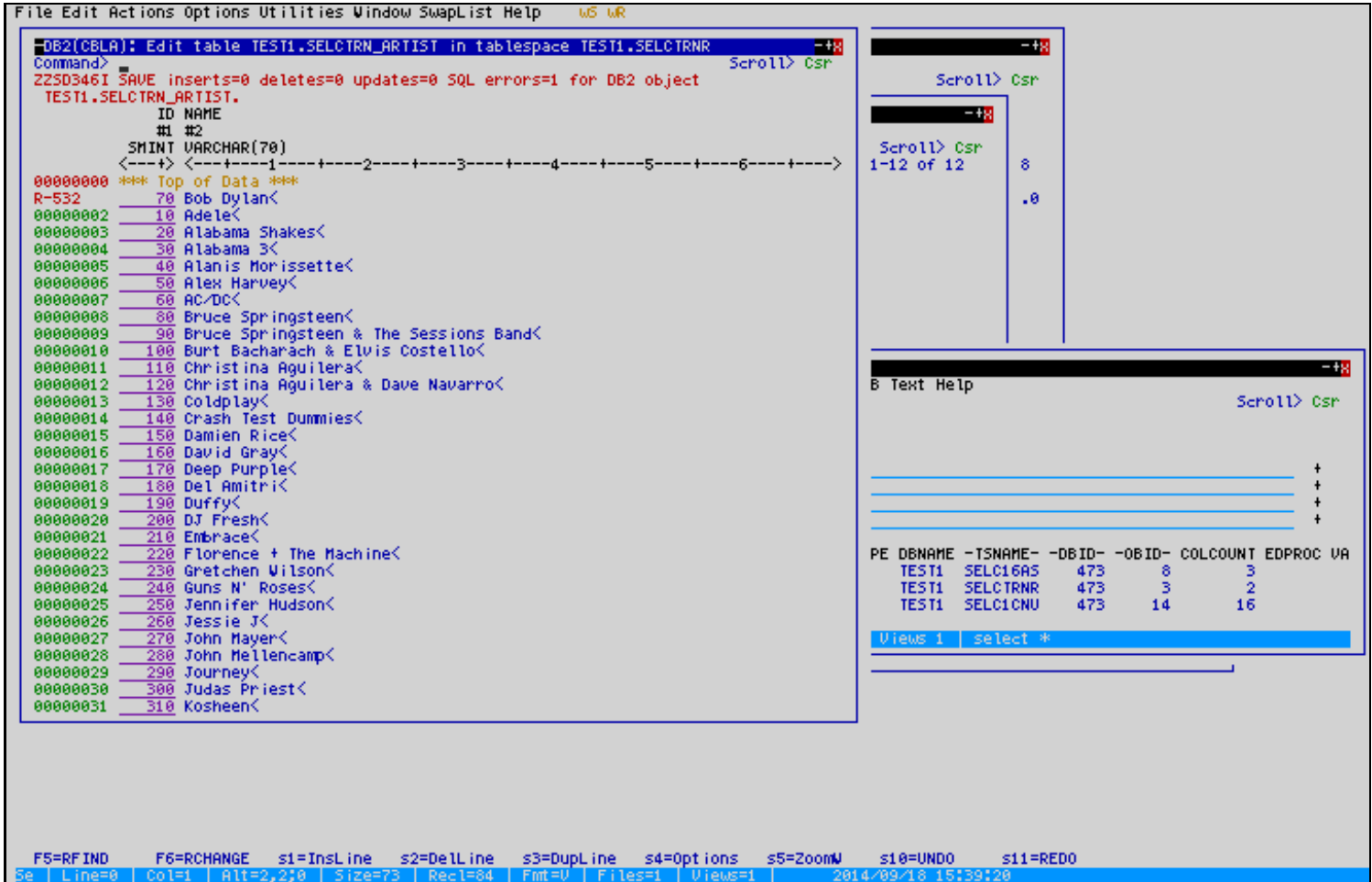


Figure 200. FileKit DB2 Figure 23

The "E" edit line-command

Enter "E" in the prefix area to display the "DB2 Save SQL Error" dialog.

The screenshot shows a DB2 command window with the following content:

```

DB2(CBLA): Edit table TEST1.SELCTR_ARTIST in tablespace TEST1.SELCTRNR
Command>
ZZSD346I SAVE inserts=0 deletes=0 updates=0 SQL errors=1 for DB2 object
TEST1.SELCTR_ARTIST.
      ID NAME
      #1 #2
      SMINT VARCHAR(70)
<---+> <---+-----1-----2-----3-----4-----5-----6----->
00000000 *** Top of Data ***
E
00000002 70 Bob Dylan<
00000003 10 Adele<
00000004 20 Alabama Shakes<
00000005 30 Alabama 3<
00000006 40 Alanis Morissette<
00000007 50 Alex Harvey<
00000008 60 AC/DC<
00000009 80 Bruce Springsteen<
00000010 90 Bruce Springsteen & The Sessions Band<
00000011 100 Burt Bacharach & Elvis Costello<
00000012 110 Christina Aguilera<
00000013 120 Christina Aguilera & Dave Navarro<
00000014 130 Coldplay<
00000015 140 Crash Test Dummies<
00000016 150 Damien Rice<
00000017 160 David Gray<
00000018 170 Deep Purple<
00000019 180 Del Amitri<
00000020 190 Duffy<
00000021 200 DJ Fresh<
00000022 210 Embrace<
00000023 220 Florence + The Machine<
00000024 230 Gretchen Wilson<
00000025 240 Guns N' Roses<
00000026 250 Jennifer Hudson<
00000027 260 Jessie J<
00000028 270 John Mayer<
00000029 280 John Mellencamp<
00000030 290 Journey<
00000031 300 Judas Priest<
00000032 310 Kosheen<
  
```

Overlaid on the right side of the window is a "DB2 Save SQL Error" dialog box with the following content:

```

Scroll> Csr
1-12 of 12 8
.0
  
```

Below the dialog box is a "B Text Help" window with the following content:

```

PE DBNAME -TSNAME- -DBID- -OBID- COLCOUNT EDPROC VA
TEST1 SELC16AS 473 8 3
TEST1 SELCTRNR 473 3 2
TEST1 SELC1CNU 473 14 16
  
```

At the bottom of the screenshot, there is a status bar with the following information:

```

F5=RFIND F6=RCHANGE s1=InsLine s2=DeLine s3=DupLine s4=Options s5=ZoomW s10=UNDO s11=REDO
Se | Line=0 Col=1 Alt=2,270 Size=73 Recl=84 Fmt=U Files=1 Views=1 2014/09/18 15:39:20
  
```

Figure 201. FileKit DB2 Figure 24

The "DB2 Save SQL Error" dialog

The "DB2 Save SQL Error" dialog provides a detailed explanation of the SQL error, and identifies the parent and dependent column names.

It also gives you the opportunity to correct the violation using the **Related Table Edit (REDIT)** feature.

- Enter "R" in the "Action>" field to start **Related Table edit**.

The screenshot shows the FileKit DB2 interface with several windows open:

- Main Window:** Editing table TEST1.SELCTRN_ARTIST. It shows a list of records with columns ID, NAME, #1, and #2. The current record is ID 70, NAME Bob Dylan.
- DB2 Save SQL Error Dialog:** Displays a message: "DB2 has reported a DELETE rule violation SQLCODE -532. Relationship: ALBUMR1. Parent: TEST1.SELCTRN_ARTIST. Dependent: TEST1.SELCTRN_ALBUM. A DELETE operation attempted to delete a specified row and all dependent rows in dependent tables but this relationship's DELETE rule prevented it." It offers actions: CANCEL, EXIT, and REDIT (Selected).
- Table of Views:**

PE	DBNAME	-TSNAME-	-DBID-	-OBID-	COLCOUNT	EDPROC	VA
	TEST1	SELCT16AS	473	8	3		
	TEST1	SELCTRNRR	473	3	2		
	TEST1	SELCT1CNU	473	14	16		

At the bottom, a status bar shows: F1=HELP, F2=SPLIT, F4=WINDOW, F5=Select, F6=Deselect, F9=SWAP, F12=CRETRIEU, s2=EXPAND, s5=ZOOM, s10=UNDO, s11=REDO. The date and time are 2014/09/18 15:39:20.

Figure 202. FileKit DB2 Figure 25

Releasing locks on Dependent Tables

If locks on dependent tables are held by DB2, then they must be released before continuing.

- Enter "2" to "Rollback outstanding changes".

The screenshot shows the DB2 FileKit interface. The main window displays the table structure for TEST1.SELCTR_ARTIST. A dialog box titled "Referential constraint error" is open, showing a message from DB2 about holding locks on dependent tables and offering three options: 1. Commit outstanding changes, 2. Rollback outstanding changes, and 3. Cancel the edit session. Option 2 is selected. In the background, a table of dependent tables is visible:

PE	DBNAME	-TSNAME-	-DBID-	-OBJID-	COLCOUNT	EDPROC	VA
	TEST1	SELCL6AS	473	8	3		
	TEST1	SELCTRNR	473	3	2		
	TEST1	SELCLCNU	473	14	16		

Figure 203. FileKit DB2 Figure 26

Edit Dependent Table (1)

The **ALBUM** table is edited, displaying only rows matching the foreign key for the artist Bob Dylan (**ARTIST_ID=70**).

We'll attempt to delete "The Essential Bob Dylan", expecting a similar problem due to the existence of "TRACK" table rows matching this album.

- Enter "D" to delete "The Essential Bob Dylan".
- Press **F3** to exit and save, or type primary command **SAVE**.
The reinserted row is flagged with **R-532** in the prefix area.
- Enter "E" in the prefix area to display the "DB2 Save SQL Error" dialog.
- Enter "R" in the "Action>" field to start **Related Table** edit.

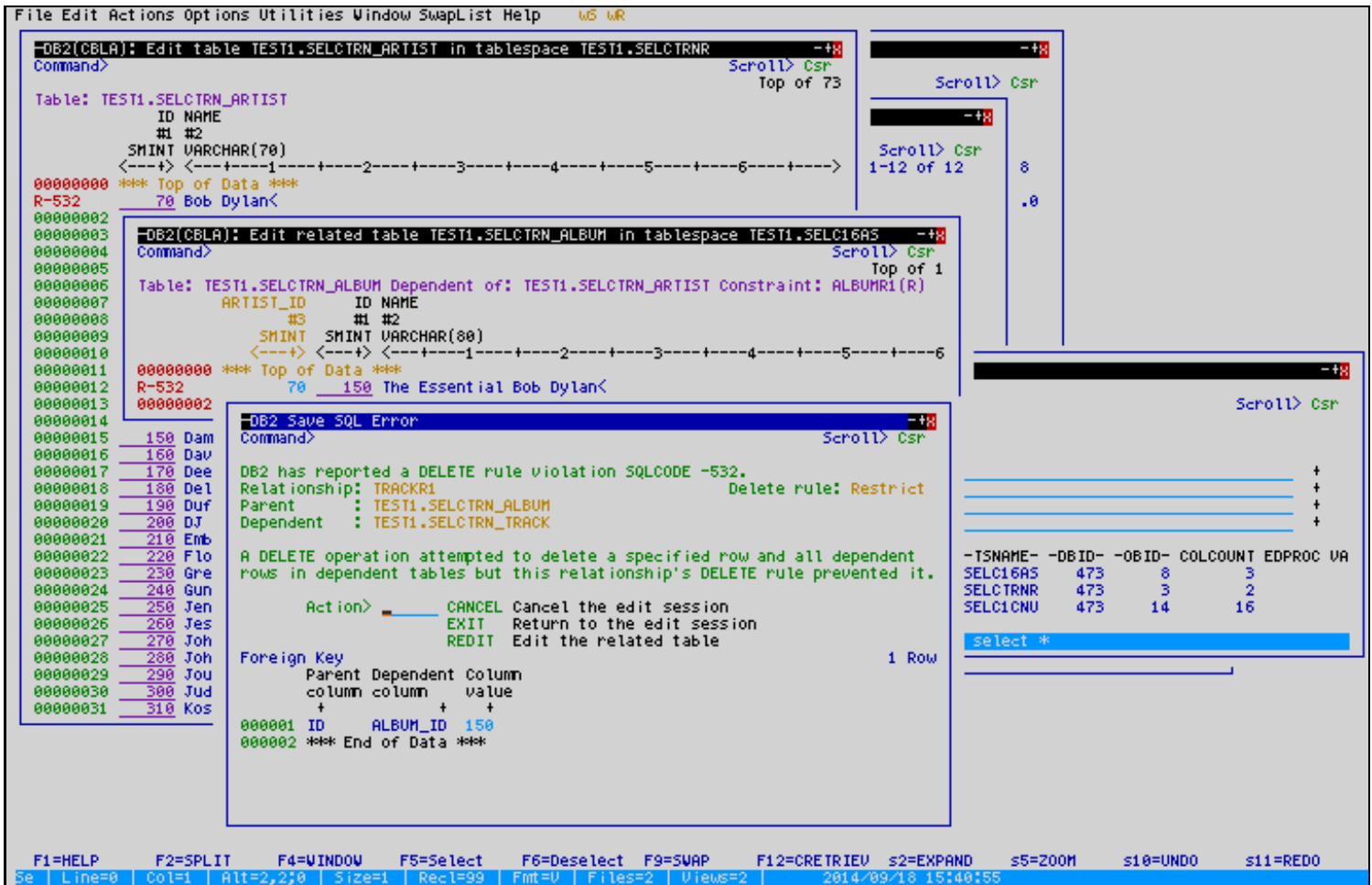


Figure 204. FileKit DB2 Figure 27

Edit Dependent Table (2)

The TRACK table is edited, displaying only rows matching the foreign key for the album "The Essential Bob Dylan" (ALBUM_ID=150).

- Enter **D*** in the prefix area of the first line to delete all rows.
- Press **F3** to exit and save.

No constraint rule is broken so the save will succeed without any drama.

The screenshot shows the DB2 FileKit interface with the 'Edit Dependent Table' window open for the table TEST1.SELCTR_TRACK. The table is dependent on TEST1.SELCTR_ALBUM with constraint TRACKR1(R). The table structure is as follows:

ALBUM_ID	TRACK_NUM	NAME
d*	150	1 Blowin' In the Wind<
R-532	150	1 Shelter from the Storm<
	150	2 Don't Think Twice, It's All Right<
	150	2 Hurricane<
	150	3 The Times They Are A-Changin'<
	150	3 Gotta Serve Somebody<
	150	4 It Ain't Me, Babe<
	150	4 Groom's Still Waiting At the Altar<
	150	5 Maggie's Farm<
	150	5 Jokerman<
	150	6 Everything Is Broken<
	150	6 It's All Over Now, Baby Blue<
R-532	150	7 Mr. Tambourine Man<
	150	7 Blind Willie McTell<
	150	8 Subterranean Homesick Blues<
	150	8 Not Dark Yet<
	150	9 Make You Feel My Love<
	150	9 Like a Rolling Stone<
	150	10 Positively 4th Street<
	150	10 Dignity (Alternate Version)<
	150	11 I Want You<
	150	11 Things Have Changed<
	150	12 Just Like a Woman<
	150	12 Mississippi<
	150	13 Rainy Day Women #12 & 35<
	150	13 Thunder On the Mountain<
	150	14 All Along the Watchtower<
	150	14 When the Deal Goes Down<
	150	15 Lay, Lady, Lay<
	150	15 Beyond Here Lies Nothin'<
	150	16 If Not for You<

The status window on the right shows the following table statistics:

ID	-OBID-	COLCOUNT	EDPROC	VA
473	8	3		
473	3	2		
473	14	16		

At the bottom of the interface, there are keyboard shortcuts: F5=RFIND, F6=RCHANGE, s1=InsLine, s2=DelLine, s3=DupLine, s4=Options, s5=ZoomW, s10=UNDO, s11=REDO. The status bar shows 'Se | Line=0 | Col=1 | Alt=0,070 | Size=36 | Rec1=382 | Fmt=U | Files=3 | Views=3 | 2014/09/18 15:41:19'.

Figure 205. FileKit DB2 Figure 28

Edit Dependent Table (3)

Back in the **ALBUM** table, you will then be able to delete "The Essential Bob Dylan", save and exit without errors.

Back in the **ARTIST** table, you will then be able to delete "Bob Dylan" and save without errors.

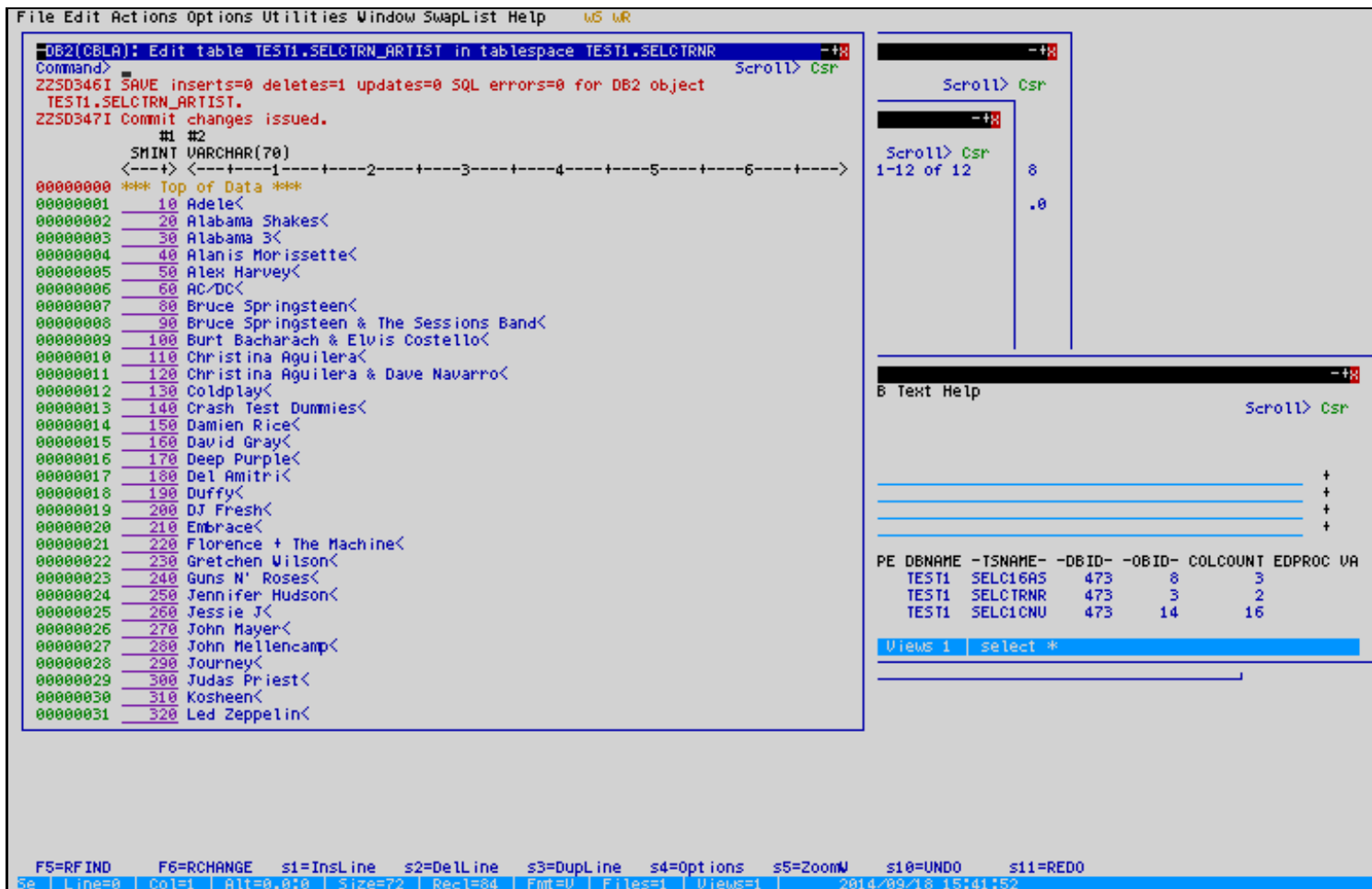


Figure 206. FileKit DB2 Figure 29

DB2 Help Pages

Further DB2 specific information is available by pressing the **HELP** key (F1).

The screenshot shows two windows from the DB2 FileKit interface. The left window, titled "DB2(CBLA): Edit table TEST1.SELCTR_ARTIST in tablespace", displays a table with columns ID, NAME, #1, and #2. The data includes artists like Adele, Alabama Shakes, and Alanis Morissette. The right window, titled "DB2 Table Browse and Edit", provides help information. It includes a table of contents with links for "previous", "next", and "contents". The main text explains that the structured data editor (SDE) supports BROWSE and EDIT of DB2 tables and views. It lists several topics for introductory information, such as starting a session, managing connections, and saving rows. At the bottom, it provides the command to start a browse session: `browse db2(cbla) sysibm.systables`.

ID	NAME	#1	#2
00000001	Adele<		
00000002	Alabama Shakes<		
00000003	Alabama 3<		
00000004	Alanis Morissette<		
00000005	Alex Harvey<		
00000006	AC/DC<		
00000007	Bruce Springsteen<		
00000008	Bruce Springsteen & The Sessions Band<		
00000009	Burt Bacharach & Elvis Costello<		
00000010	Christina Aguilera<		
00000011	Christina Aguilera & Dave Navarro<		
00000012	Coldplay<		
00000013	Crash Test Dummies<		
00000014	Damien Rice<		
00000015	David Gray<		
00000016	Deep Purple<		
00000017	Del Amitri<		
00000018	Duffy<		
00000019	DJ Fresh<		
00000020	Embrace<		
00000021	Florence + The Machine<		
00000022	Gretchen Wilson<		
00000023	Guns N' Roses<		
00000024	Jennifer Hudson<		
00000025	Jessie J<		
00000026	John Mayer<		
00000027	John Mellencamp<		
00000028	Journey<		
00000029	Judas Priest<		
00000030	Kosheen<		
00000031	Led Zeppelin<		

DB2 Table Browse and Edit

Back Forward HomeLink Close Source Text Help
Command> Scroll> Csr

[previous](#) [next](#) [contents](#)

DB2 Table Browse and Edit

The SELCOPY/i structured data editor (SDE) supports [BROWSE](#) and [EDIT](#) of DB2 tables and views.

Full reference information for structured edit is in [SELCOPY/i Structured Data Editor \(SDE\) Contents](#) and there is also an SDE section in the comprehensive [SELCOPY/i Quick Reference](#) document.

The following topics provide introductory information about working with DB2 data in structured edit:

- Starting a DB2 table edit or browse session.
- How DB2 subsystem connections are managed.
- Limiting the number of rows loaded.
- Defining a structure to use with DB2 tables.
- How DB2 rows are saved.
- Dealing with save errors.
- Auditing edit sessions.
- Editing or browsing related tables.
- Useful commands.
- Comparing DB2 table edit with dataset edit.

Starting a DB2 table edit or browse session

The [EDIT](#) and [BROWSE](#) primary commands with the DB2 subsystem parameter start a DB2 table edit or browse session. For example the command:

```
browse db2(cbla) sysibm.systables
```

will open a structured browse view and load all the rows of the table SYSIBM.SYSTABLES for subsystem CBLA into storage. A temporary structure will be generated using the DB2 catalog to define the columns and their data types.

These primary commands have many optional parameters and it is not, in
Line 1 of 389 Col 1 of 78 File: C6L.CBLI330.HTML(zzscdb2e)

F3=BACK F5=TEXT F6=SOURCE F7=UP F8=DOWN s4=FORWARD
Se | Line=0 | Col=1 | Alt=0,070 | Size=72 | Recl=84 | Fmt=U | Files=1 | Views=1 | 2014/09/18 15:41:52

Figure 207. FileKit DB2 Figure 30

Related Tables Help

The hyperlink for "[Editing or browsing related tables](#)" provides some handy background and tips.

The screenshot shows two windows from the FileKit DB2 application. The left window displays a table named TEST1.SELCTR_ARTIST with columns ID, NAME, #1, and #2. The right window is titled 'DB2 Table Browse and Edit' and contains help text about relational integrity (RI) constraints.

Table: TEST1.SELCTR_ARTIST

ID	NAME	#1	#2
00000001	Adele<		
00000002	Alabama Shakes<		
00000003	Alabama 3<		
00000004	Alanis Morissette<		
00000005	Alex Harvey<		
00000006	AC/DC<		
00000007	Bruce Springsteen<		
00000008	Bruce Springsteen & The Sessions Band<		
00000009	Burt Bacharach & Elvis Costello<		
00000010	David Gray<		
00000011	Christina Aguilera & Dave Navarro<		
00000012	Coldplay<		
00000013	Crash Test Dummies<		
00000014	Damien Rice<		
00000015	David Gray<		
00000016	Deep Purple<		
00000017	Del Amitri<		
00000018	Duffy<		
00000019	DJ Fresh<		
00000020	Embrace<		
00000021	Florence + The Machine<		
00000022	Gretchen Wilson<		
00000023	Guns N' Roses<		
00000024	Jennifer Hudson<		
00000025	Jessie J<		
00000026	John Mayer<		
00000027	John Mellencamp<		
00000028	Journey<		
00000029	Judas Priest<		
00000030	Kosheen<		
00000031	Led Zeppelin<		

DB2 Table Browse and Edit

Back Forward HomeLink Close Source Text Help
Command> Scroll> Csr

Editing or browsing related tables

SELCOPY/i has specific support for editing tables which have relationships defined by referential integrity (RI) constraints.

An RI constraint establishes a parent-dependent relationship between two tables by means of a foreign key. A foreign key is a set of columns in the dependent table which correspond to a unique key in the parent table.

When an RI constraint exists certain types of change to the tables involved are not permitted. Breaking these rules leads to an RI error of one of the following types:

- Missing parent key SQLCODE -530. This happens when an insert or update of a row in a dependent table has a foreign key which does not represent an existing row in the parent table. In other words you cannot make orphans by inserting or updating foreign keys in the dependent table.
- Parent key update error SQLCODE -531. This happens when an update of a row in a parent table changes a key which is a foreign key in a dependent table and has dependent rows in that table. In other words you cannot make orphans by changing parent keys.
- RI delete rule violation SQLCODE -532. When the RI constraint was defined with a delete rule of RESTRICT or NO ACTION this error will happen when deleting a row in the parent table which has dependent rows in the dependent table. In other words for this type of RI constraint deletes must be done from the bottom up.

The **RE** prefix command and **REDIT** primary command can be used in a number of ways with tables related by RI constraints:

- List all parent and dependent relationships for the current table.
- Edit or browse the parent row or dependent rows of the **focus row** for any RI constraint.
- After an RI error when saving changes, edit the parent row or dependent rows of the row which had the error.

Useful commands

Some commands are specifically for DB2 table edit. The following overview is not exhaustive but highlights some of the features:
Line 225 of 389 Col 1 of 78 File: CBL.CBLI330.HTML[zzscdb2e]

F3=BACK F5=TEXT F6=SOURCE F7=UP F8=DOWN s4=FORWARD
Se | Line=0 | Col=1 | Alt=0,070 | Size=72 | Recl=84 | Fmt=U | Files=1 | Views=1 | 2014/09/18 15:41:52

Figure 208. FileKit DB2 Figure 31

REDIT Example (1)

In the ARTIST table scroll down to "Ray Lamontagne" (ID=480), and notice we also have an entry for "Ray LaMontagne" (ID=490).

We'll consolidate these two, then remove (ID=490).

- Enter "RE" in the prefix area for artist ID=490.

The screenshot shows the FileKit DB2 interface with the following components:

- Main Window:** Displays the table `TEST1.SELCTR_ARTIST` with columns `ID`, `NAME`, `#1`, and `#2`. The table contains 15 rows of artist data, including entries for Ray Lamontagne (ID 480) and Ray LaMontagne (ID 490).
- Command Window:** Shows the command `DB2(CBLA): Edit table TEST1.SELCTR_ARTIST in tablespace TEST1.SELCTRNR` and the current row (`Row 47 of 72`).
- Summary Table:** A table with columns `PE`, `DBNAME`, `-TSNAME-`, `-DBID-`, `-OBID-`, `COLCOUNT`, and `EDPROC VA`. It lists three tables: `TEST1 SELC16AS`, `TEST1 SELCTRNR`, and `TEST1 SELC1CNU`.
- Status Bar:** Displays system information including `F5=RFIND`, `F6=RCHANGE`, `s1=InsLine`, `s2=DelLine`, `s3=DupLine`, `s4=Options`, `s5=ZoomW`, `s10=UNDO`, `s11=REDO`, and the current date/time `2014/09/18 15:42:52`.

Figure 209. FileKit DB2 Figure 32

REDIT Example (2)

- A separate edit window will display only the **ALBUM** rows for (**ARTIST_ID=490**).
- Type primary command "**CHANGE ALL 490 480 #3**, then exit and save changes.

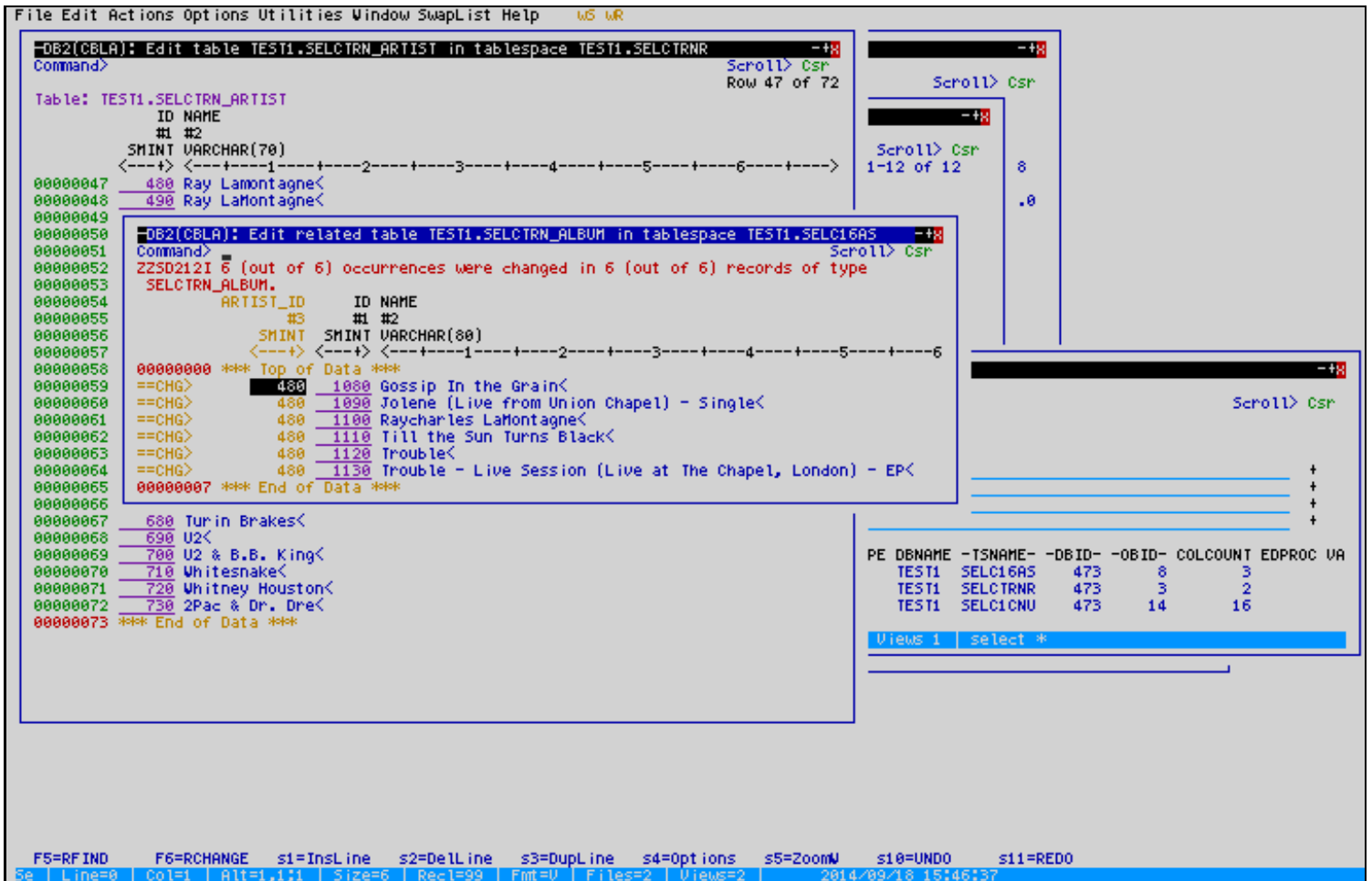


Figure 210. FileKit DB2 Figure 33

REDIT Example (3)

We can now delete (**ARTIST_ID=490**), save and exit without error.

DB2(CBLA): Edit table TEST1.SELCTR_ARTIST in tablespace TEST1.SELCTRNR

Command>

Z25D346I SAVE inserts=0 deletes=0 updates=6 SQL errors=0 for DB2 object TEST1.SELCTR_ALBUM.

Z25D347I Commit changes issued.

SMINT	VARCHAR(70)
00000047	480 Ray LaMontagne<
d	490 Ray LaMontagne<
00000049	500 Ray LaMontagne & the Pariah Dogs<
00000050	510 Ray LaMontagne & The Pariah Dogs<
00000051	520 Raycharles LaMontagne<
00000052	530 Raycharles LaMontagne<
00000053	540 Rebecca Ferguson<
00000054	550 Roachford<
00000055	560 Robert Plant & Alison Krauss<
00000056	570 Sam Cooke<
00000057	580 Seth Lakeman<
00000058	590 Simon & Garfunkel<
00000059	600 Sonique<
00000060	610 Soul Asylum<
00000061	620 Stevie Nicks<
00000062	630 Stone Temple Pilots<
00000063	640 The Civil Wars<
00000064	650 The Sundays<
00000065	660 Thin Lizzy<
00000066	670 Train<
00000067	680 Turin Brakes<
00000068	690 U2<
00000069	700 U2 & B.B. King<
00000070	710 Whitesnake<
00000071	720 Whitney Houston<
00000072	730 2Pac & Dr. Dre<
00000073	*** End of Data ***

PE DBNAME -TSNAME- -DBID- -OBID- COLCOUNT EDPROC VA

PE	DBNAME	-TSNAME-	-DBID-	-OBID-	COLCOUNT	EDPROC	VA
TEST1	SELCL6AS		473	8	3		
TEST1	SELCTRNR		473	3	2		
TEST1	SELCLCNU		473	14	16		

Views 1 | select *

F5=RFIND F6=RCHANGE s1=InsLine s2=DeLline s3=DupLine s4=Options s5=ZoomW s10=UNDO s11=REDO

Se | Line=47 | Col=1 | Alt=0,0;0 | Size=72 | Recl=84 | Fmt=U | Files=1 | Views=1 | 2014/09/18 15:46:50

Figure 211. FileKit DB2 Figure 34