# Compute (Bridgend) Ltd

*SELCOPY*

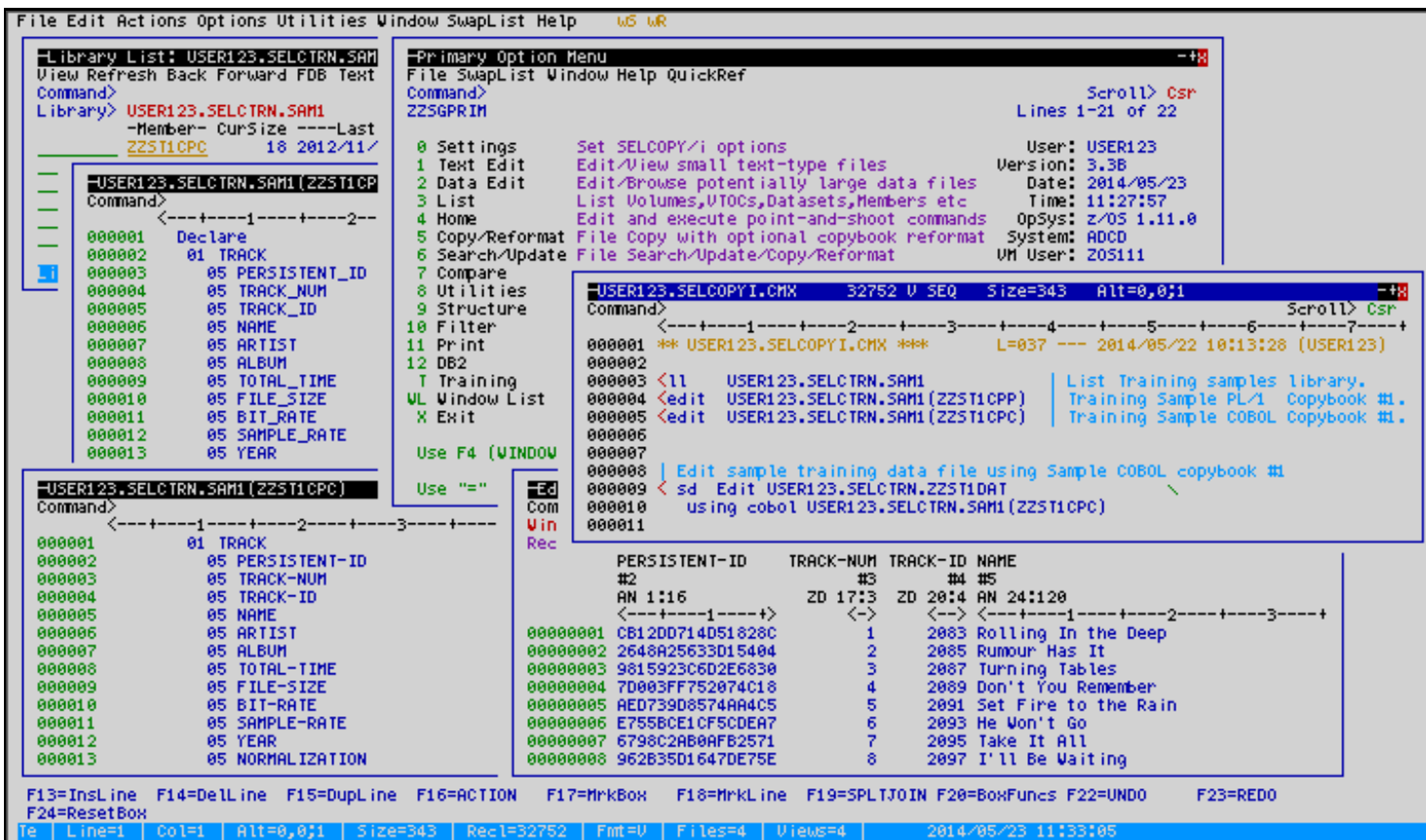## Training Manual

## SELCOPY/i Release 3.30

```
 File Edit Actions Options Utilities Window SwapList Help      wS wR
┌─Library List: USER123.SELCTRN.SAM─┐ ┌─Primary Option Menu─────────────────────────────────────────────────┐
│View Refresh Back Forward FDB Text │ │File SwapList Window Help QuickRef                                    │
│Command>                           │ │Command>                                             Scroll> Csr       │
│Library> USER123.SELCTRN.SAM1      │ │ZZSGPRIM                                             Lines 1-21 of 22   │
│        ─Member─ CurSize ────Last  │ │                                                                     │
│        ZZST1CPC    18 2012/11/     │ │ 0 Settings    Set SELCOPY/i options         User: USER123           │
│  ___                              │ │ 1 Text Edit   Edit/View small text-type files  Version: 3.3B        │
│  ___ ┌─USER123.SELCTRN.SAM1(ZZST1CP│ │ 2 Data Edit   Edit/Browse potently large data files  Date: 2014/05/23
│  ___ │Command>                    │ │ 3 List        List Volumes,VTOCs,Datasets,Members etc  Time: 11:27:57
│  ___ │    <---+----1----+----2--  │ │ 4 Home        Edit and execute point-and-shoot commands  OpSys: z/OS 1.11.0
│   i  │ 000001    Declare          │ │ 5 Copy/Reformat File Copy with optional copybook reformat  System: ADCD
│      │ 000002     01 TRACK        │ │ 6 Search/Update File Search/Update/Copy/Reformat  VM User: ZOS111
│      │ 000003        05 PERSISTENT_ID │ │ 7 Compare ┌─USER123.SELCOPYI.CMX   32752 V SEQ   Size=343  Alt=0,0;1    ─┐
│      │ 000004        05 TRACK_NUM │ │ 8 Utilities │Command>                                        Scroll> Csr │
│      │ 000005        05 TRACK_ID  │ │ 9 Structure │   <---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+
│      │ 000006        05 NAME      │ │10 Filter    │000001 ** USER123.SELCOPYI.CMX ***   L=037 --- 2014/05/22 10:13:28 (USER123)
│      │ 000007        05 ARTIST    │ │11 Print     │000002                                                      │
│      │ 000008        05 ALBUM     │ │12 DB2       │000003 <ll   USER123.SELCTRN.SAM1       List Training samples library.
│      │ 000009        05 TOTAL_TIME│ │ T Training  │000004 <edit USER123.SELCTRN.SAM1(ZZST1CPP) Training Sample PL/1 Copybook #1.
│      │ 000010        05 FILE_SIZE │ │WL Window List│000005 <edit USER123.SELCTRN.SAM1(ZZST1CPC) Training Sample COBOL Copybook #1.
│      │ 000011        05 BIT_RATE  │ │ X Exit      │000006                                                      │
│      │ 000012        05 SAMPLE_RATE│ │            │000007                                                      │
│      │ 000013        05 YEAR      │ │ Use F4 [WINDOW│000008 | Edit sample training data file using Sample COBOL copybook #1
│ ┌─USER123.SELCTRN.SAM1(ZZST1CPC)──┐ │            │000009 < sd  Edit USER123.SELCTRN.ZZST1DAT                  │
│ │Command>                         │ │ Use "=" ┌─Ed│000010    using cobol USER123.SELCTRN.SAM1(ZZST1CPC)        │
│ │   <---+----1----+----2----+----3----+─│        │Com│000011                                                  │
│ │000001    01 TRACK               │ │         │Win│                                                           │
│ │000002        05 PERSISTENT-ID   │ │         │Rec│  PERSISTENT-ID    TRACK-NUM TRACK-ID NAME                │
│ │000003        05 TRACK-NUM       │ │         │   │                   #2        #3     #4   #5                 │
│ │000004        05 TRACK-ID        │ │         │   │                   AN 1:16   ZD 17:3 ZD 20:4 AN 24:120     │
│ │000005        05 NAME            │ │         │   │                   <---+----1----+> <-> <-> <---+----1----+----2----+----3----+
│ │000006        05 ARTIST          │ │         │00000001 CB12DD714D51828C      1  2083 Rolling In the Deep     │
│ │000007        05 ALBUM           │ │         │00000002 2648A25633D15404      2  2085 Rumour Has It           │
│ │000008        05 TOTAL-TIME      │ │         │00000003 9815923C6D2E6830      3  2087 Turning Tables          │
│ │000009        05 FILE-SIZE       │ │         │00000004 7D003FF752074C18      4  2089 Don't You Remember      │
│ │000010        05 BIT-RATE        │ │         │00000005 AED739D8574AA4C5      5  2091 Set Fire to the Rain    │
│ │000011        05 SAMPLE-RATE     │ │         │00000006 E755BCE1CF5CDEA7      6  2093 He Won't Go             │
│ │000012        05 YEAR            │ │         │00000007 6798C2AB0AFB2571      7  2095 Take It All             │
│ │000013        05 NORMALIZATION   │ │         │00000008 962B35D1647DE75E      8  2097 I'll Be Waiting         │
 F13=InsLine  F14=DelLine  F15=DupLine  F16=ACTION   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 | Recl=32752 | Fmt=V | Files=4 | Views=4 |     2014/05/23 11:33:05
```

*Figure xx.* SELCOPYi - Cover shot.

# Contents

# Contents

# **Contents**

# Documentation Notes

**First Edition, November 2012**

Information in this document details general features and functionality of the **SELCOPY Product Suite 3.10** component, **SELCOPYi**.

This document replaces any previous edition of *SELCOPYi Training Material* which are now obsolete.

SELCOPY Product Suite for z/OS, z/VM (CMS) and z/VSE operating systems, which includes SELCOPY, SELCOPY/i and CBLVCAT, is available for download and install from **http://www.cbl.com/selcdl.html**.

The following publications for SELCOPY Product Suite and its component products are available in Adobe Acrobat PDF format at CBL web page **http://www.cbl.com/selcdoc.html**:

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

At the time of publication, this document is believed to be correct. Where the program product differs from that stated herein, Compute (Bridgend) Ltd reserve the right to revise either the program or its documentation at their discretion. CBL do not warrant that upward compatibility will be maintained for any use made of this program product to perform any operation in a manner not documented within the user manual.

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 **SELCOPYi** 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).

# Setup Training Material

Sample data files and COBOL/PL1 copybooks are supplied with the SELCOPYi 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 SELCOPYi Primary Option Menu.

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

  0 Settings       Set SELCOPY/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 SELCOPY/i Training Material
 WL Window List    Display active windows, select with cursor to switch focus
  X Exit           Exit SELCOPY/i

  Use F4 (WINDOW) to switch between SELCOPYi 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.* SELCOPYi - Setup SELCOPY/i 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**.

**SELCOPYi** 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 assistence with your setup please contact CBL (support@cbl.com).

Note that **ISPF** restricts screen width to **160 columms**, 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, SELCOPYi will operate in "windowed" mode, with its **Primary Options Menu** located centralised at the at the top of the screen by default.
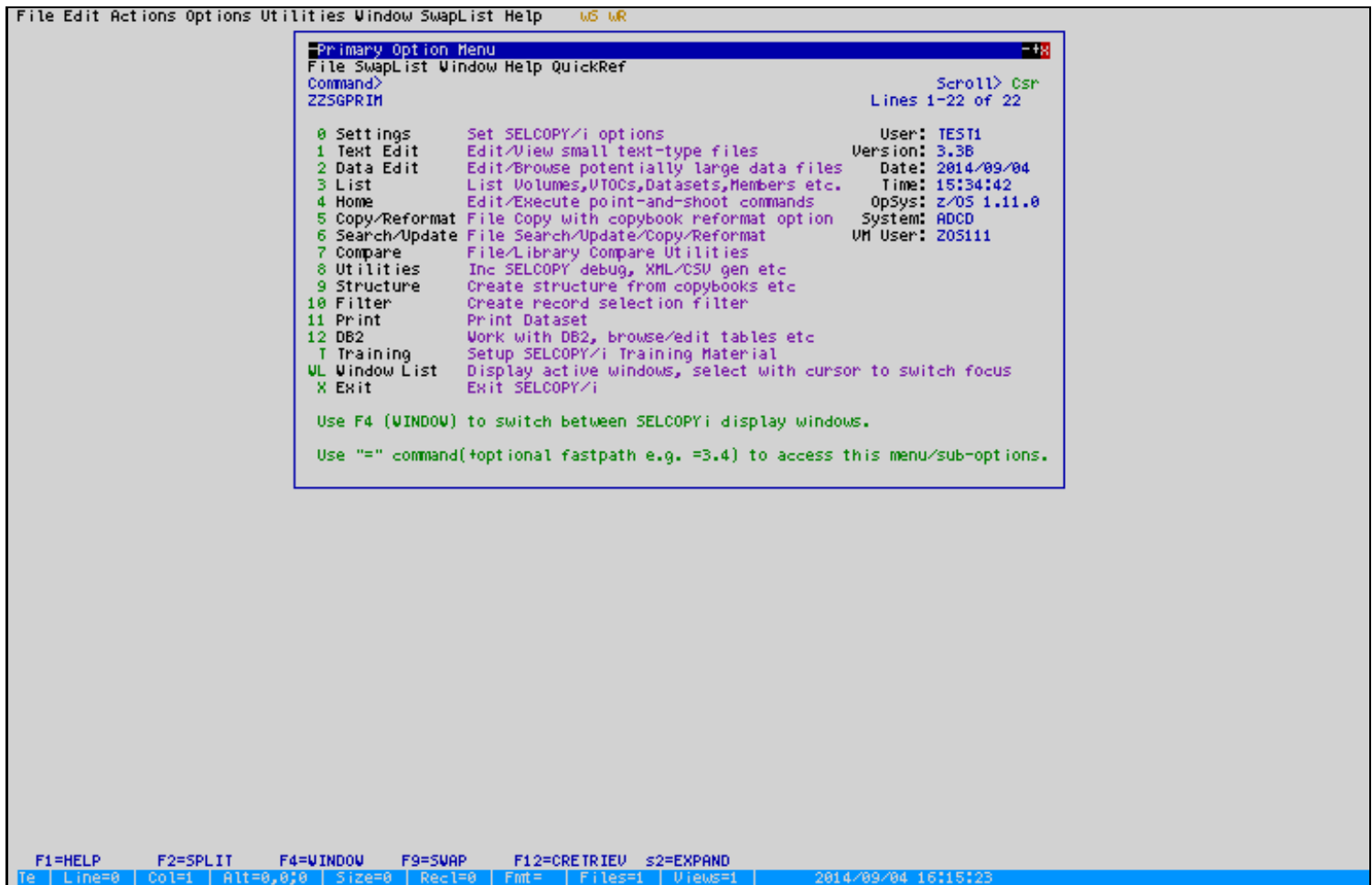
*Figure 2*. SELCOPYi - POM Window.

## Menu/Panel Windows

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

```
File Edit Actions Options Utilities Window SwapList Help     w5 wR
                           ┌─Primary Option Menu─────────────────────────────────────────────────────────────────────── -↕█
                           │ File SwapList Window Help QuickRef
                           │ Command>                                                  Scroll> Csr
                           │              ┌─Text Edit Entry Panel──────────────────────────────────────────── -↕█
                           │              │ File Help
                           │              │ Command>                                       Scroll> Csr
                           │              │ ZZSGEDIT                                       Lines 1-20 of 20
                           │              │ PDS/PDSE member, Sequential, VSAM or HFS path:
                           │              │    Name>   █
                           │              │    Volume> _____     If dataset is uncataloged.     + Member> _____
                           │              │
                           │              │ Action:
                           │              │  ∠ Edit Records.           All records are loaded in available storage.
                           │              │  _ Read Only Edit (DISP=SHR).  Preserve data. (Use SET FILEID before SAVE.)
                           │              │  _ Browse Records.          Records are loaded/dropped when scrolled.
                           │              │
                           │              │ HFS Options:
                           │              │  ∠ Undefined - HFS records terminated by End-Of-Line characters.
                           │              │  _ Fixed     - HFS records are of Fixed Length.
                           │              │     Record Length>       0   0=>default.  (Undefined: 32752, Fixed: 80)
                           │              │     EOL Characters> STD_____    EOL user string> _____ (2-byte char/hex)
                           │              │
                           │              │ Profile Macro:
                           │              │  ∠ Use Default.
                           │              │  _ Use Specified Macro.           Macro Name> PROFILE_
                           │              │  _ Do not use a Profile Macro.
                           └──────────────┘


  F1=HELP      F2=SPLIT     F4=WINDOW    F9=SWAP     F12=CRETRIEV  s2=EXPAND
Te │ Line=0 │ Col=1 │ Alt=0,0;0 │ Size=0 │ Recl=0 │ Fmt= │ Files=1 │ Views=1 │      2014/09/04 16:15:23
```

*Figure 3*. SELCOPYi - 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.
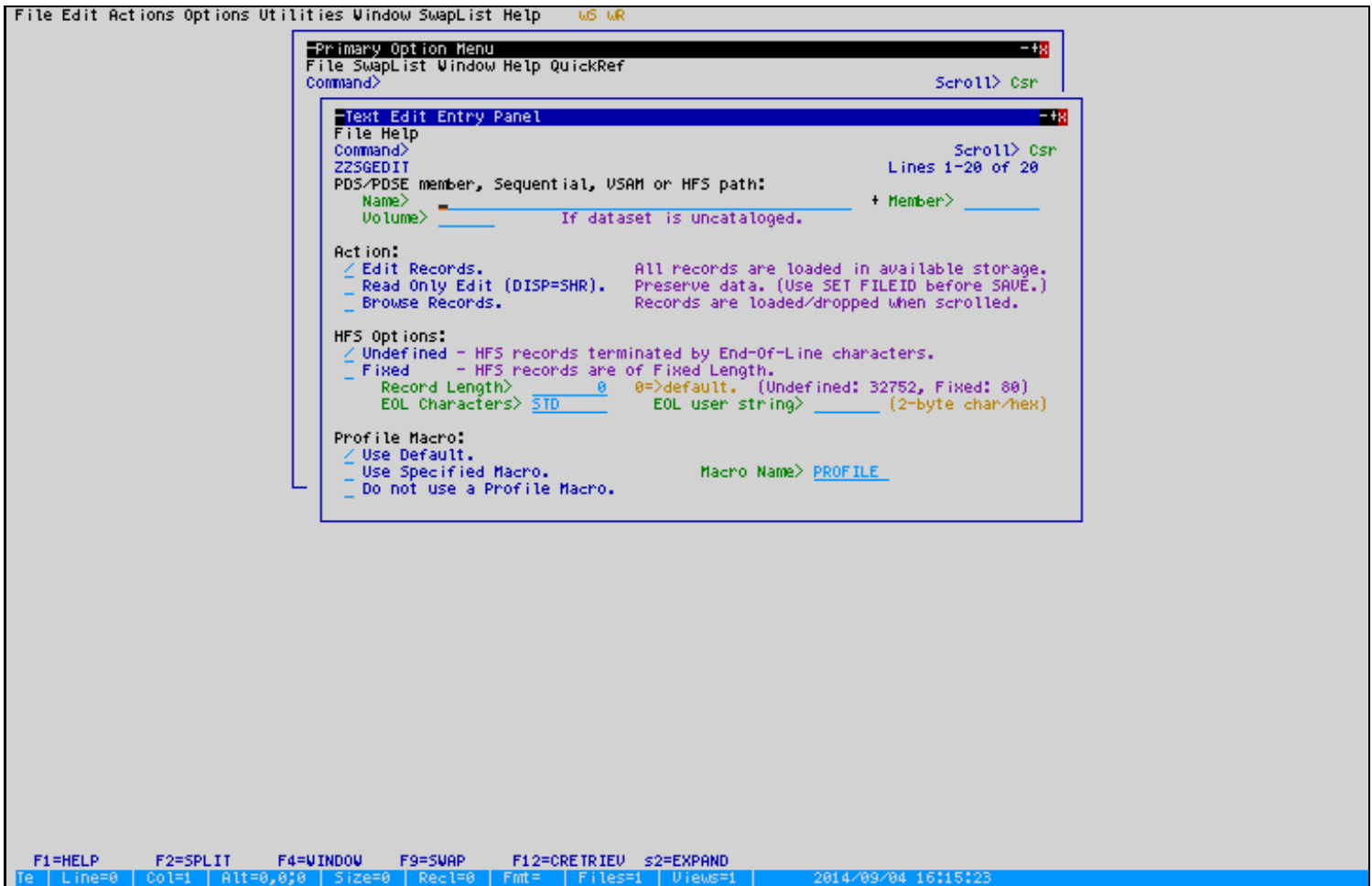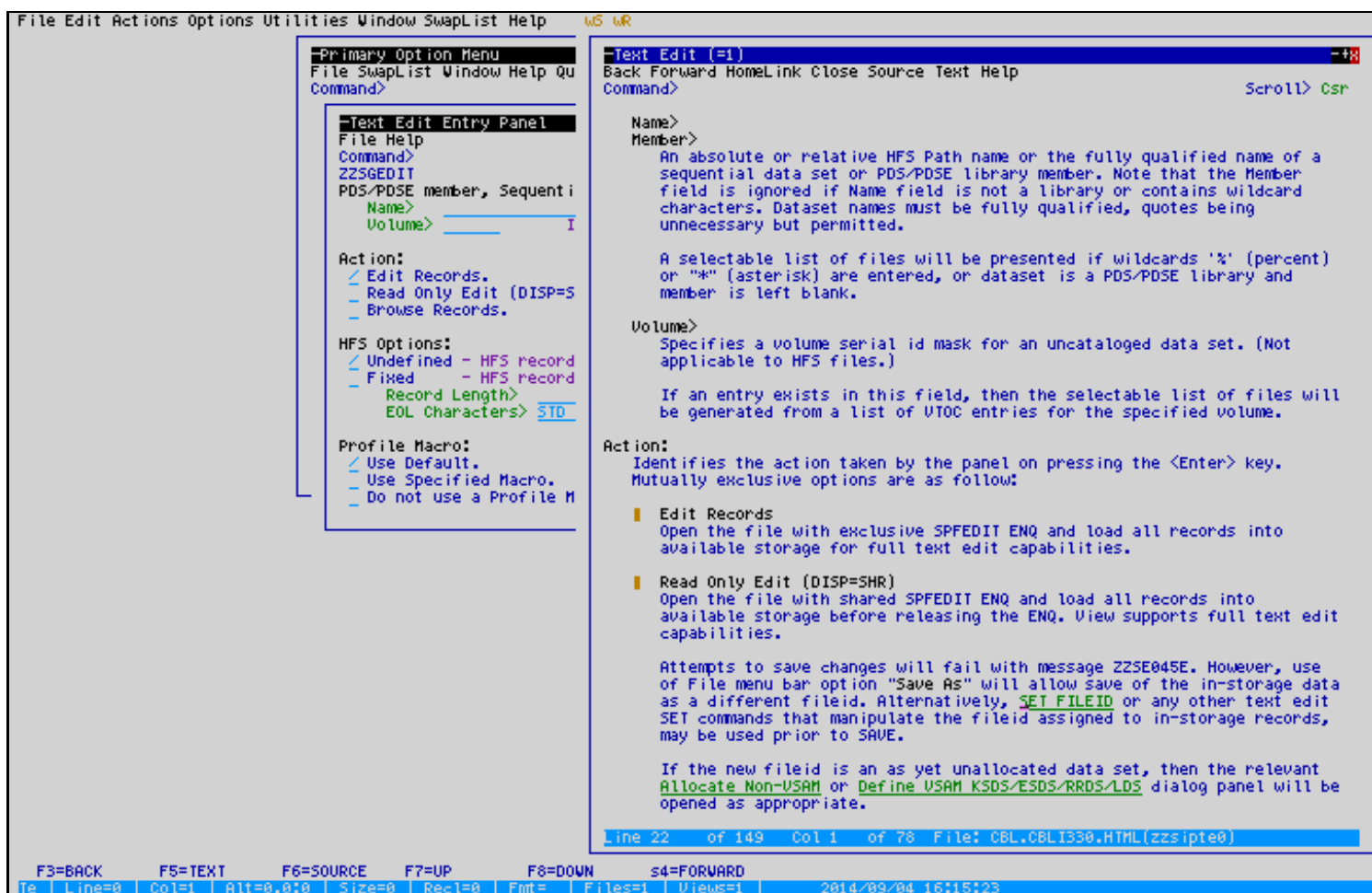


*Figure 4*. SELCOPYi - Help Window.

# 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*. SELCOPYi - Focus Window.

# WindowList (WL) Command

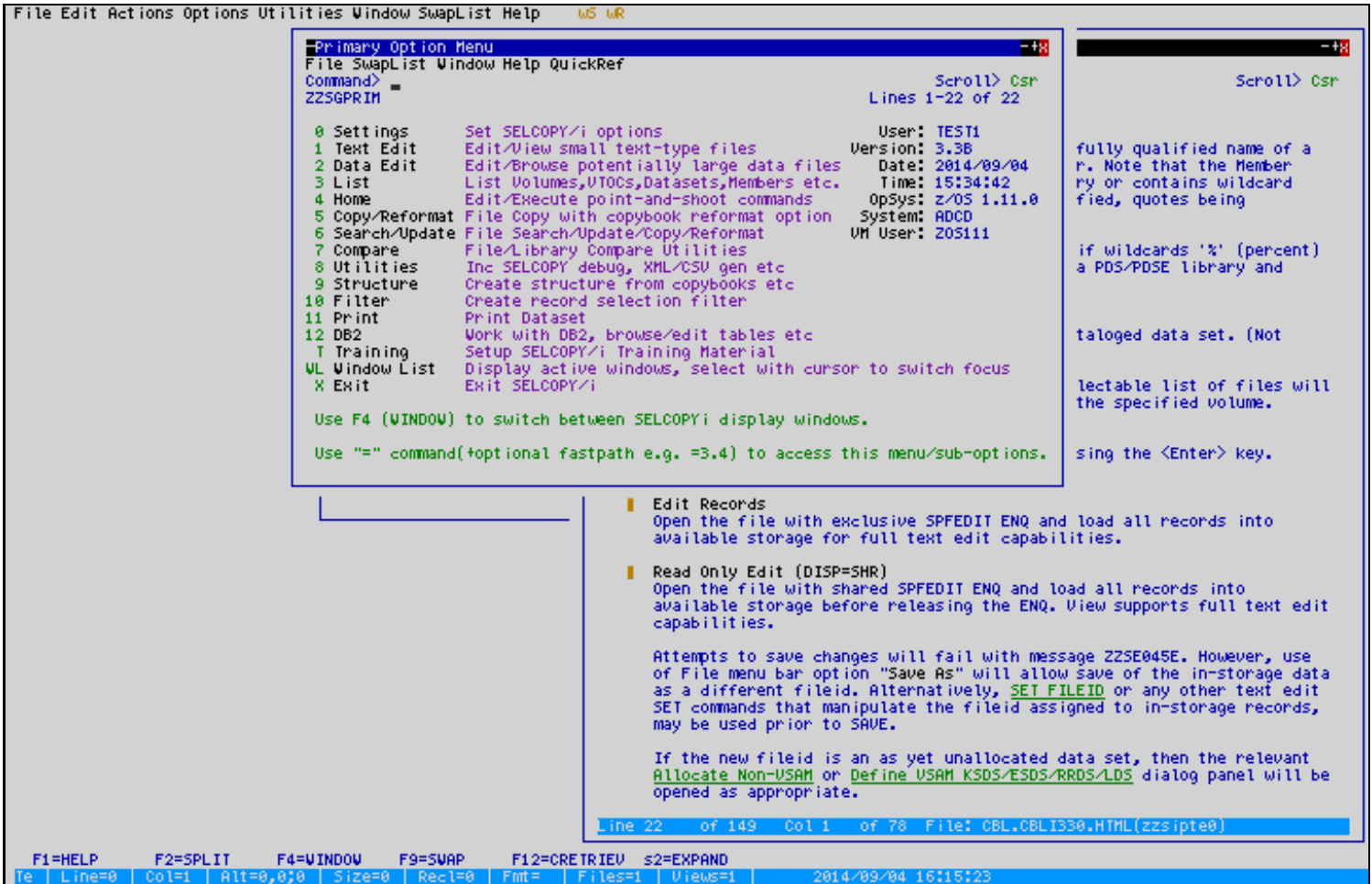Other ways to switch window focus:

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.
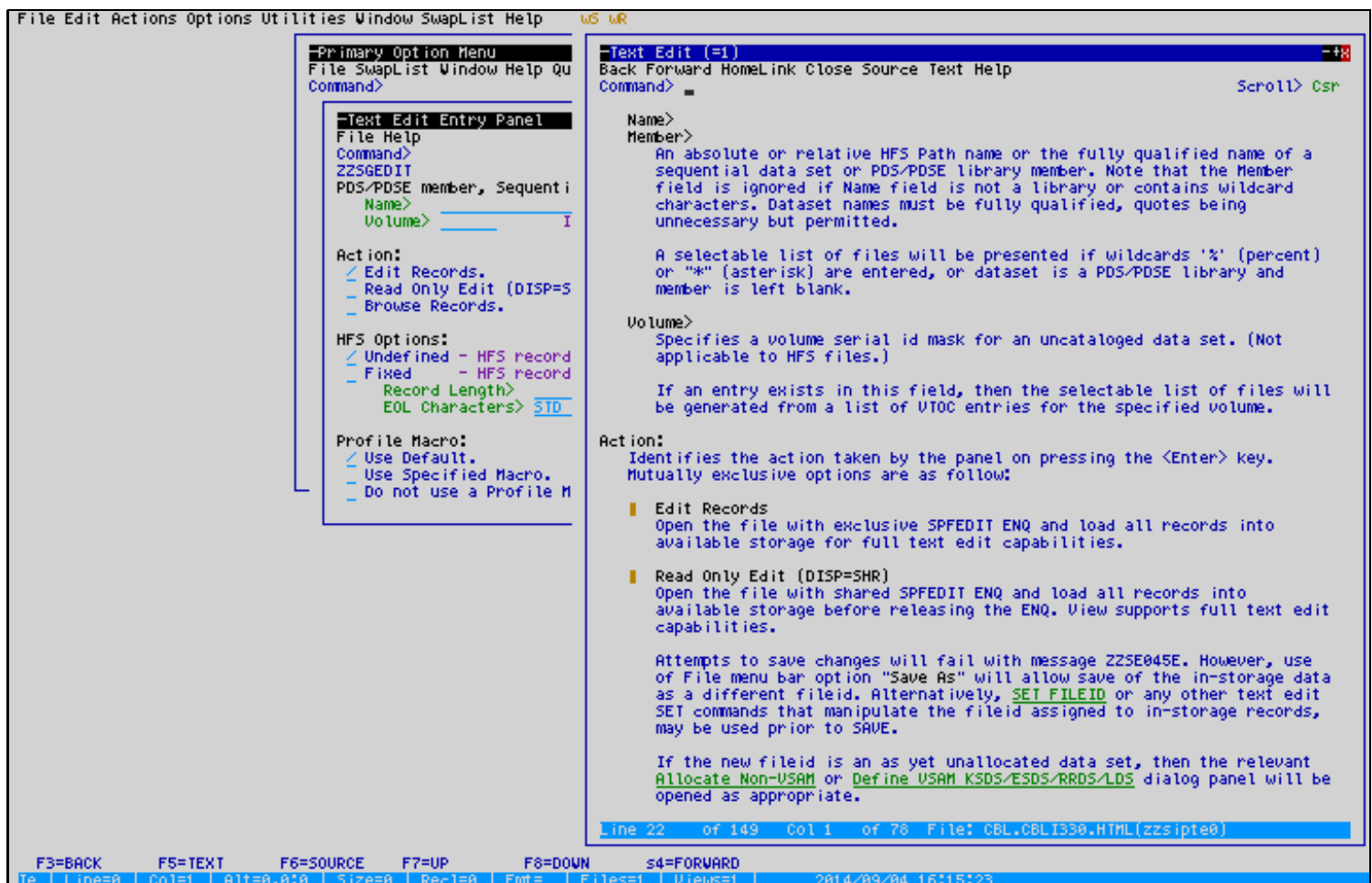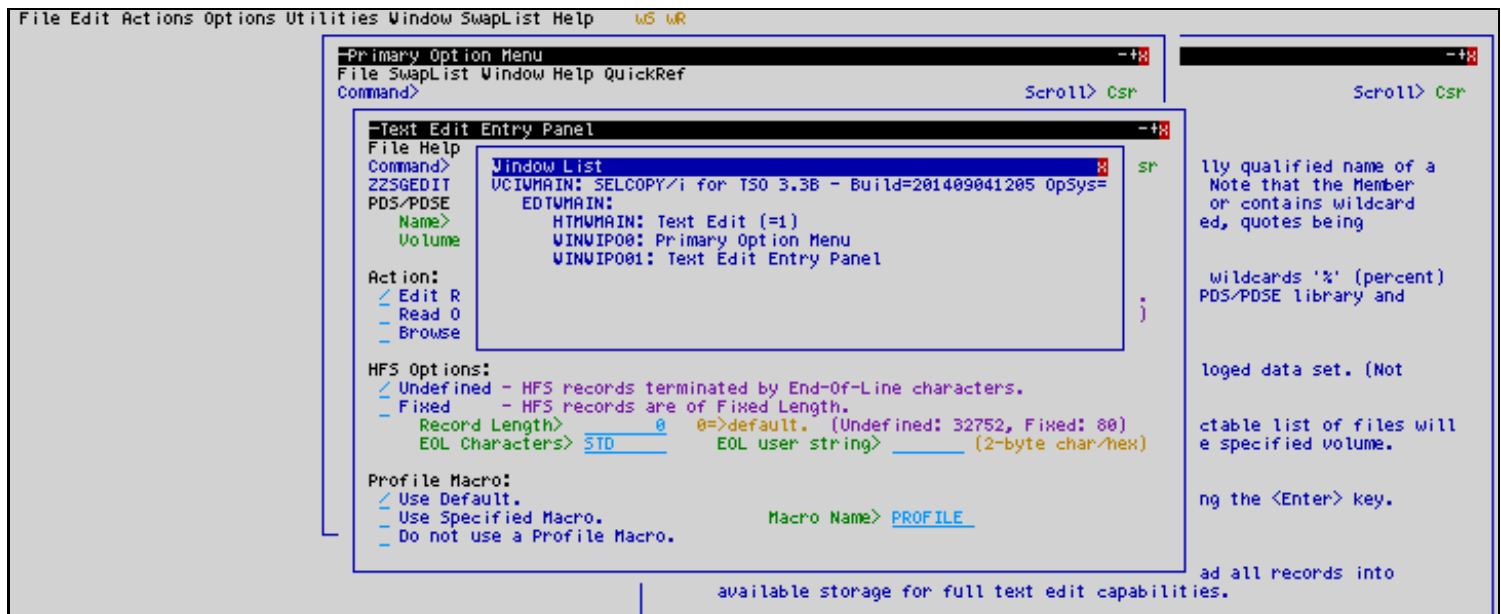   Place your cursor on the title of a window, then press **ENTER**.





*Figure 6*. SELCOPYi - 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.

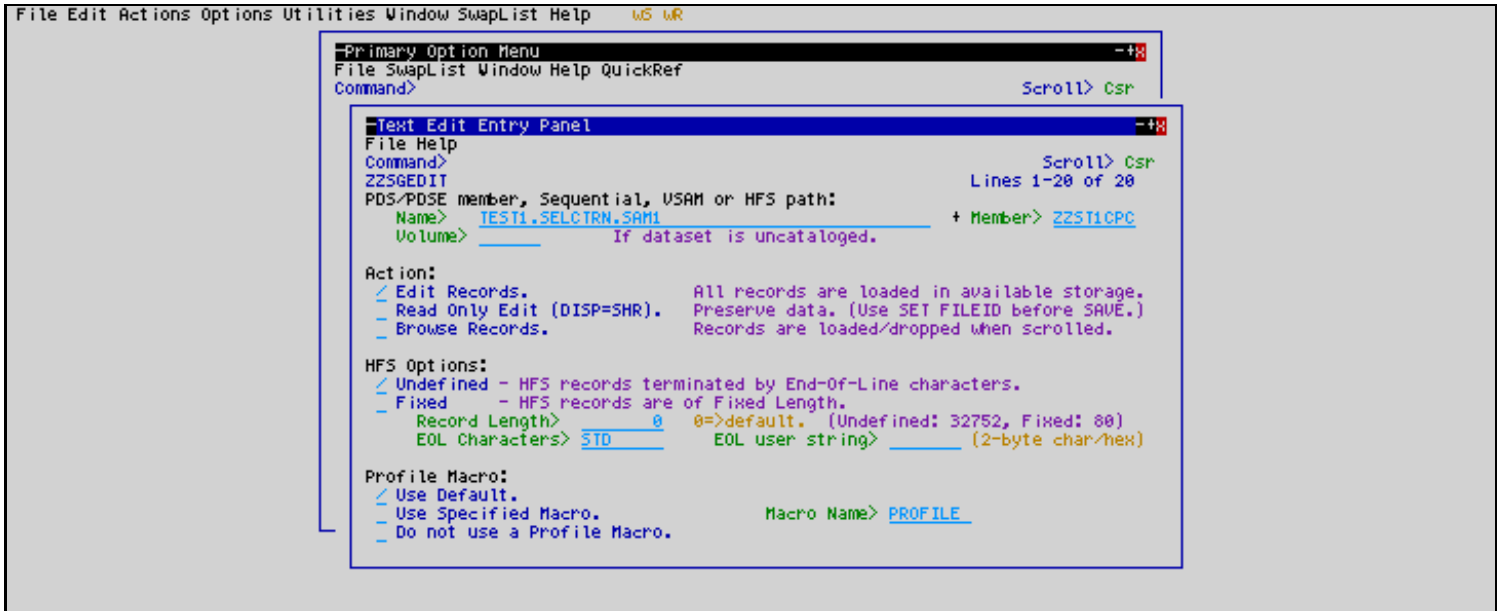- Press **ENTER** to edit the sample COBOL copybook.

```
File Edit Actions Options Utilities Window SwapList Help    wS wR
                        ─Primary Option Menu                                    ─┼╳
                        File SwapList Window Help QuickRef
                        Command>                                      Scroll> Csr
                        ┌─Text Edit Entry Panel                                 ─┼╳
                        │ File Help
                        │ Command>                                 Scroll> Csr
                        │ ZZSGEDIT                                 Lines 1-20 of 20
                        │ PDS/PDSE member, Sequential, VSAM or HFS path:
                        │    Name>  TEST1.SELCTRN.SAM1               + Member> ZZST1CPC
                        │    Volume> _____    If dataset is uncataloged.
                        │
                        │ Action:
                        │  ∠ Edit Records.        All records are loaded in available storage.
                        │  _ Read Only Edit (DISP=SHR).   Preserve data. (Use SET FILEID before SAVE.)
                        │  _ Browse Records.      Records are loaded/dropped when scrolled.
                        │
                        │ HFS Options:
                        │  ∠ Undefined - HFS records terminated by End-Of-Line characters.
                        │  _ Fixed    - HFS records are of Fixed Length.
                        │     Record Length>        0   0=>default.  (Undefined: 32752, Fixed: 80)
                        │     EOL Characters> STD        EOL user string> _____ (2-byte char/hex)
                        │
                        │ Profile Macro:
                        │  ∠ Use Default.
                        │  _ Use Specified Macro.          Macro Name> PROFILE
                        │  _ Do not use a Profile Macro.
                        └───
```

*Figure 7.* SELCOPYi - Focus Window.

```
File Edit Actions Options Utilities Window SwapList Help     wS wR
 ─TEST1.SELCTRN.SAM1(ZZST1CPC)    80 F PDSE    Size=18    Alt=0,0;0       ─┼╳   ▐█████           ─┼╳
 Command>                                              Scroll> Csr             Scroll> Csr
        <---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+---->-
 000001        01 TRACK                     .              ▐█████           ─┼╳
 000002           05 PERSISTENT-ID          PIC  X(016).
 000003           05 TRACK-NUM              PIC  9(003).                  Scroll> Csr
 000004           05 TRACK-ID               PIC  9(004).              Lines 1-20 of 20
 000005           05 NAME                   PIC  X(120).
 000006           05 ARTIST                 PIC  X(070).              Member> ZZST1CPC
 000007           05 ALBUM                  PIC  X(070).
 000008           05 TOTAL-TIME             PIC  9(007) BINARY.
 000009           05 FILE-SIZE              PIC  9(009) BINARY.
 000010           05 BIT-RATE               PIC  9(004) BINARY.       vailable storage.
 000011           05 SAMPLE-RATE            PIC  9(005) PACKED-DECIMAL.  EID before SAVE.)
 000012           05 YEAR                   PIC  9(004).              when scrolled.
 000013           05 NORMALIZATION          PIC S9(005) PACKED-DECIMAL.
 000014           05 DISC-NUMBER            PIC  9(003).
 000015           05 ALBUM-ARTIST           PIC  X(041).              ters.
 000016           05 RELEASE-DATE           PIC  X(020).
 000017           05 DATE-ADDED             PIC  X(020).              752, Fixed: 80)
 000018           05 DATE-MODIFIED          PIC  X(020).              (2-byte char/hex)
 000019 * * * End of File * * *
```
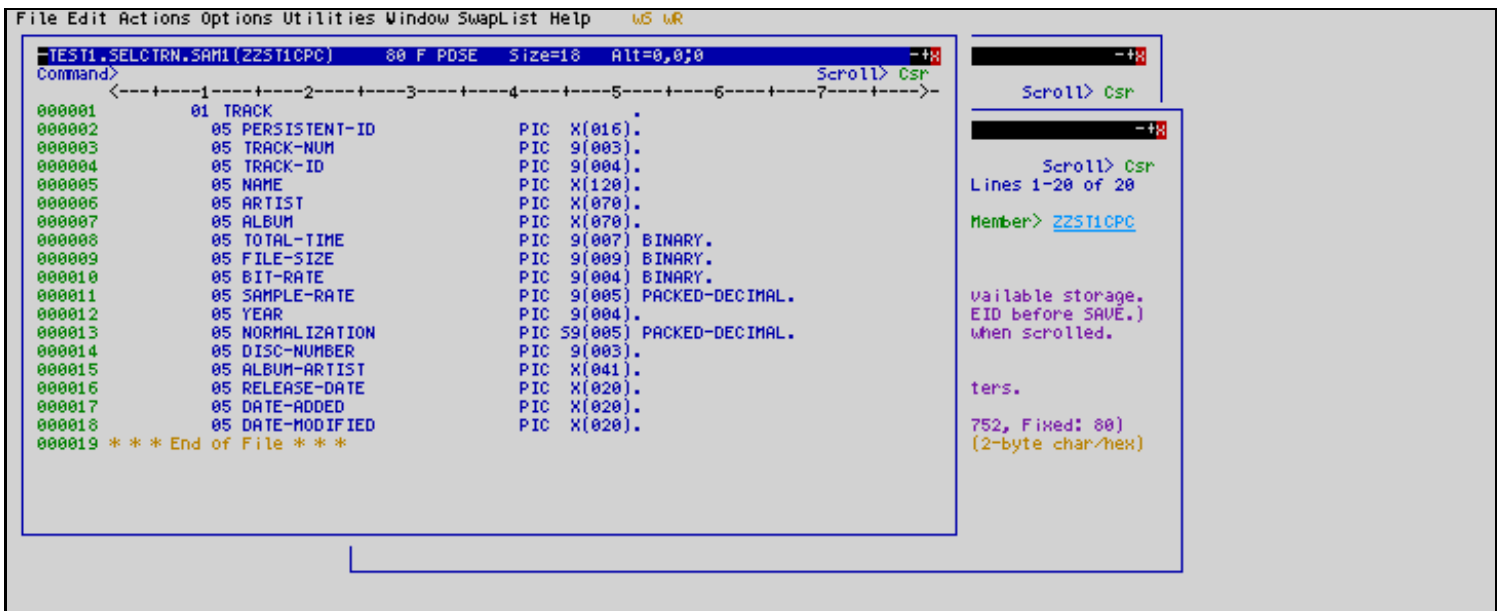
*Figure 8.* SELCOPYi - Focus Window.

## Moving Windows (2)

- Move the cursor anywhere into the window **"Title-Bar"** then press **ENTER.**

- The window title-bar and borders will be hilighted in reverse-video.

- This indicates that the window is in move/resize pending state.

- Move the cursor elsewhere on the SELCOPYi "Desktop", then press **ENTER** again.

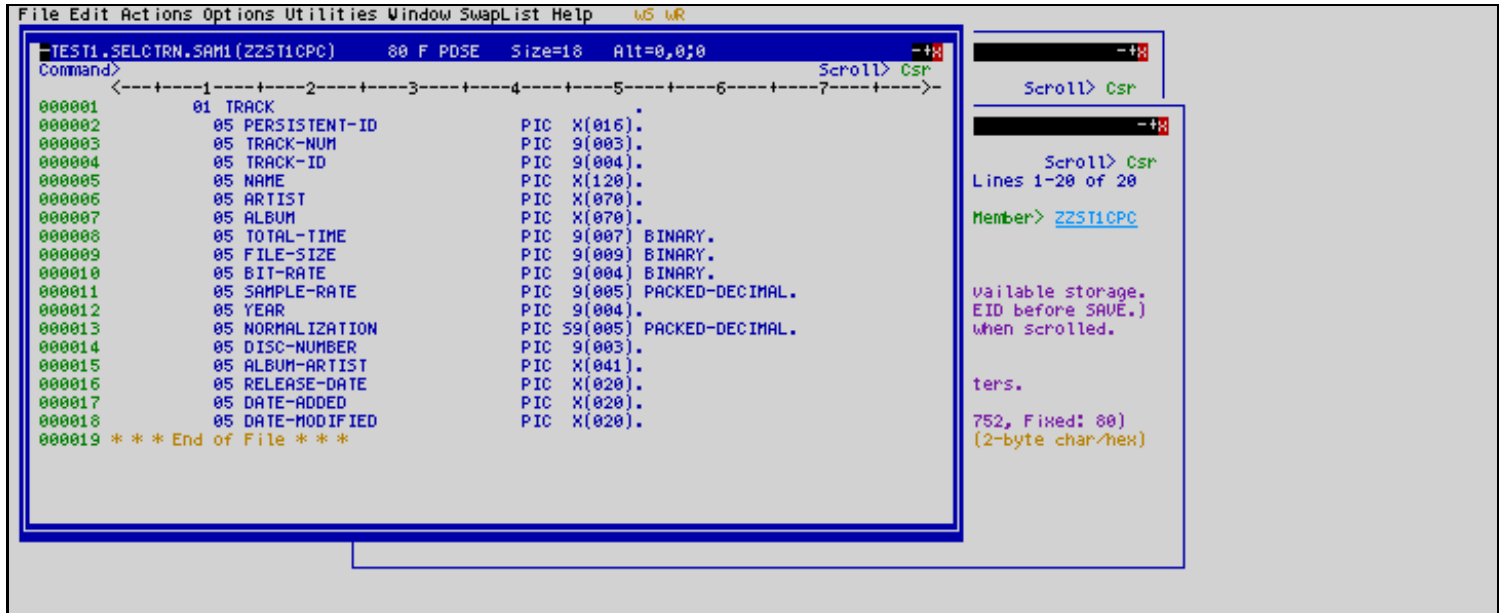- The window will be moved to your desired location.



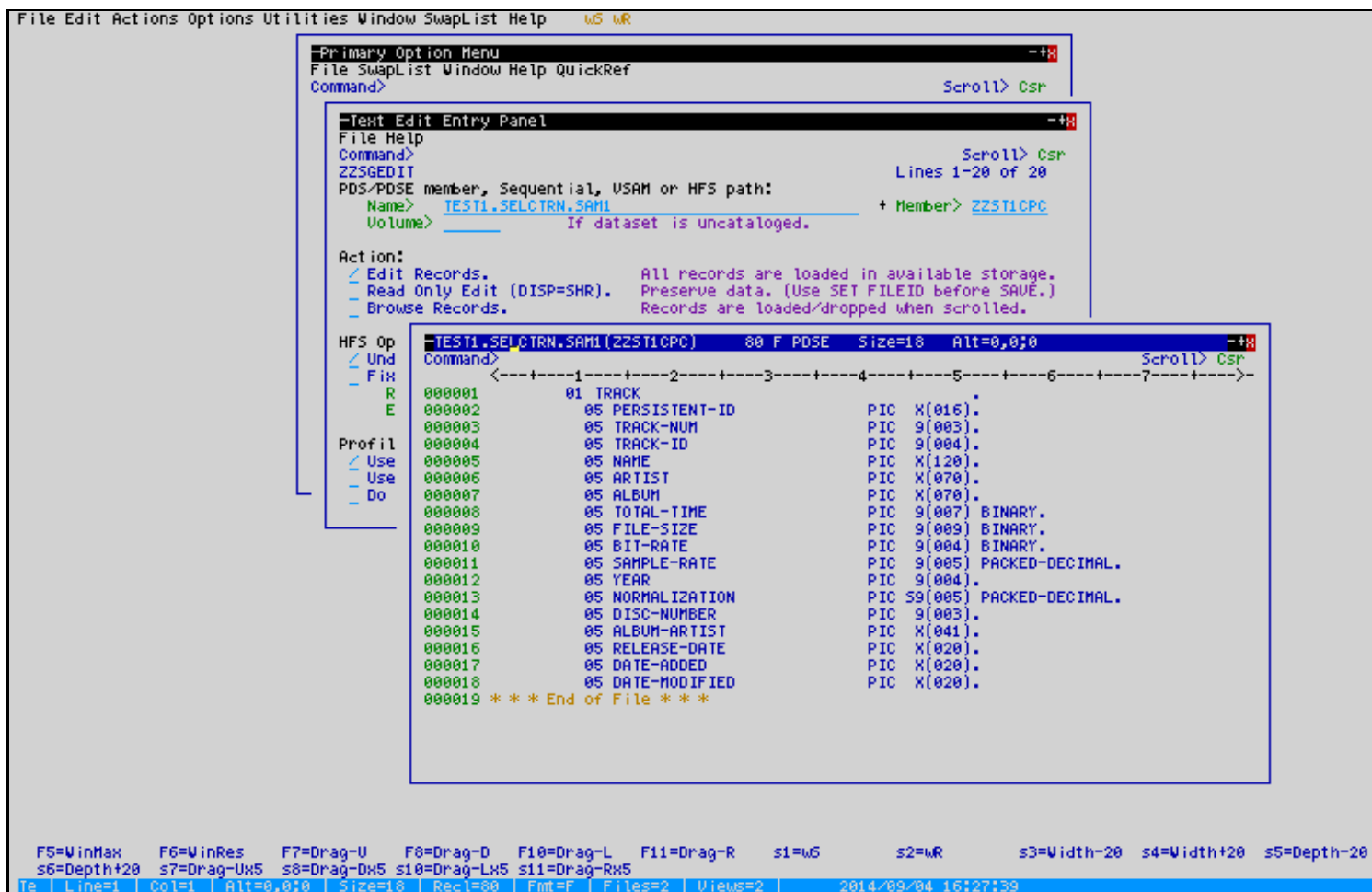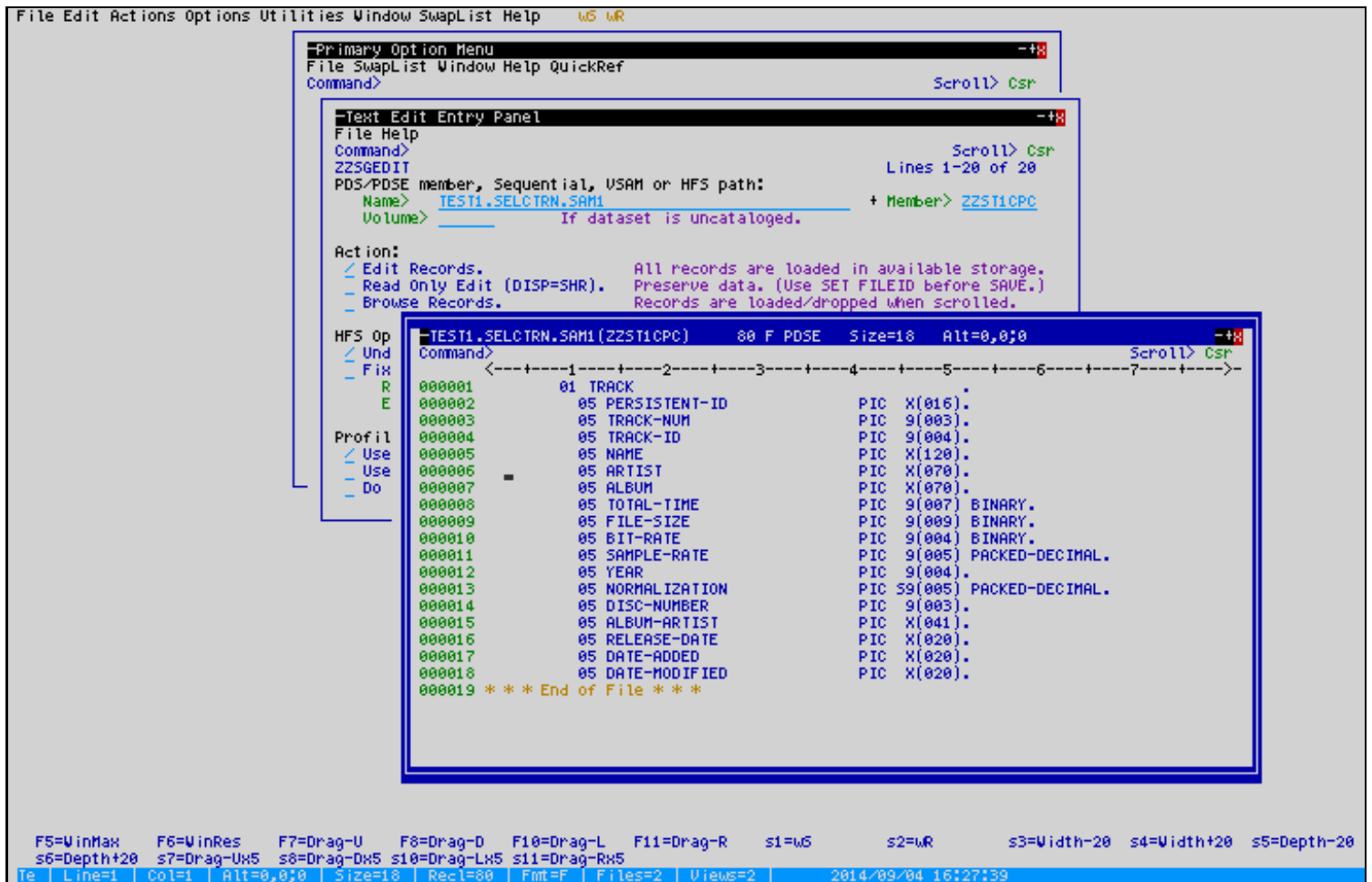*Figure 9.* SELCOPYi - Focus Window.

## Dragging Windows

```
File Edit Actions Options Utilities Window SwapList Help    wS wR
          ┌Primary Option Menu                              -+█
          │ File SwapList Window Help QuickRef
          │ Command>
          │                                        Scroll> Csr
          │     ┌Text Edit Entry Panel                      -+█
          │     │ File Help
          │     │ Command>                          Scroll> Csr
          │     │ ZZSGEDIT                          Lines 1-20 of 20
          │     │ PDS/PDSE member, Sequential, VSAM or HFS path:
          │     │     Name>  TEST1.SELCTRN.SAM1        + Member> ZZST1CPC
          │     │     Volume> _____    If dataset is uncataloged.
          │     │
          │     │ Action:
          │     │   ∠ Edit Records.        All records are loaded in available storage.
          │     │   _ Read Only Edit (DISP=SHR).  Preserve data. (Use SET FILEID before SAVE.)
          │     │   _ Browse Records.      Records are loaded/dropped when scrolled.
          │     │
          │     │ HFS Op  ┌TEST1.SELCTRN.SAM1(ZZST1CPC)   80 F PDSE   Size=18   Alt=0,0;0        -+█
          │     │ ∠ Und  │ Command>                                          Scroll> Csr
          │     └─ Fix   │   <---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+---->-
          │        R     │ 000001          01 TRACK                              .
          │        E     │ 000002              05 PERSISTENT-ID          PIC  X(016).
          │              │ 000003              05 TRACK-NUM              PIC  9(003).
          │              │ 000004              05 TRACK-ID               PIC  9(004).
          │ Profil       │ 000005              05 NAME                   PIC  X(120).
          │ ∠ Use        │ 000006              05 ARTIST                 PIC  X(070).
          │ _ Use        │ 000007              05 ALBUM                  PIC  X(070).
          │ _ Do         │ 000008              05 TOTAL-TIME             PIC  9(007) BINARY.
          │              │ 000009              05 FILE-SIZE              PIC  9(009) BINARY.
          │              │ 000010              05 BIT-RATE               PIC  9(004) BINARY.
          │              │ 000011              05 SAMPLE-RATE            PIC  9(005) PACKED-DECIMAL.
          │              │ 000012              05 YEAR                   PIC  9(004).
          │              │ 000013              05 NORMALIZATION          PIC S9(005) PACKED-DECIMAL.
          │              │ 000014              05 DISC-NUMBER            PIC  9(003).
          │              │ 000015              05 ALBUM-ARTIST           PIC  X(041).
          │              │ 000016              05 RELEASE-DATE           PIC  X(020).
          │              │ 000017              05 DATE-ADDED             PIC  X(020).
          │              │ 000018              05 DATE-MODIFIED          PIC  X(020).
          │              │ 000019 * * * End of File * * *
          │              │
          │              │

 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=1 │ Col=1 │ Alt=0,0;0 │ Size=18 │ Recl=80 │ Fmt=F │ Files=2 │ Views=2 │        2014/09/04 16:27:39
```

*Figure 10.* SELCOPYi - 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.

- Simultaneously hold down the "Shift" key to drag the window **5** positions.

# Resizing Windows

- Move the cursor anywhere into the window top **"Border"** then press **ENTER.**

- The window title-bar and borders will be hilighted in reverse-video.

- This indicates that the window is in move/resize pending state.



*Figure 11.* SELCOPYi - Focus Window.

## Resizing Windows (2)

- Move the cursor up or down a number of lines, then press **ENTER** again.

- The window depth will grow or shrink as desired.

```
File Edit Actions Options Utilities Window SwapList Help     wS wR
                  ┌─Primary Option Menu                           -+x
                  │ File SwapList Window Help QuickRef
                  │ Command>                               Scroll> Csr
                  │   ┌─Text Edit Entry Panel                         -+x
                  │   │ File Help
                  │   │ Command>                              Scroll> Csr
                  │   │ ZZSGEDIT                            Lines 1-20 of 20
                  │   │ PDS/PDSE member, Sequential, VSAM or HFS path:
                  │   │     Name>   TEST1.SELCTRN.SAM1          + Member> ZZST1CPC
                  │   │     Volume> _____      If dataset is uncataloged.
                  │   │
                  │   │ Action:
                  │   │  / Edit Records.          All records are loaded in available storage.
                  │   │  _ Read Only Edit (DISP=SHR).  Preserve data. (Use SET FILEID before SAVE.)
                  │   │  _ Browse Records.        Records are loaded/dropped when scrolled.
                  │   │
                  │   │ HFS Options:
                  │   │  / Undefined - HFS records terminated by End-Of-Line characters.
                  │   │  _ Fixed    - HFS records are of Fixed Length.
                  │   │     Record Length>      0  0=>default. (Undefined: 32752, Fixed: 80)
                  │   │     EOL Characters> STD     EOL user string> _____ (2-byte char/hex)
                  │   │
                  │   │ Profile Macro:
                  │   │  / Use Default.
                  │   │  _ Use
                  └───│  _ Do    ┌─TEST1.SELCTRN.SAM1(ZZST1CPC)   80 F PDSE   Size=18   Alt=0,0;0      -+x
                      │          │ Command>                                          Scroll> Csr
                      │          │   <---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+---->-
                      └──────────│ 000001      01 TRACK                             .
                                 │ 000002         05 PERSISTENT-ID         PIC  X(016).
                                 │ 000003         05 TRACK-NUM             PIC  9(003).
                                 │ 000004         05 TRACK-ID              PIC  9(004).
                                 │ 000005         05 NAME                  PIC  X(120).
                                 │ 000006         05 ARTIST                PIC  X(070).
                                 │ 000007         05 ALBUM                 PIC  X(070).
                                 │ 000008         05 TOTAL-TIME            PIC  9(007) BINARY.
                                 │ 000009         05 FILE-SIZE             PIC  9(009) BINARY.
                                 │ 000010         05 BIT-RATE              PIC  9(004) BINARY.
                                 │ 000011         05 SAMPLE-RATE           PIC  9(005) PACKED-DECIMAL.
                                 │ 000012         05 YEAR                  PIC  9(004).
                                 │ 000013         05 NORMALIZATION         PIC S9(005) PACKED-DECIMAL.
                                 │ 000014         05 DISC-NUMBER           PIC  9(003).

 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=1 │ Col=1 │ Alt=0,0;0 │ Size=18 │ Recl=80 │ Fmt=F │ Files=2 │ Views=2 │       2014/09/04 16:29:35
```

*Figure 12.* SELCOPYi - Focus Window.

## Dragging Window Borders

This technique may be repeated on the bottom, left, right or border corners.

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.
- Simultaneously hold down the "Shift" key to drag the window **5** positions.
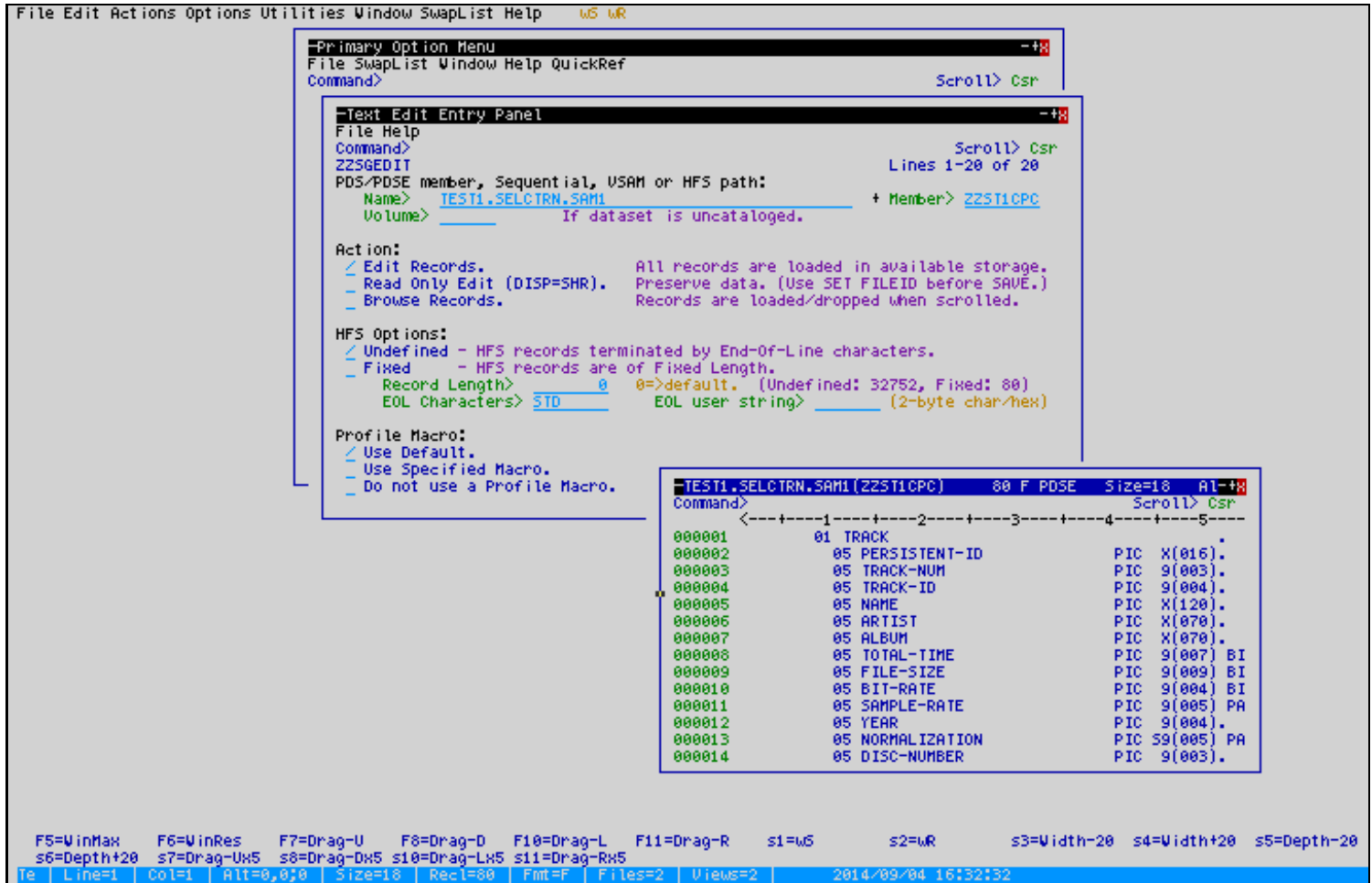


*Figure 13.* SELCOPYi - Focus Window.

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" any of these buttons simply place your cursor on it and hit ENTER.
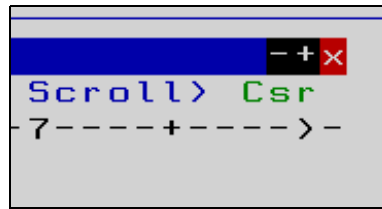


*Figure 14.* SELCOPYi - Min/Max/Close Buttons.

Note that as soon you maximise any window, then all windows will display in maximised state.
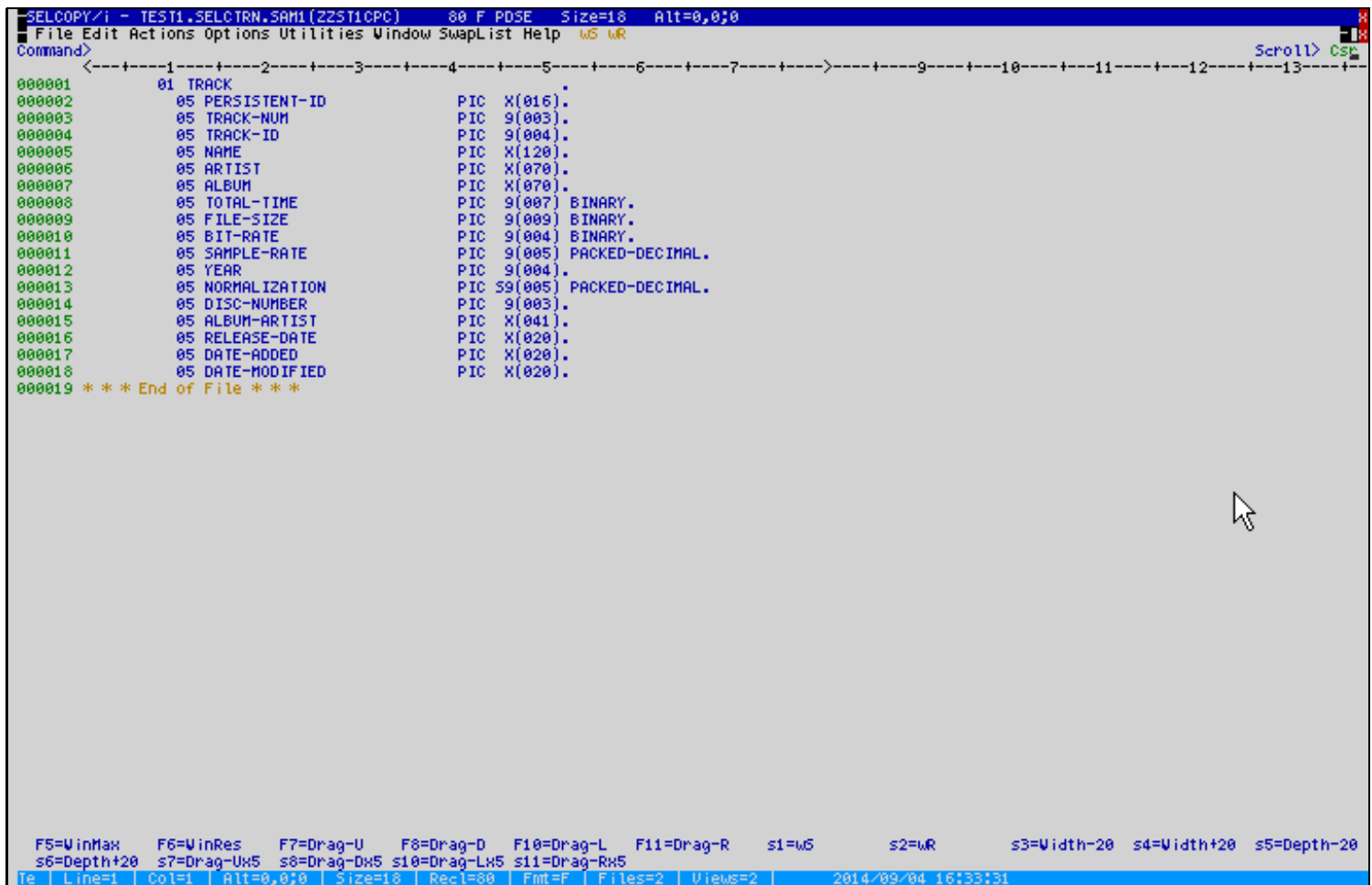


*Figure 15.* SELCOPYi - Focus Window.

## 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 SELCOPYi application.
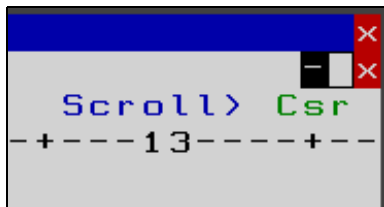


*Figure 16.* SELCOPYi - Min/Max/Close Buttons.

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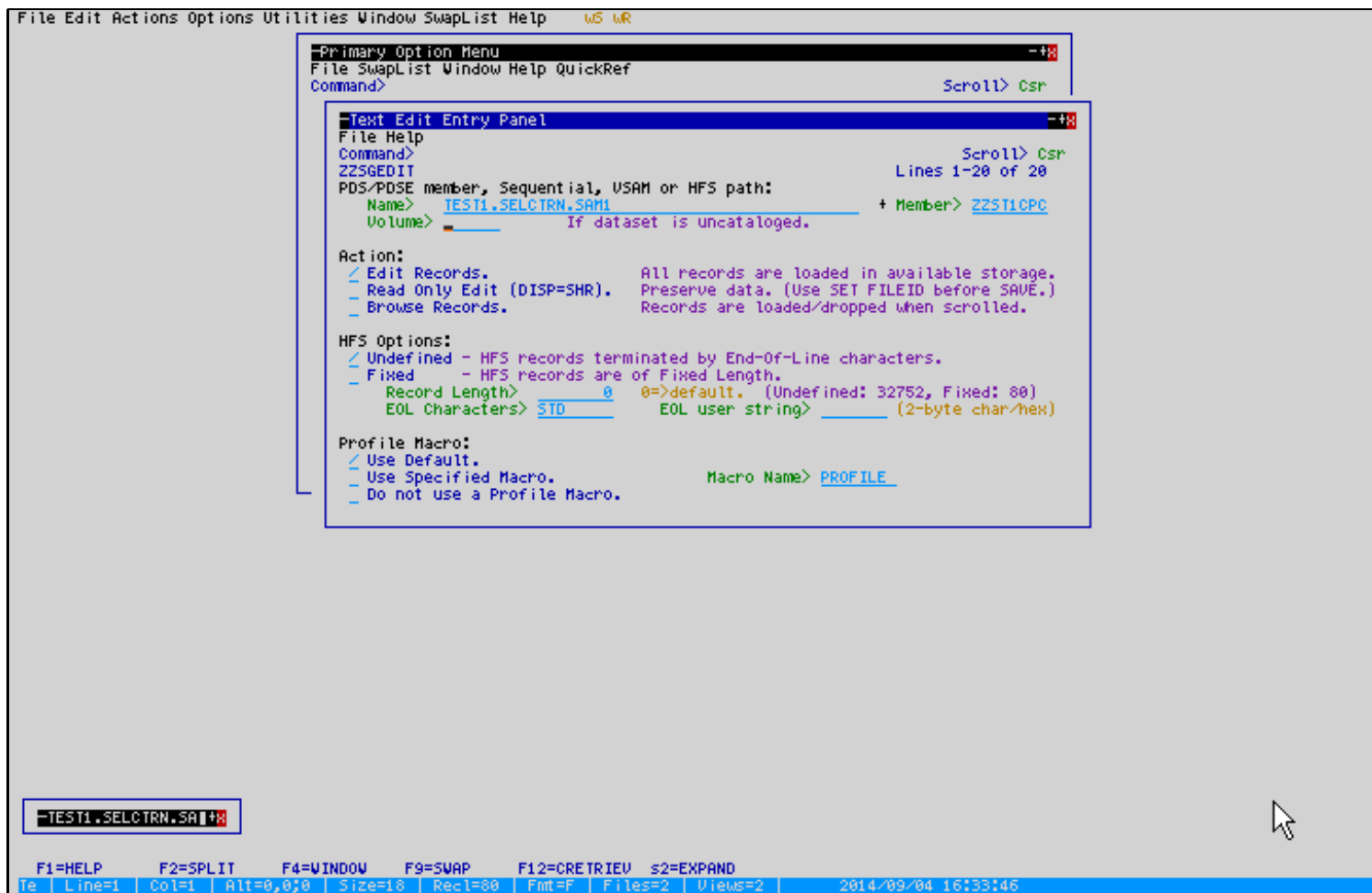


*Figure 17.* SELCOPYi - Focus Window.

# Option 1 - Text Edit

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

The most obvious of these is that it uses the SELCOPYi **"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 SELCOPYi 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>                                                                  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                              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.* SELCOPYi - POM Window.

## Inserting, Deleting, Replicating, Splitting and Joining lines

- By defult, a scale line is provided at the top of the screen that remains permanently visible as you scroll down te 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 SELCOPYi 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, SELCOPYi provides some convenient default Function Key definitions.

    ♦ Instead of having to move the cursor into the prefix area then enter **I**, just press **F13 (Shift-F1)** to **insert** new lines.

    ♦ Instead of having to move the cursor into the prefix area then enter **D**, just press **F14 (Shift-F2)** to **delete** the current line.

    ♦ Instead of having to move the cursor into the prefix area then enter **R**, just press **F15 (Shift-F3)** to **replicate** the current line.

    ♦ To split a line so that text following the the cursor is inserted as a new line, press the **SPLTJOIN** key **F19 (Shift-F7)**.

    ♦ Place your cursor at the end of a line then use the same key to join on text from the next line.

- Use the **PFSHOWSTYLE (PFS)** 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" (indicating Shift-F1) etc as shown in the following screen shots.**

    This feature is also available via the Settings->Function Keys (=0.8) panel.

## Selective Line Editing

- SELCOPYi 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 excludied records.

- Type **RES HIDE** (or SHAD ON) to redisplay shadow lines.

- Type **ALL** (or RES) to redisplay excluded lines.

```
SELCOPY/i - TEST1.SELCTRN.SAM1(ZZST2CPC)      80 F PDSE    Size=59    Alt=0,0;3
  File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                              Scroll> Csr
ZZSE195I 44 occurrences of string "X" 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 ---------------------- 2 line(s) not displayed ----------------------------
000012          05 NAME                       PIC  X(120).
000013 ---------------------- 7 line(s) not displayed ----------------------------
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).
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).
   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;3  | Size=59  | Recl=80  | Fmt=F  | Files=2  | Views=2
```

*Figure 19*. SELCOPYi - 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 SELCOPYi 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 on 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.



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

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.* SELCOPYi - 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 on/off this feature.

```
-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.* SELCOPYi - Focus Window.

# UNDO/REDO

SELCOPYi 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 SELCOPYi 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 SELCOPYi 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 SELCOPYi **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        X
 File Edit Actions Options Utilities Window SwapList Help   wS wR            - X
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
```
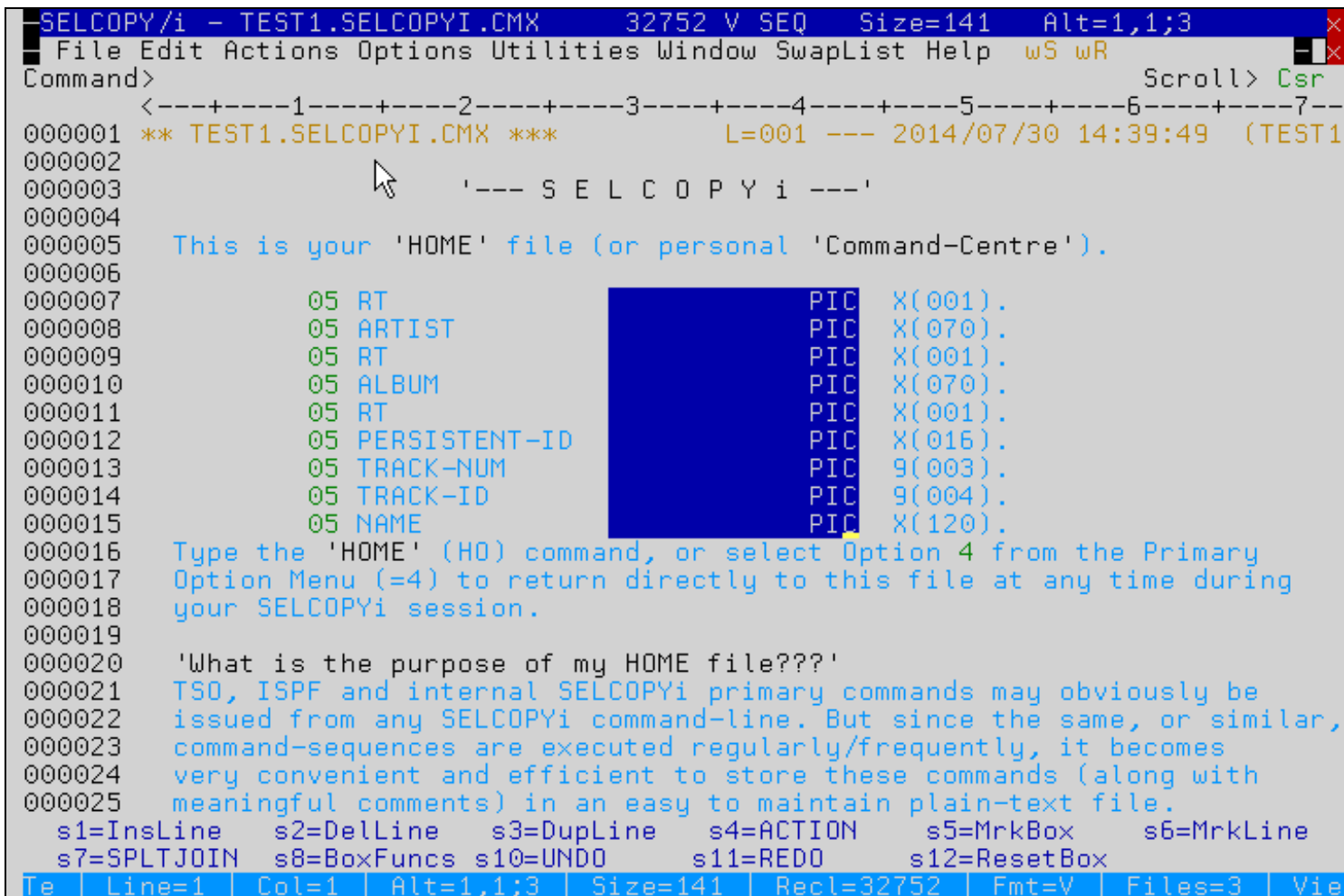
## Multiple (Windowed) Views (2)

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 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 SELCOPYi users can just open a 2nd, 3rd, 4th etc view of the file in order to look at other areas, then return to their original 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          ─+×
  Command>                                                 Scroll> Csr
        <---+----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          ─+×
  Command>                                                 Scroll> Csr
        <---+----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.* SELCOPYi - Focus Window.

## The "WW" Primary Command

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

In addition, **"WW"** allows you to add a command 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.* SELCOPYi - Focus Window.

Note that changes to data made in one view will immediately be reflected in all other views of the same data.

Furthermore changes made in one view may be **UNDOne**/**REDOone** 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, **SELCOPYi** 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 SELCOPYi's **clipboard**.
- Moved or copied to another location within the same or any other edited file.
- **Overlayed** on top of data at another location within the same or any other edited file.
- **Filled** with a single propogated 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.**

```
-SELCOPY/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.* SELCOPYi - 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.

```
SELCOPY/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 RN                              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.* SELCOPYi - Focus Window.

**Copying a Line-Block (2)**

- Type **HOME** on the command line and press **ENTER**.

```
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--
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.* SELCOPYi - 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.

```
SELCOPY/i - Text-Edit: Line/Box-Block Options                          X
File Help                                              wS wR           ▬ X
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.* SELCOPYi - 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.



*Figure 28.* SELCOPYi - 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 box corner will be hilighted.

- Place your cursor at **column 43** of the **last** copied line then press the **Shift-F5**.

- The box block will be hilighted.

```
SELCOPY/i - TEST1.SELCOPYI.CMX        32752 V SEQ    Size=141    Alt=1,1;3          X
  File Edit Actions Options Utilities Window SwapList Help   wS wR            - X
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.* SELCOPYi - Min/Max/Close Buttons.

## Deleting a Box-Block (2)

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

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

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


     d_
                        ▷
     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 30.* SELCOPYi - 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.

```
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> _                                                          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 31.* SELCOPYi - 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 hilighted.

- 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 hilighted.

```
┌SELCOPY/i - TEST1.SELCOPYI.CMX        32752 V SEQ     Size=141     Alt=2,2;5            X
█ File Edit Actions Options Utilities Window SwapList Help   wS wR                    ─ X
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.* SELCOPYi - 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.

```
-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' (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 | Vie
```

*Figure 33.* SELCOPYi - 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 variable data lengths wil be hilighted.

- Place your at **column 20** of the **first** copied line.

- We will overlay the marked box onto this location.



*Figure 34.* SELCOPYi - Focus Window.

## Overlaying a Box-Block (2)

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

```
SELCOPY/i - Text-Edit: Line/Box-Block Options                              X
File Help                                                     wS wR        ▬ X
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*. SELCOPYi - 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.

```
-SELCOPY/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' (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=4,4;9 │ Size=141 │ Recl=32752 │ Fmt=V │ Files=3 │ Vie
```

*Figure 36.* SELCOPYi - 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**.

```
 SELCOPY/i - Text-Edit: Line/Box-Block Options                      X
File Help                                              wS wR        ⎯ ⬛X
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*. SELCOPYi - Focus Window.

## Incremental Sequence Numbers (2)

- Enter **"DEC"** in the **"Base:"** field to select decimal sequence numbers.

- Enter **"100"** in the **"Start Value:"** field.

- Enter **"20"** in the **"Increment:"** field.

- Enter **"YES"** in the **"Leading Zeros:"** field.

- Select option **"Use above specified start value"**.
- Press **ENTER** to update the values.



```
-SELCOPY/i - Generate Sequence Numbers in Marked Box                    X
 File Command Help                                          wS wR      - X
Command>                                                    Scroll> Csr
ZZSTBXSQ                                                   Lines 1-20 of 20
                        --- 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: 100           Number inserted on 1st line.
     Increment: 20            +/- number adjustment to 2nd and subsequent lines.
 Leading Zeros: YES

                 / Use above specified start value.
                 _ Use the first line existing value as start value.
                 _ Adjust every each existing value by the increment number.




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

*Figure 38.* SELCOPYi - Focus Window.

## Adjusting Sequence Numbers (1)

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

As an excericse 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                        X
  File Command Help                                         wS wR           X
Command>                                                         Scroll> Csr
ZZSTBXSQ                                                   Lines 1-20 of 20
                           --- 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.* SELCOPYi - Focus Window.

## Adjusting Sequence Numbers (2)

Press **ENTER** to update the values.



*Figure 40.* SELCOPYi - Focus Window.

## Adjusting Sequence Numbers (3)

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



*Figure 41.* SELCOPYi - Focus Window.

## Using the "BOX" Primary Command (1)

Next we'll use the **BOX** primary command to change all occurences 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.



*Figure 42.* SELCOPYi - 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.



*Figure 43.* SELCOPYi - 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"**.

```
┌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> fill X_                                                      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 44.* SELCOPYi - Focus Window.

## Using the "FILLBOX" Primary Command (2)

Press **ENTER** to set the values.

```
SELCOPY/i - TEST1.SELCOPYI.CMX        32752 V SEQ    Size=141    Alt=5,5;9         X
 File Edit Actions Options Utilities Window SwapList Help   wS wR            - X
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              XXXXXXXXXXXXX 05   X(001).
000008              XXXXXXXXXXXXX 05   X(070).
000009              XXXXXXXXXXXXX 05   X(001).
000010              XXXXXXXXXXXXX 05   X(070).
000011              XXXXXXXXXXXXX 05   X(001).
==CHG>              XXXXXXXXXXXXX 05   X(016).
==CHG>              XXXXXXXXXXXXX 05   9(003).
==CHG>              XXXXXXXXXXXXX 05   9(004).
000015              XXXXXXXXXXXXX 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=5,5;9 | Size=141 | Recl=32752 | Fmt=V | Files=3 | Vi
```

*Figure 45.* SELCOPYi - 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.

```
-SELCOPY/i - TEST1.SELCOPYI.CMX      32752 V SEQ    Size=141    Alt=6,6;10          X
  File Edit Actions Options Utilities Window SwapList Help   wS wR              - X
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             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 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=6,6;10 │ Size=141 │ Recl=32752 │ Fmt=V │ Files=3 │ V
```

*Figure 46*. SELCOPYi - Focus Window.

## String Coloring

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

In addition, **SELCOPYi** provides the ability to control color hilighting 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 '1U2' 1"**.

- Type the primary command **"SCOLOR 'World' YELLOW"**.
  This will hilight all occurrences of the string **"World"** (case-sensitive) in **yellow**.

- Type the primary command **"SCOL '(Live)' RED USC"**.
  This will hilight 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 hilighted.

- Type the primary command **"BOX LCOLOR '1' GREEN REV"**.
  This will hilight all **"Artist"** lines (character **"1"** at **column 1**) in **green reverse-video**.

- Type the primary command **"BOX LCOL '2' PINK REV"**.
  This will hilight all **"Album"** lines (character **"2"** at **column 1**) in **pink reverse-video**.



*Figure 47.* SELCOPYi - 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 **SELCOPYi** 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 invidual 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 **SELCOPYi** 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.



*Figure 48.* SELCOPYi - 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.SELCTRN.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.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.*
- 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.



*Figure 49.* SELCOPYi - 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**



*Figure 50*. SELCOPYi - 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.

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
  File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                              Scroll> Csr
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
                      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        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.* SELCOPYi - 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 physcial record to which it belongs.

- Type **HEX** to toggle hexadecimal display on/off.



*Figure 52.* SELCOPYi - 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 **SELCOPYi** 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.



*Figure 53.* SELCOPYi - SDE MAP Line-Command.

*Figure 54.* SELCOPYi - 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 record.

- Press **F10** / **F11** to scroll the display to the previous/next record.
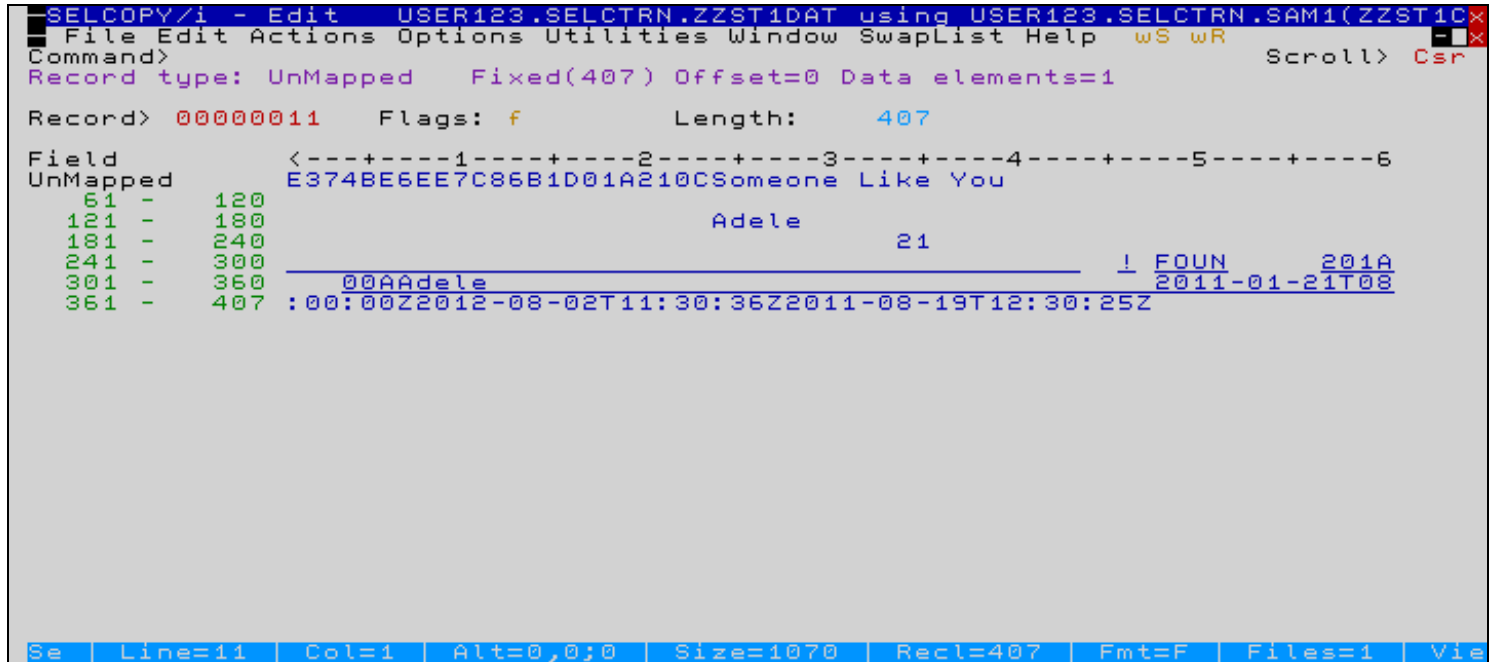


*Figure 55.* SELCOPYi - SDE UNFMT.

## 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 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.

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
   File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                                    Scroll>  Csr
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 40404040 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*. SELCOPYi - SDE HEXD.

## Formatted Multi-Record (VFMT) Display Mode

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



*Figure 57*. SELCOPYi - 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.<br>Its lower length limit being **n1**.<br>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<br>REF OFF |
| Data Type | Optionally displays one of the following:<br>1. A combination field of the format **data-type position:length**.<br>  e.g. **AN 111:30**<br>2. A combination field of the format **length/format**.<br>  e.g. **30/CHAR**<br>3. The position or offset defining the field's location within the record.<br>  e.g. **111**<br>4. The field's **picture string**.<br>  **e.g. X(30)** | TYPE ON<br>TYPE OFF<br>TYPE FMT<br>TYPE OFFSET<br>TYPE PIC |
| Scale | Displays the scale. Use command **OFST X** to display a hexadecimal offset scale. | SCALE ON<br>SCALE OFF<br>OFST P<br>OFST X |

# LAYOUT Command

- Type **LAYout** 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.

```
SELCOPY/i - Layout from USER123.SELCTRN.SAM1(ZZST1CPC)                    ×
 View Refresh Back Forward FDB Text Help                    wS wR        ×
Command>                                                     Scroll> Csr
-------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.* SELCOPYi - 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.

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
 File Edit Actions Options Utilities Window SwapList Help    wS wR          ■□
Command>                                                             Scroll> Csr
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             0        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*. SELCOPYi - 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.

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
   File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                      Scroll> Csr
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----
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   B0F4DDD8C25311E8     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*. SELCOPYi - 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**



*Figure 61.* SELCOPYi - SDE SELECT 1.

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



*Figure 62.* SELCOPYi - 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 may 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 hilighted in a different colour.
  Type **Help COLour** for full information.

```
 SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
   File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                                        Scroll>  Csr
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.* SELCOPYi - 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,***



*Figure 64.* SELCOPYi - 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**



*Figure 65.* SELCOPYi - SDE VFMT.

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



*Figure 66.* SELCOPYi - 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.

```
SELCOPY/i - Select Display Fields for a Record Type                                  x
 File Edit Actions Options Utilities Window SwapList Help   wS wR              -  x
Command>                                                              Scroll> Csr
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
                                   +                       +           +
_ _ ___  ___  5 PERSISTENT-ID AN         1      16 X(016)  CHARACTER        001
S H  1   ___  5 TRACK-NUM     ZD        17       3 9(003)  ZONED            002
_ _ ___  ___  5 TRACK-ID      ZD        20       4 9(004)  ZONED            003
S H  2    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 TOTAL-TIME    FB       284       4 9(007)  FIXED            007
_ _ ___  ___  5 FILE-SIZE     FB       288       4 9(009)  FIXED            008
_ _ ___  ___  5 BIT-RATE      FB       292       2 9(004)  FIXED            009
_ _ ___  ___  5 SAMPLE-RATE   PD       294       3 9(005)  DECIMAL          010
_ _ ___  ___  5 YEAR          ZD       297       4 9(004)  ZONED            011
_ _ ___  ___  5 NORMALIZATION PD       301       3 S9(005) DECIMAL          012
_ _ ___  ___  5 DISC-NUMBER   ZD       304       3 9(003)  ZONED            013
_ _ ___  ___  5 ALBUM-ARTIST  AN       307      41 X(041)  CHARACTER        014
_ _ ___  ___  5 RELEASE-DATE  AN       348      20 X(020)  CHARACTER        015
_ _ ___  ___  5 DATE-ADDED    AN       368      20 X(020)  CHARACTER        016
_ _ ___  ___  5 DATE-MODIFIED AN       388      20 X(020)  CHARACTER        017
*** End of Data ***                                                           018



  F5=SELALL     F6=DESELALL F16=EXECUTE   F22=UNDO      F23=REDO
```

*Figure 67.* SELCOPYi - 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 partiaully 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 appliy 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>                                                                Scroll> Csr
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  962B35D1647DE75E    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 68.* SELCOPYi - 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 (NAME)**

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.

```
 SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
   File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                        Scroll>  Csr
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---
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 6BC665A35BDB5475       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.* SELCOPYi - 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)**

```
▬SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C▬
▬ File Edit Actions Options Utilities Window SwapList Help   wS wR         ▬▬
Command>                                                          Scroll> Csr
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 962B35D1647DE75E        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.* SELCOPYi - 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**

```
-SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C×
█ File Edit Actions Options Utilities Window SwapList Help   wS wR        ■□×
Command>                                                         Scroll> Csr
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 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 --------- 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 8276C65D2939EE3B        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.* SELCOPYi - SDE EXCLUDE.

## Excluding Records Based on Field Content (ONLY/O)

- The **ONLY** 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**.

- Use the **ALL** command to redisplay any excluded records.



*Figure 72.* SELCOPYi - 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.

```
SELCOPY/i - Edit     USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
  File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                                    Scroll>  Csr
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.* SELCOPYi - 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 *value*. (Default) |
| NE | Data must be not equal to *value*. |
| GT | Data must be greater than *value*. |
| GE | Data must be greater than or equal to *value*. |
| LT | Data must be less than *value*. |
| LE | Data must be less than or equal to *value*. |

- 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)**



*Figure 74.* SELCOPYi - 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**

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
 File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                                          Scroll> Csr
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    ******               0  BCE177B1DB2B983A      016       1383
            400                000  CCCFFFCFCCFCFFFC      FFC       FFFC
            800                00C  2351772142229831      016       1383

00000551    44100            ******  58CF2C29F7A472F0      003       3147
            410                139  FFCCFCFFCFCFFFCF      FFC       FFFC
            40C                0EC  5836232967147260      003       3147

00000703    ******               0  67BCBC8407B6204C      018       3441
            410                000  FFCCCCFFFFCFFFFC      FFC       FFFC
            400                00C  6723238407262043      018       3441

00000769    44100            ******  43444409245FB890      003       4069
            410                076  FFFFFFFFFFFFCCFFF     FFC       FFFC
            40C                A0C  434440924562890       003       4069

00000966    ******               0  99D68F50F8BC243F      023       3821
            410                000  FFCFFCFFCFCCFFFC      FFC       FFFC
            400                00C  9946865068232436      023       3821

00001007    44100            4923  43EED60467C11B25      003       4479
            410                093  FFCCCFFFFFCFFCFF      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.* SELCOPYi - SDE ONLY 4.

# Using CHANGE commands

- Type the following commands to produce the results displayed below.
    - ♦ **SEL TRACK-NUM,NAME HOLD,ALBUM,ARTIST,\***
    - ♦ **;C '&#38;' '&'**

- **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
    1. Updating the separator character in the Settings panel, issuing the command, then resetting the separator character. This is cumbersome and upsetting!
    2. As in the above example, let **SELCOPYi** 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.



*Figure 76. SELCOPYi - 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:
    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.

## 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.

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
  File Edit Actions Options Utilities Window SwapList Help   wS wR          ■□
Command>                                                               Scroll> Csr
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>         013 The Rising             Bruce Springsteen &  Bruce Springsteen
==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.* SELCOPYi - 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)**

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
 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.* SELCOPYi - 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**

```
SELCOPY/i - Edit    USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST1C
 File Edit Actions Options Utilities Window SwapList Help   wS wR        
Command>                                                           Scroll> Csr
ZZSD212I 310 (out of 310) occurrences were changed in 310 (out of 1070)
 records of type TRACK.
           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
==CHG>        999 Lovesong               21                   Adele
==CHG>        999 Someone Like You       21                   Adele
==CHG>        999 I Found a Boy (Bonus   21                   Adele
==CHG>        999 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=7,7;7  | Size=1070  | Recl=407  | Fmt=F | Files=1   | View
```

*Figure 79.* SELCOPYi - 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** adds to the included records any 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**



*Figure 80.* SELCOPYi - SDE ALL 1.

## Using Multiple Selection Criteria

Selection criteria expressions may specify multiple conditions.

> • **ALL BIT-RATE > 300 OR #10 < 100**



*Figure 81.* SELCOPYi - 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 commmand line.

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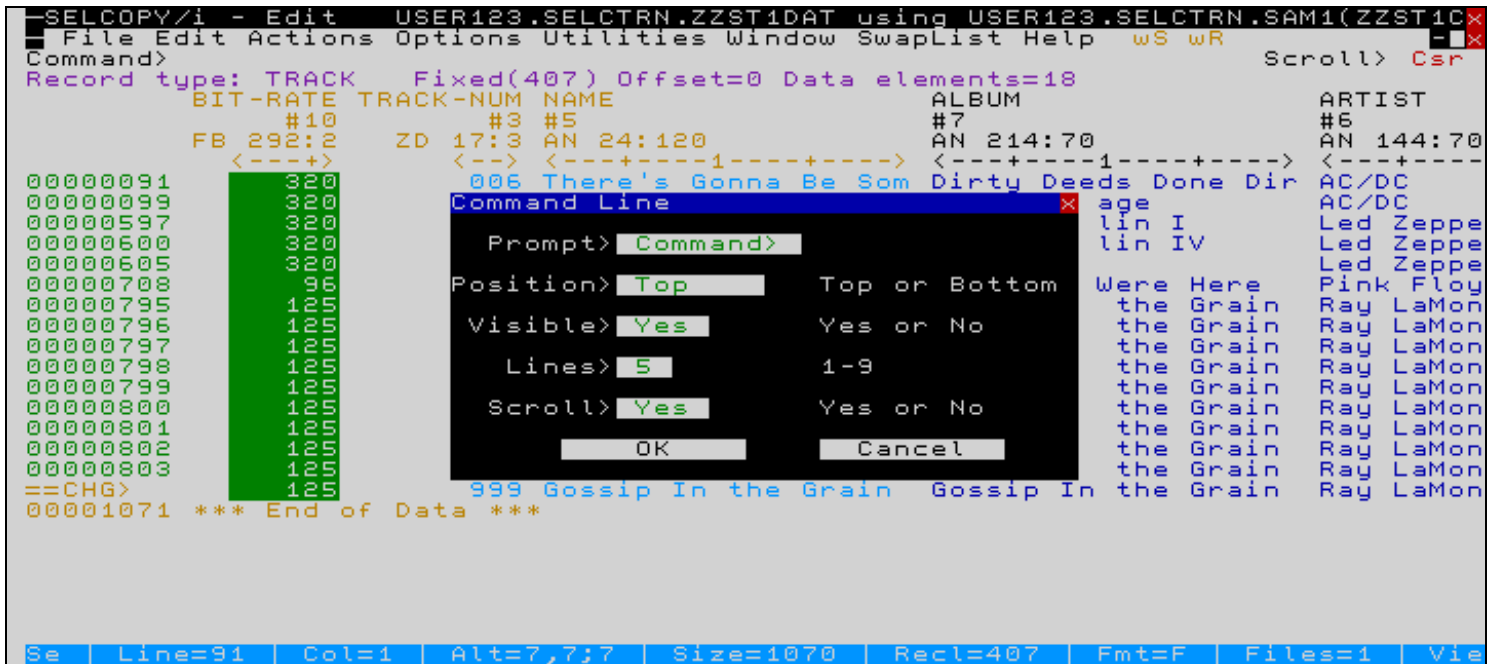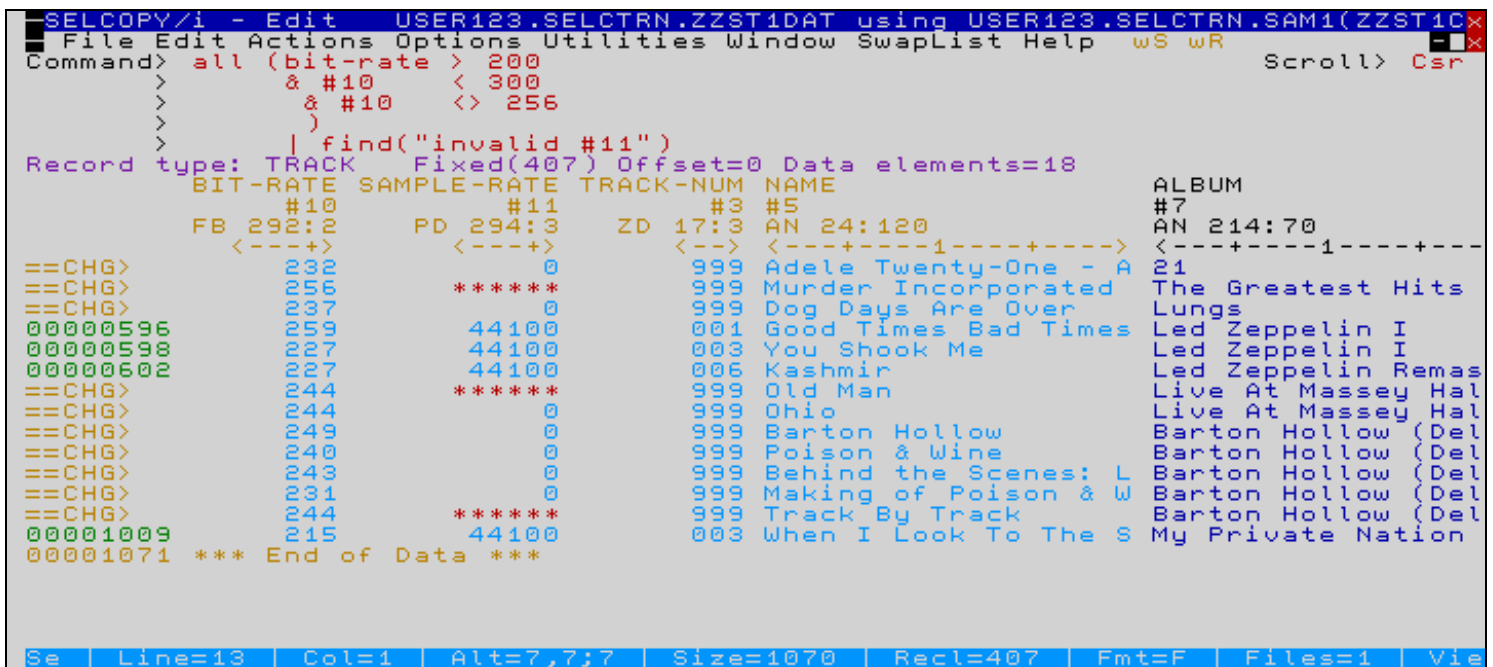


*Figure 82.* SELCOPYi - SDE Command Line Options.



*Figure 83.* SELCOPYi - 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 **SELCOPYi** 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.

```
SELCOPY/i - Structured Data Browse/Edit                                    x
  File Command Structure Replace Help                   wS wR           - x
Command>                                                      Scroll> Csr
ZZSGSDE0                                                   Lines 1-21 of 21
PDS/PDSE member, Sequential, VSAM or HFS path:
    Name>    USER123.SELCTRN.ZZST1DAT              + Member> _____
    Volume> _____        If dataset is uncataloged.

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

Structure/Copybook overlay:
  Z    Dsn> USER123.SELCTRN.SAM1_____    Member> ZZST1CPC
              Type:  _  SDO      _  AData   Z  Cobol    _  PL1

Record Selection:
  _   Start> _____    +   Z  Record   _  Key    _  RBA
      For>             0      # records
  Z 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.* SELCOPYi - 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 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.

```
-SELCOPY/i - Quick Filter - Selection Criteria                                      X
  File Help                                                     wS  wR              ■ X
Command>                                                               Scroll>  Csr
ZZSGFLTQ
    Limit>           20   (0=No limit)     Type>  I (I=INCLUDE, X=EXCLUDE)  PF1=Help

Quick FILTER - Selection Criteria.                                             2 Rows
         AND Position Length ROp Value            (Character strings must be quoted)
         /OR
         <.> <...+>     <...+> <.> <...+....1....+....2....+....3....+....4....+.>
000001           348        4 >    '0000'
000002 AND       348        4 <    '1980'
000003 *** End of Data ***
```

*Figure 85.* SELCOPYi - 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 **SELCOPYi** Primary Option Menu.
     2. At the SDE Edit / Browse Entry Panel, specifying filter type **F**, enter the saved filter dataset/member name then press **F6** (or type **FILTer**).

- A **saved filter** may define selection criteria referring to the values of named (formatted) fields.

- Formatted selection criteria are individually specified for each defined record-type.

```
SELCOPY/i - Edit(UP) USER123.SELCTRN.ZZST1DAT using USER123.SELCTRN.SAM1(ZZST
  File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                                          Scroll> Csr
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  E19E07D591BCB755        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  9362F8DB07CB9B07        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.* SELCOPYi - 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 **SELCOPYi 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 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 a /. This option is provided so that you may deactivate / reactivate structure formatting without needing to remove / retype the dataset / member name.

- Press **ENTER** to edit the sample dataset.

- Type **RECLEN** to switch on/off the display of record length column, which displays each individual record's length 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 also **length=71** 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.



*Figure 87.* SELCOPYi - 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 sample copybook #2, 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 for your installation*.

- Press **ENTER** to edit the sample dataset.

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

You will notice that **SELCOPYi** has attempted to automatically assign record-types, by matching between the individual record-length to the length defined by the copybook for each record-type. Where this process is unable to uniquely identify a record-types, the first matching record-type is assigned.

The initial view of the sample dataset shows that:

- **ARTIST** record #1 has been assigned the correct record-type.
  (unique match on fixed record length=268).

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

- **TRACK** record #3 has been assigned the correct record-type.
  (first match on fixed record length=71).



*Figure 88.* SELCOPYi - SDE Automatic Record-Type Id.

## Record-Identification Criteria (for Direct Copybook Overlay)

Where it is not possible to automatically infer the correct record-type assocation from the record-length, record-identification 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 SUBSTR(RECORD,1,1)='2'**
    3. **USE ALBUM LEFT(RECORD,1)='2'**

```
-SELCOPY/i - Browse USER123.SELCTRN.ZZST2DAT using USER123.SELCTRN.SAM1(ZZST2Cx
 File Edit Actions Options Utilities Window SwapList Help   wS wR          - x
Command>                                                            Scroll> Csr
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               - + x  │
 │      Modify record-type identification criteria                         │
 │                                                                         │
 │ Record       Use    Use    Use                                          │
 │ Type       Always Never  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.* SELCOPYi - SDE Explicit Record-Identification.

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

A **SELCOPYi Structured Data Object (SDO)** permanebtly 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 **SELCOPYi** Structured Data components that are capabale 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 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 **SELCOPYi** 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:

1. 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**

2. The **V, V+** or **V-** line-commands.
   ♦ 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.



*Figure 90.* SELCOPYi - SDE Select Visible Record-Types.

**Note:** In Formatted (VFMT/FMT) Display Modes, some primary commands are record-type specific (i.e. 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).

e.g. 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/PL1 copybooks using any of the following methods:

- Select option **9 - Structure** from the **SELCOPYi** 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.
    **SELCOPYi 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)**

```
 SELCOPY/i - Create STRUCTURE from COBOL/PL1 copybook(s)                    X
  File Help                                               wS wR          - X
 Command>                                                        Scroll> Csr
 ZZSGSDO1                                               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       > SELCOPY/i Training - Sampe 2

 / Description> Training Material: Sample Record Collection Structure
                Multiple Record-Types (ARTIST,ALBUM,TRACK)
```

*Figure 91.* SELCOPYi - 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.SELCTRN.SAM1** into inserted table row 1.

- • Press **F3** to return to the SDO main panel.

```
SELCOPY/i - Create STRUCTURE from COBOL/PL1 copybook(s)                      x
 File Help                                                    wS wR        - x
Command>                                                          Scroll> Csr
ZZSGSDOL
                                                                  PF1=Help
Ceeate Structure - Copybook Library List.                           1 Row
         Copybook Library Dataset name

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

*Figure 92*. SELCOPYi - 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** (ZZST2CPP for PL1 installations) 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). You may accept this default.
        Press **F1** with cursor in this field for additional information.

     4. The *Start Level* field will automatically be set to **1** indicating the record-type is defined at **LEVEL 01**.
        You may accept this default also.
        Press **F1** with cursor in this field for additional 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 begining of the record. You may accept this default also.
        Press **F1** with cursor in this field for additional information.

     7. The *Lang* field will automatically be set to **COBOL**. Update this to **PL1** if necessary.

```
 SELCOPY/i - Create STRUCTURE from COBOL/PL1 copybook(s)                     X
  File Help                                                   wS wR        - X
 Command>                                                        Scroll> Csr
 ZZSGSDOR
 Add a table row then press PF2 to specify its record identification-criteria
 Create Structure - Define Record-Types.                                1 Row
         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.* SELCOPYi - SDE Define Record-Types 1.

## Specifying Record-Type Identification Criteria

- Define the **identification criteria** for the **ARTIST** record-type as follows:
    1. 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.

    2. 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).

    3. Press **F3** to return to the record-types definition table panel.

```
SELCOPY/i - 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.* SELCOPYi - 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 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 table row 2.

    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'**

```
 SELCOPY/i - Create STRUCTURE from COBOL/PL1 copybook(s)             x
 File Help                                              wS wR        -x
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
        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*. SELCOPYi - 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 your SDO.

    **Note:** To specify a //**JOB** statement that will be automatically inserted at the start of any z/OS batch job generated using **SELCOPYi**, 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.SELCTRN.SDO(ZZST2) created with 3 record type(s).
Maximum record length 268, minimum record length 71.
```

```
═SELCOPY/i - USER123.SELCOPYi.SQL.D2012325.T1119177.JCL      80 F SEQ    Size=43×
▉ File Edit Actions Options Utilities Window SwapList Help   wS wR            ▉▬×
Command>                                                               Scroll> Csr
        <---+----1----+----2----+----3----+----4----+----5----+----6----+----7---
00001 //USER123S JOB ,,CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID
00002 //*
00003 //* SELCOPY/i 3.2B (C)2012 Compute(Bridgend) Ltd UK +44(1656)652222
00004 //*    JCL for: ZZSGSDO1 SDE Create Structure.
00005 //* Created by: USER123  2012/11/20 11:19:17
00006 //*
00007 //SELC0001 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.SELCTRN.SDO(ZZST2) replace
00014     title " SELCOPY/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.* SELCOPYi - SDO Generated Batch Job.

## Browse/Edit using a generated SDO

- 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*.

- Press **ENTER** to edit the sample dataset.

```
 SELCOPY/i - 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> _____0     # records
  _ Filter> F  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.* SELCOPYi - 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** 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. Overtype the current *Length* value for any individual record.

    - ♦ In single-record (FMT / MAP /UNFMT / HEXD) modes,
        - ◊ Overtype 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 /.



*Figure 98.* SELCOPYi - SDE Sample Dataset 3.

## Creating an SDO defining Segmented Record-Types

Files with segmented record-types should be mapped by a **SELCOPYi 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.

```
-SELCOPY/i - Create STRUCTURE from COBOL/PL1 copybook(s)                    X
  File Help                                                      wS wR      - X
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
         Member
                                                             +
         <...+..> <.>  <...> <...+....1....+....2....+....3....+..> <...+> <...>
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 ***
```
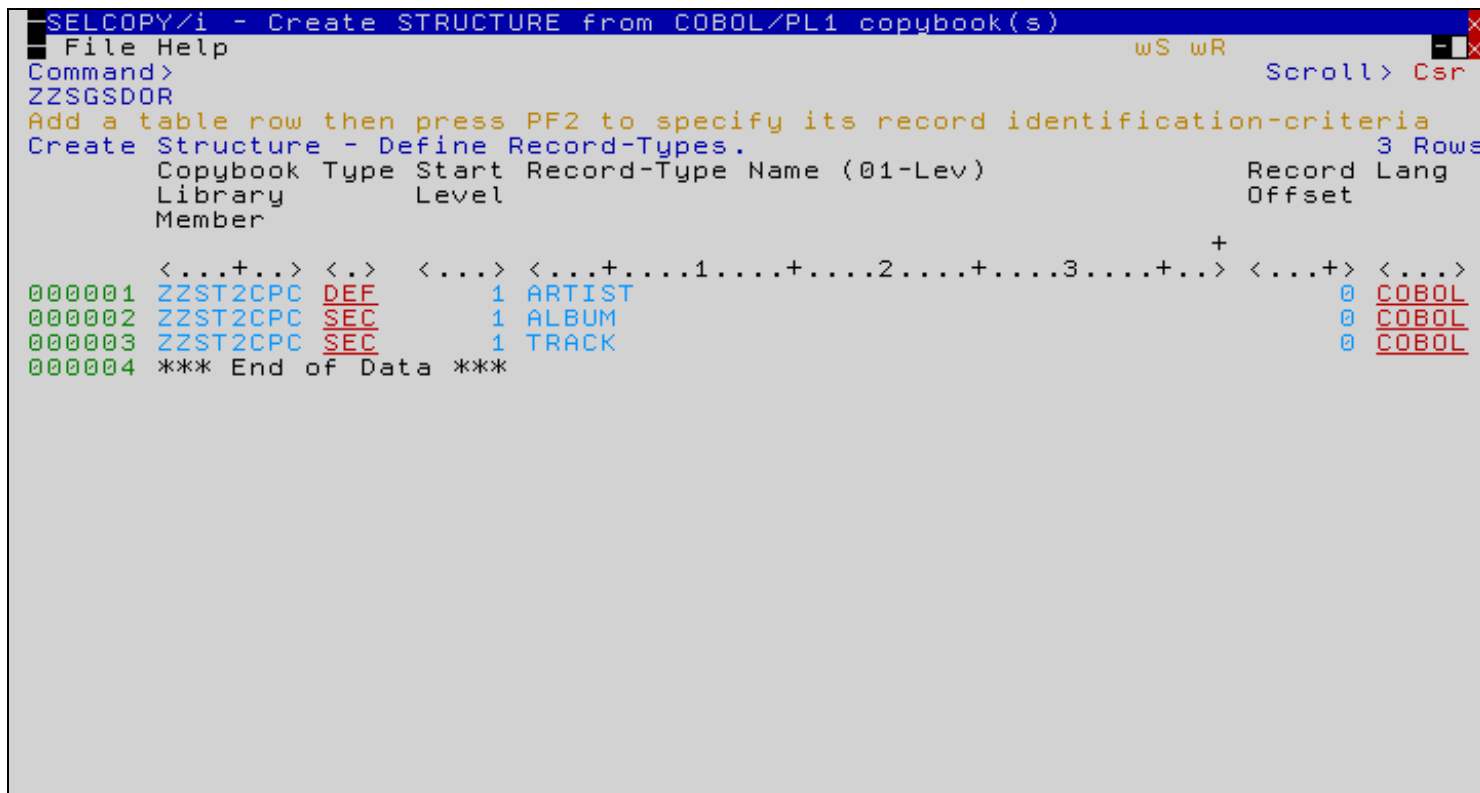
*Figure 99.* SELCOPYi - SDO Create Segmented Structure.

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*.

- Press **ENTER** to edit the sample dataset.



*Figure 100*. SELCOPYi - 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 indiviudal 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 <br> ♦ **"pppppppp"** denotes the physical record number. <br> ♦ **"llllll"** denotes the logical segment number within that physical record. |
| LOGICAL | **Segment>** ssssssss <br> ♦ **"ssssssss"** indicates the logical segment number within the whole file. |



*Figure 101.* SELCOPYi - SDE Formatted Single-Segment Dsiplay 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. Overtype the current *Length* value for any individual segment.

  - ♦ In single-segment (FMT / MAP / UNFMT / HEXD) modes,
    - ◊ Overtype 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 SELCOPY/i 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 datset
- a VSAM KSDS, ESDS, RRDS/VRDS.
- a Hierarchical File Ststem (HFS/ZFS) file.

The input may similary 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 handly 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 **SELCOPYi** 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



*Figure 102.* SELCOPYi - 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. Inititially **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 futher 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 invidually 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 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.
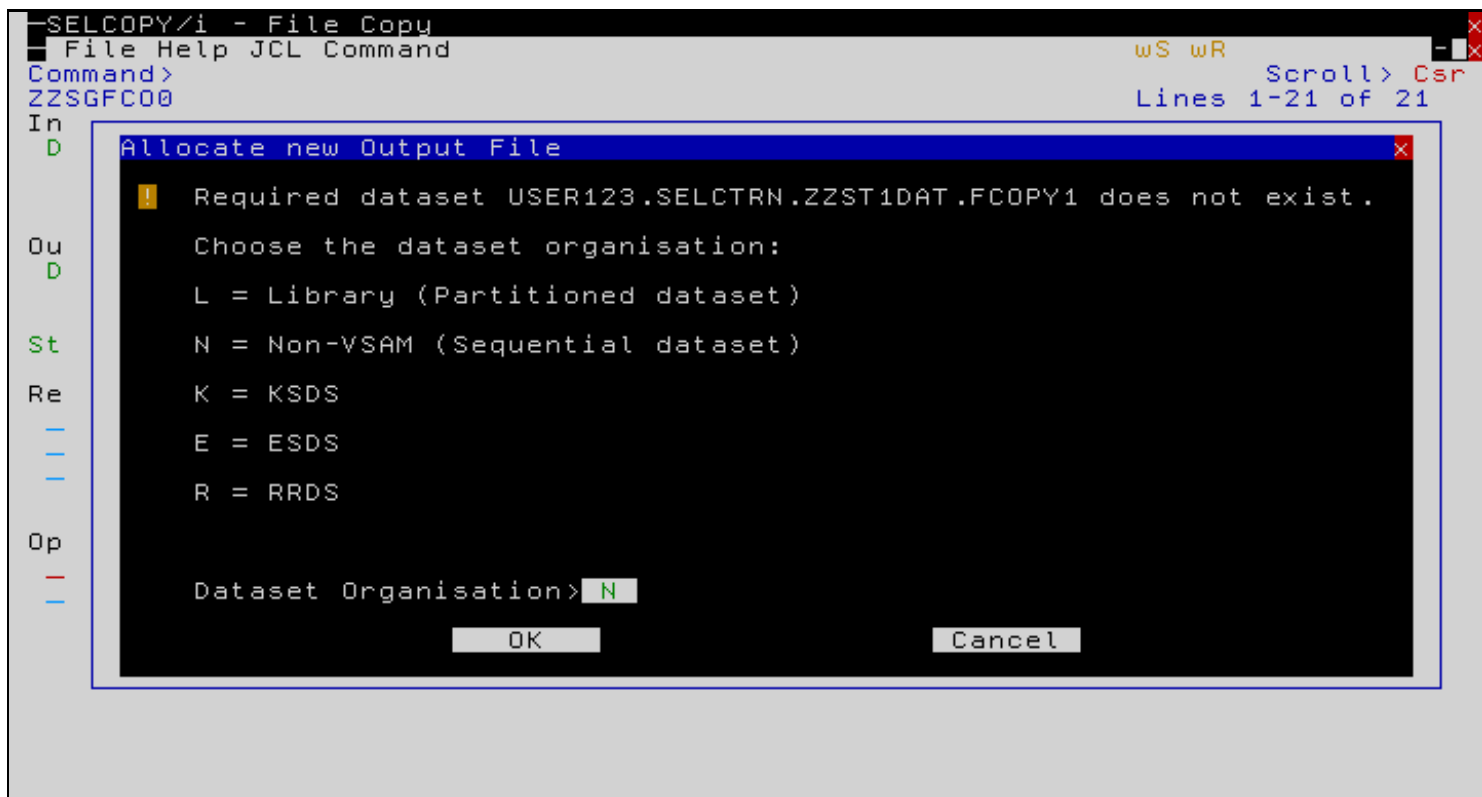


*Figure 103.* SELCOPYi - Choose new Output file Access Method.

**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 overtype any of the values displayed in green, and/or enter an alternative model dataset then press ENTER to call up its details.

- Select the **Allocate** button to create the file (note that pressing ENTER 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.

```
SELCOPY/i - Allocate new Output File                                        ×
  Define Help                                                 wS wR      - ×
   Dataset> USER123.SELCTRN.ZZST1DAT.FCOPY1
     Model> USER123.SELCTRN.ZZST1DAT
    Volume> CBLM15
    MaxVol> 1
      Unit> 3390                    Retention period> 0          (0-9999)
      Type> SEQ       (SEQ|PDS|PDSE)    Expiry date>           (yyyyddd)

        Space Allocation            DCB Information              SMS Classes
 Allocation Unit> TRACKS         Organisation: PS                  Data>
        Primary> 2               Record Format> FB              Storage> CBLDFLT
      Secondary> 2               Record Length> 407          Management> CBLDFLT
Directory Blocks> 0                 Blocksize> 27676

            Allocate                    Cancel                     Help
```

*Figure 104.* SELCOPYi - Allocate new Non-VSAM file.

## Copying PDS/PDSE Library members

- Specify the *Input File*:
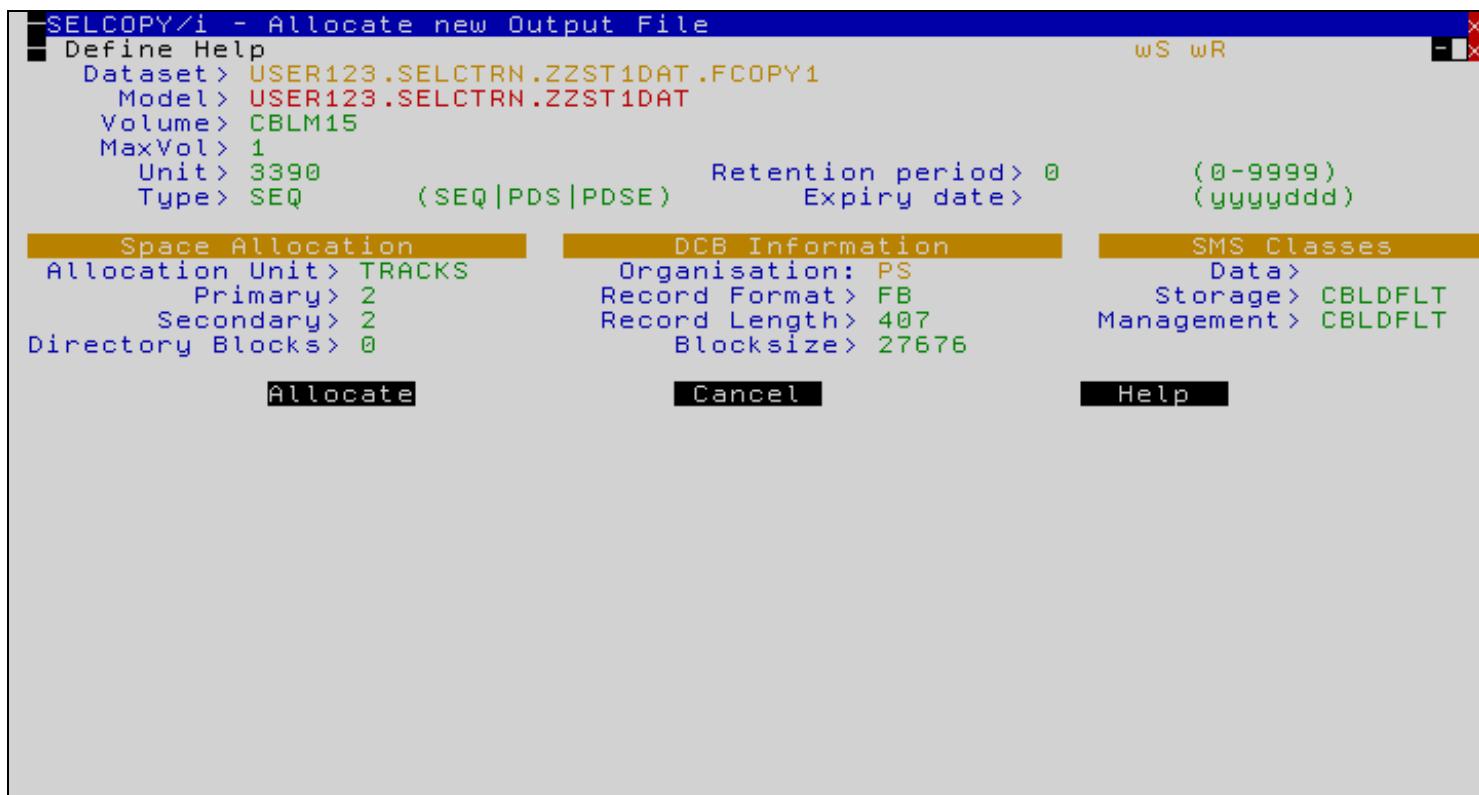  - ♦ Type **userpfx.SELCTRN.ZZST5DAT** in the *DSN/Path Mask* field, where *userpfx* is your own user prefix.
  - ♦ Type **TRACK02*** in the *Member Mask* field.

- Specify the *Output File*:
  - ♦ Type **userpfx.SELCTRN.ZZST5DAT.FCOPY1** in the *DSN/Path* field.

- Press **ENTER** to continue.

```
 SELCOPY/i - File Copy                                                        x
  File Help JCL Command                                       wS wR         - x
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.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 > _____ 0    # 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 105.* SELCOPYi - 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 invidually 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                                    x
 File Edit Actions Options Utilities Window SwapList Help  wS wR      - x
Command>                                                     Scroll> Csr
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 ***                                              000000
S    USER123.SELCTRN.ZZST5DAT TRACK02*         PO       N    FB    407  000001
*** End of Data ***                                              000002
```

*Figure 106.* SELCOPYi - Select Input Library.

## Select input Members

- Individual members may be selected/deselected for copy from this screen.

- Initittially **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.



*Figure 107.* SELCOPYi - 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.
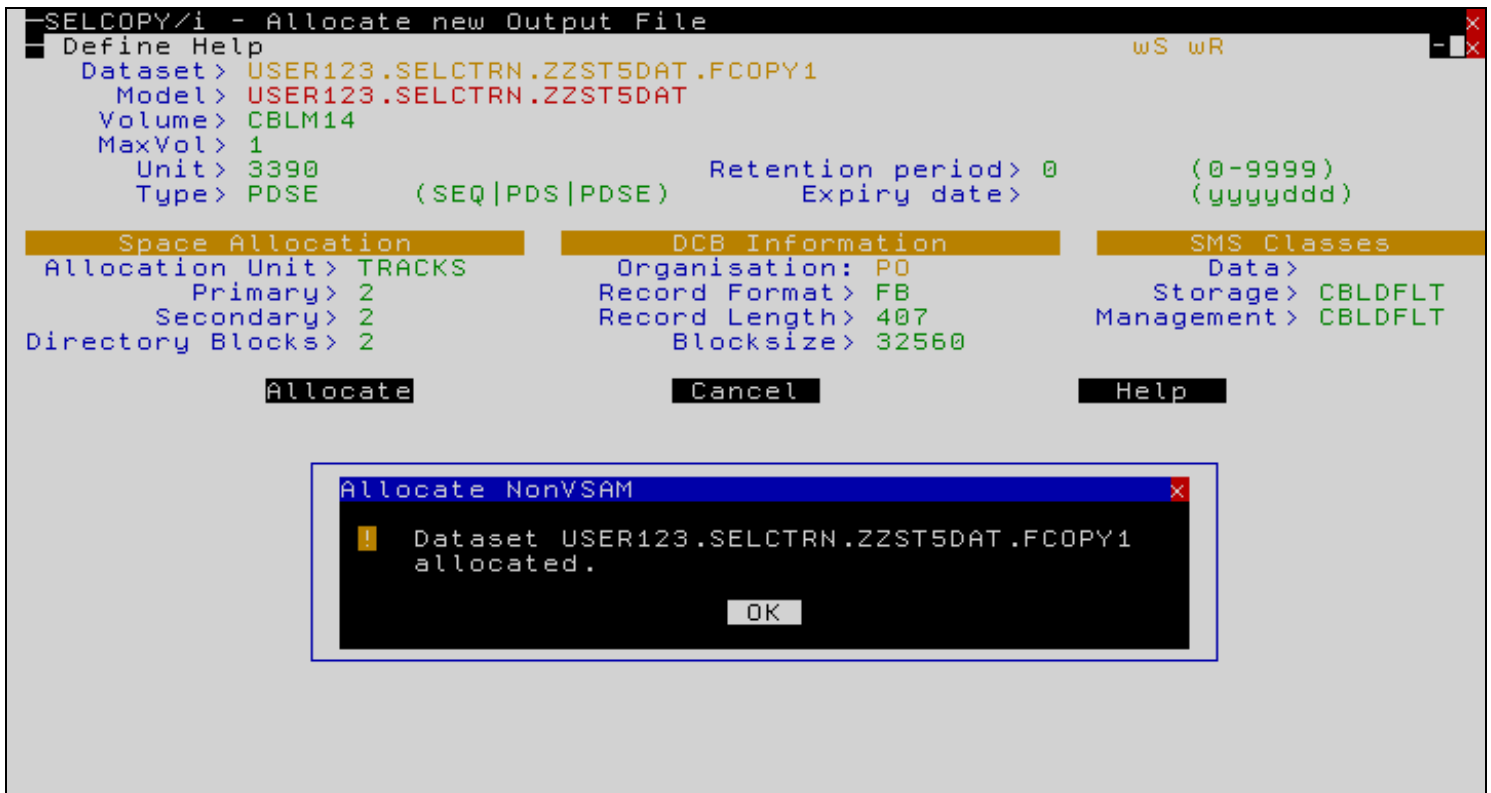


*Figure 108.* SELCOPYi - Allocate New Output Library.

**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 *Replace existing members* 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.



*Figure 109.* SELCOPYi - 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.

```
 SELCOPY/i - File Copy                                                 X
  File Help JCL Command                            wS wR            - X
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.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> _____     +   / Record   _ Key    _ RBA
 _     For> _____  0    # 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 110.* SELCOPYi - 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.SELCTRN.ZZST2DAT       268 V SEQ              x
  File Edit Actions Options Utilities Window SwapList Help   wS wR     - x
Command>                                                        Scroll> Csr
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.* SELCOPYi - 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.

```
 SELCOPY/i - File Copy                                              X
  File Help JCL Command                      wS wR              - X
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> _____  +  (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 112.* SELCOPYi - 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.
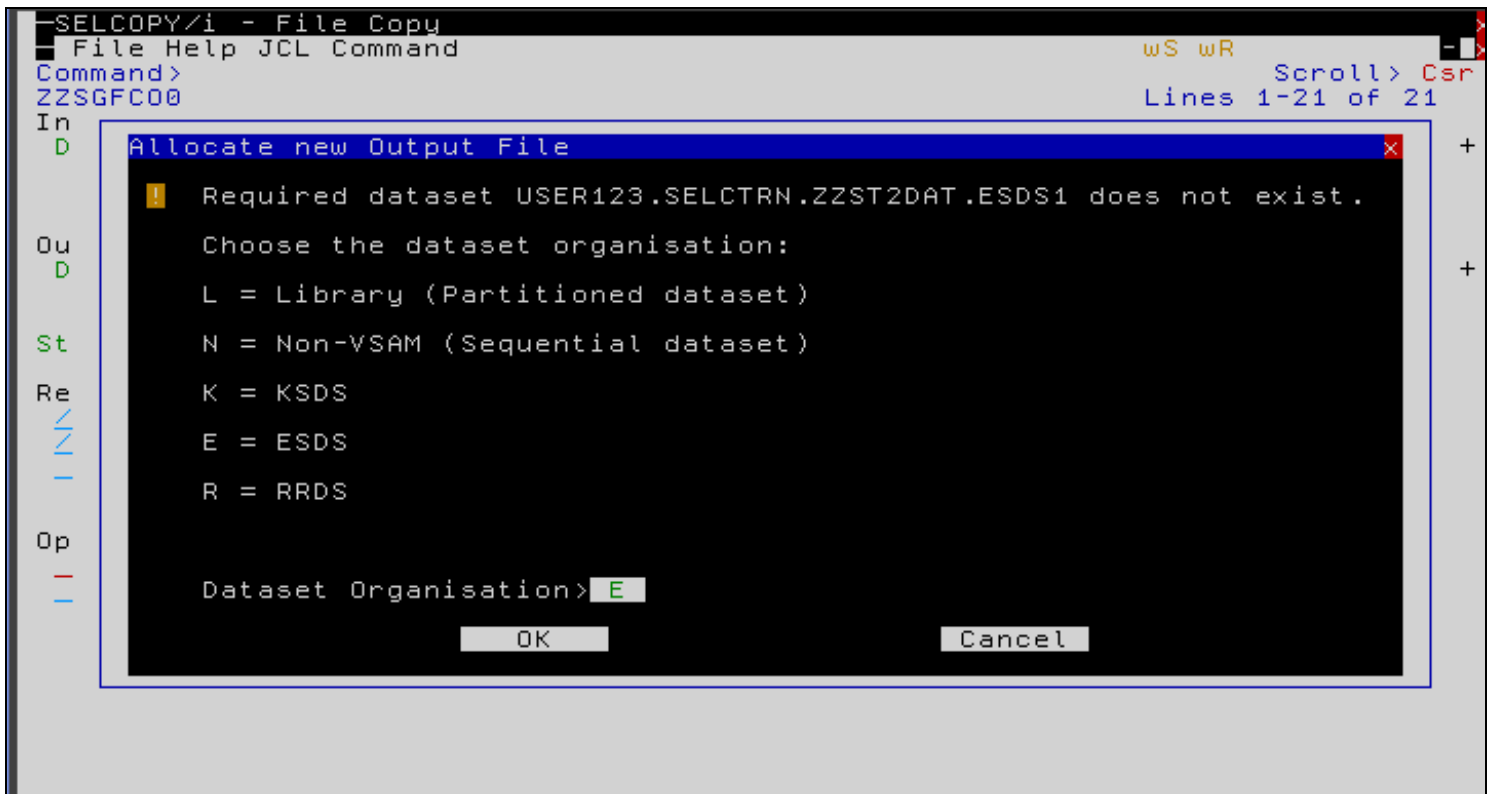
- Press **ENTER** to continue.

```
-SELCOPY/i - File Copy
 File Help JCL Command                                wS wR          -
Command>                                                  Scroll> Csr
ZZSGFCO0                                              Lines 1-21 of 21
In
 D    Allocate new Output File                                  x    +

       !   Required dataset USER123.SELCTRN.ZZST2DAT.ESDS1 does not exist.
Ou
 D         Choose the dataset organisation:                          +

           L = Library (Partitioned dataset)
St
           N = Non-VSAM (Sequential dataset)
Re
           K = KSDS

           E = ESDS

           R = RRDS
Op

           Dataset Organisation> E
                     OK                      Cancel
```

*Figure 113.* SELCOPYi - 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 overtype any of the values displayed in green, and/or enter an alternative model dataset then press ENTER to call up 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 will place the cursor on the **Define** button).

- A message box will appear confirming the new file has been created.



*Figure 114.* SELCOPYi - 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.

```
-SELCOPY/i - File Copy                                                  X
 File Help JCL Command                                  wS wR        - X
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.* SELCOPYi - Summary message.

## Browse the Output File (F20)

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

```
SELCOPY/i - Browse USER123.SELCTRN.ZZST2DAT.ESDS1      407 V ESDS         X
 File Edit Actions Options Utilities Window SwapList Help  wS wR       - X
Command>                                                    Scroll> Csr
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.* SELCOPYi - 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                                                    x
█ File Help JCL Command                                   wS wR         - x
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.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>              0    # 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 117.* SELCOPYi - 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 **<<** (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.

```
SELCOPY/i - Quick Filter - Selection Criteria                                          X
 File Help                                                    wS wR                    X
Command>                                                                 Scroll> Csr
ZZSGFLTQ
                                     PF1=Help    PF3=Continue    PF22/23=UNDO/REDO
   Limit>             7   (0=No limit)    Type> I (I=INCLUDE, X=EXCLUDE)

Quick FILTER - Selection Criteria.                                              2 Rows
        AND Position Length ROp Value
        /OR                                                                          +
        <-> <---+>    <---+> <-> <---+----1----+----2----+----3----+----4---+->
000001          1         1 =   3
000002 AND      1         0 <<  'blues'
000003 *** End of Data ***
```

*Figure 118.* SELCOPYi - 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.



*Figure 119.* SELCOPYi - 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.



```
SELCOPY/i - Browse USER123.SELCTRN.ZZST2DAT.ESDS2        268 V ESDS        x
  File Edit Actions Options Utilities Window SwapList Help  wS wR        ▬□x
Command>                                                            Scroll> Csr
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.* SELCOPYi - 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.

```
 SELCOPY/i - Quick Filter - Selection Criteria                              X
  File Help                                                    wS  wR      ‑ X
Command>                                                         Scroll> Csr
ZZSGFLTQ
                                 PF1=Help     PF3=Continue     PF22/23=UNDO/REDO
   Limit> _____0  (0=No limit)     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.* SELCOPYi - 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>                                                          Scroll> Csr
        <---+----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 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.* SELCOPYi - 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 taked 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). This is typically achieved by replicating, then modifying, existing lines rather than inserting 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.

```
-SELCOPY/i - USER123.SELCOPYI.SQL.D2013023.T1509371.CMX      80 F SEQ   Size=19x
█ File Edit Actions Options Utilities Window SwapList Help  wS wR           -█x
Command>                                                           Scroll> Csr
        <---+----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 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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.* SELCOPYi - 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.

```
 SELCOPY/i - Browse USER123.SELCTRN.ZZST2DAT.ESDS3      268 V ESDS          x
  File Edit Actions Options Utilities Window SwapList Help  wS wR          - x
Command>                                                        Scroll> Csr
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.* SELCOPYi - 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                                                      X
  File Help JCL Command                              wS wR              - X
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> _____  0     # 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 125.* SELCOPYi - 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.

```
 SELCOPY/i - File Reformat                                               X
  File Help JCL Command                                wS wR           -  X
Command>                                                       Scroll> Csr
ZZSGFCO0                                               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> _____   Member> _____
           Type:   _ SDO      _ AData   / COBOL    _ PL1



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



```

*Figure 126.* SELCOPYi - 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.

```
 SELCOPY/i - Browse USER123.SELCTRN.SAM1(ZZST1CPC)       80 F PDS          x
  File Edit Actions Options Utilities Window SwapList Help   wS wR        - x
Command>                                                         Scroll> Csr
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.* SELCOPYi - 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.



*Figure 128.* SELCOPYi - 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                                 wS wR         ─ ×
Command>                                                       Scroll> Csr
ZZSGFCO0                                                  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.* SELCOPYi - 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 as **record length 167 (fixed).**
- A summary message will be displayed on completion.
- Press **F20 (Shift-F8)** to browse the output file in formatted mode.

```
SELCOPY/i - Browse USER123.SELCTRN.ZZST1DAT.FCOPY2 using USER123.SELCTRN.SAM1x
  File Edit Actions Options Utilities Window SwapList Help  wS wR          - x
Command>                                                            Scroll> Csr
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.* SELCOPYi - 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.

```
 SELCOPY/i - Browse USER123.SELCTRN.SAM1(ZZSP1CPC)      80 F PDS          
  File Edit Actions Options Utilities Window SwapList Help   wS wR
Command> go e                                                  Scroll> Csr
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.* SELCOPYi - 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.



*Figure 132.* SELCOPYi - 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 SELCOPYi's own internal structure (SDO) format.

A temporary SDO will be created, lasting the duration of the SELCOPYi 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                                              X
  File Help JCL Command                               wS wR            -X
 Command>                                                   Scroll> Csr
 ZZSGFC00                                              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> Y
       Dsn> USER123.SELCTRN.SAM1                        Member> ZZSP1CPC
             Type:  _ SDO     _ AData   ∠ COBOL    _ PL1



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



```

*Figure 133.* SELCOPYi - 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).

```
SELCOPY/i - Browse USER123.SELCTRN.ZZST1DAT.FCOPY2 using USER123.SELCTRN.SAM1x
  File Edit Actions Options Utilities Window SwapList Help  wS wR          -█x
Command>                                                       Scroll> Csr
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.* SELCOPYi - 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 SELCOPYi to automatically guide you into SDSF (starting a new ISPF split screen) in order to view the output.



*Figure 135.* SELCOPYi - 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 satistying directory element selection criteria (e.g. select on timestamp, size, userid etc combinations)
  - ♦ 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 selction 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 withing 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 **SELCOPYi** 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



*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 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. |

```
┌SELCOPY/i - Edit     USER123.SELCFSU.T103716.RPT using USER123.SELCFSU.T103716.x
■ File Edit Actions Options Utilities Window SwapList Help   wS wR          -■x
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.



*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    Alt
  File Edit Actions Options Utilities Window SwapList Help   wS wR
Command>                                                            Scroll> Csr
         <---+----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
```

```
 SELCOPY/i - Edit    USER123.SELCFSU.T103716.RPT using USER123.SELCFSU.T103716.X
  File Edit Actions Options Utilities Window SwapList Help  wS wR           X
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 charcaters, 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.

Initially all members matching the mask will be selected.

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

```
─SELCOPY/i ─ Select Input Members                                       ✕
▌ File Edit Actions Options Utilities Window SwapList Help   wS wR    ▄▐✕
Command>                                                     Scroll> Csr
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         019
  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**.
> 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 >&gt user321`
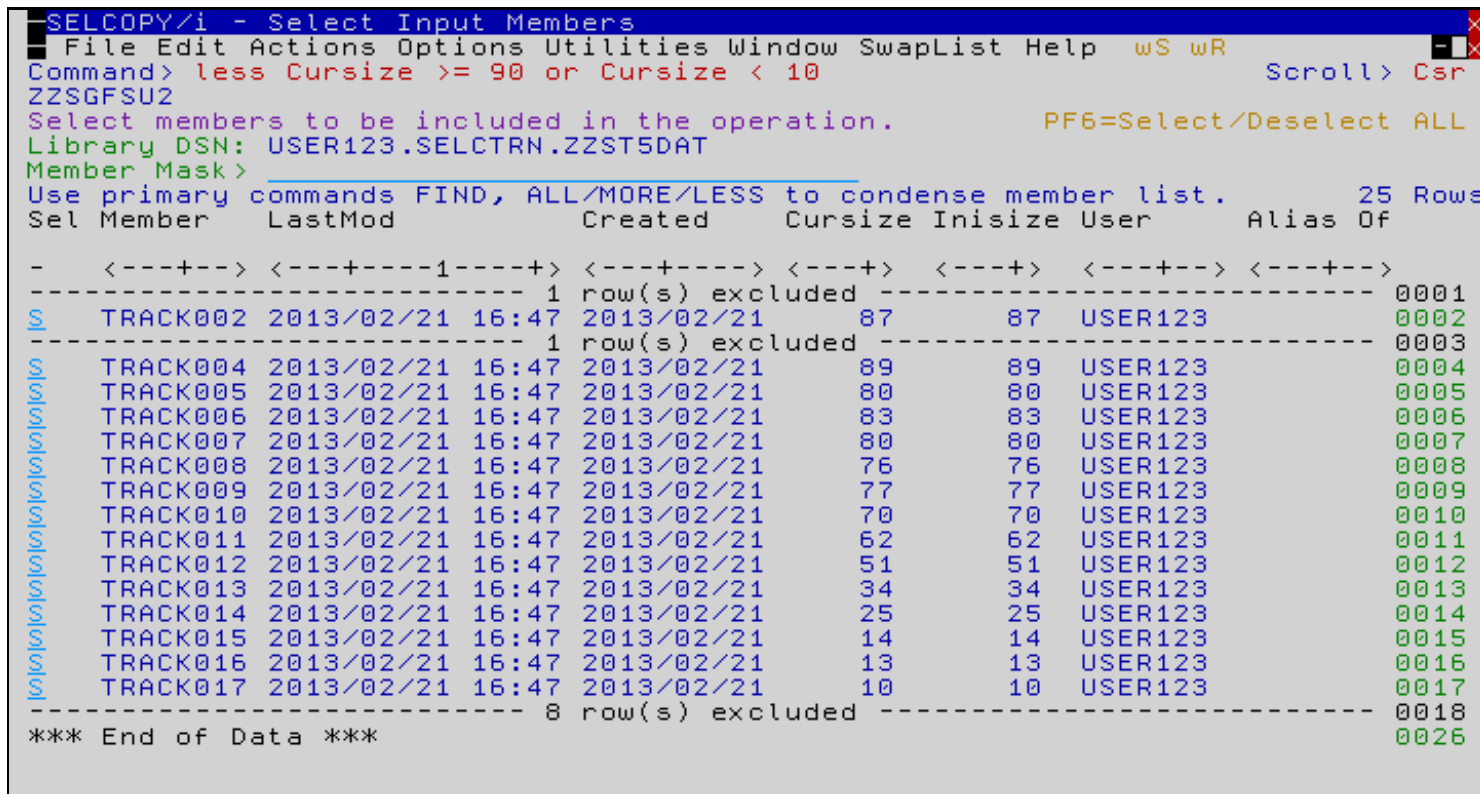


*Figure 142.* FSU - Member Selection (ALL/MORE/LESS)

## 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                                    X
 ▌ File Help                                                wS wR          ▄ X
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

```
 SELCOPY/i - Edit    USER123.SELCFSU.T111618.RPT using USER123.SELCFSU.T111618.
  File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                                    Scroll> Csr
*** Top of Data ***
Record type: Command   Fixed(177) Offset=0 Data elements=4
Timestamp          Command
<---+----1----+---> <---+----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 overtype the *Member Mask* input field and press **ENTER.**

```
 SELCOPY/i - Select Input Members
  File Edit Actions Options Utilities Window SwapList Help  wS wR
Command>                                                    Scroll> Csr
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 ***                                                   0005
```

*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.



*Figure 146.* FSU - Condensed Member Search Results"

# Option 12 - DB2

**DB2 support** is included as a standard component of the SELCOPYi program. i.e. it is not a separately licensable product.

As well as browsing and editing DB2 tables, SELCOPYi 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 or XML from selected table rows/columns*
- *Handling Relational Constraint Errors*

## Setting up sample DB2 Tables

SELCOPYi will create some sample DB2 Tables for you.

***Note: The feature to generate personal copies of the training tables will be formally introduced with SELCOPYi 3.20 at PTF level RS32007.***

To check your current software level, type the primary command **"ABOUT"**.

In the meantime, an email containing a REXX macro that will generate your sample tables, is available from CBL on request (support@cbl.com).

Note also that the **DB2 Relational Table Edit (REDIT)** facility, that features heavily in this section, was introduced with SELCOPYi 3.20 at PTF level RS32006.

The table data will be copied from your own SELCOPYi sample datasets (See chapter "Setup Training Material") 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 SELCOPYi 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 SELCOPY/i 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 147.* SELCOPYi 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.
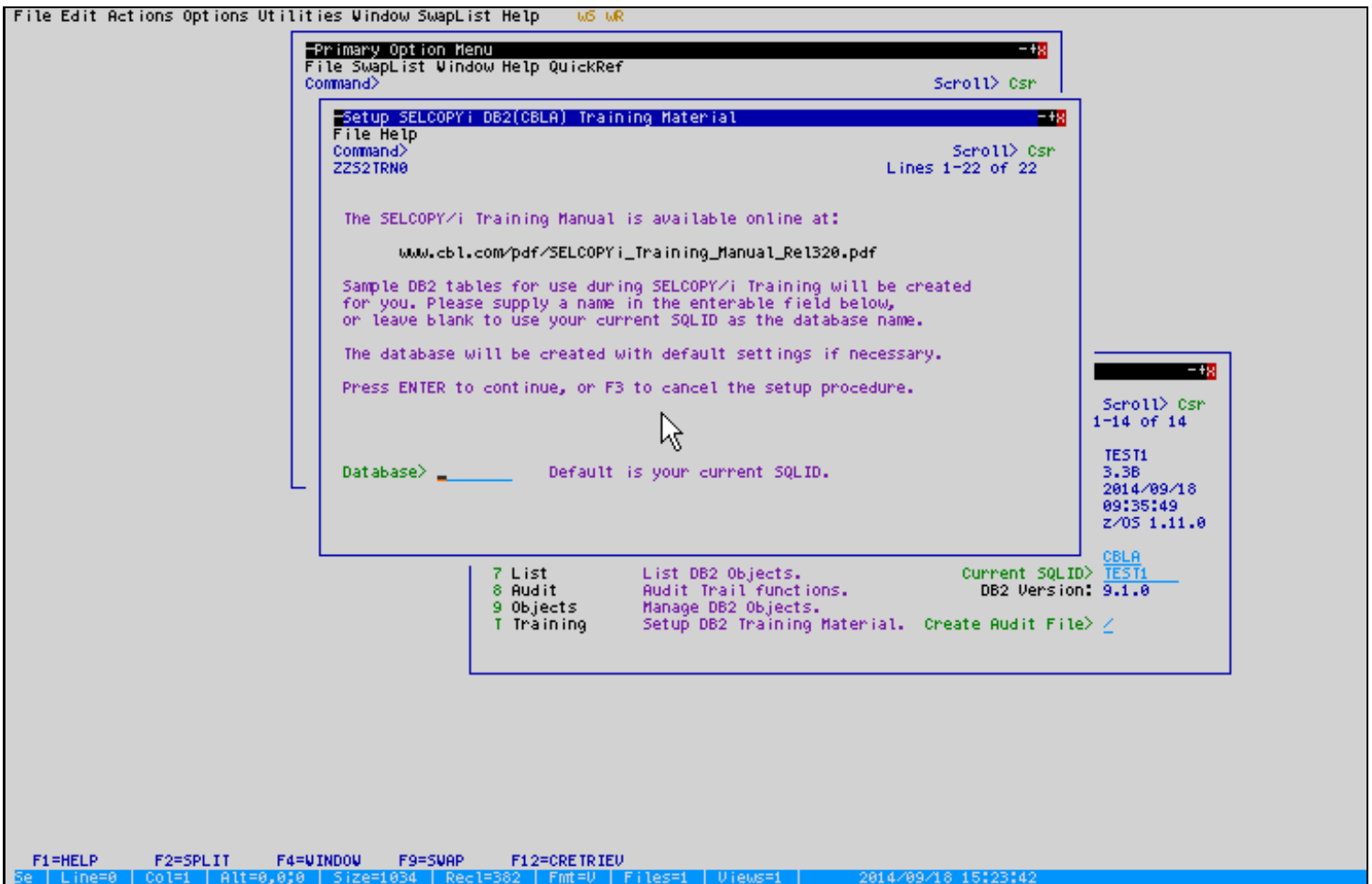


*Figure 148.* SELCOPYi DB2 Figure 02

- Eventually, provided no serious errors occur, you should expect to see the following message box.

```
+---------------------------------------------------------------+
| SELCOPY/i 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 SELCOPY/i Training Manual is available online at        |
|                                                               |
|   www.cbl.com/pdf/SELCOPYi_Training_Manual_Rel320.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.
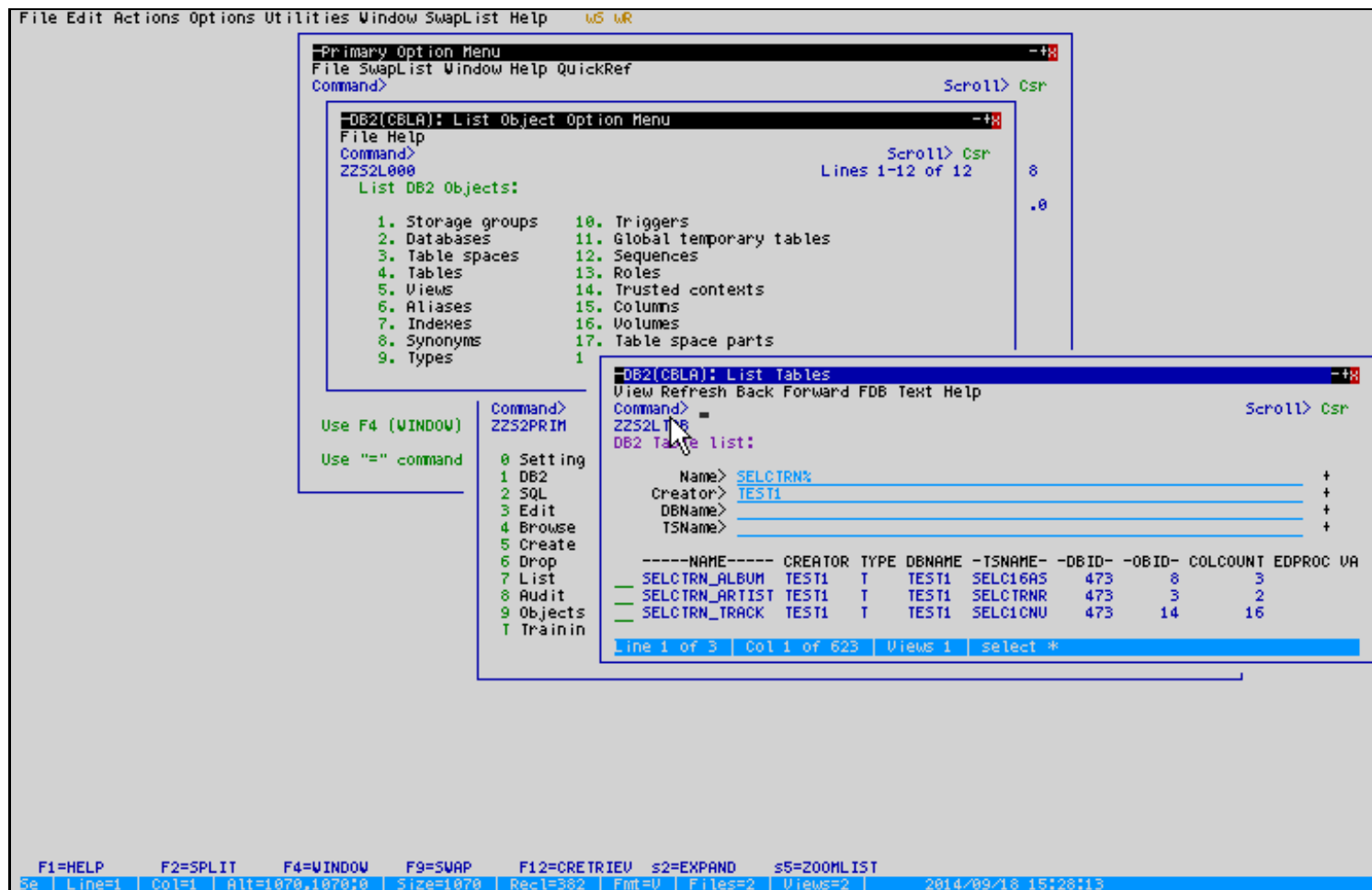


*Figure 149.* SELCOPYi DB2 Figure 03

# DB2 Table Information

- At the **"List Tables"** window, enter **"/"** (forward slash) in the prefix area for table *sqlid*.**SELCTRN_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*.**SELCTRN_ALBUM**.
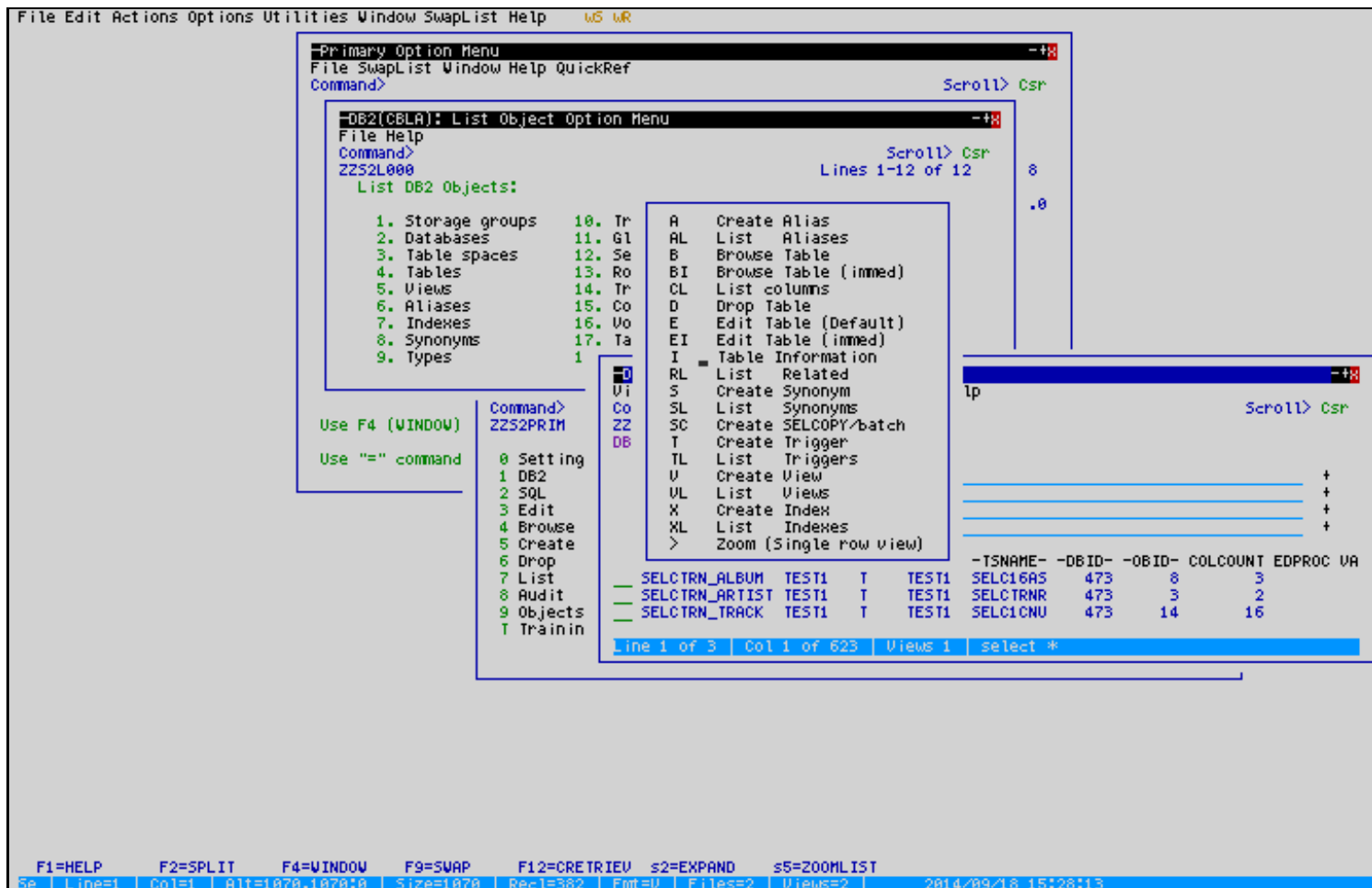


*Figure 150.* SELCOPYi DB2 Figure 04

## 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.

## DB2 Table Information (3)

- Place your cursor on the link for **"Referential constraints:"** then presss ENTER.

- We can see that **SELCTRN_ALBUM** has both
  - ♦ a **parent** table (SELCTRN_ARTIST), and
  - ♦ a **child** table (SELCTRN_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.

```
 File Edit Actions Options Utilities Window SwapList Help     wS wR
                      ─Primary Option Menu      ─DB2(CBLA) Table Information for TEST1.SELCTRN_ALBUM      ─+▨
                      File SwapList Window Help Qu   Back Forward HomeLink Close Source Text Help
                      Command>                        Command>                                 Scroll> Csr
                        ─DB2(CBLA): List Object O    Parent tables of table TEST1.SELCTRN_ALBUM
                        File Help
                        Command>                     ┌──────────────────────────────┬──────────────────────────┐
                        ZZS2L000                     │ Parent Table                 │ Foreign Key of Parent    │
                          List DB2 Objects:          │                              ├───┬───────────┬──────────┤
                                                     │                              │Seq│Column Name│Parent Col│
                            1. Storage groups        │                              │   │           │umn Name  │
                            2. Databases             │                              │   │           │          │
                            3. Table spaces          │ Table Name:  TEST1.SELCTRN_ARTIST │ 1 │ ARTIST_ID │ ID   │
                            4. Tables                │ Constraint:  ALBUMR1         │   │           │          │
                            5. Views                 │ Delete Rule: Restrict        │   │           │          │
                            6. Aliases               │ Enforced:    Yes             │   │           │          │
                            7. Indexes               └──────────────────────────────┴───┴───────────┴──────────┘
                            8. Synonyms
                            9. Types                 Dependent child tables of table TEST1.SELCTRN_ALBUM

                      Command>                       ┌──────────────────────────────┬──────────────────────────┐
                      Use F4 (WINDOW)   ZZS2PRIM     │ Child table                  │ Foreign Key in Child     │
                                                     │                              ├───┬───────────┬──────────┤
                      Use "=" command     0 Settin   │                              │Seq│Column Name│Child Colu│
                                          1 DB2      │                              │   │           │mn Name   │
                                          2 SQL      │                              │   │           │          │
                                          3 Edit     │ Table Name:  TEST1.SELCTRN_TRACK │ 1 │ ID    │ ALBUM_ID │
                                          4 Browse   │ Constraint:  TRACKR1         │   │           │          │
                                          5 Create   │ Delete Rule: Restrict        │   │           │          │
                                          6 Drop     │ Enforced:    Yes             │   │           │          │
                                          7 List     └──────────────────────────────┴───┴───────────┴──────────┘
                                          8 Audit
                                          9 Object
                                          T Traini

                                                     Line 142   of 170   Col 1   of 78  File: TEST1.D2014261.T1529578.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 | Recl=382 | Fmt=V | Files=2 | Views=2 |    2014/09/18 15:28:13
```

*Figure 151.* SELCOPYi DB2 Figure 05

# DB2 Table Edit

- In the prefix area for table **SELCTRN_TRACK** enter the line-ccommand **"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.
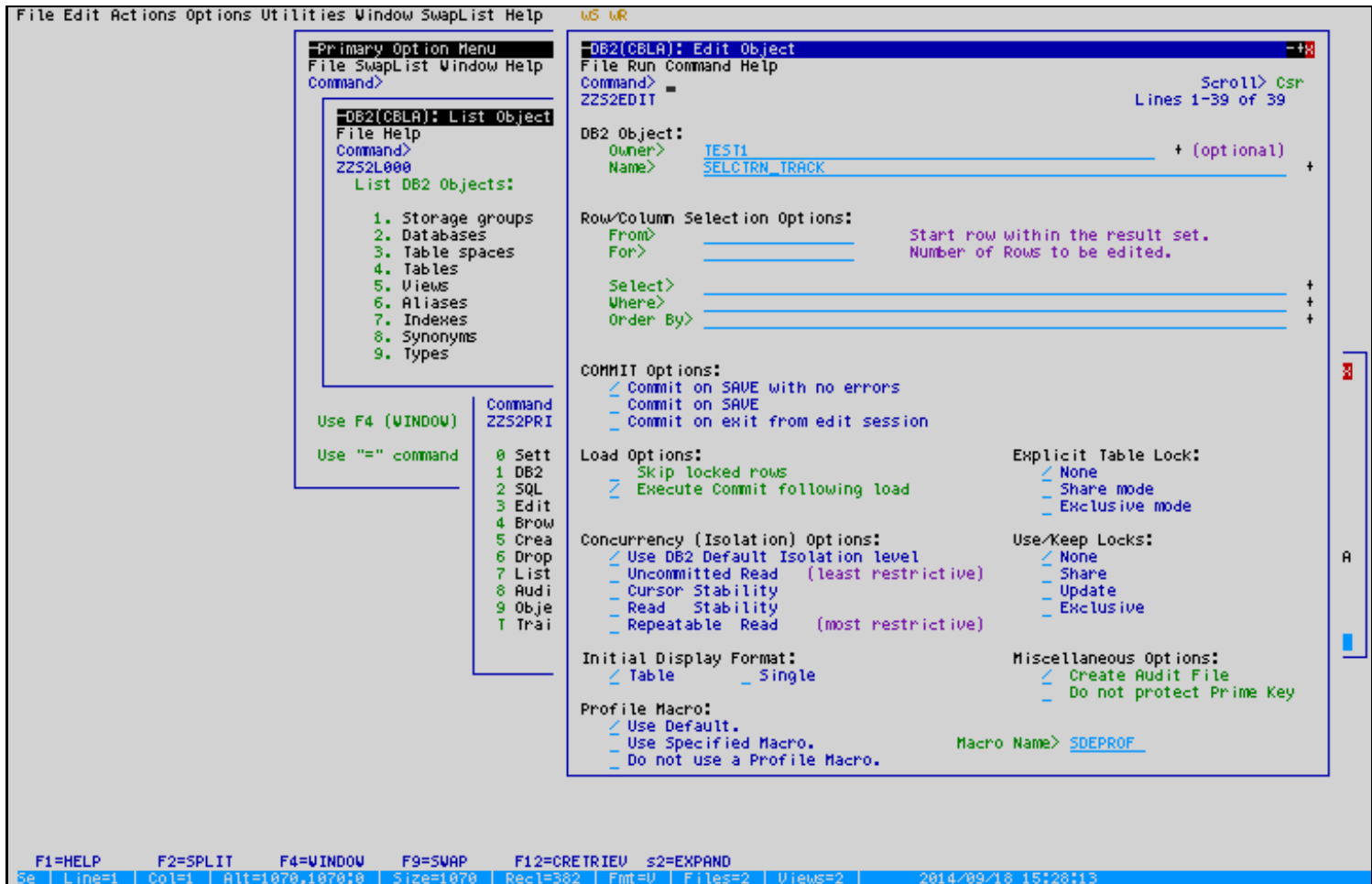


*Figure 152.* SELCOPYi DB2 Figure 06

## 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 SELCOPYi **Data-Editor** is now at your finger tips.

  e.g. to open another separately scrollable view of te same table just type the primary command **WIN NEW** or **WW**.
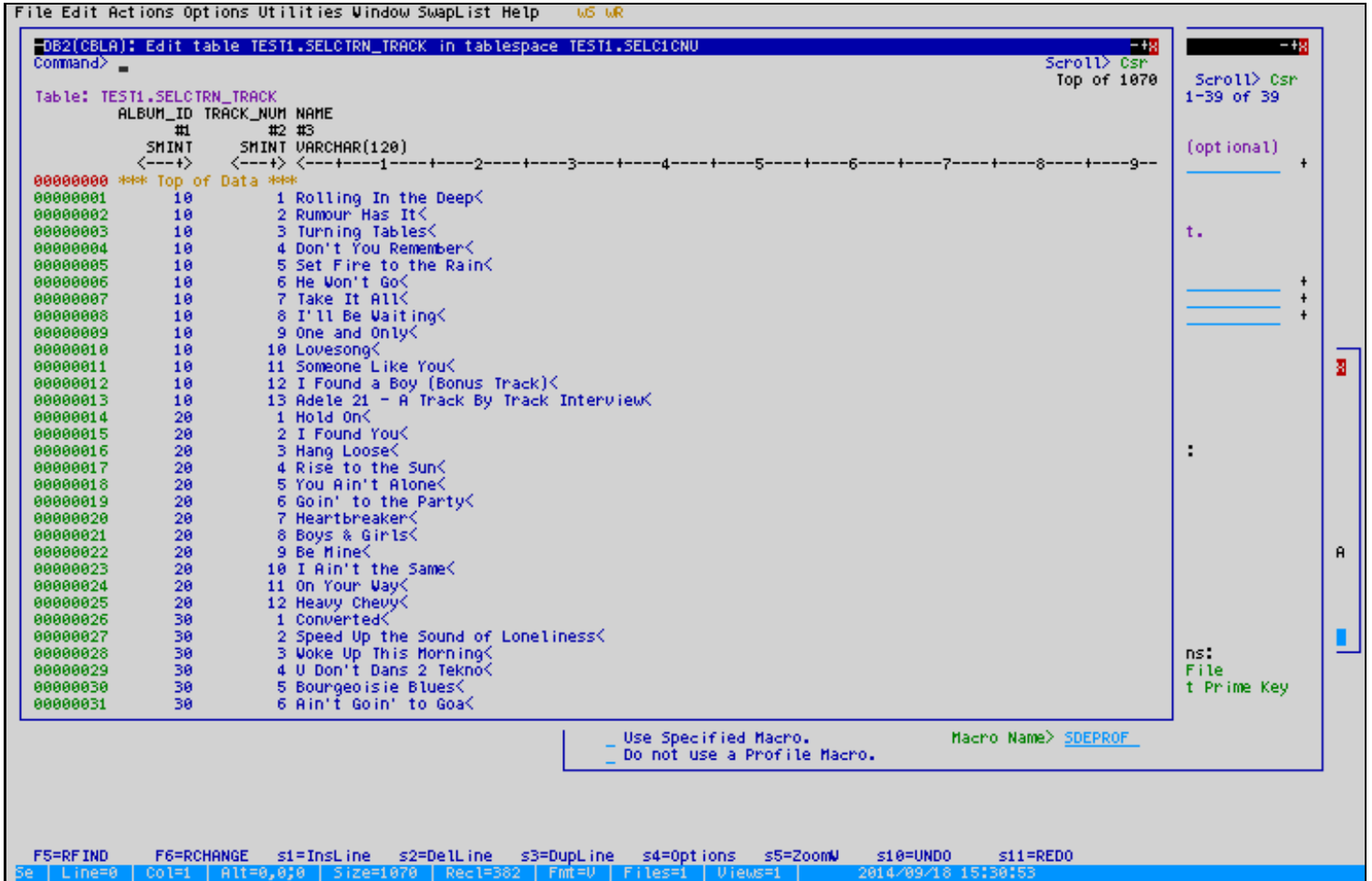


*Figure 153.* SELCOPYi DB2 Figure 07

## 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 154.* SELCOPYi DB2 Figure 08

# Editing selected table rows

- Press **F3** to exit the edit session and return to the Table Edit dialog.

- Table rows may be selected for browse/edit using an **SQL "WHERE" clause.**

- Either type the clause directly into the enterable field e.g.

    **Where>** *NAME LK '%Blues%' OR NAME LK '%Soul%'*

    or invoke the "WHERE" dialog by entering **"?"** in the field.
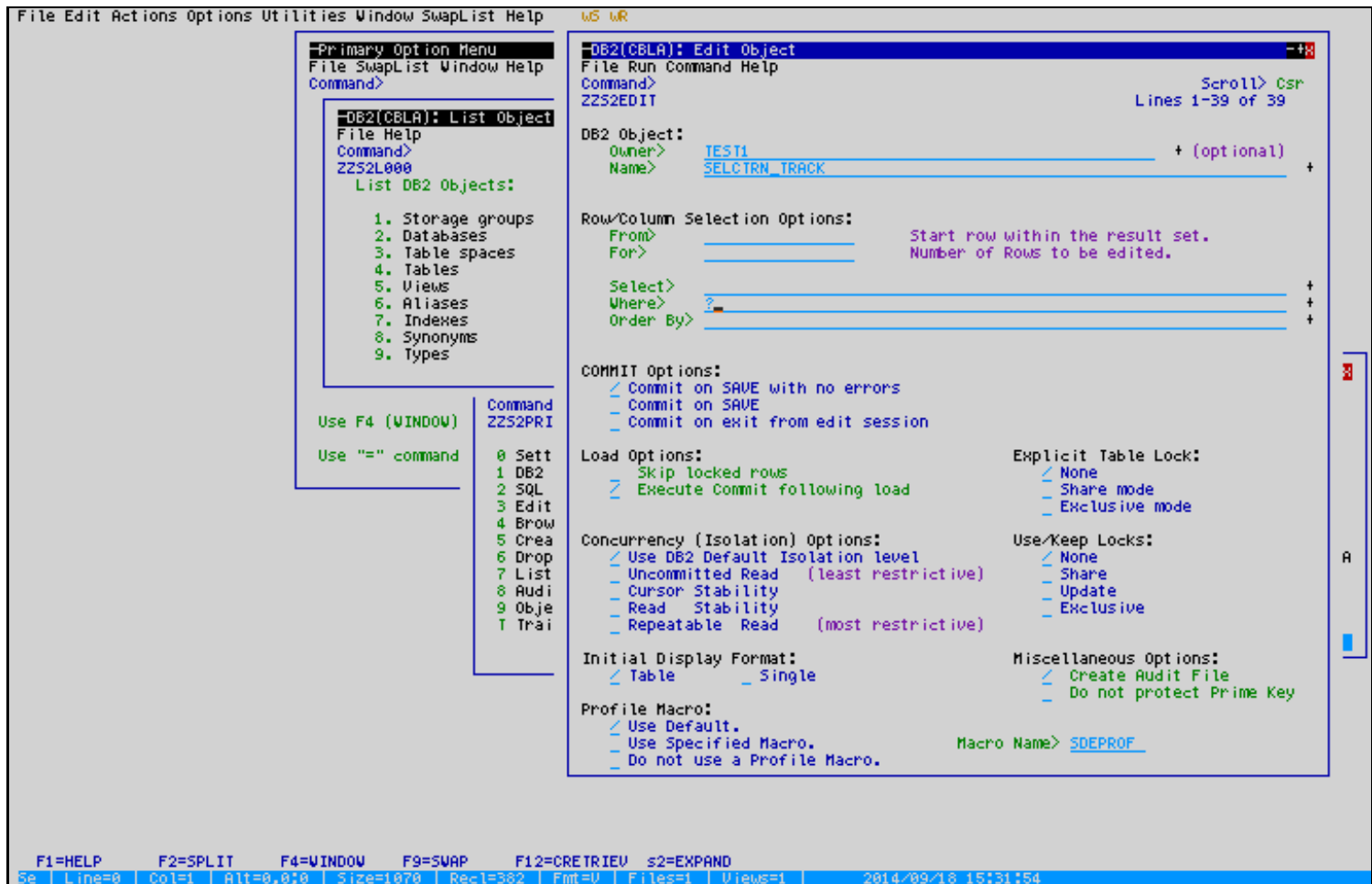


*Figure 155.* SELCOPYi DB2 Figure 09

## Using the "WHERE" dialog

The **"WHERE"** dialog allows you to enter one or more row selection conditions against each of the listed table columns.

As an excersise 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**.

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, SELCOPYi 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.
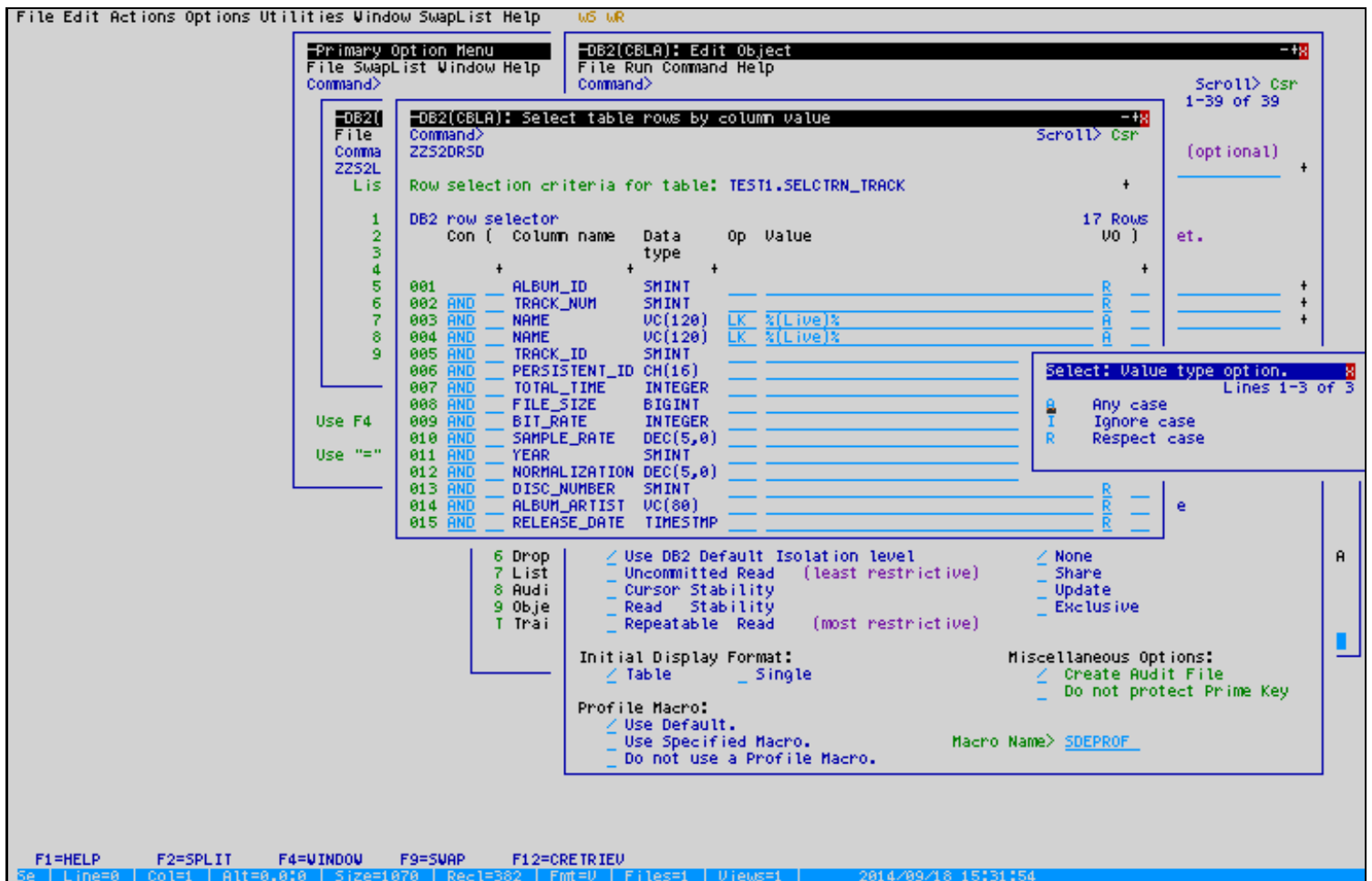


*Figure 156.* SELCOPYi DB2 Figure 10

## Using FIND/CHANGE

- Press **F3** to exit the WHERE dialog and 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.

```
File Edit Actions Options Utilities Window SwapList Help      wS wR
┌─DB2(CBLA): Edit table TEST1.SELCTRN_TRACK in tablespace TEST1.SELC1CNU          ─+x┐  ┌──────────────────────  ─+x┐
Command> change all '[Live]' '(Live)'_                                  Scroll> Csr      │            Scroll> Csr │
                                                                        Top of 78        │   1-39 of 39           │
Table: TEST1.SELCTRN_TRACK                                                               │                        │
         ALBUM_ID TRACK_NUM NAME                                                         │  (optional)            │
             #1       #2 #3                                                               │                        │
           SMINT     SMINT VARCHAR(120)                                                   │  _____      +     │
           <---+>    <---+> <---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+----8----+----9--   │
00000000 *** Top of Data ***                                                             │                        │
00000001     520       11 Barracuda (Live)<                                              │  t.                    │
00000002     570        1 Neon (Live)<                                                   │                        │
00000003     570        2 Stop This Train (Live)<                                        │                        │
00000004     570        3 In Your Atmosphere (Live)<                                     │                        │
00000005     570        4 Daughters (Live)<                                              │  _____      +     │
00000006     570        5 Free Fallin' (Live)<                                           │  _____      +     │
00000007     570        6 Everyday I Have the Blues (Live)<                              │  _____      +     │
00000008     570        7 Wait Until Tomorrow (Live)<                                    │                        │
00000009     570        8 Who Did You Think I Was (Live)<                                │                        │
00000010     570        9 Come When I Call (Live)<                                       │                      x │
00000011     570       19 Gravity (Live)<                                                │                        │
00000012     570       10 Good Love Is On the Way (Live)<                                │                        │
00000013     570       11 Out of My Mind (Live)<                                         │                        │
00000014     570       12 Vultures (Live)<                                               │                        │
00000015     570       13 Bold As Love (Live)<                                           │                        │
00000016     570       14 Waiting On the World to Change (Live)<                         │  :                     │
00000017     570       15 Slow Dancing In a Burning Room (Live)<                         │                        │
00000018     570       16 Why Georgia (Live)<                                            │                        │
00000019     570       17 The Heart of Life (Live)<                                      │                        │
00000020     570       18 I Don't Need No Doctor (Live)<                                 │                      A │
==CHG>       570       20 I Don't Trust Myself (With Loving You) [Live]<                 │                        │
00000022     570       21 Belief (Live)<                                                 │                        │
00000023     570       22 I'm Gonna Find Another You (Live)<                             │                        │
00000024     640        1 Don't Stop Believin' (Live)<                                   │                      ■ │
==CHG>       640        2 Separate Ways (Worlds Apart) (Live)<                           │                        │
00000026     640        3 After the Fall (Live)<                                         │  ns:                   │
00000027     640        4 Lovin', Touchin', Squeezin' (Live)<                            │  File                  │
00000028     640        5 Faithfully (Live)<                                             │  t Prime Key           │
00000029     640        6 Who's Crying Now (Live)<                                       └────────────────────────┘
00000030     640        7 Any Way You Want It (Live)<
00000031     640        8 Lights (Live)<
                                    _ Use Specified Macro.           Macro Name> SDEPROF
                                    _ Do not use a Profile Macro.

 F5=RFIND     F6=RCHANGE   s1=InsLine   s2=DelLine   s3=DupLine   s4=Options  s5=ZoomN   s10=UNDO   s11=REDO
Se | Line=0 | Col=1 | Alt=1,1;1 | Size=78 | Recl=382 | Fmt=V | Files=1 | Views=1 |      2014/09/18 15:34:27
```

*Figure 157*. SELCOPYi 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.

```
File Edit Actions Options Utilities Window SwapList Help      wS wR

                     ─Primary Option Menu                              ─+x
                     File SwapList Window Help QuickRef
                     Command>
                                                          Scroll> Csr
             ─DB2(CBLA): List Object Option Menu                ─+x
             File Help
             Command>                                 Scroll> Csr
             ZZ52L000                           Lines 1-12 of 12      8
                List DB2 Objects:                                     .0

                    1. Storage groups    10. Triggers
                    2. Databases         11. Global temporary tables
                    3. Table spaces      12. Sequences
                    4. Tables            13. Roles
                    5. Views             14. Trusted contexts
                    6. Aliases           15. Columns
                    7. Indexes           16. Volumes
                    8. Synonyms          17. Table space parts
                    9. Types              1  ─DB2(CBLA): List Tables              ─+x
                                            View Refresh Back Forward FDB Text Help
                          Command>          Command>                      Scroll> Csr
       Use F4 (WINDOW)    ZZ52PRIM          ZZ52LTAB
                                            DB2 Table list:
       Use "=" command    0 Setting
                          1 DB2                 Name>  SELCTRN%                        +
                          2 SQL             Creator>  TEST1                           +
                          3 Edit            DBName>                                   +
                          4 Browse          TSName>                                   +
                          5 Create
                          6 Drop            -----NAME----- CREATOR TYPE DBNAME -TSNAME- -DBID- -OBID- COLCOUNT EDPROC VA
                          7 List            __ SELCTRN_ALBUM  TEST1   T   TEST1  SELC16AS   473     8       3
                          8 Audit           ei SELCTRN_ARTIST TEST1   T   TEST1  SELCTRNR   473     3       2
                          9 Objects         __ SELCTRN_TRACK  TEST1   T   TEST1  SELC1CNV   473    14      16
                          T Trainin
                                            Line 1 of 3 | Col 1 of 623 | Views 1 | select *


 F1=HELP      F2=SPLIT     F4=WINDOW    F9=SWAP     F12=CRETRIEV    s2=EXPAND    s5=ZOOMLIST
Se | Line=0 | Col=1 | Alt=1,1;0 | Size=78 | Recl=382 | Fmt=V | Files=1 | Views=1 |    2014/09/18 15:34:58
```

*Figure 158.* SELCOPYi DB2 Figure 12

## The "RE" line-command

      • To explore the Artist **"Alanis Morrisette"** enter **"RE"** in the prefix area.

```
 File Edit Actions Options Utilities Window SwapList Help      wS wR
 ┌──────────────────────────────────────────────────────────────┐  ┌──────────────────────────┐
 █─DB2(CBLA): Edit table TEST1.SELCTRN_ARTIST in tablespace TEST1.SELCTRNR        -+█            -+█
 Command>                                                Scroll> Csr        Scroll> Csr
                                                        Top of 73  ┌──────────────────────────┐
 Table: TEST1.SELCTRN_ARTIST                                       -+█
          ID NAME                                          Scroll> Csr
          #1 #2                                            1-12 of 12        8
          SMINT VARCHAR(70)
          <---+> <---+----1----+----2----+----3----+----4----+----5----+----6----+---->        .0
 00000000 *** Top of Data ***
 00000001     10 Adele<
 00000002     20 Alabama Shakes<
 00000003     30 Alabama 3<
 RE_          40 Alanis Morissette<
 00000005     50 Alex Harvey<
 00000006     60 AC/DC<
 00000007     70 Bob Dylan<                                ┌──────────────────────────┐
 00000008     80 Bruce Springsteen<                                            -+█
 00000009     90 Bruce Springsteen & The Sessions Band<  B Text Help
 00000010    100 Burt Bacharach & Elvis Costello<
 00000011    110 Christina Aguilera<                                 Scroll> Csr
 00000012    120 Christina Aguilera & Dave Navarro<
 00000013    130 Coldplay<
 00000014    140 Crash Test Dummies<                     ──────────────────────────── +
 00000015    150 Damien Rice<                            ──────────────────────────── +
 00000016    160 David Gray<                             ──────────────────────────── +
 00000017    170 Deep Purple<                            ──────────────────────────── +
 00000018    180 Del Amitri<
 00000019    190 Duffy<
 00000020    200 DJ Fresh<
 00000021    210 Embrace<                                PE DBNAME -TSNAME- -DBID- -OBID- COLCOUNT EDPROC VA
 00000022    220 Florence + The Machine<                    TEST1  SELC16AS   473     8       3
 00000023    230 Gretchen Wilson<                           TEST1  SELCTRNR   473     3       2
 00000024    240 Guns N' Roses<                             TEST1  SELC1CNU   473    14      16
 00000025    250 Jennifer Hudson<
 00000026    260 Jessie J<                                Views 1 | select *
 00000027    270 John Mayer<
 00000028    280 John Mellencamp<
 00000029    290 Journey<
 00000030    300 Judas Priest<
 00000031    310 Kosheen<
 └──────────────────────────────────────────────────────────────┘

  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=73 | Recl=84 | Fmt=V | Files=1 | Views=1 |      2014/09/18 15:35:19
```

*Figure 159.* SELCOPYi 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 160.* SELCOPYi DB2 Figure 14

## Related Table Edit Window (1)

- A separate edit window will display only the **ALBUM** rows for **Alanis Morrisette** (ARTIST_ID = 40).

- To explore the album **"Jagged Little Pill"** enter **"RE"** in the prefix area.
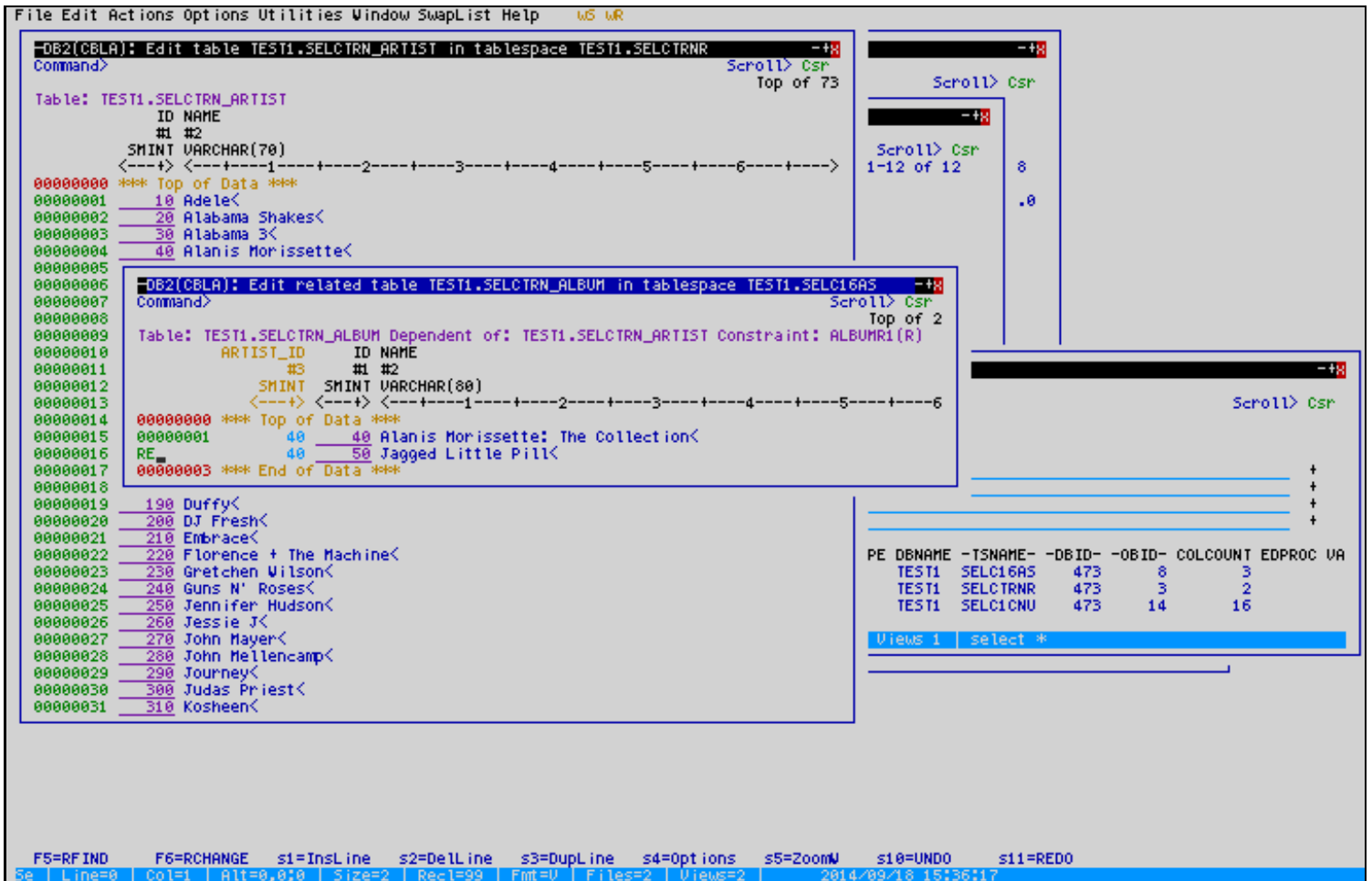


*Figure 161.* SELCOPYi DB2 Figure 15

## Related Table Edit Window (2)

- A separate window will once again appear listing the all related tables.

- The **ALBUM** table again has only one child, 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).
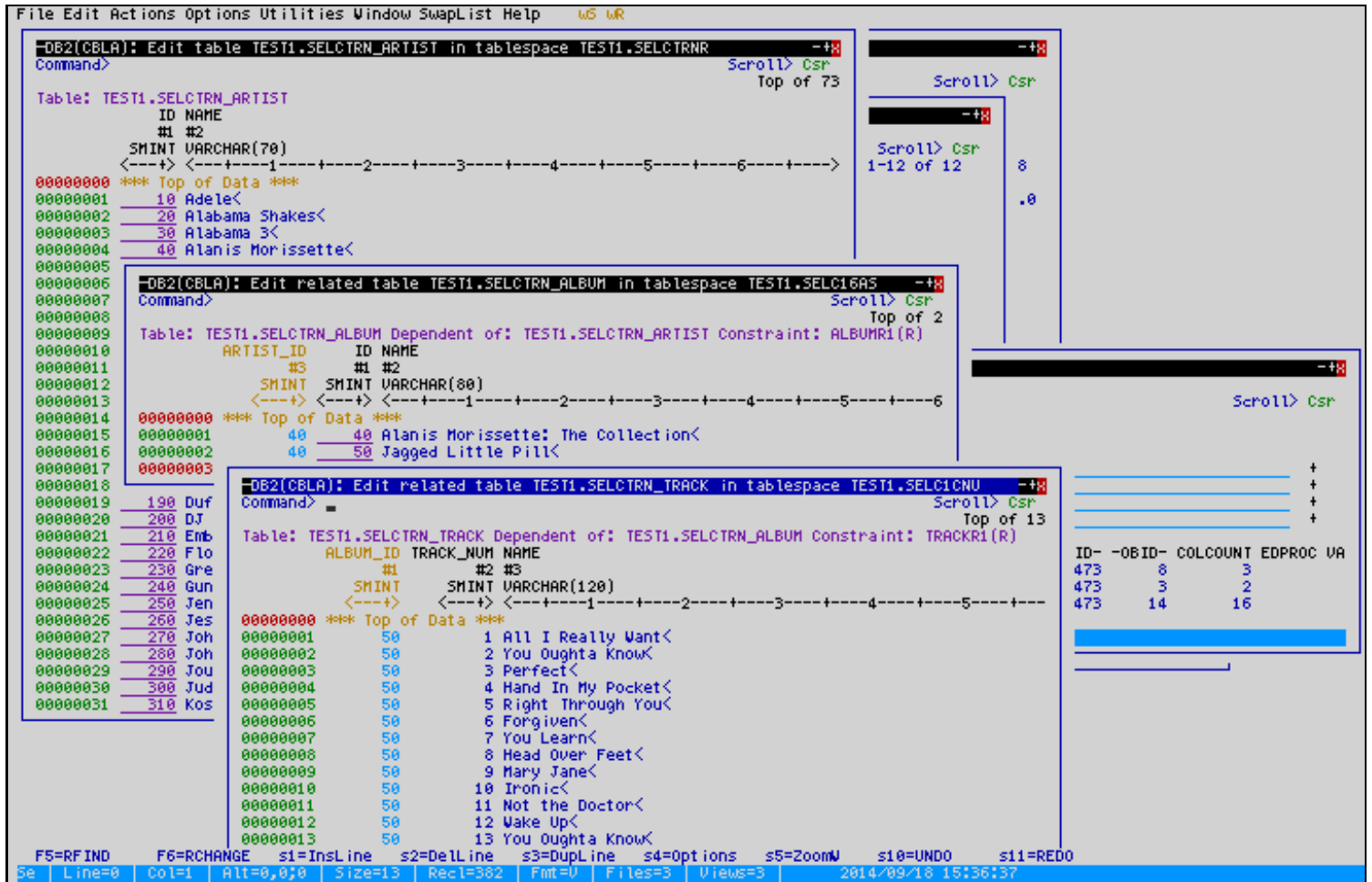


*Figure 162.* SELCOPYi DB2 Figure 16

# Generating CSV or XML from selected table rows/columns

Typically used for export to other platforms, **Comma Separated Variable (CSV)** and **Extended Markup Language (XML)** 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.
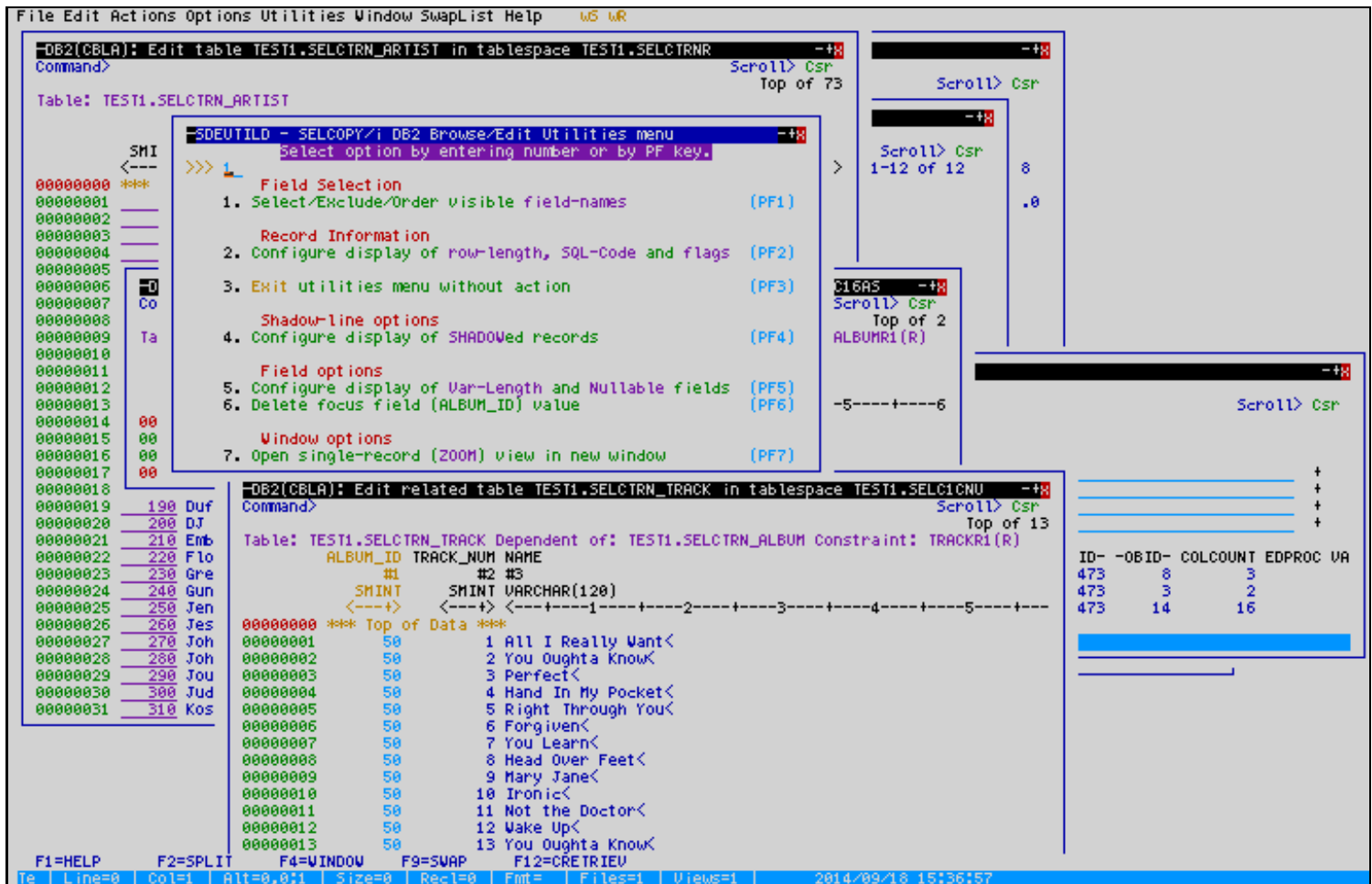


*Figure 163.* SELCOPYi DB2 Figure 17

## The "SELECT" dialog

We'll select column **PERSISTENT_ID** first, followed by **TRACK_NUM** and **NAME**.

- Set option **"Perm/Temp:"** to **"TEMP"**.

- Set option **"Show unselected fields at the end:"** to **"N"**.

- Enter **"S"** to select each of the required columns.

- Enter **"1"** in **Seq** field for **PERSISTENT_ID** to ensure it's selected first.

  If not explicitly ordered by entering a number in the **Seq** field, other fields will be selected in the order they appear in the selection table.

  You can enter standard edit line-commands ("M" and "A") in the numeric "prefix" area on the right to re-order the selection table rows.

- Press **F3** to exit the dialog.

  Your DB2 table view will be updated according to your selections.
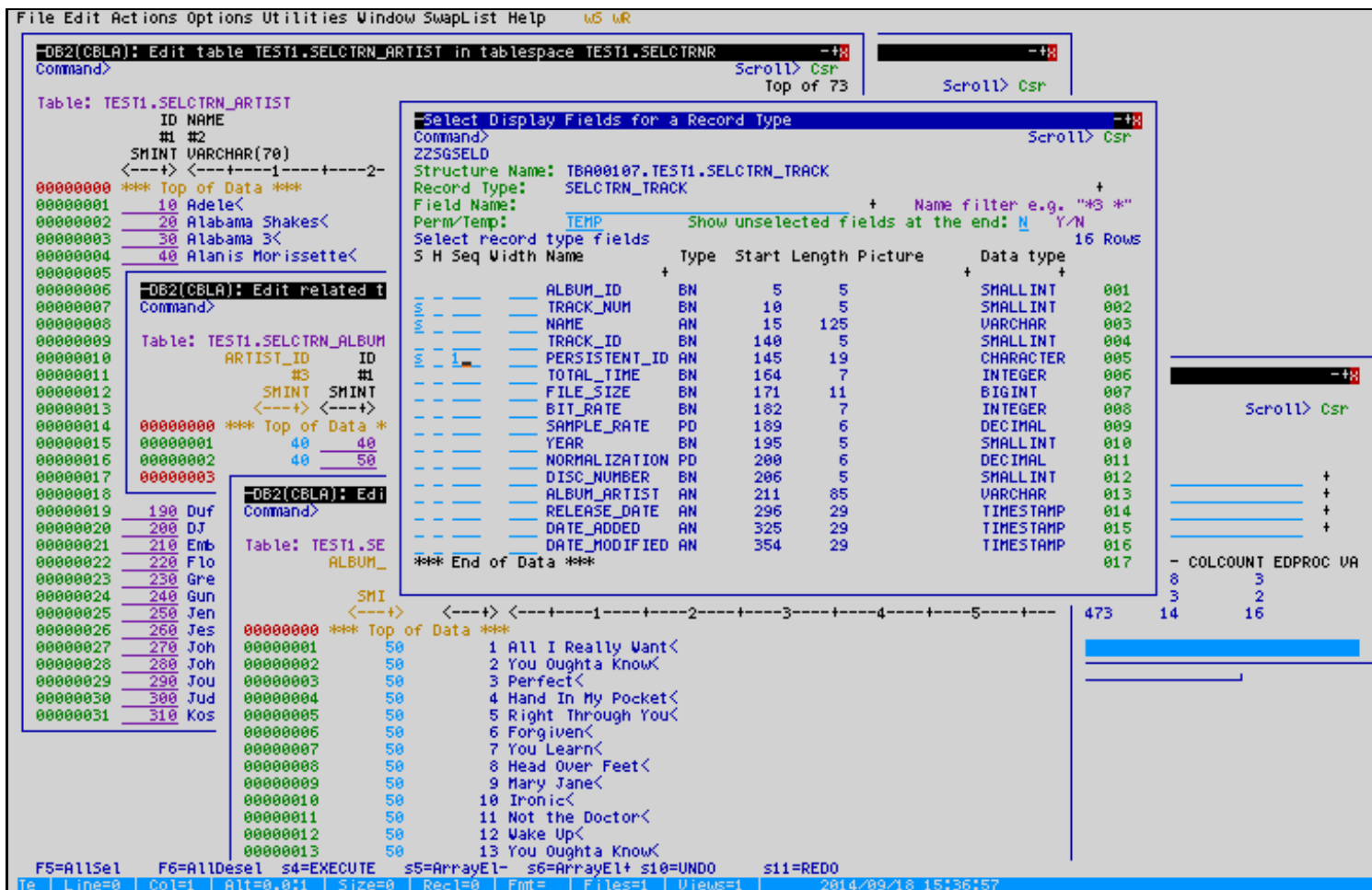


*Figure 164.* SELCOPYi DB2 Figure 18

## 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>**.SELCOPYI.CSV(PILL)**



*Figure 165.* SELCOPYi 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.



*Figure 166.* SELCOPYi 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 CSV Text File"** name of your choice.
  e.g. <userid>.**SELCOPYI.XML(PILL)**
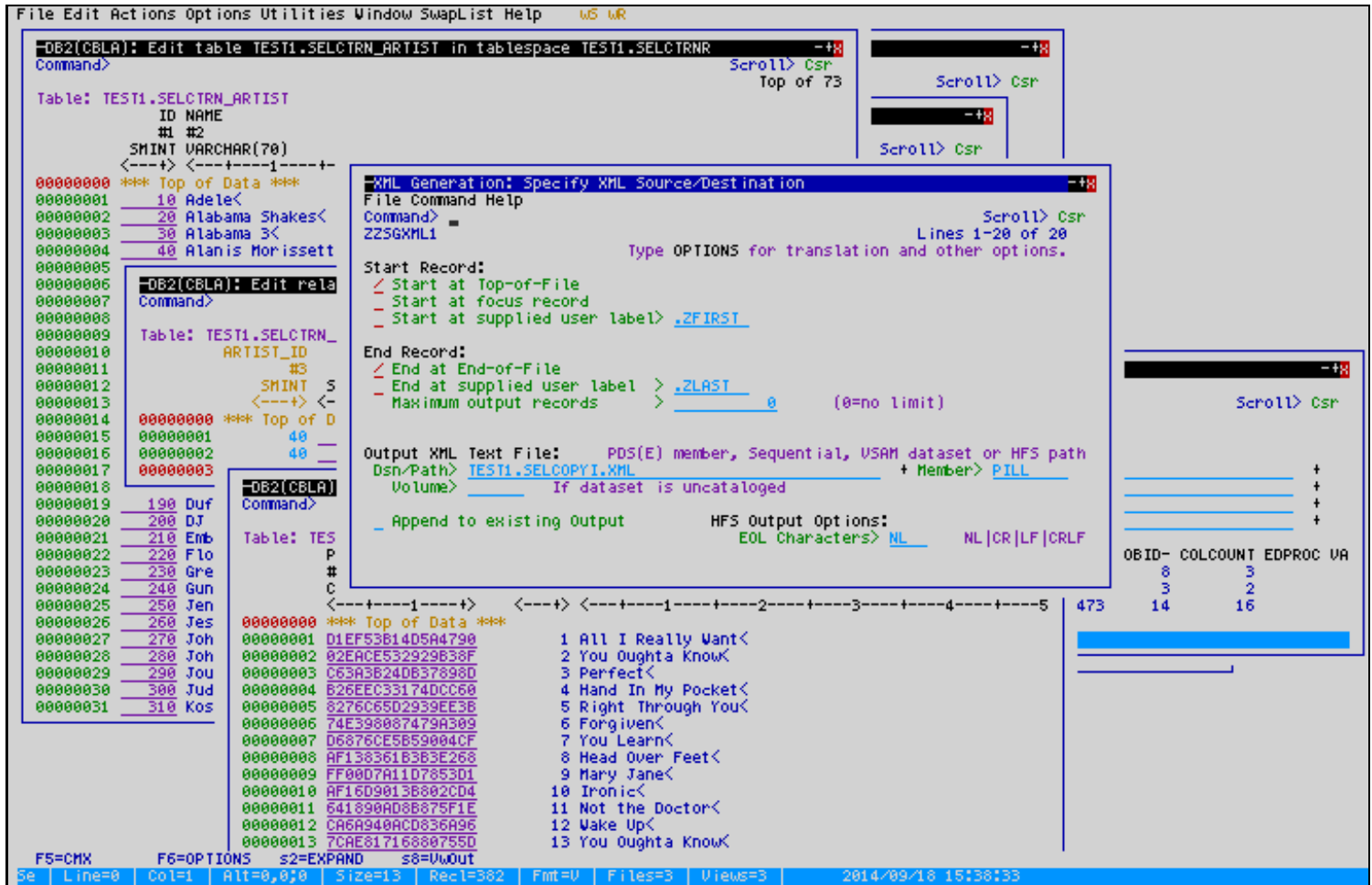


*Figure 167.* SELCOPYi DB2 Figure 21

## 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.
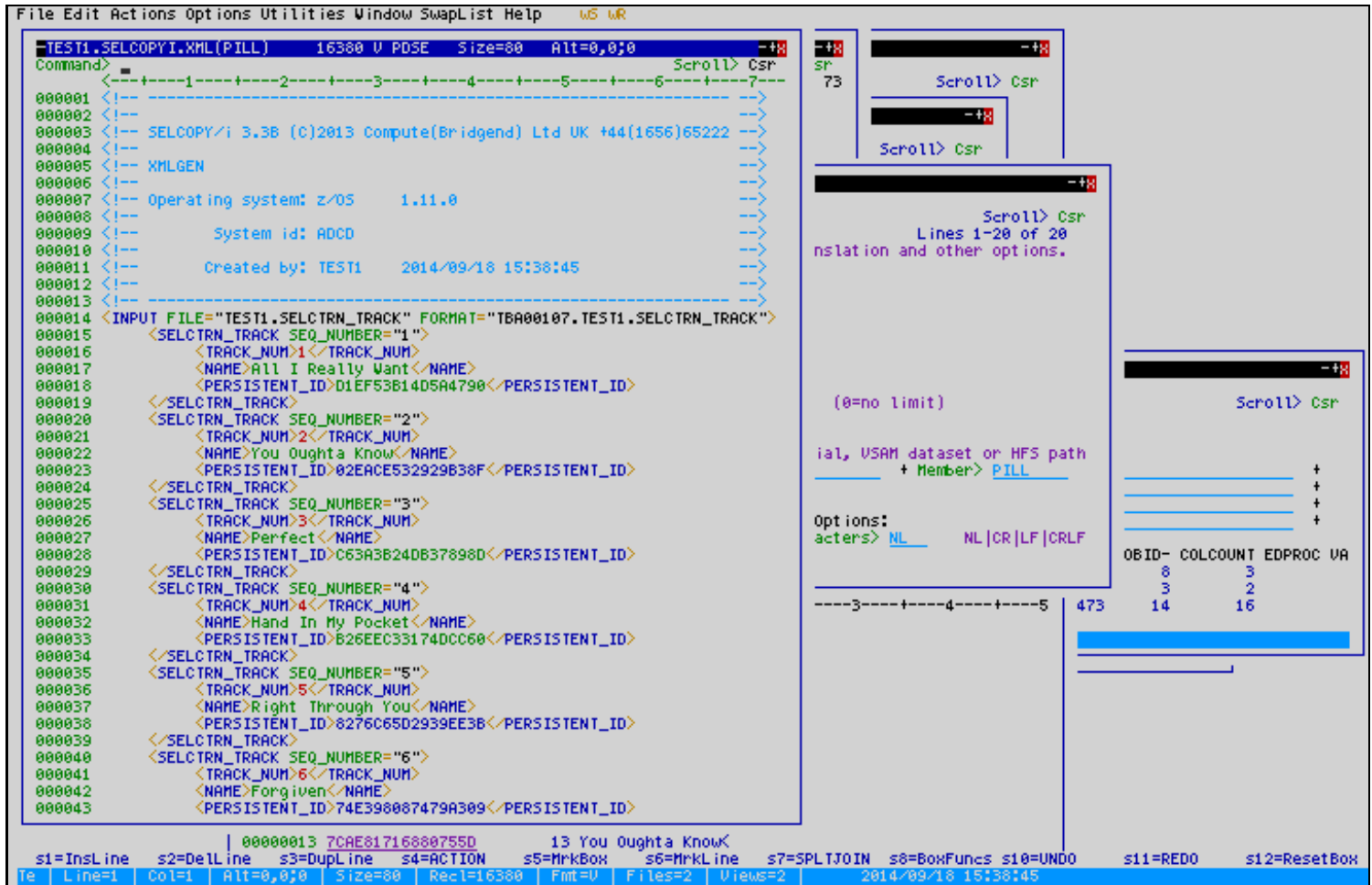


*Figure 168.* SELCOPYi DB2 Figure 22

# Handling Relational Constraint Errors

Next, as an excerise, 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 SELCOPYi, 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 169.* SELCOPYi DB2 Figure 23

## The "E" edit line-command

Enter **"E"** in the prefix area to display the **"DB2 Save SQL Error"** dialog.



*Figure 170.* SELCOPYi 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 oppurtunity to correct the violation using the **Related Table Edit (REDIT)** feature.

- Enter **"R"** in the **"Action>"** field to start **Related Table edit**.
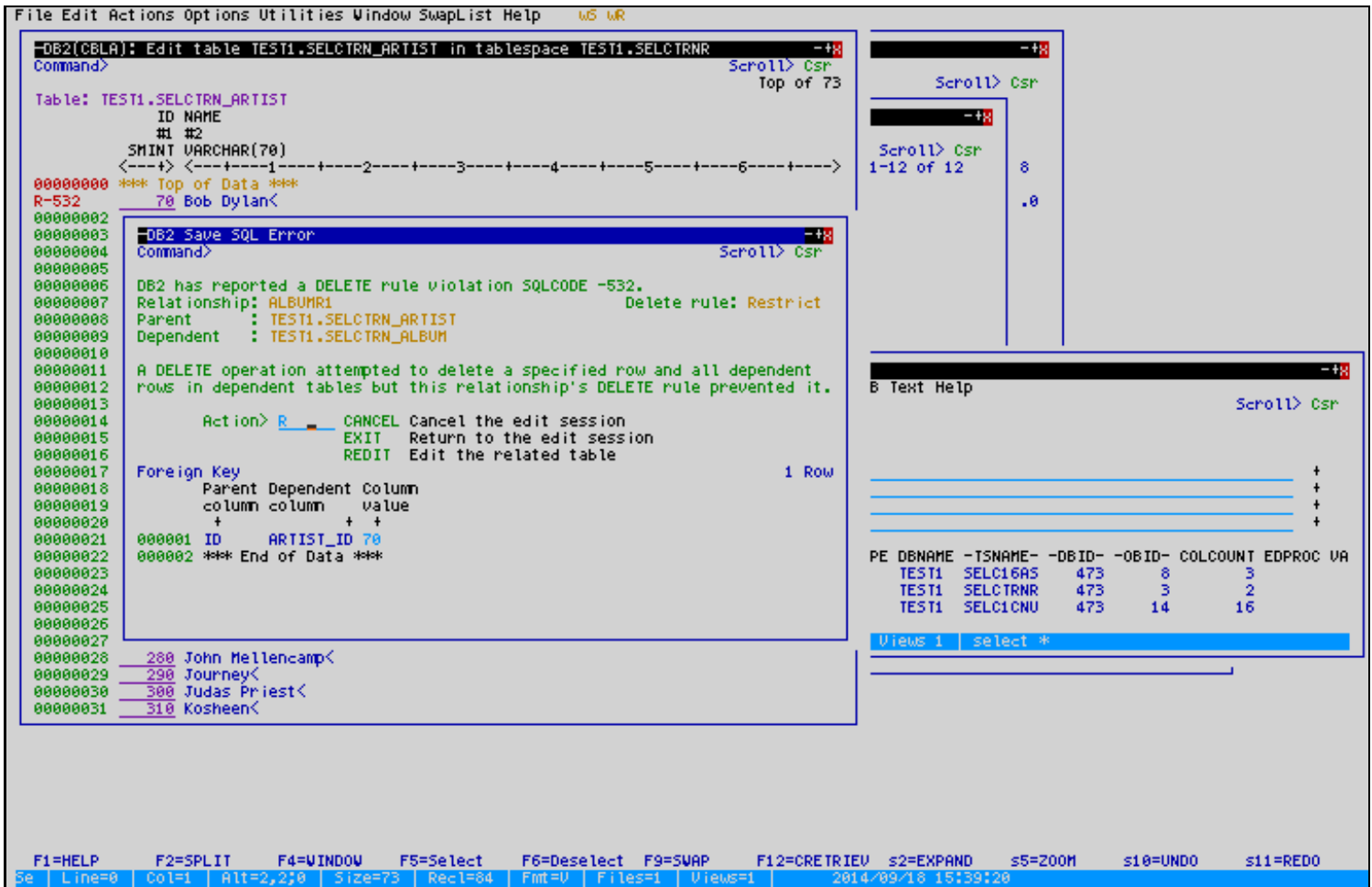
*Figure 171.* SELCOPYi DB2 Figure 25

## 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"**.



*Figure 172.* SELCOPYi 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 existance 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**.
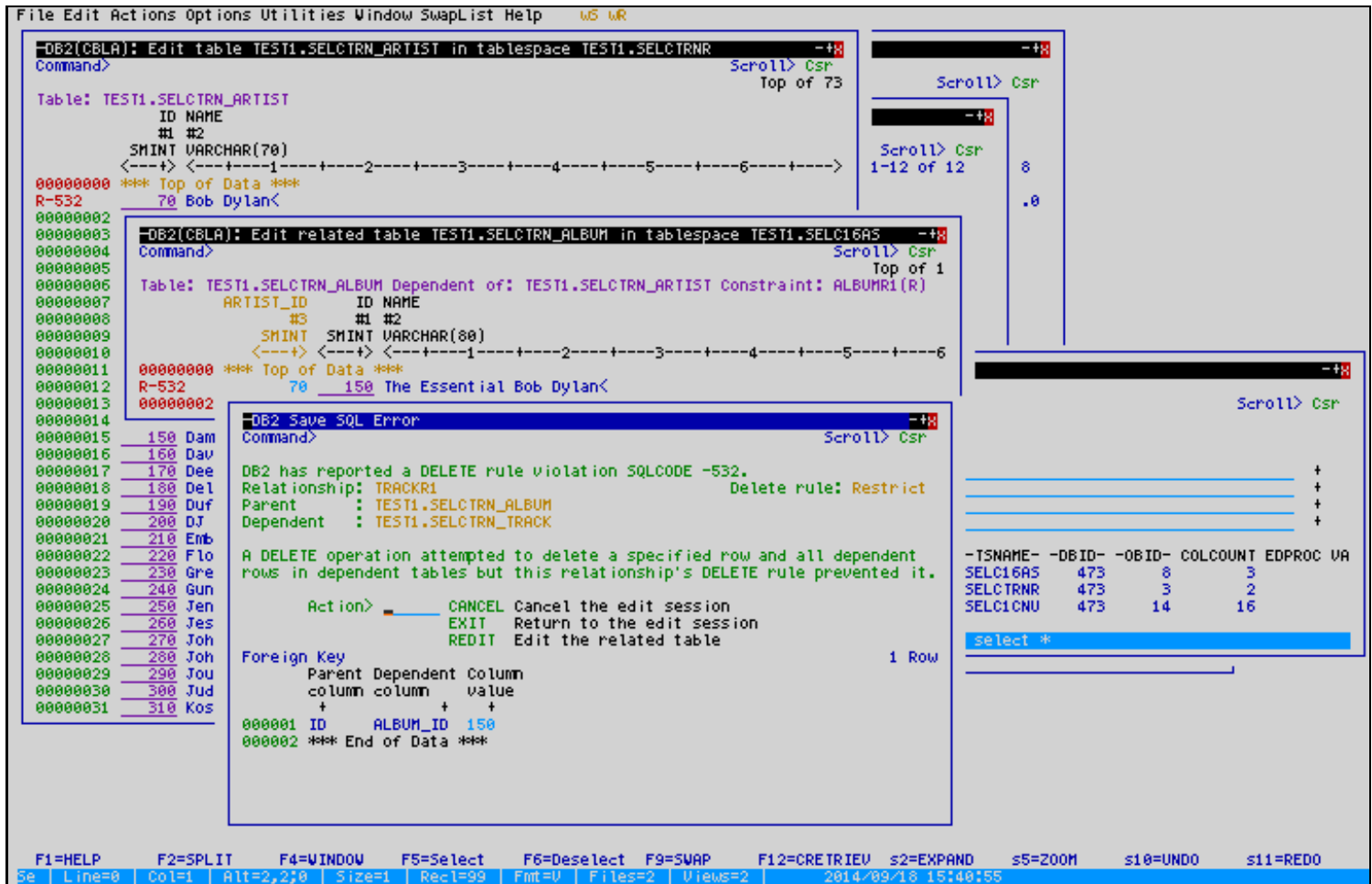


*Figure 173.* SELCOPYi DB2 Figure 27

## 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 drama.



*Figure 174.* SELCOPYi 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 175.* SELCOPYi DB2 Figure 29

## DB2 Help Pages

Further DB2 specific information is available by pressing the **HELP** key (**F1**).



*Figure 176.* SELCOPYi DB2 Figure 30

## Related Tables Help

The hyperlink for **"Editing or browsing related tables"** provides some handy background and tips.



*Figure 177.* SELCOPYi 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**.

```
File Edit Actions Options Utilities Window SwapList Help      wS wR
-DB2(CBLA): Edit table TEST1.SELCTRN_ARTIST in tablespace TEST1.SELCTRNR      -+X
Command>                                                       Scroll> Csr        Scroll> Csr
                                                               Row 47 of 72
Table: TEST1.SELCTRN_ARTIST                                                                   -+X
             ID NAME
             #1 #2                                                           Scroll> Csr
             SMINT VARCHAR(70)                                               1-12 of 12    8
             <---+> <---+----1----+----2----+----3----+----4----+----5----+----6----+--->
00000047      480 Ray Lamontagne<                                                          .0
RE_           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<                          B Text Help                 -+X
00000059      600 Sonique<
00000060      610 Soul Asylum<                                                Scroll> Csr
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<                             PE DBNAME -TSNAME- -DBID- -OBID- COLCOUNT EDPROC VA
00000070      710 Whitesnake<                                    TEST1  SELC16AS   473    8      3
00000071      720 Whitney Houston<                               TEST1  SELCTRNR   473    3      2
00000072      730 2Pac & Dr. Dre<                                TEST1  SELC1CNU   473   14     16
00000073 *** End of Data ***                                 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=V | Files=1 | Views=1 |      2014/09/18 15:42:52
```

*Figure 178.* SELCOPYi 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 179.* SELCOPYi DB2 Figure 33

## REDIT Example (3)

We can now delete **(ARTIST_ID=490)**, save and exit without error.



*Figure 180.* SELCOPYi DB2 Figure 34