

**Chapter  
1**

**ISPF/PDF  
ENVIRONMENT**

*Get on the  
Fast Track!*



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**Objectives**

You will learn:

- The advantages associated with the TSO featureset.
- The advantages associated with the ISPF/PDF featureset.
- PF: Program Function keys on the 3270 keyboard.
- Logging on and entering ISPF/PDF.
- Moving through ISPF/PDF.
- TSO help and ISPF/PDF tutorials.
- Specifying user and terminal characteristics.
- Terminating ISPF/PDF.
- How to logoff.

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## **1 TSO: Definition and Purpose**

TSO stands for Time Sharing Option.

TSO provides the capability for multiple users to simultaneously access and utilize the computing capabilities of an IBM mainframe computer operating system, system software, programming languages, utilities, and development tools. Thousands of users can be connected to a single z/OS mainframe system.

Each logged on user receives fixed-length intervals of the CPU: central processing unit, referred to as time slices.

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### **1.1 TSO: Advantages**

Significant advantages in using TSO include:

- Concurrent use of the system by multiple users.
- Multiple users work as if each had exclusive use of the system.
- Using a terminal with a keyboard to communicate with the system.
- Having terminals connected at geographically dispersed locations connect and access a z/OS mainframe computer.
- Conversational and interactive processing.
- Simple commands instead of complex JCL statements.
- Fast response time.

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## 1.2 TSO: Featureset

The major facilities of TSO include:

- Program development functions.
- Dataset management functions.
- Batch job facility.
- Help facility.
- Message broadcasting.
- CLISTs and REXX command procedures.
- Edit macros which can be used for combining multiple functions; each function will not have to be invoked separately.

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## **2 ISPF/PDF**

ISPF/PDF stands for Interactive System Productivity Facility/Program Development Facility.

SPF stands for the System Productivity Facility.

- ISPF was designed to increase user productivity in the development of applications to be accessed and executed from terminals. It is a dialog manager for interactive applications.
- PDF aids in the development of applications, including dialogs.

Prior to ISPF/PDF, SPF, the System Productivity Facility combined dialog management and program development functions.

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### **2.1 ISPF/PDF Advantages**

Significant advantages in using ISPF/PDF include:

- A menu-driven, full-screen interface for accessing most TSO features.
- Selection panels and menus with single-character option codes.
- Data entry panels with labeled fields which are then filled in by the user.
- Retention of the user's last entry in certain fields when the panel is next displayed.
- Member selection lists used with single-character processing codes.
- Data display panels for presenting source code and output listings.
- Use of PF: Program Function keys for invoking pre-defined PDF commands; the PF keys on a standard PC keyboard serve as the Fn keys.

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## 2.2 ISPF/PDF: Featureset

The major facilities of ISPF/PDF include:

- Full-screen, context editing.
- Use of simple, single-character commands for editing functions.
- Omni-directional scrolling of source data and listings.
- Split screen viewing and navigation.
- Utilities to specify and maintain libraries and datasets.
- Interfaces to standard language processors - compilers, assemblers, linkage editors, and loaders.
- Dialog test facilities to create and test screens or panels.
- On-line tutorial for instruction and reference.
- BROWSE and EDIT services.
  - ISPF cannot edit BSAM and ISAM datasets; it can edit QSAM, PDS, and PDSE datasets.
- Support for the "C" language.
  - ISPF service calls can be issued from a "C" program.
- ISPF supports both interpretive and compiled REXX.

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### 3 TSO, SPF, ISPF, and ISPF/PDF: Evolution

#### Historical Evolution

Late 1960s	First release of TSO.
Early 1970s	TSO upgraded to provide line-by-line display of a full screen of data.
Mid 1970s	First release of SPF as Structured Programming Facility.
Late 1970's	Expanded name of SPF Changed to System Productivity Facility.
Early 1980's	Release of ISPF, Interactive System Productivity Facility.
Mid 1980's	ISPF is split into two components: <ul style="list-style-type: none"><li>- ISPF: Dialog Management Functions.</li><li>- PDF or ISPF/PDF: Program Development Functions.</li></ul>
1990's	The ISPF Workstation Agent can be used to edit PC based files from the ISPF editor to take advantage of the editor's strengths.
2000+	In addition to an extension of the functionality of the integrated software, screen formats have been added and the PF keys implemented differently.

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**4 ISPF**

The current versions of ISPF combine ISPF and ISPF/PDF: Program Development Facility into a single product.

Significant new facilities added to ISPF include:

<b>Facility</b>	<b>Description</b>
Wide-file editing support	Removes the restriction of 255 bytes for record lengths.
Language sensitive editing	Automatically segregates sections of the source such as statements, quotes, and comments by color to improve the user's ability to syntax check the source.
VSAM utilities	Creates, deletes, and displays VSAM datasets.
Dataset view	The editor can be invoked in a view mode. It behaves like the editor, but does not allow data to be saved without a confirmation.
Multi volume dataset support	Allows the user to browse, edit, and use file utilities, such as rename and delete on multi-volume datasets.
GUI: Graphical User Interface	Allows a client/server interface between an ISPF client at a workstation and a host TSO/ISPF session.

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**5 3270 Keyboard: PF Keys**

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<b>Keys</b>	<b>Description</b>
F1,F13	HELP
F2,F14	SPLIT
F3,F15	EXIT or END
F4,F16	RETURN
F5,F17	RFIND
F6,F18	RCHANGE
F7,F19	UP or FORWARD
F8,F20	DOWN or BACKWARD
F9,F21	SWAP
F10,F22	LEFT
F11,F23	RIGHT
F12,F24	CANCEL
TAB	Goes to the next unprotected area.
ALT Arrow keys	The cursor moves faster.
RESET	Unlocks the keyboard.
PA1	TSO exit.
PA2	Refresh screen.
ALT PA2	Field mark.

Use the command PFSHOW ON to display the PF key values at the bottom of the screen.

Use the command PFSHOW OFF to remove the display.

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## 6 Logon Routine

In order to enter the TSO system, it will be necessary to have an account and accompanying user id. The instructor will provide this information. The assumption is that the student will be working at a 3270 type terminal or 3270 emulated program.

Accessing the TSO system is dependent on the host system. There will be minor variations among IBM z/OS mainframe systems.

### Logging On to TSO - LOGON Command

Starting at the welcome screen:

1. Enter the command LOGON and press the ENTER key.

At some installations, a command other than LOGON is used to select the host z/OS system.

2. Enter the userid and press ENTER.
3. Enter the password and press ENTER.

This should bring the READY prompt or the ISPF Primary Panel to the screen.

If a READY message is on the screen and not the ISPF Primary Panel, enter the command ISPF.

In order to use TSO, a valid TSO user ID and password must be submitted to the TSO monitor through the Logon TSO command.

The syntax of this command is: LOGON [id]

READY mode will typically be the first screen after logging on.

When in READY mode, the ISPF or PDF command starts ISPF.

### Logging Off - LOGOFF Command

Once logged onto TSO, the terminal remains connected to a TSO session until the session is terminated with the LOGOFF command.

The syntax of this command is: LOGOFF

The LOGOFF command releases system resources allocated to the logon ID address space, frees virtual memory, and terminates the address space.

In order to issue additional TSO commands, it will be necessary to issue the LOGON command again.

If a terminal is allowed to remain idle for a period of time, z/OS will automatically log a session off.

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## 6.1 Main ISPF Menu

Once the logon procedure has executed the ISPF command, TSO automatically calls up the main ISPF menu.

```
Menu Utilities Compilers Options Status Help

      SPF/E----- SPIFFY - PRIMARY OPTION MENU          IBM IPT VERSION 6.1
Option ==>

0 Settings      Terminal and user parameters          User ID . : #6001
1 View          Display source data or listings        Time. . . : 12:22
2 Edit          Create or change source data         Terminal. : 3278A
3 Utilities     Perform utility functions              Screen. . : 1
4 Foreground    Interactive language processing        Language. : ENGLISH
5 Batch         Submit job for language processing        Appl ID . : ISR
6 Command       Enter TSO or Workstation commands              TSO logon : XTUSER
7 Dialog Test   Perform dialog testing                          TSO prefix: #6001
9 SPIFFY VIEW   Display & opt. modify source                      System ID : SY51
CP CUSTOM PANEL Customized user panels for ISPF/PDF    MVS acct. :10020000
0 OLIST        Object/Data Set List                          Release . : ISPF 6.1
```

Enter X to Terminate using log/list defaults

All IDCAMS commands, such as LISTCAT, DEFINE, PRINT, can be executed from option 6.

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## 7 ISPF/PDF: Navigation

Options can be selected from the ISPF/PDF PRIMARY OPTION MENU.

Errors will appear in the message area in the upper right hand corner of the screen.

Select OPTION 3 and invoke the ENTER key.

```

----- ISPF/PDF PRIMARY OPTION MENU FOR z/OS -----
OPTION  ===> 3

0  ISPF PARMS  - Specify terminal and user parameters
1  BROWSE      - Display source data or output listings
2  EDIT        - Create or change source data
3  UTILITIES   - Perform utility functions
4  FOREGROUND  - Invoke language processors in foreground
      :                :
      :                :

```

Select OPTION 4 and invoke the ENTER key.

```

----- UTILITY SELECTION MENU -----
OPTION  ===> 4

1  LIBRARY      - Library utility:
                   Print index listing or entire data set
                   Print, rename, delete, or browse members
                   Compress data set
2  DATASET      - Data set utility:
                   Display data set information
                   Allocate, rename, or delete entire data set
                   Catalog or uncatalog data set
3  MOVE/COPY    - Move, copy, or promote members or data sets
4  DSLIST       - Data set list:
                   Print or display (to process) list of data set names
                   Print or display VTOC information
5  RESET        - Reset statistics for members of ISPF library
6  HARDCOPY     - Initiate hardcopy output
7  VTOC         - Display or print VTOC entries for a DASD volume
8  OUTLIST      - Display, delete, or print held job output
9  COMMANDS     - Create/change an application command table
10 CONVERT      - Convert old format menus/messages to new format
11 FORMAT       - Format definition for formatted data Edit/Browse

```

The user will be transferred to the following screen:

```
----- DATA SET LIST UTILITY -----
OPTION  ==>

blank - Display data set list *          P - Print data set list
V      - Display VTOC information only    PV - Print VTOC information only

Enter one or both of the parameters below:
DSNAME LEVEL ==> B039101
VOLUME      ==>

SPECIFY THE FOLLOWING, IF DISPLAYING A LIST OF DATA SETS:
DISPLAY FORMAT OPTION ==> QUICK  (QUICK, SHORT, or LONG)
CONFIRM DELETE REQUEST ==> YES  (YES or NO)

* The following line commands will be available when the list is displayed

B - Browse data set          C - Catalog data set
E - Edit data set           U - Uncatalog data set
D - Delete entire data set  P - Print entire data set
R - Rename entire data set  X - Print index listing
I - Data set information    M - Display member list
S - Data set information (short) Z - Compress data set
```

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## 7.1 Bypassing Panels

When managing datasets and developing applications, in many situations it will be more efficient to bypass and jump from panel to panel.

Entering a qualified menu code such as 3.4, will bypass the intermediate screens and present the final destination screen.

```
----- ISPF/PDF PRIMARY OPTION MENU FOR z/OS -----
OPTION  ==> 3.4

      0  ISPF PARMs  - Specify terminal and user parameters      USERID   - B9101
      1  BROWSE     - Display source data or output listings    TIME      - 16:15
      2  EDIT       - Create or change source data              TERMINAL  - 3278
      3  UTILITIES  - Perform utility functions                 PF KEYS   - 24
      4  FOREGROUND - Invoke language processors in foreground
          :          :          :
          :          :          :
```

This screen will navigate to the identical destination menu.

```
----- DATA SET LIST UTILITY -----
OPTION  ==>

      blank - Display data set list *          P - Print data set list
      V     - Display VTOC information only     PV - Print VTOC information only

Enter one or both of the parameters below:
DSNAME LEVEL  ==> B039101
VOLUME        ==>

SPECIFY THE FOLLOWING, IF DISPLAYING A LIST OF DATA SETS:
DISPLAY FORMAT OPTION ==> QUICK  (QUICK, SHORT, or LONG)
          :          :          :
          :          :          :
```

---

## 7.2 Moving from Panel to Panel

In order to jump from one screen to another, precede the menu codes with an "=" character.

Type in =2 in the OPTION ==> area of the screen and press the ENTER key.

This feature is referred to as jumping.

```

----- DATA SET LIST UTILITY -----
OPTION ==> =2

blank - Display data set list *      P - Print data set list
V     - Display VTOC information only  PV - Print VTOC information only

Enter one or both of the parameters below:
DSNAME LEVEL ==> B039101
VOLUME       ==>

SPECIFY THE FOLLOWING, IF DISPLAYING A LIST OF DATA SETS:
DISPLAY FORMAT OPTION ==> QUICK  (QUICK, SHORT, or LONG)
      :                   :                   :
      :                   :                   :

```

This will present a panel in the destination screen.

```

----- EDIT - ENTRY PANEL -----
COMMAND ==>

ISPF LIBRARY:
PROJECT ==> B039181
GROUP   ==> JCL           ==>           ==>           ==>
TYPE    ==> CNTL
MEMBER  ==>                (Blank for member selection list)

OTHER PARTITIONED OR SEQUENTIAL DATA SET:
DATA SET NAME ==>
VOLUME SERIAL ==>        (If not cataloged)
      :                   :                   :
      :                   :                   :

```

---

### **7.3 Returning from Lower Level to Higher Level Panels**

The following keystrokes will allow a user to return from lower level to higher panels.

- Press END (PF15/3) until the main menu is on screen; END goes back one level at a time.
- Press RETURN (PF16/4) in order to return to the Primary Panel.

Both END and RETURN save any work that has been performed before leaving a panel.

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## 8 Moving through ISPF

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### 8.1 Action Bar Pull-down Menus

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ISPF uses action bar pull-downs. The action bar is the area at the top of an ISPF panel that provides access to the actions available on that panel.

- With default settings, the Home key takes the user to the first action on the action bar.
- The tab key moves the user to the next action.

In order to select an action bar choice:

- Move the cursor using the tab key, arrow key, or mouse pointer under the option.
- Press the Enter key.

When an action bar choice is selected, ISPF displays an action bar pull-down menu. The pull-down allows the user to perform functions that in older versions of ISPF had been accomplished by issuing line commands on screens.

When exiting a pull-down action through the use of the escape key without having selected anything; the cursor will be placed on the first action bar item.

## 8.2 Action Bar Pull-down - Functionality

The action bar pull-down provides the capability to perform an additional function without having to end the present activity.

In order to allocate another dataset while editing a dataset:

1. Select the Utilities option from the EDIT panel action bar.

Upon invoking the Enter key from the action Bar with the cursor on Utilities, the following screen will be presented on screen.

```

      File   Edit   Confirm   Menu   Utilities   Reserved   Test   Help
-----
EDIT          CHERYL.CNTL(IEFB | 1.  Library           |s 0000
Command ==>          | 2.  Data Set          |o11 ==
*****          | 3.  Move/Copy         |*****
00001 //TSOCLW1      JOB .... | *.  Data Set List     |
                                           |          00002
//STEP1          EXEC PGM=IE   | 5.  Reset Statistics  |
00003 //          | ....                 |
-----
    
```

2. Select option 2 - Data Set by placing the cursor in front of or on the menu item or typing a '2' where the cursor is placed at the top of the pull-down list.

ISPF will then suspend the EDIT session and display the Data Set Utility panel. After the allocation is complete, ISPF returns the menu control directly back to the user EDIT session.

The Utilities pull-down eliminates the need to define a command in the command table for nesting ISPF functions.

---

## 9 TSO Help and ISPF/PDF Tutorials

TSO Help can be accessed through:

- Native Mode
- ISPF/PDF - Option 6

```
----- TSO COMMAND PROCESSOR -----  
ENTER TSO COMMAND OR CLIST BELOW:  
  
====> TSO HELP
```

---

### 9.1 ISPF/PDF Tutorials

When Primary Option Menu - Option T is not available; invoke 'PF1' on the Main menu.

```
----- ISPF TUTORIAL -----  
COMMAND ====>  
  
                ISPF PROGRAM DEVELOPMENT FACILITY  
  
                TUTORIAL  
  
This tutorial provides on-line information about the features and  
operation of the ISPF program development facility (ISPF/PDF). You may  
view the tutorial sequentially, or you may choose selected topics from  
lists that are displayed on many of the tutorial pages.  
  
The table of contents contains a list of major topics. Subsequent pages  
contain additional lists that lead you to more specific levels of detail.  
Topics may also be selected from the tutorial index.  
  
The next two pages contain a description of how to use this tutorial.  
  
Press ENTER key to proceed to the next page, or  
Enter UP command to go directly to the table of contents, or  
Enter END command to return to the primary option menu.  
----- CUR PANEL = ISR00000  PREV PANEL = ISR@PRIM  LAST MSG = FAMER988 -----
```

Invoke the Help Key (PF1/13) or HELP command from the following panel:

```

DSLISL - DATA SETS BEGINNING WITH B039181 ----- ROW 26 OF 27
COMMAND ==>                                     SCROLL ==> CSR
  DATA SET NAME                                LAST FUNCTION    VOLUME
-----
B039181.SYSED.SOURCE                            NSAW02
B039181.TSO.PANELS                              NSAW04
***** BOTTOM OF DATA *****

```

This will bring to screen help and tutorial information.

```

TUTORIAL ----- DISPLAYED LIST - AVAILABLE OPTIONS ----- TUTORIAL
OPTION ==>

```

After the list has been displayed, data sets may be selected for processing by entering a one character code to the left of the data set. The functions available are:

B - Browse data set	C - Catalog data set
E - Edit data set	U - Uncatalog data set
D - Delete entire data set	P - Print entire data set
R - Rename entire data set	X - Print index listing
I - Display data set information	M - Display member list
S - Display data set info (short)	Z - Compress data set

In order to obtain additional information when a short message is displayed, press F1.

---

## 10 ISPF Settings

In ISPF, some ISPFParms panels have been consolidated for a streamlined presentation.

By selecting option 0 from the Primary Options menu or specifying SETTINGS on any command line, the following panel will be displayed on screen:

```

Log/List  Functions  keys  Colors  Environ  GUI  Temporary  Help
-----
                                ISPF Settings

Select Options:                                Print Graphics Params:
  Enter "/" to select option                    Family printer type 2
  /  Command line at bottom                     Device name . . . .
  /  Panel display CUA mode                     Aspect ratio . . . . 0
  Long message in pop-up
  /  Tab to action bar choices
  Tab to point-and-shoot fields                General:
  /  Restore TEST/TRACE options                 Input field pad . . N
  Session Manager mode                         Command delimiter . ;
  /  Jump from leader dots
  Edit PRINTDS Command

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

Terminal type 3  1. 3277      3. 3278      5. 3290A     7. 3278CF     9. 3278KN
                 2. 3277A     4. 3278A     6. 3278T     8. 3277KN

Command ==>

```

A '/' preceding an item indicates that the function is active or turned on.

Move the cursor to Menu and press Enter.

```

Menu Utilities Compilers Options Status Help
-----
GISB Primary Option Menu
Option ==>

0 Settings      Terminal and user parameters      User ID . : B039181
1 View         Display source data or listings   Time. . . : 16:18
2 Edit         Create or change source data      Terminal. : 3278
3 Utilities    Perform utility functions         Screen. . : 1
4 Foreground   Interactive language processing   Language. : ENGLISH
5 Batch        Submit job for language processing Appl ID . : ISR
6 Command      Enter TSO or Workstation commands TSO logon : TS0GIS42
7 Dialog Test  Perform dialog testing            TSO prefix: B039181
8 LM Facility  Library administrator functions   System ID : GISB
9 IBM Products IBM program development products MVS acct. : 0391
10 SCLM        SW Configuration Library Manager  Release . : ISPF 4.2
11 Workplace  ISPF Object/Action Workplace

R ACF2          I IOF          XC XPEDITER/CICS 6.2
A ASM2          P PANVALET     XT XPEDITER/TSO 6.1
C DB2/Info Ctr S SDSF
D PDS           V VMCF
F Fileaid       Z SMP/E
Enter X to Terminate using log/list defaults

```

**Settings**

Select 1 and press enter.

```

Menu Utilities Compilers Options Status Help
-----
1. Settings      Primary Option Menu
2. View
3. Edit
4. ISPF Command Shell er parameters      User ID . : B039181
5. Dialog Test... data or listings   Time. . . : 16:18
6. Other IBM Products... e source data      Terminal. : 3278
7. SCLM          functions         Screen. . : 1
8. ISPF Workplace guage processing   Language. : ENGLISH
9. Status Area... language processing Appl ID . : ISR
10. Exit         rkstation commands TSO logon : TS0GIS42
'-----' testing TSO prefix: B039181
8 LM Facility    Library administrator functions   System ID : GISB
9 IBM Products  IBM program development products MVS acct. : 0391
10 SCLM         SW Configuration Library Manager  Release . : ISPF 4.2
11 Workplace    ISPF Object/Action Workplace

R ACF2          I IOF          XC XPEDITER/CICS 6.2
A ASM2          P PANVALET     XT XPEDITER/TSO 6.1
C DB2/Info Ctr S SDSF
D PDS           V VMCF
F Fileaid       Z SMP/E
Enter X to Terminate using log/list defaults

```

This screen is the settings panel.

```

Log/List  Function keys  Colors  Environ  Workstation  Identifier  Help
-----
                                ISPF Settings

Command ==>

Options                                Print Graphics
Enter "/" to select option              Family printer type 2
  Command line at bottom                 Device name . . . .
  Panel display CUA mode                 Aspect ratio . . . 0
  Long message in pop-up
/ Tab to action bar choices
  Tab to point-and-shoot fields          General
/ Restore TEST/TRACE options            Input field pad . . N
  Session Manager mode                   Command delimiter . ;
/ Jump from leader dots
  Edit PRINTDS Command
/ Always show split line

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

Terminal Type  3  1. 3277    3. 3278    5. 3290A  7. 3278CF  9. 3278KN
                2. 3277A   4. 3278A   6. 3278T  8. 3277KN
    
```

### 10.1 Panel Action Bar Choices

A pull-down choice from the action bar can be selected from the top of the ISPF Settings panel.

The action bar choices are:

Action Bar Choice	Explanation
Log/List	Defines the ISPF log and list dataset defaults and characteristics.  This also provides the JCL to print the data in the list dataset.
Function Keys	Defines the PF key settings.
Colors	Changes the default colors, defines the CUA attributes, and defines point-and-shoot characteristics.
Environ	Settings used to debug an ISPFabend.
GUI	Graphical User Interface settings.
Temporary	Turns on/off panel identifier and message identifier.  This can also be accomplished with the PANELID and MSGID commands from any panel.
Help	Help is available for all the Action Bar Choices and the options on the Settings panel.

---

## 10.2 Settings

The following settings are on the first ISPF Settings panel.

### **Command Line at Bottom**

With newer versions of ISPF, the default command line is at the bottom of the panel to conform to CUA standards.

If the current application profile table specifies ASIS, the ISPF default will not override the profile and the command line will remain at the top of the panel.

In order to change the location of the command line, enter or remove a '/' from the 'Command line at the bottom' line in the Settings panel.

In older versions of ISPF, the command line was placed at the top of the panel.

### **Panel Display CUA Mode**

If active, messages are displayed in a different sequence when the command line is at the bottom.

If this option is selected, the long message line is followed by the command line which is followed by the PF keys.

When this option is not selected, the lines are in reverse sequence.

### **Long Message in Pop-up**

If active, allows ISPF long messages to appear in a pop-up window instead of the long message line.

### **Tab to Action Bar Choices**

This settings option indicates where the cursor is first placed in a panel.

If this option is activated, the HOME key places the cursor under the first action bar choice and the TAB keys can be used to move between the action bar items and other input fields on the panel.

In order to move to the command line, use a new command, CRETRIEV, or the 'tab to new line' key.

If a PF key has been set up for RETRIEVE already, change it to CRETRIEV.

A PF key can also be set up for a command called ACTION. ACTION toggles the cursor back and forth between the action bar and the command line.

### **Tab to Point-and-Shoot Fields**

When selected this allows the Tab key to move to the point and shoot fields.

**Restore TEST/TRACE Options**

When active, the TEST or TRACE values are restored to the ISPF call values when exiting dialog test.

**Session Manager Mode**

When selected, this option informs ISPF whether to use the TSO Session Manager in Option 6. Using Session Manager mode allows a user to scroll up and down lists and long output from commands.

The TSO session must be established in Session Manager in order for it to be available in Option 6.

Specifying Session Manager to ISPF for a non Session Manager TSO session does nothing.

**Jump from Leader Dots**

The 'Jump from leader dots' is an option that allows the user to enter '=x' from any field prompt that has leader dots ' . . . . . ' Most people will want to leave this option selected.

**Edit PRINTDS**

If this is selected with a '/', a local print request will be intercepted before the command is processed.

---

## 11 ISPF: Keys

ISPF manages PF keys differently than previous versions of ISPF.

A keylist is a set of PF: Program Function key settings tailored for an application.

In the ISPF Settings panel, the pull-down menu for “Function keys” on the action bar consists of the following selections:

Item #	Menu Description
1	Global PF Key settings.
2	Keylist settings...
3	Tailor function key display.
4	Show all function keys.
5	Show partial function keys.
6	Remove function key display.
7	Disable keylists.
8	Enable keylist.

Only one of the items 4, 5, or 6 can be in effect and will have an “\*” instead of a number.

Only one of the items 7 and 8 can be in effect and will have an “\*” instead of a number.

The default is to enable keylists and show partial function keys. This will cause ISPF to have a different set of PF keys on each IBM-written panel. Some applications, such as HCD and BookManager, require these keylists.

---

## 11.1 Enabling and Disabling Keylists

### Disabling Keylists

The user can disable keylists in order to provide backward compatibility with the ISPF 3 technique by having a single set of global PF keys applied to all panels.

- In order to use the older ISPF technique, disable keylists for the applications.
- When using an application that requires keylists, activate keylists for that application.
- Keylists can also be enabled and disabled with the KEYLIST OFF and KEYLIST ON commands.

### Enabling Keylists

A user can enable keylists and learn about any PF key differences by looking at each panel and application.

If a change is made to a PF key while under one panel, it will only be in effect for that panel and no others.

If the currently displayed panel uses a keylist, an enhanced KEYS command will automatically enter the Keylist Change dialog for the keylist of the currently displayed panel.

---

## 12 ISPF: Point and Shoot Fields

Point and shoot fields have been added to the ISPF interface.

- If the cursor is positioned on a point and shoot field, invoking the Enter key performs the action specified by the field.
- If a command has already been placed in the command line, that command will be performed prior to the point and shoot field action.

In addition to the screen interface area, point and shoot fields and action bars have been implemented in the following areas:

Field	Explanation
Actions on pull down menus.	Place the cursor anywhere on the line of the selection and invoke ENTER. This will perform the action.
Selection titles on menu panels.	Menu panels that have action bars are set up with point and shoot fields.
Headings on member list panels.	Pointing to a heading title of a member list title and invoking ENTER will cause the list to sort in order by the field pointed to.
Member list items.	Place the cursor in the area in front of a member list item. Invoke ENTER to select the item.

---

## 13 ISPF Enhancements

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### 13.1 Underscores in Entry Fields

---

In order to remove underscores on the command line and data entry fields on panels, perform these steps:

1. Choose 'Options' on the action bar on the Main Menu.
2. Choose 2, 'CUA Attributes'.
3. Type over any entries of USCORE in the rightmost 'Highlight' column with NONE.
4. END out of the panel to save the changes.

---

### 13.2 Queuing on a Dataset

---

In order to find out which user is queued on a dataset, perform these steps:

1. Edit the dataset, the message "Data sets matching dsn in use" will appear.
2. Invoke PF1 (Help) to get the next message - "Data set dsn in use by another user, try later or enter HELP for a list of jobs and users allocated to dsn."
3. Invoke PF1 to see a list of users and or jobs that have the dataset allocated.

---

## 14 Terminating ISPF

In order to terminate ISPF, press the PF3 key repeatedly until the main menu is displayed. Select option X on this menu.

The =X command can be used. As with END and RETURN, data is saved before leaving the panel.

- =X, Field Mark and LOGOFF exits both ISPF and TSO.

```
----- DATA SET LIST UTILITY -----  
OPTION  ==>  
  
blank - Display data set list *          P - Print data set list  
V      - Display VTOC information only    PV - Print VTOC information only  
  
Enter one or both of the parameters below:  
DSNAME LEVEL  ==> =X;LOGOFF  
VOLUME        ==>  
              :                :                :  
              :                :                :  
              :                :                :
```

Notice that the Field Mark is displayed as a semi-colon.

The KEYS command will allow the user to change the PF key values.

---

## 15 Logoff

### Keying in Logoff

When outside of ISPF, the user will be in native TSO and there will be a READY prompt.

Type:

ENTER LOGOFF.

```
B039181.SPFLOG1.LIST HAS BEEN DELETED.  
READY  
LOGOFF
```

The beginning logo will appear on the screen.

Or the terminal can be turned off after entering Logoff.

The LOGOFF command cannot be entered in ISPF and should only be entered in TSO.