

Precosis Pty Ltd

Spool View

Spool display the way it should be

Version 3.0.0

For OS/400 version V6R1+

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1. Introduction

Spool View provides an attractive and useful alternative to OS/400's standard spool file display. It offers:

Display features:

- . Shows attributes as they would be printed - Page breaks, Line spacing, **Highlight** and Underline
- . Overlap printing optionally displayed

Scanning features:

- . Scan in **Same case** or **Mixed case**
- . Scan **Forward**, **Backward**, or on **First** or **Last** occurrence
- . Scanning is cursor position sensitive (similar to Source Entry Utility).

Screen formatting features:

- . **Single** input 'SEU like' command line **or dual** Control/Find input lines
- . **Full Screen mode** gives you up to 38% more viewing area
- . **Fold mode** wraps each line around to view entire records at once
- . **Hex mode** shows hexadecimal equivalents of printed characters.
- . **Full 132 column** display reduces the need to window left and right.

IPDS and AFPDS display features:

- . View Intelligent Print and Advanced Function Print functions such as **bar-codes** and **fonts**.

User configurable:

- . All screen formatting features can be saved according to User and will be restored the next time you display a spooled file.

2.1 How to Install

1. Sign on to the AS/400 as QSECOFR or a user profile having *ALLOBJ authority.
2. Create a save file, e.g. CRTSAVF QGPL/SAVF
3. On your PC start a DOS session, then transfer SV61.SAV to the AS/400 using the following FTP commands:

cd c:\temp (or the directory where sv61.sav resides)
ftp sysname (where **sysname** = your AS400 System Name – see footnote)
(enter user id, then password, as prompted by ftp)
bin (selects binary image transfer)
put sv61.sav qgpl/savf replace (copies file to AS400 save file)
quit (exit ftp)
exit (exit DOS session)

4. On the AS/400, check that the save file contains information:
DSPSAVF SAVF

5. Restore the product library:
RSTLIB SPLVIEW *SAVF SAVF(SAVF)

Or

RSTOBJ *ALL RMTVIEW *SAVF SAVF(SAVF) RSTLIB(*yourlib*)
where *yourlib* is your utility / programming tools library

6. Call the setup program. This will enable the demo mode of the product. (This mode displays only the first 5 pages of a spooled file):

CALL SPLVIEW/SVSETUP 'DEMO'
(or *yourlib*/SVSETUP)

End of procedure.

(Continue with section 'Quick Start Guide'.)

Footnote: If you don't know your 'system name' you can instead use the direct TCP/IP internet address of your AS/400. Do a CFGTCP then take option 1, then select an address which has a line type *ELAN. So the above FTP command would have the form of e.g. **ftp 192.168.10.30**

2.2 Quick Start Guide

Type the following command:
SV

Now display a spooled file in the usual manner and this product will run instead of the OS/400 spool display. Press F13 to configure the screen to make it more functional.

To get the most out of this, put it into Full Screen mode as follows:

Press F13, then select 'Control/Find = 1' and 'Full Screen = Y' and 'Show format line = N'. That way you can see a lot more.

Put a 'Y' in 'Update user defaults' to save your settings.

Other tip: Press F15 to scan backward and F9 to retrieve previous scan strings.

3.1 How to Uninstall

If you wish to revert to the standard OS/400 spooled file display you will need to 'uninstall'.

Use the following steps to uninstall the product:

1. Sign on as QSECOFR or a user profile having *ALLOBJ authority.
2. If you have activated this product using an alternative method mentioned in section 4.2 you must first undo those changes, otherwise proceed to step 3.
3. Call the setup program with the uninstall option (Note: If this fails to work, continue with the other steps, including 6 and 7) :

```
CALL SVSETUP 'U'
```

4. Check that nobody is using the library, i.e.:

```
WRKOBJLCK SPLVIEW *LIB
```

5. Delete the product library, i.e.:

```
DLTLIB SPLVIEW
```

Steps 6 and 7 are only required if option 3 failed.

6. Delete the activation command, i.e.:

```
DLTCMD QGPL/SV
```

7. Do a Work with Registration Information command, i.e.:

```
WRKREGINF
```

Then put an '8' beside the exit point entry 'QIBM_QCA_CHG_COMMAND', then use option '4' to delete all the entries that use 'SVCMEXT' as an exit program. There should be only 1 entry, although there may be up to 5 if a previous version of Spool View was on the system.

End of procedure.

3.2 How to Re-install with new software key.

This is something you will need to do if you receive a new software key.

Use the following steps to re-install the product:

1. Sign on as QSECOFR or a user profile having *ALLOBJ authority.
2. Add the product library to your current library list, i.e.:

```
ADDLIBLE SPLVIEW
```

3. Run the setup program to reinstall the product with the new code via the following command:

```
CALL SVSETUP 'software-key'
```

e.g.

```
CALL SVSETUP '1234567890ABCDEF'
```

4. Check the returned message. End of procedure.

3.3 How to Re-install with same software key.

This is something you will need to do if:

- a. You have renamed the product library.
- b. You wish to correct the state of the commands DSPSPLF, DSPFD, DSPFFD, DSPDBR and DSPPGMREF commands (see section 4.2)

Follow the steps given in section 3.2, replacing step 3 with:

3. Run the setup program to reinstall the product with the existing code via the following command:

```
CALL SVSETUP 'R'
```

End of procedure.

4 How to Activate / Deactivate

Before you use this product you will need to 'activate' it for your current job. To do this, execute the command:

```
SV
```

A message is returned: 'Spool View activated for current job.'

What this command does is cause a command exit point program to redirect the DSPSPLF command to the SPLVIEW library. This effectively overrides the OS/400's DSPSPLF command to a new processing program. Do a `WRKREGINF` then put an '8' beside the exit point entry 'QIBM_QCA_CHG_COMMAND' to see the override programs.

To deactivate the product from your job, execute the command with a 'D' parameter:

```
SV D
```

Message returned: 'Spool View deactivated for current job.'

Notes:

1. The command SV was duplicated into library QGPL at install time so it should be in your library list. If required this command may be moved to another library, or deleted and the SV command in the product library used instead.
2. Running this command affects only the library list of your current job. If other jobs need to use it they will need to execute the SV command themselves. This could be achieved by placing the SV command within their startup program.
3. It is not necessary to deactivate this product from your job as the product will be effectively deactivated when you sign off.

5. Operation

It will be assumed that you are already familiar with the standard OS/400 spool file display and ideally some of the scanning operations of Source Entry Utility (SEU) which this product imitates.

The best way to illustrate the differences between this product and OS/400 spool display is with an example. Refer to figure 1 which shows a sample print displayed using default settings. In this case the display appears very similar the OS/400's but with these differences:

1. The spool file name is given along with its job qualifier and spool number.
2. The display range is 1-132 instead of 1-130. This means you won't have to window left and right to see information sitting on page edges.
3. The format line shows the first 2 digits of the column (if > 10) instead of just the middle digit.
4. Example of highlighting. Two or more identical strings are overprinted.
5. Example of underlining. A row of underscores is overprinted on a string.
6. Example of overprinting. This cannot be viewed in the current mode.
7. A message appears indicating the presence of overprinting and/or special attributes.

The following Function keys are available:

- | | |
|-----|---|
| F1 | Display help on specific field or whole screen |
| F3 | Exit |
| F5 | Refresh screen without repositioning |
| F9 | Retrieve previous Control or Find string. Similar to SEU. |
| F10 | Display special attributes mode |
| F11 | Display fold mode |
| F12 | Exit |
| F13 | Display screen formatting options |
| F14 | Display scan options |
| F15 | Scan backward |
| F16 | Scan forward |
| F19 | Window left |
| F20 | Window right |
| F22 | Display hex mode |
| F24 | Display more function keys |

6. Show Specials mode

In figure 1 a message appeared at the base of the screen requesting that the user press F10 to view special or overprinting characters. Pressing F10 puts you into the 'Show Specials mode'. Show Specials mode does three things:

- (a) Shows the base text lines without overprinting characters

- (b) Shows the overprint characters on a separate line
- (c) Shows special attributes that come from Intelligent Print Data Streams (IPDS) and Advanced Function Printing Data Streams (AFPDS).

Figure 2 shows what is displayed when F10 is pressed:

1. A character is inserted at the start of each line to indicate the line type.:
 - blank* - this is a normal text line
 - 'O' - this is overprint line caused by characters clashing with the normal text line
 - 'S' - this is a special attributes line showing IPDS and AFPDS functions.
- Types O and S may be repeated several times for each normal text line.

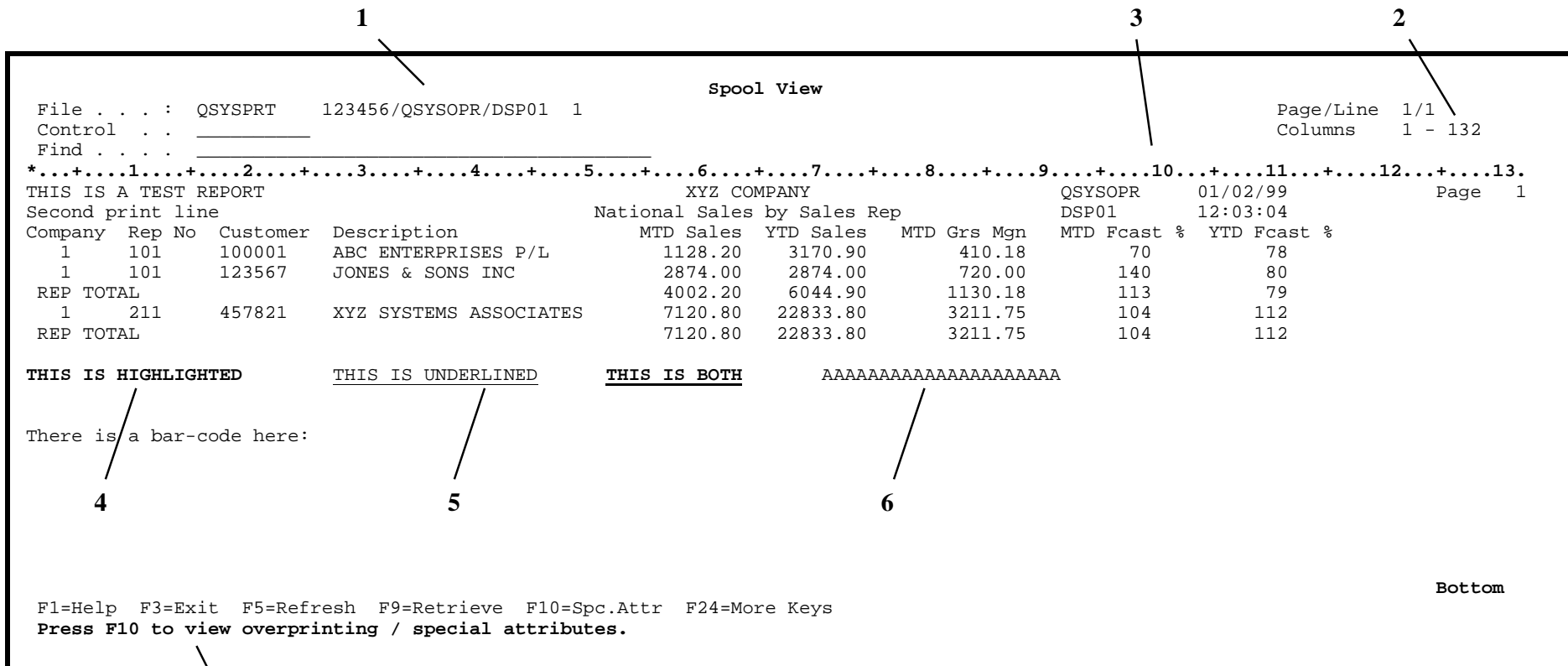


Figure 1.

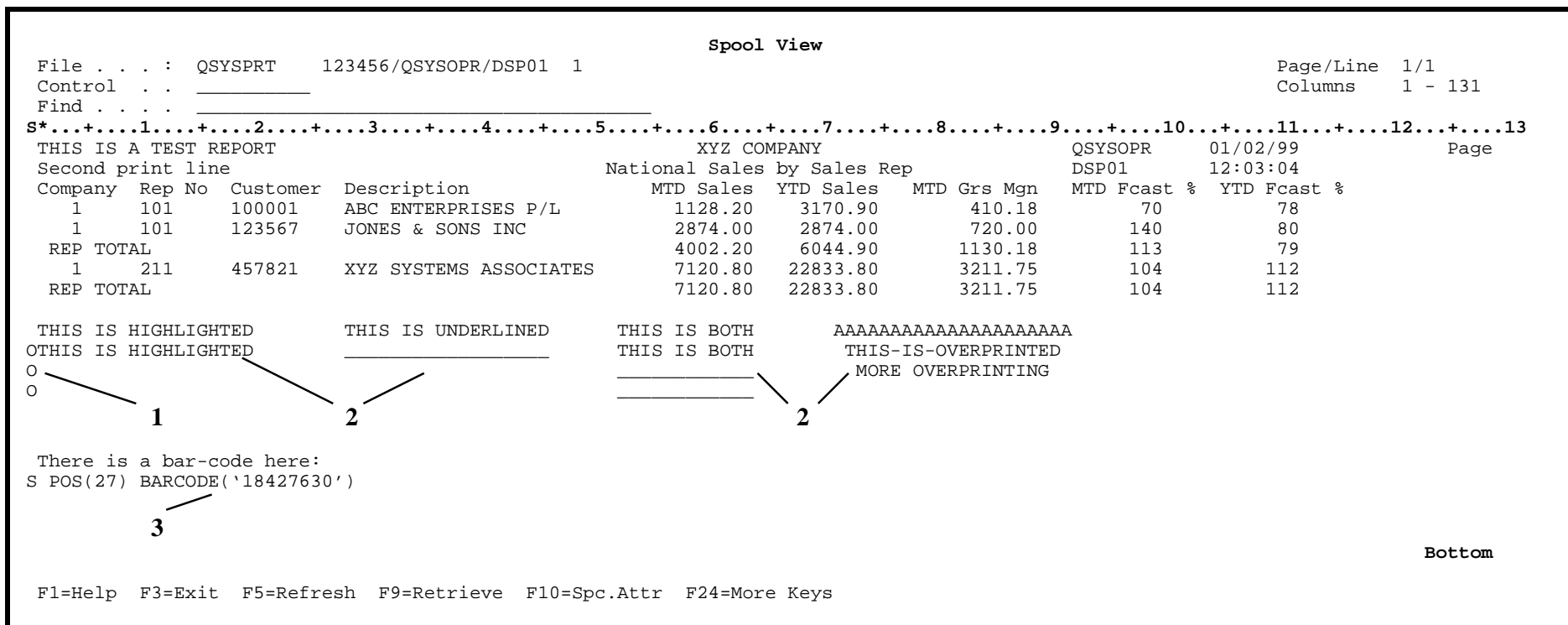


Figure 2.

2. Highlight, Underline and Overprinting are shown in an uncompressed form.

3. A bar-code is shown in symbolic form with type 'S'. Refer to section 6.1.2 for an explanation of this.

6.1 Special Attributes.

Currently only three types of special IPDS or AFPDS attributes are displayed: fonts, bar-codes and lines-per-inch values. This section explains the way each of them are formatted:

6.1.1 Fonts

There are three parts to the Font keyword: (a) the position, (b) the font number and (c) the bold attribute. Consider the following example. The below string is in a font of Courier except for the word 'example' which is in Courier Italic:

```
*...+...1...+...2...+...3...+...4...
  This is an example string.
```

(the italic text will actually display as normal)

In specials mode it would appear as follows:

```
S*...+...1...+...2...+...3...+...4...
  This is an example string.
S POS(1) FONT(11)
S POS(16) FONT(18)
S POS(28) FONT(11)
```

The POS(1) keyword tells us that at position 1 font number 11 (Courier) is activated. At position 16 font number 18 (Courier italic) is switched on for the word 'example' and at the end of this word, position 28, printing reverts to Courier again.

In IPDS and APFDS printing the Highlight attribute is simulated by changing the attribute on the font to bold. E.g. the string:

```
*...+...1...+...2...+...3...+...4...
  This is an example string.
```

in specials mode would appear as follows:

```
S*...+...1...+...2...+...3...+...4...
  This is an example string.
S POS(1) FONT(11)
S POS(16) FONT(11) BOLD
S POS(28) FONT(11)
```

6.1.2 Bar-codes

There are two parts to the Bar-code keyword: (a) the position and (b) the bar-code text string. The bar-code's style, orientation and height are not displayed. In figure 2 there is a bar-code starting at position 38 and having the text string '18427630'. If there is no text on the same line as the bar-code then a blank text normal-line will be inserted above the bar-code's special- line.

6.1.3 Lines-Per-Inch

The lines-per-inch keyword has the format

LPI (*value*)

where *value* represents a valid number for the keyword. There can only be one LPI value in the spool and all vertical print positions will be proportional to this keyword.

6.1.4 Characters-Per-Inch

The characters-per-inch keyword has the format

CPI (*value*)

where *value* represents a valid number for the keyword. This value occurs on *SCS spool files.

7. Fold mode

In fold mode print lines will be wrapped around ('folded') so as to fit within the limitations of the screen width. E.g. if you were viewing a 132 column report but your screen was only capable of displaying a maximum of 80 characters, then fold mode could be used to view entire records without having to window left and right.

Pressing F11 will put the screen into fold mode. Switching on fold mode will switch off the Show Specials mode and Show Hex mode. Fold mode may also be activated upon entering the spool file display by specifying FOLD(*YES) on the DSPSPLF command.

Below is an example of fold mode when the spooled file in figure 1 is displayed on an 80-column screen. In this example each 132-column print record is spread over one-and-a-half lines. OS/400's spool file display also has a fold mode, but it only shows one record at a time instead of multiple records per screen.

Spool View									
File . . . :	QSYSPRT	123456/QSYSOPR/DSP01	1	Page/Line	1/1				
Control . .				Columns	1 - 132				
Find									
*...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8									
...+...9...+...10...+...11...+...12...+...13.									
THIS IS A TEST REPORT					XYZ COMPANY				
QSYSOPR		01/02/99		Page	1				
Second print line		National Sales by Sales Rep							
DSP01		12:03:04							
Company	Rep No	Customer	Description	MTD Sales	YTD Sales	MTD			
Grs Mgn	MTD Fcast %	YTD Fcast %							
1	101	100001	ABC ENTERPRISES P/L	1128.20	3170.90				
410.18		70	78						
1	101	123567	JONES & SONS INC	2874.00	2874.00				
720.00		140	80						
REP TOTAL				4002.20	6044.90				
1130.18		113	79						
1	211	457821	XYZ SYSTEMS ASSOCIATES	7120.80	22833.80				
3211.75		104	112						
REP TOTAL				7120.80	22833.80				
Bottom									
F1=Help F3=Exit F5=Refresh F9=Retrieve F10=Spc.Attr F24=More Keys									

8. Hex mode

Hex mode shows the report in hexadecimal format. In this mode each report line will be followed by two lines showing the hex representation of the above characters in over/under format. This is similar to what is shown in DSPPFM when F10 then F11 are pressed. It is useful when viewing 'international' characters, which may display differently on different screens. It is also useful when diagnosing problems with DBCS because the characters cannot easily be distinguished.

Pressing F22 will put the screen into hex mode. Switching on hex mode will switch off the Show Specials mode and fold mode.

The below example shows hex mode when the spooled file in figure 1 is displayed on an 80-column screen. The lines are shifted right by one character, and the letter 'H' is put in front of the hex lines. Because of the extra hex lines, fewer records will display per screen.

[illegible]

9. Display Conditioning

Display conditioning is an important feature within this product as it allows the screen and spool display to be formatted according to each user's preference. Once the display options have been decided upon they may be saved and then automatically restored the next time this product is used.

Pressing F13 will bring up the display conditioning screen:

Display Conditioning:		Spool View	
Display screen size	<u>C</u>	N=Normal	C=Compressed
Control/Find entry fields	<u>2</u>	1=Combined	2=Separate
Full screen mode	<u>N</u>	Y/N	
Show format line	<u>Y</u>	Y/N	
Show blank lines	<u>N</u>	Y/N	
Show trailers	<u>N</u>	Y/N	
Page break	<u>0</u>	0=None 1=Solid underline 2=Broken underscore 3=Dots	
Update user defaults	<u>Y</u>		
F1=Help F3=Exit F12=Cancel Enter=Update/Return			

Explanation of fields:

Display size

Determines the size of the screen displayed. Valid values are:

C - Compressed (132x27) screen

N - Normal (80x24) screen

This field is ignored if compressed display is not available

Control/Find field

Determines whether the control/find fields will be separate or combined

1 - Combine the Control and Find fields into one field - 'SEU' style.

2 - Keep the Control and Find fields separate - standard OS/400 style.

Full Screen mode

Allows the unnecessary screen information to be removed so as to maximise the display area.

Y - Remove the first two heading lines and the function key display lines from the screen.

This gives an extra four lines of display.

N - Leave the header and function key displayed as per standard OS/400.

Show format line

The format line is the line that shows the column positions, i.e. '*...+...1...+' etc.

Y - Show the format line

N - Don't show the format.

If the format line is removed along with the options Show Full='Y' and Control/Find='1', an extra 6 lines of data will display.

Show blank lines

Allows blank lines (lines without printing) to be displayed. This makes the displayed report look more like the printed version.

Y - Display unprinted lines as blanks.

N - Don't display unprinted lines.

Show trailers

Allows trailing blank lines to be displayed. Trailing blanks are lines that sit between the last printed line on a page and the end of the page.

Y - Display trailing blank lines as blanks.

N - Don't display trailing blank lines.

Page break

Allows page breaks to be symbolically shown.

0 - Don't display page breaks

1 - Show page breaks as a solid underline

2 - Show page breaks as a broken underline

3 - Show page breaks as dots.

Update user defaults:

Allows the values set on this screen to be saved for the current user.

Y - Save the changes on this screen. The next time you use this product the values will be automatically restored.

blank - Don't save. Any changes made to this screen will be lost upon exiting the product.

Function keys available:

F1 Help

F3 Exit product

F12 Return to main screen ignoring any changes made

F14 Scan Options screen

Enter Accept changes and update if requested. Return to main screen.

10. Scanning

Spool View allows for character string scanning as does the OS/400 spool display. There are several major differences however between this product and its counterpart in that it:

1. Allows scanning to be done in mixed case.
2. Allows scanning to be done backward and forward.
3. Allows scans to start from the top or bottom of the file without first repositioning.
4. Scans based on cursor position.
5. Repositions the cursor to the found position.

To do a scan put a string in the Find or the Control/Find field and press either F16 for a forward scan or F15 for a backward scan. Scanning will start from the current cursor position and continue towards the top or bottom of the file. If the scan string is found on the currently displayed page the cursor will reposition to the start of the found string, otherwise the page will reposition with the found string on the second line of the page.

Controls on the scan such as case checking and column and page range checking may be done via the Scan Options screen - see section 11.

10.1 Scanning on First and Last occurrences

Scanning may be requested to start from the top or bottom of the file without having to first reposition the displayed page. This is done by adding the character 'F' (for first) or 'L' (for last) to the end of the scan string. This is similar to what would be done in SEU.

Examples:

crocodiles f_____

Scan for the string 'crocodiles' starting from the top of the spool file. Press F16 to scan.

'large crocodiles' F_____

Scan for the string 'large crocodiles' starting from the top of the spool file. The letter 'F' can be in any case. The quotes in this case are unnecessary.

'crocodiles f'_____

Scan for the string 'crocodiles f' from the current cursor position. Because the letter 'F' is enclosed in quotes it becomes part of the search string.

small crocodiles L_____

Scan for the string 'small crocodiles' starting from the current end of the spool file. You will need to press F15 here to scan backward. Pressing F16 will result in a not-found result.

11. Scan Options Screen

Pressing F14 will display the 'Scanning Options' screen as shown below. This screen allows you to do the following:

1. Specify if case checking is to be done.
2. Determine how found text will be positioned.
3. Restrict the column range of the scan
4. Restrict the page range of the scan.

Spool View		
<u>Scan options:</u>		
Find	_____	
Type of match	<u>2</u>	1 = Same case 2 = Ignore case
Position found text to line	<u>2</u>	1-16
Force screen reposition when found . .	<u>N</u>	Y/N
Column range	<u>1</u> - <u>132</u>	
Number of pages to scan	_____	blank = All
F1=Help F3=Exit F9=Retrieve F12=Cancel F15/F16=Scan Bwd/Fwd Enter=Return		

Explanation of fields:

Find string

The string that will be scanned for. The value of this field may also be saved for your next session via the Display Conditioning Screen.

Case match

Specifies whether character case checking is to be done. Valid values are:

- 1 - Compare the find string and the spool file data as is.
- 2 - Convert both the find string and the spool file data to upper case before comparing. This is the default.

Position found text to line

Specifies what line the screen and cursor should position themselves to when scan text is found. The action taken will depend on the next parameter.

Force screen reposition when found

Determines whether the screen or cursor will position itself when scan text is found and is located on the currently displayed page. Valid options are:

N - If a scan condition is found on the currently displayed page, reposition the cursor to the displayed text. Otherwise reposition the screen so the text is on the line specified by the above parameter.

Y - Always reposition the screen vertically to the line specified by the above parameter, even when the matching scan condition is on the currently displayed page.

Column range

Limits the column range that will be done on the scan. Scan strings will be done between the From and To columns inclusive.

Number of Pages to Scan

Limits the range of pages to be used in the scan. If a value is specified for this field, scanning will be done from the current (or starting) page to the starting page plus (or minus) this value less one. If no value is specified, there will be no page limit restrictions on the scan.

E.g. if the cursor were positioned on page 8 and the Number of Pages to Scan field had a value of 3, a forward scan would finish at the end of page 10 and a backward scan at the top of page 6.

Function keys available:

F1	Help
F3	Exit product
F12	Return to main screen ignoring any changes made
F13	Display Conditioning screen
F15	Start backward scan from bottom of screen
F16	Start forward scan from top of screen
Enter	Accept changes. Return to main screen.

12. Limitations

This product has the following limitations:

Page limit 20,000

A maximum of twenty thousand pages can be handled. If a spool file has more than 20,000 pages a warning message will display and no further pages will be loaded.

Line limit 1,000,000

A maximum of one million print lines can be loaded. Print lines do not include blank lines containing no data. If more than 1,000,000 lines are attempted to be loaded, a warning message will display and no further data will load. Note: Spool files which contain more than a million lines can still be displayed but not in their entirety. I.E. you could jump to the bottom or any selected page of that spool but you could not scroll through or scan the whole file in one session. If you wish to scan a spool larger than this you will need to do it in two goes using the 'Number of pages to scan' option shown in section 11.

Output from commands DSPFD, DSPFFD, DSPDBR and DSPPGMREF

When one of these commands are used with the OUTPUT(*) (display) option, the output will use the system DSPSPLF, rather instead of this product. At the present time the only way around this is to use OUTPUT(*PRINT) and then view the generated spool file. [Note: this

was not a problem prior to V6R1 because it could be overcome by having this product call the applicable command processing programs in *PRINT mode, then display the spool file immediately afterward. Unfortunately due to restrictions in V6R1 this is no longer possible hence this feature was removed.]

13. Changing System Defaults

When a user first enters this product, the screen will be formatted according to a set of system defaults. These defaults form the initial values of the Display Conditioning Screen (see section 9). A user may override these defaults by modifying the selections on the Display Conditioning Screen and specifying a 'Y' in the 'Update User Defaults' field.

When you first install this product the defaults will be set to imitate OS/400's spooled file display. These defaults may be modified by calling this program:

```
ADDLIBLE SPLVIEW
CALL SVCNFIG
```

The below screen is displayed. Make the desired changes and press enter.

Spool View - Configure		
Set System defaults:		
Scan case match check	<u>2</u>	1=Same case 2=Ignore case
Position found text to line	<u>2</u>	1-16
Force screen reposition when found . .	<u>N</u>	Y/N
Display screen size	<u>C</u>	N=Normal C=Compressed
Control/Find entry fields	<u>2</u>	1=Combined 2=Separate
Full screen mode	<u>N</u>	Y/N
Show format line	<u>Y</u>	Y/N
Show blank lines	<u>N</u>	Y/N
Show trailers	<u>N</u>	Y/N
Page break	<u>0</u>	0=None 1=Solid underline 2=Broken underscore 3=Dots
F1=Help F3=Exit Enter=Update		

14. The Control User Space

This product has a user space named SVCTLUS which contains information necessary to make the product work. There are two sections to the user space: (a) The header block, which contains information like version number and Security code and (b) The User formatting defaults array.

To view the contents of the user space type the following command:

```
DMPOBJ SVCTLUS *USRSPC
```

This user space is normally updated via the setup program and the main display program. There may be occasions when you need to make changes to the control user space e.g. to do a mass update on user defaults.

To change the contents of the user space you may need to use the system supplied API programs QUSRTVUS and QUSCHGUS. These are listed in the API reference manuals.

The user space area has a total length of 65536 (64K) bytes with the following format:

Offset	Length	Description	Remarks
1	Bin 4	Size of user space	Set at 65536 bytes. DO NOT CHANGE
5	Bin 4	Offset to User defaults array	Set at 64 (pos 65). DO NOT CHANGE
9	Bin 2	Size of User deft array element	Set at 22 bytes. DO NOT CHANGE
11	Bin 2	Number of array elements	
13	A 1	Filler	Blank
14	A 6	Version/Release/Modification	eg. '010203' is version 1.02.03
20	A 1	Filler	Blank
21	A 16	Security code	16 hexadecimal characters
37	A 1	Filler	Blank
38	A 8	Copy of serial number	Reference only.
46	A 19	Filler	Hex zeros
--- Start of user defaults array ---			
65	A 22	System defaults array entry	
87	A 22	1st user defaults array entry	
109	A 22	2nd user defaults array entry	
131	A 22	3rd user defaults array entry etc.	

Each array element has a length of 22 bytes with the following format:

Offset	Length	Description	Remarks
1	A 10	User ID	First element has '*SYSVAL'
11	A 1	Scan case match	1 or 2
12	A 1	Screen size	N or C
13	A 1	Control/Find fields	1 or 2
14	A 1	Show full screen	Y or N
15	A 1	Show format line	Y or N
16	A 1	Show blank lines	Y or N
17	A 1	Show trailers at page end	Y or N
18	A 1	Page separator	0, 1, 2 or 3
19	A 1	Filler	Hex zero
20	S 2,0	Position found text to line	01 to 16
22	A 1	Force screen reposn when found	Y or N

The total size of the user space allows for up to 2970 users. The first array element is reserved for the system defaults entry and has a user ID with the value of '*SYSVAL'. If you are adding or removing array elements, remember to also update the 'Number of array elements' (pos 11).

15. Conditions of Use

To legally use this product you must register it. Without registration, this product may not be used beyond the date allowed for by a time-trial security code (software key) supplied by Precosis Pty Ltd, unless it is used in a manner allowed for by the demonstration version of the product. With registration it may only be used as a permanent version on the machines to which it is registered.

To Register

See the attached emailed or Internet document for details on registering this product.

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