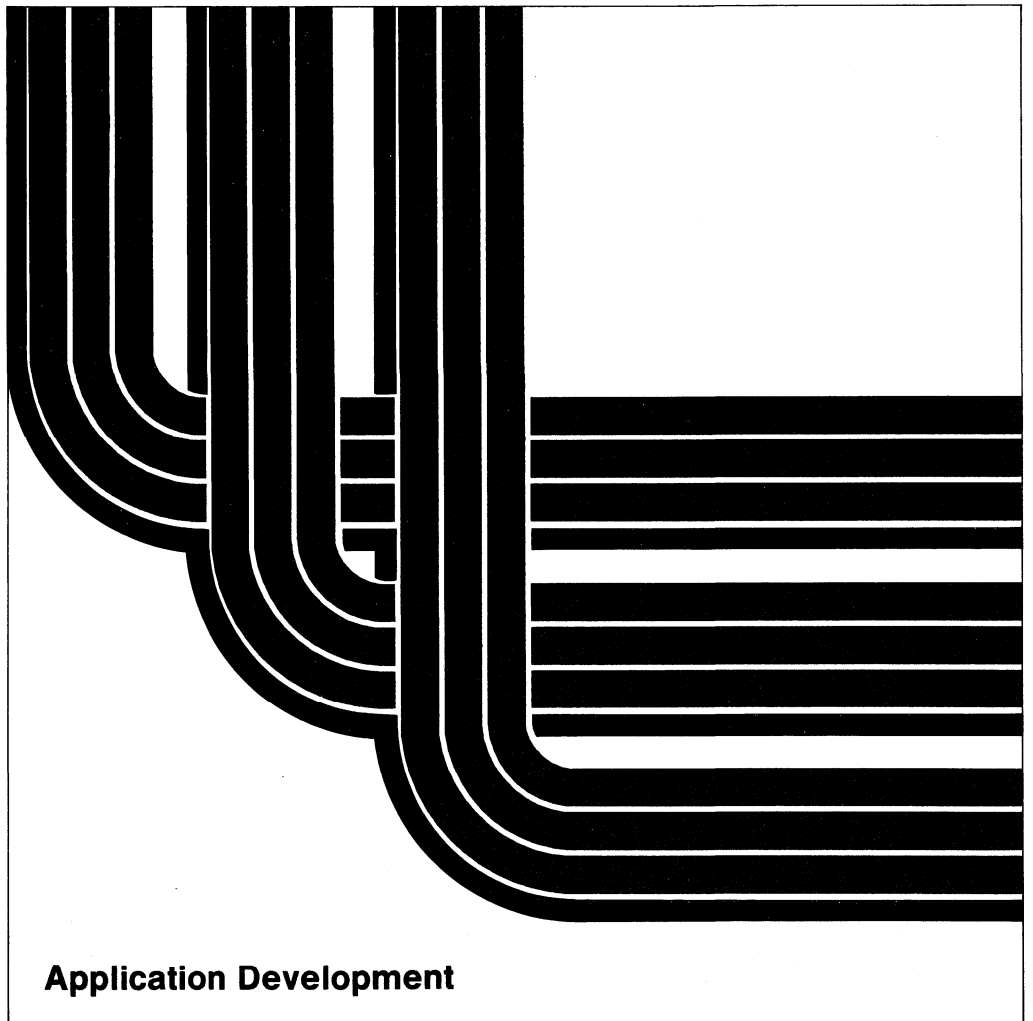


**Application Development Tools:
Report Layout Utility
User's Guide and Reference**

Version 2





Application System/400

SC09-1416-01

**Application Development Tools:
Report Layout Utility
User's Guide and Reference**

Version 2

Take Note!

Before using this information and the product it supports, be sure to read the general information under "Notices" on page vii.

Second Edition (September 1992)

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Changes or additions to the text are indicated by a vertical line (|) to the left of the change or addition.

Refer to the "Summary of Changes" on page xi for a summary of changes made to the Report Layout Utility and how they are described in this publication.

This publication contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

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About This Manual

This manual contains exercises and reference information to help you learn how to use the Report Layout Utility (RLU).

This manual contains information on:

- Starting RLU
- Creating and editing source members
- Using record formats and fields for your report designs
- Defining characteristics of printer files
- Saving report designs as Data Description Specifications (DDS) source members
- Printing prototypes of the reports.

This manual also contains an example of designing a report.

This manual does not describe all the functions of RLU.

You may need to refer to other IBM manuals for more specific information about a particular topic. The *Publications Guide*, GC41-9678, provides information on all the manuals in the AS/400 library.

For a list of related publications, see the "Bibliography" on page 217.

Who Should Use This Manual

This manual is intended for application programmers and system programmers who work in an AS/400 environment. To use this manual effectively, you must know how to use your work station, understand and use messages, and have a general knowledge of the AS/400 system.

If you are unfamiliar with your work station, refer to the specific manual for it. If you are unfamiliar with the AS/400 system, use the *System Operator's Guide*, SC41-8082.

Summary of Changes

The following enhancements have been made to RLU:

- The HIDE command has been added so that you can hide records on the Design Report display. For more information, see “Excluding, Showing, and Hiding Lines” on page 38.

- The appearance of the source member that you create has been modified.

Sample data lines in the source member are now prefixed by the characters %%SN. If you change the default sample data for your report, the sample data is saved in the member in the following format:

```
%%SN <field name> <sample data>
```

The field name is a 10-character name that is padded with blanks (if required).

The appearance of the CRTPRTF command in the source member has been simplified. Each parameter for the command is on a separate line in the file, and only parameters for which the default value is not used are listed. For an example source member, see “Example Source” on page 90.

- The Define Constant (DC) line command has been added so that you can define constants on the Design Report display. For more information, see “Defining Fields Using Line Commands” on page 114 and “Example: Defining Constant Fields by Using a Line Command” on page 117.
- You can type some keywords directly on the Design Report display to define constant fields for the date, time, and page numbering of a report. For more information, see “Defining Constant Fields by Using Keyword Constants” on page 118.
- The setting of default values for the *Library*, *File*, and *Record* prompts on the Specify Referenced Field display and the Add Database Field display is changed. For more information, see “Using the Define (or Specify) Field Information Display and a Keyword” on page 136 and “Adding Fields to the List” on page 139.
- When you specify a database reference field, you can use the character &. You can also delete the field from the report design and add it again from a list displayed on the Design Report display. For more information, see “Adding Database References to the Field Line” on page 146.
- The values that you specify for the *Job description* prompt on the Exit display are used for both the job description and the prototype report, when you submit the job to batch. In addition, this prompt has a new value, *RLU. You can specify this value so that RLU specifies its own job description for the batch job. For more information, see “Creating a Printer File” on page 155 and “Creating a Prototype of the Report” on page 155.
- The Work with Record Keywords display and the Work with Field Keywords display have been modified so that you can specify the following keywords:
 - CDEFNT to specify a coded font for a specific field or for all the fields in a record. You specify the coded font on the Specify Coded Font display. For more information, see “Coded Font (CDEFNT)” on page 162.
 - FNTCHRSET to specify a font character set for a specific field or for all the fields in a record. You specify the font character set on the Specify

Font Character Set display and the Select Code Page display. For more information, see “Font Character Set (FNTCHRSET)” on page 174.

- IGCCDEFNT to specify a DBCS coded font for a specific field or for all the fields in a record. You specify the DBCS coded font on the Specify DBCS Coded Font display. For more information, see “DBCS Coded Font (IGCCDEFNT)” on page 178.

Note: The IGCCDEFNT keyword appears on the Work with Record Keywords display and the Work with Field Keywords display only on DBCS-capable systems.

- The DATE keyword now accepts the *JOB and *SYS parameters. You use the *JOB parameter to display the current job date, and the *SYS parameter to display the current system date. The Specify Date display has been added for you to specify this keyword. For more information, see “Date (DATE)” on page 167.
- The DDS keyword LPI accepts a value of 12 lines per inch so you can use a 6-point font and maintain the correct number of lines per inch. For more information, see “Lines Per Inch (LPI)” on page 181.
- The *Print quality* prompt on the Specify Print Quality display supports a new value, 4=Fast draft. You can specify this value to send print files to the 4230 printer. For more information, see “Print Quality (PRTQLTY)” on page 185.
- RLU tolerates the DDS keywords that are required for Advanced Function Printing Data Stream (AFPDS) support. For more information, see “RLU-Tolerated Advanced Function Printing Data Stream Keywords” on page 195. In addition, the *Printer device type* prompt of the Change Session Defaults display accepts the value 3=AFPDS so that you can send your report to an AFPDS printer.
- The Design Report display indicates whether the base or the alternative set of function keys is active by displaying either BASE or ALT on the third line.
- RLU supports the DBCS-graphic data type. You can:
 - Create DBCS-graphic fields. On DBCS-capable systems, the Define Field Information display shows 5=Graphic for the *Data type* prompt. On DBCS-capable work stations, you can create DBCS-graphic constants.
 - Specify DBCS-only DDS keywords on an SBCS system by using the fastpath.

For more information on using DBCS data in RLU, see Appendix D, “Double-Byte Character Set Considerations” on page 215.
- You can use RLU on the following DBCS-capable work stations:
 - 5555-G01
 - 5555-G02.
- You can change the default record format spacing keyword assigned by RLU. For more information on specifying record format spacing, refer to “Changing Your Edit Session Environment” on page 34 and “Specifying Record Format Spacing” on page 55.

Chapter 1. Introducing the Report Layout Utility

Using the Report Layout Utility (RLU), a part of the Application Development Tools package, you can create and edit source members on the Application System/400* (AS/400*) system. RLU source members in source physical files contain the printer file Data Description Specifications (DDS) for a report design that you lay out by using RLU. The report design looks like an actual listing you generate with a high-level-language (HLL) program.

Using RLU, you specify the information required for DDS, and RLU creates or changes the source member. You can also print your report design or compile your source member to create a printer file. Your application can then use the printer file to print reports in the format you designed.

This chapter describes the use of RLU, its terms and features, and the basic procedures involved in designing reports.

How RLU Works

RLU helps you design a report in two ways. You either enter an image on a work screen while RLU interprets your design and defines basic DDS for you, or you define DDS by specifying the appropriate information while RLU builds an image on the work screen based on the DDS.

In both cases, you are simultaneously creating an image on the work screen (the report design) and the DDS source statements that describe the report design. You can print a prototype of your report, save it as an RLU source member, and create a printer file from the source member.

Terms

To use RLU effectively, you should understand the following terms.

Designing and Prototyping

RLU allows you to do both of the following:

- **Design** a report by defining it on the work screen, saving it as DDS source, and creating a printer file
- **Prototype** a report by printing the report design at any time to make sure that it represents your desired result.

DDS Keywords

You do not need extensive knowledge of DDS coding forms or syntax to use RLU. You should, however, understand that DDS uses a set of special words to define your report design. These special words are called **keywords**. Keywords associated with a field are called field-level keywords, keywords associated with a record format are called record-level keywords, and keywords associated with an entire printer file are called file-level keywords.

The Design Report Display

The work screen in RLU is called the Design Report display. By typing and editing text on this display, and by defining the DDS that RLU generates for the image on this display, you design a report.

Figure 1 shows you what a report design looks like on the Design Report display before you specify any of the information necessary for DDS.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
00004 . Dept Employee Name                      Phone   Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
```

Figure 1. Design Report Display

See “The Design Report Display” on page 27 for more information about the Design Report display and how you use it.

Lines on the Design Report Display

The lines of text and blank lines that make up your report design on the Design Report display have two important aspects: the sequence number and the line type.

Sequence Numbers: Each line of a report design on the Design Report display has two parts: a sequence number and the record itself. The number of each line depends on the relative sequence of the line on each user-defined page of the report design. The report design shown in Figure 1 consists of only one page.

Line Types: In order for RLU to interpret the data that you type on the Design Report display and to create DDS for a report design, you must define each line of your report design as a report line, a filler line, or a sample line.

You can also define temporary records on the Design Report display. You use these records, called field lines, when you want to edit the fields in a record.

Report Lines: The DDS for a report design groups fields into record formats and record formats into a file. Any line on the Design Report display defined in DDS as part of a record format is a **report** line.

You define a line as a report line by including it in a record format, and you define a group of lines on the Design Report display as a record format by using an RLU line command.

On the Design Report display, RLU indicates that a line is defined as a report line by showing one of the following in the sequence number area:

- The name of the record format if the line is the first report line in the record format
- + if the line is a continuation line (not the first report line in the record format).

Figure 2 shows a report design on the Design Report display with report lines defined.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  .... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name          Phone   Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 2. Report Lines

See “Defining Record Formats” on page 93 for more information about defining record formats.

Filler Lines: All the lines in a report design on the Design Report display are initially **filler** lines, but any line that separates record formats you define, and that is not defined in the DDS source as part of a record format, remains a filler line. Note, however, that the DDS records the number of filler lines you include between record formats.

You leave a line as a filler line by including it in your report design on the Design Report display, but not defining it as a report line or a sample line.

On the Design Report display, RLU indicates that a line is still a filler line by showing . in the sequence number area.

Figure 3 on page 4 shows a report design on the Design Report display with filler lines defined.

```

Columns . . . :   1 71          Design Report          RPTLIB/RPTFILE
RLU=>
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 .
00003 .
RCD002 Dept Employee Name                               Phone   Status
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn   x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 3. Filler Lines

Sample Lines: Any line that contains sample data associated with the fields in a record format you define is called a **sample** line. The purpose of sample lines is to give your report design a more realistic appearance, but RLU does not generate any DDS associated with sample data in the source member.

RLU can automatically create lines of sample data for you. You can use a line command to create sample lines on the Design Report display, and you can define existing lines as sample lines with another line command.

RLU indicates that a line is defined as a sample line by showing S in the sequence number area.

Figure 4 on page 5 shows a report design on the Design Report display with some sample lines created for the fields in a record format.

```

Columns . . . :   1 71          Design Report          RPTLIB/RPTFILE
RLU==>
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 .
00003 .
RCD002 Dept Employee Name                               Phone   Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn   x
00006 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  XXXXX   X
00007 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  XXXXX   X
00008 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  XXXXX   X
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 4. Sample Lines

See “Creating Sample Data” on page 120 for more information about creating sample lines for your report design.

Field Lines: Temporary records that you can display on the Design Report display above a report line to indicate the field boundaries in the record and to edit the fields in the record are called **field** lines. Field lines do not become part of the report design or the source member.

Depending on the defaults for your current RLU session, field lines appear when you define fields or when you specifically request the field lines by using a line command.

Figure 5 on page 6 shows a report design with the field lines displayed for every record. The FLD1 in the sequence number area indicates the field line.

```

Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU=>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
RCD001 ABC Company - Employee Directory
00002 .
00003 .
FLD1  <.> <.....>          <...> <...>
RCD002 Dept Employee Name          Phone   Status
FLD1  <.> <.....>          <...>   *
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 5. Field Lines

Use the Insert and Delete keys on the field lines to edit the fields in the associated records. By editing the field lines, you can perform the following operations:

- Change the position of a field
- Change the length of a field
- Define special constants
- Define referenced fields.

See “Editing Fields Using a Field Line” on page 127 for information about editing fields using the field line.

See “Defining Constant Fields by Using Keyword Constants” on page 118 for information about using the field line to create special constants.

You can also edit the field line by typing reference numbers in the appropriate positions to add referenced database field definitions to your source member. See “Using a List of Database Fields and a Field Line” on page 139 for information about using the field line to reference database fields.

Hidden Field Lines: When a field on a report line is overlaid by another field, and you request field lines, you see a second field line immediately above the first field line. The second field line shows fields overlaid by another field only. You can edit the second field line.

When a field on a report line is overlaid by two or more other fields, you see a third field line immediately above the first and second field lines. The third field line shows fields overlaid by two or more other fields only. You cannot edit the third field line.

Figure 6 on page 7 shows a record with both hidden field lines displayed. The FLD2 and FLD3 in the sequence number area indicate the second and third field lines.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1 <.....>
RCD001 ABC Company - Employee Directory
00002 .
00003 .
FLD3          &&&&
FLD2          <.....>
FLD1 <.> <.....>
RCD002 Dept Employee Name          Phone      Status
FLD1 <.> <.....>          <.>      *
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 6. Hidden Field Lines

RLU Features

To edit your report design, RLU provides the following features, all of which you use either on the Design Report display or reach directly from the Design Report display.

Sequence Line Commands

You can use line commands on the Design Report display by typing the command in the sequence number area of the appropriate line or lines.

Use line commands to perform the following:

- Position your view
- Window
- Display a columns ruler, a format line, or a tabs line
- Copy lines
- Move lines
- Repeat lines
- Insert lines
- Set and insert skeleton lines
- Exclude lines
- Delete lines
- Shift data to the left and the right
- Define a record format
- Change a line type
- Define a new page
- Define a field (either named or constant)
- Center fields
- Space fields evenly
- Create sample data
- View field lines.

Figure 7 contains an alphabetical list of the RLU sequence line commands, and the page numbers of descriptions of each command.

Figure 7. Sequence Line Commands

Command	Description
Center Field (CF)	“Centering Fields” on page 130
Change Line (CLx)	“Changing Line Types” on page 103
Copy Line (C)	“Copying Lines” on page 45 and “Example: Copying Lines in a Record Format” on page 97
Define Constant (DC)	“Defining Fields Using Line Commands” on page 114 and “Example: Defining Constant Fields by Using a Line Command” on page 117
Define Field (DF)	“Defining Fields Using Line Commands” on page 114 and “Example: Defining Named Fields by Using a Line Command” on page 115
Define Record (DR)	“Defining Record Formats” on page 93
Delete Line (D)	“Deleting Lines” on page 47 and “Example: Deleting Lines in a Record Format” on page 100
Exclude Line (X)	“Excluding, Showing, and Hiding Lines” on page 38
Format Line (F or COLS)	“Showing Column Numbers” on page 41
Insert Line (I)	“Inserting Lines” on page 47
Move Line (M)	“Moving Lines” on page 46
New Page (NP)	“Specifying Page Breaks” on page 101
Prompt Line	“Prompting” on page 42
Repeat Line (RP)	“Repeating Lines” on page 46
Sample Data (SD)	“Creating Sample Data” on page 120 and “Example: Creating Sample Data” on page 121
Shift Line (L or R)	“Shifting Data” on page 39
Show Line (S)	“Excluding, Showing, and Hiding Lines” on page 38
Skeleton Line (S)	“Defining and Inserting Skeleton Lines” on page 43
Space Field (SP)	“Evenly Spacing Fields” on page 131
Tabs Line (TABS)	“Showing and Setting Tabs” on page 43
Vertical Position (n)	“Vertical Positioning” on page 37
View Field (VF)	“Editing Fields Using a Field Line” on page 127
Window (W)	“Creating a Horizontal Window” on page 40.

Command Line Commands

You can use session-specific display commands on the Design Report display by typing the command in the command line at the top of the display.

Use display commands to perform the following operations:

- Position the display
- Change editing options on the display
- Find character strings in the report design
- Change character strings you find
- Hide lines
- Save changes to the report design and exit RLU or continue editing
- Exit from RLU without saving changes.

Figure 8 contains an alphabetical list of the RLU display commands, and the page numbers of descriptions of each command.

Figure 8. Command Line Commands

Command	Description
BOTTOM	"Vertical Positioning" on page 37
CANCEL	"Using the CANCEL Command" on page 157
CHANGE	"Using the CHANGE Command" on page 50
FILE	"Using the FILE Command" on page 158
FIND	"Using the FIND Command" on page 49
HIDE	"Excluding, Showing, and Hiding Lines" on page 38
SAVE	"Using the SAVE Command" on page 157
SET	"Using Commands to Tailor Your Edit Session" on page 36 and "Tailoring Your FIND/CHANGE Operations" on page 51
TOP	"Vertical Positioning" on page 37.

Control Language Commands

You can press F21 = System command to display a window that allows you to enter control language (CL) commands on the RLU work screen.

See "Entering Control Language Commands" on page 33 for more information about entering system commands during an RLU session.

Function Keys

You can press the appropriate function key to perform the following operations:

- Specify keywords for a record format
- Create or change a field definition
- Mark an area of data to move or copy
- Copy a marked area of data to another location
- Move a marked area of data to another location
- Specify keywords for a field
- Create a list of database fields to display and include in your report design

- Delete a field
- Work with a list of all the fields in a record format
- Set indicators to condition fields and keywords
- Specify keywords for your printer file.

Note that for most of the operations in this list, you use additional RLU displays. Pressing the appropriate function key causes the associated display to appear.

Figure 9 contains a brief description of the function keys available in RLU. These function keys are not available on every display. For a list of all available function keys on individual displays, press Help. Detailed definitions of the available function keys are in numerical order.

Generally a function key is valid on a specific display only if it is listed at the bottom of the display. Some keys, however, such as F1=Help, Help, and Enter are never listed, but are always valid.

If you are using full screen mode on the Design Report display, the full set of function keys for that display is valid, even though they are not shown. For more information, see "Using Full Screen Mode" on page 54.

See "Function Keys on the Design Report Display" on page 29 for a complete list of the functions keys available on the Design Report display.

Note: The Browse display only appears in a split edit/browse session. When a function key in Figure 9 is described as being on the Browse display, the session is always a split edit/browse.

Figure 9 (Page 1 of 5). Description of Function Keys

Function Key	Name of Function Key	Description
F1	Help	Displays online help information about a display or a prompt on a display. Valid from all displays.
F3	Exit	Ends your current display and displays the Exit RLU display. Valid from the base keys on the Design Report and Browse displays. Ends your current display and returns the previous display. Valid from the Display Database Field Description display and the alternative keys on the Design Report display. Displays the Design Report display. Valid from the Work with Database Fields display, and from displays for individual keywords. Ends the current function without saving your work. The Design Report display appears. Valid from all other RLU displays.
F4	Fields	Displays a list of all the fields within the record format. To work with a field, select it from the list. Valid from the base keys on the Design Report display.
F4	Prompt	Displays the possible values for a prompt. Valid from the Add Database Fields display, the Work with Database Fields display, and from some displays for individual keywords.

Figure 9 (Page 2 of 5). Description of Function Keys

Function Key	Name of Function Key	Description
		Displays the line on which the cursor is located in the lower portion of the display. You can then edit the line on which you pressed F4. Valid from the alternative keys on the Design Report display.
F5	Refresh	Clears your current display of all the changes you made since you last initiated processing by pressing Enter or a function key. Valid from most RLU displays.
F6	Condition display	Displays the Condition Design Report display, on which you specify field and keyword conditioning for your current report. Valid from the base keys on the Design Report and Browse displays.
	Move split line	Splits the display at the cursor position. Valid from the alternative keys on the Design Report and Browse displays.
F9	Input keyword parameters	Displays the Input Keywords display, on which you specify new keywords, and change the parameters and indicators for previously specified keywords. Valid from keyword list displays.
	Retrieve	Retrieves the last command you entered in the display command line. Valid from the base and alternative keys on the Design Report and Browse displays.
	Work with keywords	Displays a work with keywords display, on which you can specify additional keywords. Valid from fastpath displays.
F10	Database fields	Displays the Work with Database Fields display, on which you select database fields to include in your current report. Valid from the base keys on the Design Report and Browse displays.
	Cursor	Moves the cursor to the command line on the Design Report display. Valid from the alternative keys on the Design Report and Browse displays.
	Rename record	Displays the Rename Record Format display, on which you rename the record. Valid from the Input Record Keywords and Work with Record Keywords displays.
	Specify information	Displays the Specify Field Information display. Valid from the Input Field Keywords and Work with Field Keywords displays.
	Work with keywords	Displays the Work with Field Keywords display. Valid from the Define Field Information display.
F11	Convert to constant field	Converts the named field to a constant (unnamed) field. Valid from the Specify Field Information display.
	Convert to named field	Converts the constant (unnamed field) to a named field. Valid from the Specify Field Information display.

Figure 9 (Page 3 of 5). Description of Function Keys

Function Key	Name of Function Key	Description
	Default indicators to off	Changes the condition of the indicators. Valid from the Condition Edit Display.
	Default indicators to on	Changes the condition of the indicators. Valid from the Condition Edit Display.
	Define field	Displays the Work with Field Keywords display, on which you create a field definition. Valid from the base keys on the Design Report display.
	Display interpreted values	Displays the row number, column position, edited length, and status of the field. Valid from the Work with Fields display.
	Previous record	Places the previous record in a prompt when you are using prompts. Valid from the alternative keys on the Design Report display.
	Display specified values	Displays the line number, horizontal position, and length of the field. You also see any associated indicators. Valid from the Work with Fields display.
	Display text	Displays the text that describes each field. Valid from the Work with Fields display.
F12	Cancel	Returns the previous display without saving your work. Valid from most RLU displays. Cancels the split Edit/Browse session. The single Design Report session appears. Valid from the base and alternative keys on the Design Report and Browse displays.
F13	Change session defaults	Displays the Change Session Defaults display, which shows information about your edit session. You can change this information. Valid from the alternative keys on the Design Report display.
	Mark/Unmark data	Marks a character, a field, or a block of text that you want to copy or move. Valid from the base keys on the Design Report and Browse displays.
F14	Find/Change options	Displays the Find/Change Options display. Valid from the alternative keys on the Design Report and Browse displays, and from the Change Session Defaults display.
	Copy marked data	Copies a marked area of text to another place in your report. Valid from the base keys on the Design Report display.
F15	Browse/Copy options	Displays the Browse/Copy Options display. Valid from the alternative keys on the Design Report and Browse displays, and from the Change Session Defaults display.
	Move marked data	Moves a marked area of text to another place in your report. Valid from the base keys on the Design Report display.
F16	Delete all fields	Deletes all database fields from the list. Valid from the Work with Database Fields display.

Figure 9 (Page 4 of 5). Description of Function Keys

Function Key	Name of Function Key	Description
	Delete field	Deletes an existing field. Valid from the base keys on the Design Report display.
	Remove all code points	Removes all code points that you specified. Valid from the Work with Define Characters display.
	Remove all colors	Removes all color keywords that you specified. Valid from the Work with Colors display.
	Remove all indicator text	Removes all the text that describes indicators. Valid from the Specify Indicator Text display.
	Remove all keywords	Removes all keywords that have been specified. Valid from keyword list displays.
	Remove all lines	Removes all lines that you defined. Valid from the Work with Define Line display.
	Remove keyword	Removes the keyword. Valid from individual keyword displays.
	Repeat find	Repeats a find operation. Valid from the alternative keys on the Design Report and Browse displays.
	Find	Processes a find operation. Valid from the Find/Change Options display.
F17	File keywords	Displays the Work with File Keywords display, on which you specify information about the printer file you are creating or changing. Valid from the base keys on the Design Report and Browse displays.
	Repeat change	Repeats a change operation. Valid from the alternative keys on the Design Report and Browse displays.
	Change	Processes a change operation. Valid from the Find/Change Options display.
F18	DBCS conversion	This function key is only used with double-byte character strings. Valid from the alternative keys on the Design Report display.
	Record keywords	Displays the Work with Record Keywords display, on which you specify information about a record format. Valid from the base keys on the Design Report display.
F19	Left	Positions records to the left. Valid from the base and alternative keys on the Design Report and Browse displays.
F20	Right	Positions records to the right. Valid from the base and alternative keys on the Design Report and Browse displays.
F21	System command	Displays a window in which you enter a system command. Valid from the base and alternative keys on the Design Report and Browse displays.
F22	Alternative keys	Displays the alternative set of function keys. Valid from the base keys on the Design Report and Browse displays.

Figure 9 (Page 5 of 5). Description of Function Keys

Function Key	Name of Function Key	Description
F22	Base keys	Displays the base set of function keys. Valid from the alternative keys on the Design Report and Browse displays.
F23	Field keywords	Displays the Work with Field Keywords display, on which you specify information about a field. Valid from the base keys on the Design Report display.
F24	More keys	Displays more function keys at the bottom of your current display. Valid from the base and alternative keys on the Design Report and Browse displays.
	Enter	Submits information on the display for processing.
	Help	Shows additional information about the display or option you selected.
	Page Down (Roll Up)	Moves forward to show additional information for the display.
	Page Up (Roll Down)	Moves backward to show additional information for the display.
	Print	Prints information shown on the display.
	Sysreq	Interrupts the job you are working on and, when you press Enter, shows a menu from which you can do tasks such as: <ul style="list-style-type: none">• Start a second interactive job on the system at the same display station• End the previous request• Display information about the current job• Display and send messages.

Services Displays

You can use the services displays by pressing the appropriate function key. Each of these displays prompts you for the information required to perform a specific operation. The following services displays are available:

- Change Session Defaults

Use this display to see the current information about your edit session and to change it. See “Changing Your Edit Session Environment” on page 34 for information about changing session defaults.

- Find/Change Options

Use this display to search for a particular character string in part or all of your report design, or to change a particular string in some or all lines. See “Find/Change and Browse/Copy Operations” on page 48 for information about performing find and change operations.

- Browse/Copy Options

Use this display while you are editing your report design to look at another existing source member, to copy another existing member into the one you are working with, or to copy specific records from another source member

into the report design you are editing. See “Find/Change and Browse/Copy Operations” on page 48 for information about performing browse and copy operations.

Split Session Editing and Browsing

You can split the Design Report display into two parts so that you can edit one report design and display another source member at the same time.

You can use this feature with the Browse/Copy display to copy records from an existing source member shown on the display into the report design you are currently editing.

See “Split Session Editing and Browsing” on page 53 for more information about split session editing and browsing.

Full Screen Mode

You can set your Edit or Browse display to full screen mode so that additional lines are shown on the display. See “Using Full Screen Mode” on page 54 for more information.

Semantic Checking

RLU can check the DDS source you define with RLU to help you create and change error-free source members.

See Appendix C, “Semantic Checking in RLU” on page 205 for more information about how syntax and semantic checking works in RLU.

Using RLU to Design Reports

Figure 10 on page 16 represents a typical task flow for designing a report using RLU.

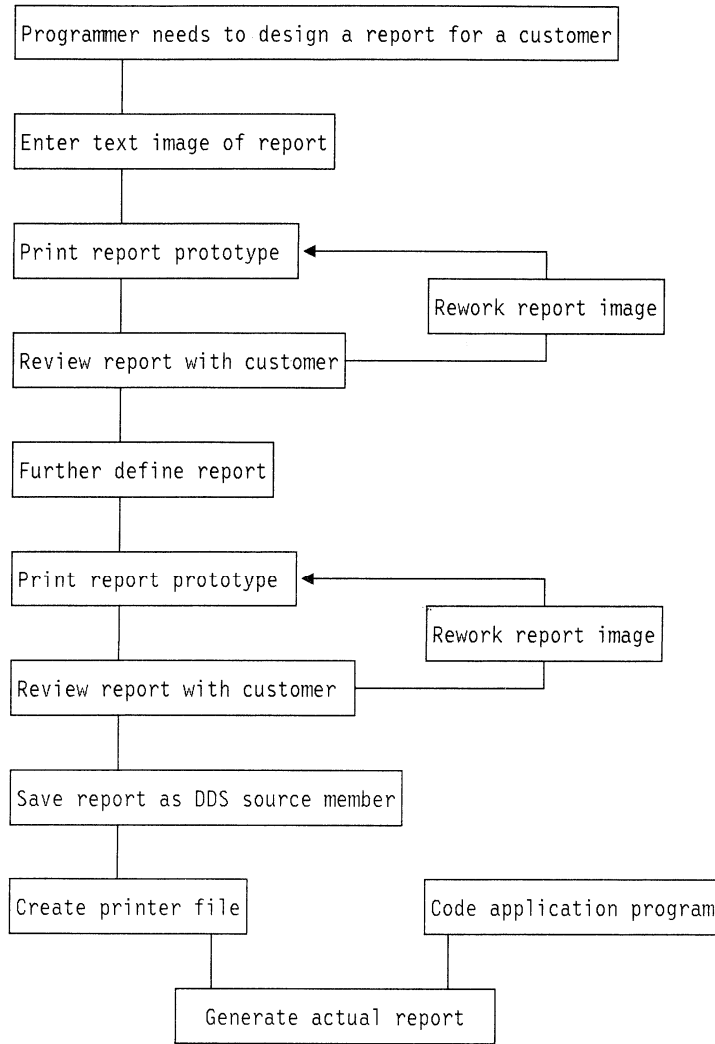


Figure 10. Report Design Task Flow

In very general terms, the following steps describe how you use RLU to perform the tasks shown in Figure 10.

- Start an RLU session with the Start RLU (STRRLU) command, specifying a new source member to create or an existing one to edit or print. For more information, see Chapter 2, “Starting RLU” on page 19.
- Edit a new or existing report design on the Design Report display. Use line commands to perform operations on the data you enter such as copying, moving, and deleting lines. Set tabs or display a columns ruler to make data entry easier. If you want to copy another existing report design, use the Browse/Copy feature. For more information, see Chapter 3, “Editing on the Design Report Display” on page 27.
- Define record formats and then fields within record formats by using RLU line commands and function keys. Specify information about record formats such as specific names and keywords. Specify information about fields such as name, type, length, position, and keywords. If you want to reference fields in a database file, define database references using RLU displays. To

give your report design a more realistic appearance on the Design Report display and when you print it, create sample data for fields. Condition fields and keywords by defining indicators that you can set on or off at any time during the edit session. For more information, see Chapter 5, “Working with Record Formats” on page 93 and Chapter 6, “Working with Fields” on page 109.

- Print a prototype of your report at any time during an RLU edit session by specifying that you want to prototype your report as defined so far. For more information, see Chapter 8, “Exiting from RLU” on page 153.
- Change record formats as required by using line commands to perform operations such as copying, moving, and inserting. You can merge record formats together, and specify page breaks between them. Edit field lengths and positions by using the field lines, or change field information by using function keys. You can also work with existing fields by selecting them from a list. For more information, see Chapter 5, “Working with Record Formats” on page 93 and Chapter 6, “Working with Fields” on page 109.
- Describe your printer file, if necessary, by using an RLU function key to specify file-level keywords. For more information, see Chapter 7, “Working with File Information” on page 149.
- Complete your edit session by using the Exit RLU display. You can save the changed member as DDS source, ignore the changes you made and leave the existing source member unchanged, or resume your edit session. You can create a printer file for your report design, and print a report prototype. For more information, see Chapter 8, “Exiting from RLU” on page 153.

The steps that you use to design a report are discussed in Chapter 4, “Example: Designing a Report” on page 59.

Editing a Non-RLU Printer File

You can use RLU to edit existing printer file DDS that was not created using RLU. However, you should be aware of how RLU handles this source at load time. See “Non-RLU Source Considerations” on page 204 for information about how RLU changes non-RLU source.

Functions Not Supported in RLU

RLU does not support the following:

- Wrapping of fields when you create a printer file.
RLU drops fields that are outside the report width boundaries.
- Some keyword assignments in the report image on the display.
When you specify some keywords, such as HIGHLIGHT and UNDERLINE, the keyword is added to the DDS, but you do not see the effect of the keyword on the Design Report display.
- Specification or changing of the DDS keywords required for Advanced Function Printing Data Stream (AFPDS) support.
For more information on how RLU processes the DDS keywords required for AFPDS support, see “RLU-Tolerated Advanced Function Printing Data Stream Keywords” on page 195.

- More than one record format on the same line.

RLU does not allow you to print the end of one record format and the beginning of the next record format on the same line. As a result, the Skip Before (SKIPB) spacing keyword is sometimes automatically specified.

Editing RLU Source Using SEU

You can use the Source Entry Utility (SEU) on the AS/400 system to edit the DDS source created or changed with RLU. Be aware, however, that you risk making changes that can render the source member meaningless as an RLU member and report design. For information about SEU, refer to the *SEU User's Guide and Reference*.

Chapter 2. Starting RLU

This chapter describes how to start an RLU session. It also describes how RLU prepares a work space, and lists the pages on which you can find the tasks described in this manual.

Using the STRRLU (Start Report Layout Utility) Command

By using the STRRLU command, you can either edit an RLU source member or print a report prototype.

Note: The STRRLU command can create an RLU source member but it cannot create the source file used to contain the source member. Use the Create Library (CRTLIB) command to create a library for the source files, and use the Create Source Physical File (CRTSRCPF) command to create a source file. For information about creating source files and libraries, see the *CL Reference*.

Figure 11 shows the syntax for the STRRLU command. A description of the STRRLU command follows Figure 11.

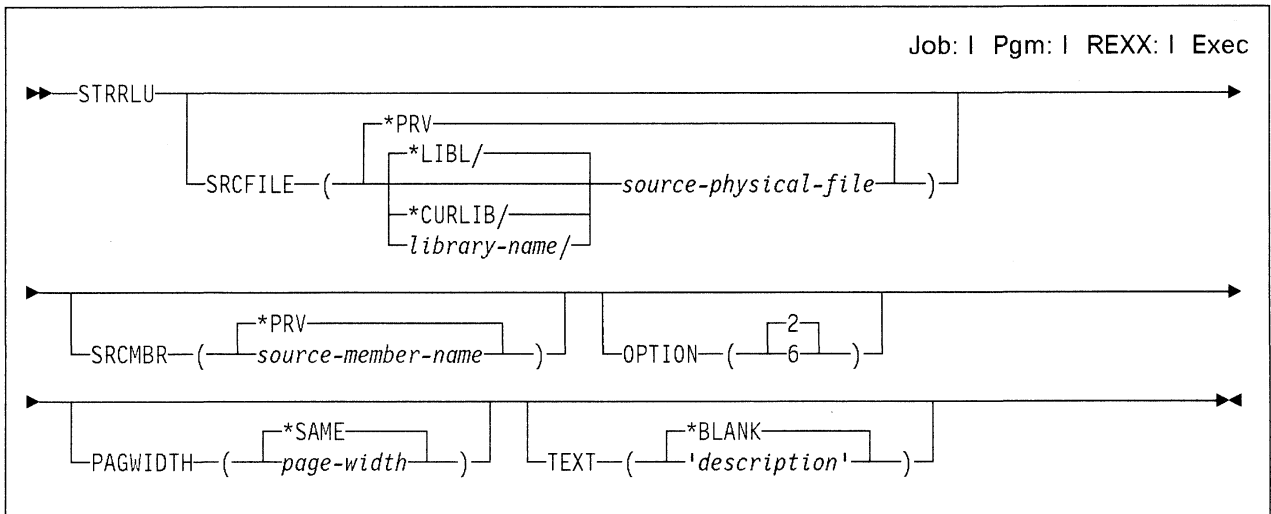


Figure 11. STRRLU (Start RLU) Command

Purpose

The STRRLU command starts the Report Layout Utility (RLU) on the system.

Optional Parameters

SRCFILE

Specifies the qualified name of the source physical file that contains the member to be changed or created from a previous session, or the source physical file to store a new member.

***PRV:** The previous source physical file name is used.

The possible library values are:

***LIBL:** The library list is used to locate the source physical file.

***CURLIB:** The current library for the job is used to locate the source physical file. If no library is specified as the current library for the job, the QGPL library is used.

library-name: Specify the name of the library where the source physical file is located.

source-physical-file: Specify the qualified name of the source physical file.

SRCMBR

Specifies the name of the source member to be changed or created. The default value for this parameter will change when the user specifies the SRCFILE parameter.

***PRV:** The name of the previous source member is used.

source-member-name: Specify the name of the source member to be changed or created from a previous session, or the name to use if a new member is created.

OPTION

Specifies the option to use when working with a report.

2: This option changes a report.

6: This option prints the report.

PAGWIDTH

Specifies the page width for the report to be printed. The first time this command is used, the page width is set to 132 if another value is not specified.

***SAME:** The report width does not change.

page-width: Specify the width of the report. Valid values range from 1 through 378.

TEXT

Specifies text that describes the member. This text is stored in the text field for the member. For an expanded description of this parameter, see the *CL Reference*.

***BLANK:** This is the default for a new member. This value directs the RLU to specify blanks in the text field of the member. For an existing member, this value does not change the text field of the member.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example

```
STRRLU SRCFILE(*LIBL/QDDSSRC)
      SRCMBR(TBILLS) PAGWIDTH(80) OPTION(2)
      TEXT('Interest rates for all T-bill holdings')
```

This command invokes RLU on the member TBILLS from the first file named QDDSSRC in your library list. The Design Report display is shown with an image of the report for you to change. The report image is 80 characters wide.

Prompting for Command Parameters

You can use prompts to specify command parameters. After you type STRRLU only, or STRRLU and some parameter values, press F4=Prompt. The Start Report Layout Utility display appears, as shown in Figure 12.

```
Start Report Layout Utility (STRRLU)

Type choices, press Enter.

Source file . . . . . *PRV _____ Name, *PRV
Library . . . . . _____ Name, *LIBL, *CURLIB, *PRV
Source member . . . . . *PRV _____ Name, *PRV
Option . . . . . 2 _____ 2, 6
Page width . . . . . *SAME _____ 1-378, *SAME
Text 'description' . . . . . *BLANK _____

_____

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

Figure 12. Start Report Layout Utility Display

The prompt display lists the parameters and supplies the default values. Press Enter to accept the default values, or type values for the parameters and then press Enter to process the command.

Starting RLU from the Programming Development Manager

You can also start RLU from the Programming Development Manager (PDM) by doing one of the following:

- Type the STRRLU command and the appropriate parameters, or type the command and prompt for the parameters, on the command line of the AS/400 Programming Development Manager (PDM) menu
- Use option 19=Change using RLU on the Work with Members display.

For information about PDM, refer to the *PDM User's Guide and Reference*.

Preparing the Work Space

After you enter the STRRLU command to edit a source member, RLU must prepare the work space before you can begin to work with the report design. The work space holds a copy of the source member you are working on, so the original source member remains unchanged until you decide to save any changes you make. The Load RLU Work Space display appears, confirming the operation, although you may not see the display if the source member is loaded quickly. The display is shown in Figure 13 on page 22.

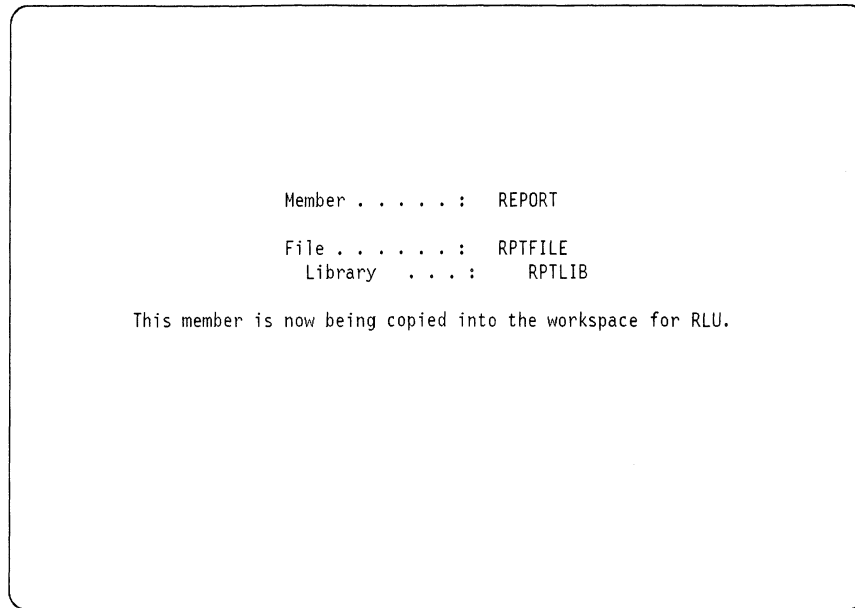


Figure 13. Load RLU Work Space Display

The display shows the name of the source member that RLU is copying into the work space, and the name of the file and library that contain the source member.

Tasks Described in This Manual

Figure 14 contains an alphabetical list of the RLU tasks described in this manual and where you can find descriptions of each task. Note that more than one method is available in RLU to perform some tasks.

For more specific location of all the information topics included in the manual, use the index.

Figure 14 (Page 1 of 4). Tasks Described in This Manual

Task	Description
Browse other source members or spooled files	"Using the Browse/Copy Options Display" on page 52
Center fields	"Centering Fields" on page 130
Change character strings	"Using the Find/Change Options Display" on page 48 or "Using the CHANGE Command" on page 50
Change field data types	"Changing Field Information" on page 123
Change to full screen mode	"Using Full Screen Mode" on page 54
Change line types	"Changing Line Types" on page 103
Change the number of decimal positions in fields	"Changing Field Information" on page 123
Change session defaults	"Changing Your Edit Session Environment" on page 34
Change the record format spacing default	"Changing Your Edit Session Environment" on page 34 and "Specifying Record Format Spacing" on page 55

Figure 14 (Page 2 of 4). Tasks Described in This Manual

Task	Description
Condition fields	"Conditioning Fields and Keywords" on page 134
Condition keywords	"Conditioning Fields and Keywords" on page 134
Convert named fields to constant fields	"Converting a Named Field to a Constant Field" on page 113
Copy lines	"Copying Lines" on page 45 and "Copying, Moving, and Repeating Record Formats" on page 97
Copy record formats	"Copying Lines" on page 45 and "Copying, Moving, and Repeating Record Formats" on page 97
Create printer files	"Creating a Printer File" on page 155
Create sample data	"Creating Sample Data" on page 120
Define fields	"Defining Fields Using a Function Key" on page 109, "Defining Fields Using Line Commands" on page 114, and "Defining Constant Fields by Using Keyword Constants" on page 118
Define record formats	"Defining Record Formats" on page 93
Define skeleton lines	"Defining and Inserting Skeleton Lines" on page 43
Delete fields	"Deleting Fields" on page 131
Delete lines	"Deleting Lines" on page 47 and "Deleting Record Formats" on page 99
Delete record formats	"Deleting Lines" on page 47 and "Deleting Record Formats" on page 99
Evenly space fields on lines	"Evenly Spacing Fields" on page 131
Exclude lines on the display	"Excluding, Showing, and Hiding Lines" on page 38
Exit RLU	"Using the Exit RLU Display" on page 153 or "Using Commands to Exit from RLU" on page 157
Find character strings	"Using the Find/Change Options Display" on page 48 or "Using the FIND Command" on page 49
Horizontally position the display	"Creating a Horizontal Window" on page 40
Insert skeleton lines	"Defining and Inserting Skeleton Lines" on page 43
Insert lines	"Inserting Lines" on page 47
Lengthen fields	"Changing Field Information" on page 123 or "Editing Fields Using a Field Line" on page 127
Mark and copy areas on the display	"Marking and Copying or Moving Areas of Data" on page 123
Mark and move areas on the display	"Marking and Copying or Moving Areas of Data" on page 123

Figure 14 (Page 3 of 4). Tasks Described in This Manual

Task	Description
Merge record formats	"Merging Record Formats" on page 101 and "Changing Line Types" on page 103
Move fields	"Changing Field Information" on page 123, "Marking and Copying or Moving Areas of Data" on page 123, "Editing Fields Using a Field Line" on page 127, "Centering Fields" on page 130, or "Evenly Spacing Fields" on page 131
Move lines	"Moving Lines" on page 46 and "Copying, Moving, and Repeating Record Formats" on page 97
Move record formats	"Moving Lines" on page 46 and "Copying, Moving, and Repeating Record Formats" on page 97
Prompt for data entry	"Prompting" on page 42
Prototype reports	"Creating a Prototype of the Report" on page 155
Reference database fields	"Referencing Database Fields" on page 135
Remove field-level keywords	"Removing Keywords" on page 133 or "Using the Fastpath" on page 133
Remove file-level keywords	"Removing Keywords" on page 150 or "Using the Fastpath" on page 150
Remove record-level keywords	"Removing Keywords" on page 107 or "Using the Fastpath" on page 107
Rename fields	"Changing Field Information" on page 123 or "Working with a List of Fields" on page 125
Rename record formats	"Changing Record Format Names" on page 96
Repeat lines	"Repeating Lines" on page 46 and "Copying, Moving, and Repeating Record Formats" on page 97
Repeat record formats	"Repeating Lines" on page 46 and "Copying, Moving, and Repeating Record Formats" on page 97
Save source members	"Saving a Source Member" on page 154
Set tabs	"Showing and Setting Tabs" on page 43
Shift data and truncate if necessary	"Shifting Data" on page 39
Shift data without truncating	"Shifting Data" on page 39
Shorten fields	"Changing Field Information" on page 123 or "Editing Fields Using a Field Line" on page 127
Show column numbers on the display	"Showing Column Numbers" on page 41
Show previously excluded lines	"Excluding, Showing, and Hiding Lines" on page 38
Show tabs lines	"Showing and Setting Tabs" on page 43

Figure 14 (Page 4 of 4). Tasks Described in This Manual

Task	Description
Specify field-level keywords	“Keywords Automatically Specified” on page 113 and “Specifying Field-Level Keywords” on page 131 or “Using the Fastpath” on page 133
Specify file-level keywords	“Specifying File-Level Keywords” on page 149 or “Using the Fastpath” on page 150
Specify indicators	“Defining Indicators” on page 134
Specify page breaks	“Specifying Page Breaks” on page 101
Specify record-level keywords	“Specifying Record-Level Keywords” on page 105 or “Using the Fastpath” on page 107
Specify semantic checking	“How to Request Semantic Checking” on page 205
Split an edit session into an edit/browse session	“Split Session Editing and Browsing” on page 53
Vertically position the display	“Vertical Positioning” on page 37
Work with lists of fields	“Changing Field Information” on page 123 and “Working with a List of Fields” on page 125.

Chapter 3. Editing on the Design Report Display

RLU allows you to design the textual image of your report without leaving the Design Report display. You can then save the report design and print it at the same time. This chapter describes how RLU helps you edit text on the Design Report display.

The following operations are described in this chapter:

- Entering commands on the display
- Changing the characteristics of your edit session
- Positioning the display
- Excluding, showing, and hiding lines on the display
- Shifting data on the display
- Creating windows on the display
- Showing column numbers on the display
- Defining and inserting skeleton lines on the display
- Showing and setting tabs on the display
- Copying, moving, repeating, inserting, and deleting lines
- Finding and changing character strings
- Browsing and copying from other source members.

To define and edit record formats and fields, and to specify information about the printer file, you use line commands, display commands, and function keys on the Design Report display and on other displays that prompt you for information such as names and keywords. Following chapters in this manual describe in detail how to work with record formats and fields.

The Design Report Display

The Design Report display appears when you enter the STRRLU command. Figure 15 on page 28 shows the initial Design Report display for a new RLU source member.

Start of Page 001 and End of Report lines are automatically shown to indicate the beginning and end of the report design. You cannot edit these special lines. You can, however, edit any additional start-of-page lines that you specify during your edit session.

The function key and message section of the display consists of the following:

- List of function keys.

The second and third last lines list all the valid function keys for the display. On displays that do not have enough space to show all the function keys available for that display, press F2{ = More keys to see more function keys in the function key set that you are using. When you use full screen mode, function keys do not appear on the display. For more information about the function keys available on the Design Report display, see “Function Keys on the Design Report Display.”

- Message line.

The last line of the display lists error messages. To see more information about a message, position the cursor on the message and press Help or F1=Help.

A plus sign (+) in the bottom right-hand corner of the display indicates additional messages. Position the cursor on the message and press the Page Up and Page Down keys to look at the messages.

The line immediately above the list of function keys can also contain a list of selected database fields, when you are referencing database fields using a list of selected fields. A plus sign (+) at the end of the line indicates additional database fields. Position the cursor anywhere on the line and press the Page Up and Page Down keys to look at more fields from the list.

Function Keys on the Design Report Display

The Design Report display in RLU supports two sets of function keys that allow you to perform specific tasks. Detailed descriptions of all the function keys available in RLU are described in “Function Keys” on page 9.

Base Function Keys on the Design Report Display

Figure 16 shows the function keys that are immediately available to you on the Design Report display. When the base function keys are displayed, you see BASE on the third line of the Design Report display. To display the alternative set of keys that you can use, press F22=Alternative keys.

Note: Throughout this manual, (B) after the function key indicates that the key is part of the base set of keys on the Design Report display.

Figure 16 (Page 1 of 2). Description of Base Function Keys

Function Key	Name of Function Key	Description
F1	Help	Displays online help information about a display or a prompt on a display.
F3	Exit	Exits from the current display and displays the Exit RLU display.
F4	Fields	Displays a list of all the fields within the record format. To work with the field, select it from the list.

Figure 16 (Page 2 of 2). Description of Base Function Keys

Function Key	Name of Function Key	Description
F5	Refresh	Clears your current display of all the changes you made since you last initiated processing by pressing Enter or a function key.
F6	Condition display	Displays the Condition Design Report Display, on which you specify field and keyword conditioning for your current report.
F9	Retrieve	Retrieves the last command you entered in the display command line.
F10	Database fields	Displays the Work with Database Fields display, on which you select database fields to include in your current report.
F11	Define field	Displays the Work with Field Keywords display, on which you create a field definition.
F12	Cancel	Returns the previous display.
F13	Mark/Unmark data	Marks a character, a field, or a block of text that you want to copy or move.
F14	Copy marked data	Copies a marked area of text to another place in your report.
F15	Move marked data	Moves a marked area of text to another place in your report.
F16	Delete field	Deletes an existing field.
F17	File keywords	Displays the Work with File Keywords display, on which you specify information about the printer file you are creating or changing.
F18	Record keywords	Displays the Work with Record Keywords display, on which you specify information about a record format.
F19	Left	Positions records to the left.
F20	Right	Positions records to the right.
F21	System command	Displays a window, in which you enter a system command.
F22	Alternative keys	Displays the alternative set of function keys.
F23	Field keywords	Displays the Work with Field Keywords display, on which you specify information about a field.
F24	More keys	Displays more function keys at the bottom of your current display.

Alternative Function Keys on the Design Report Display

Figure 17 shows the function keys that are available to you on the Design Report display when you press F22 = Alternative keys in the base set. When the alternative function keys are displayed, you see ALT on the third line of the Design Report display.

Note: Throughout this manual, (A) after the function key indicates that the key is part of the alternative set of keys on the Design Report display.

Figure 17. Description of Alternative Function Keys

Function Key	Name of Function Key	Description
F1	Help	Displays online help information about a display or a prompt on a display.
F3	Exit	Exits the current display and returns the previous display.
F4	Prompt	Displays the line on which the cursor is located in the lower portion of the display. You can then edit the line on which you pressed F4.
F5	Refresh	Clears your current display of all the changes you made since you last initiated processing by pressing Enter or a function key.
F6	Move split line	In a split edit/browse session, splits the display at the cursor position.
F9	Retrieve	Retrieves the last command you entered in the display command line.
F10	Cursor	Moves the cursor to the command line.
F11	Previous record	Places the previous record in a prompt when you are using prompts.
F12	Cancel	Returns the previous display.
F13	Change session defaults	Displays the Change Session Defaults display, on which you see the current information about your edit session. You can change this information.
F14	Find/Change options	Displays the Find/Change Options display.
F15	Browse/Copy options	Displays the Browse/Copy Options display.
F16	Repeat find	Repeats a find operation.
F17	Repeat change	Repeats a change operation.
F18	DBCS Conversion	This function key is only used with double-byte character strings.
F19	Left	Positions records to the left.
F20	Right	Positions records to the right.
F21	System command	Displays a window in which you enter a system command.
F22	Base keys	Displays the base set of function keys.
F24	More keys	Displays more function keys at the bottom of your current display.

Entering Sequence Line Commands

When you are entering line commands to perform various operations on the Design Report display, be aware of the following rules:

- Type the line command anywhere in the sequence number area, if the sequence number area contains a sequence number.
- Type the line command starting in the first position of the sequence number area followed by a blank, if the sequence number area does not contain a sequence number.

- Type suffixes (such as numbers) immediately after the command and without a blank separating the suffix and the command.
- You can perform more than one operation at a time if the line commands (Delete, Move, and a positional command, for example) do not conflict.
- The following commands cannot overlap, meaning that they cannot affect the same line on the display:
 - Copy
 - Move
 - Repeat
 - Insert
 - Shift
 - Exclude
 - Show
 - Delete.
- If you enter only some of the necessary line commands for an operation, the operation is pending and RLU indicates this at the top of the display, in the area normally occupied by the library and file name of your current source member.

For a complete list of the sequence line commands available in RLU, and where they are described in this manual, see “Sequence Line Commands” on page 7.

Entering Command Line Commands

When you are entering commands in the command line to perform various operations on the Design Report display, be aware of the following rules:

- Type the command anywhere in the command line at the top of the display.
- When you enter commands during a split session on the Design Report display, a command is either session-dependent, meaning that the command performs its function on one session only, or session-independent, meaning that the command performs its function on both sessions, regardless of the location of the cursor.

The following commands are session-dependent:

- FIND
- CHANGE
- SET MATCH
- SET SHIFT
- SET TABS
- TOP
- BOTTOM
- FILE
- SAVE
- HIDE.

For a complete list of the command line commands available in RLU, and where they are described in this manual, see “Command Line Commands” on page 9.

Entering Control Language Commands

While you are working on the Design Report display in RLU, you can enter CL commands. Press F21=System command to display the System Command window, in which you enter CL commands. The window is shown in Figure 18.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>      REPORT
BASE      ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
00004 . Dept Employee Name      Phone      Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx      nnnnn      x
----- End of Report -----

.....
:                               System Command                               :
:                                                                           :
: ==> _____ :
: F4=Prompt  F9=Retrieve  F12=Cancel  :
: (C) COPYRIGHT IBM CORP. 1981, 1992. :
:.....
```

Figure 18. System Command Window

Depending on the cursor location, the System Command window may appear in the top portion or in the bottom portion of the Design Report display. You cannot enter data on the display while the System Command window is showing.

For help in selecting a system command, press F4=Prompt without typing anything in the window. For help in entering a system command, type the command in the window and press F4=Prompt. To see more information about a system command, type the command and press Help or F1=Help.

Processing the Design Report Display

In general, RLU processes the Design Report display as follows:

- Updates the work space with text changes made to the report design on the display
- Interprets any changes to field lines, then line commands and display commands
- Processes changes to field lines

Changes on the field line are processed from left to right, except that database references are processed first, and keyword constants are processed second.

- Completes line commands
- Performs requests from the display command line

- Processes function keys
- Performs find and change operations
- Processes F3=Exit to save the changed source member.

Changing Your Edit Session Environment

Before you begin to edit your report design or while you are in your edit session, you can change the defaults that determine, for example, how you see the Design Report display, what kind of input is allowed, and whether or not semantic checking is active.

To change or to look at these defaults, press F13=Change session defaults (A) on the Design Report display.

The Change Session Defaults displays appear as shown in Figure 19 and Figure 20 on page 35.

Change Session Defaults

Type choices, press Enter.

Amount to roll	H_	H=Half, F=Full C=Cursor, D=Data 1-999
Uppercase input only	N	Y=Yes, N=No
Show all field lines	Y	Y=Yes, N=No
Full screen mode	N	Y=Yes, N=No
Insert marked data	N	Y=Yes, N=No
Replace marked data	N	Y=Yes, N=No
Semantic checking:		
When added/modified	Y	Y=Yes, N=No
From page number	_	000-999
Line number	_	00000-32767
To page number	_	000-999
Line number	_	00000-32767
Printer device type	1	1=SCS, 2=IPDS, 3=AFPDS More...

F3=Exit F5=Refresh F12=Cancel
F14=Find/Change options F15=Browse/Copy options

Figure 19. Change Session Defaults Display (Part 1)

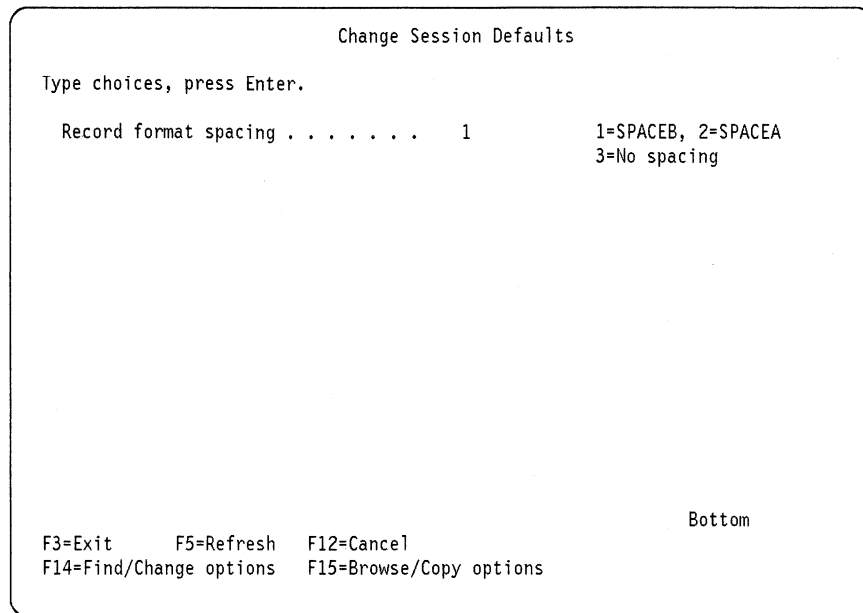


Figure 20. Change Session Defaults Display (Part 2)

The default is shown for each field on the Change Session Defaults display. Specify a new value for each field or press Enter to use the default values. Some default values are dependent on the value you entered and used during your last RLU edit session.

By typing the appropriate values on this display, you can do the following:

- Use the *Amount to roll* prompt to specify the number of lines to move when you press the roll keys.
- Use the *Uppercase input only* prompt to allow or not allow mixed case input during your edit session.
- Use the *Show all field lines* prompt to automatically display or not display all the field lines for all lines that contain at least one field and all field lines displayed with a line command.
- Use the *Full screen mode* prompt to use RLU in full screen mode.
- Use the *Insert marked data* prompt to specify whether or not you want RLU to insert marked blocks of data for a copy or move operation, rather than overlay existing data in the target area.
- Use the *Replace marked data* prompt to specify whether or not you want RLU to shift data to replace marked data during a move operation, rather than replace the marked data with blanks.
- Use the *Semantic checking* prompts to:
 - Specify whether or not you want RLU to check each line as you add or change it
 - Specify the particular range of lines that you want RLU to check for a one-time semantic check.
- Use the *Printer device type* prompt to specify the type of printer you are using. Semantic checking is sensitive to the printer device type.

The value you specify determines the default parameter value for DEVTYPE on the Create Printer File (CRTPRTF) display.

- Use the *Record format spacing* prompt to select the default record spacing keyword assigned when you define a new record format. You can select one of the following:

SPACEB A SPACEB(001) keyword is automatically added when a new record is defined.

SPACEA A SPACEA(001) keyword is automatically added when a new record is defined.

No spacing If there are no associated filler lines or continuation lines, no spacing keyword is added to the new record.

The initial value for this field is 1 (that is, SPACEB).

Note: The default record format spacing value you specify will be overridden if it conflicts with RLU spacing rules. For more information on RLU spacing rules and on selecting record format spacing, refer to “Specifying Record Format Spacing” on page 55.

For more information about the possible values for each prompt, place your cursor on the appropriate line of this display as you use RLU and press Help or F1=Help. You will see online help information that explains how to use the prompt.

For more information about how semantic checking works in RLU, see Appendix C, “Semantic Checking in RLU” on page 205.

Using Commands to Tailor Your Edit Session

You can also tailor your edit session by using the SET command. The SET command is shown in Figure 21.

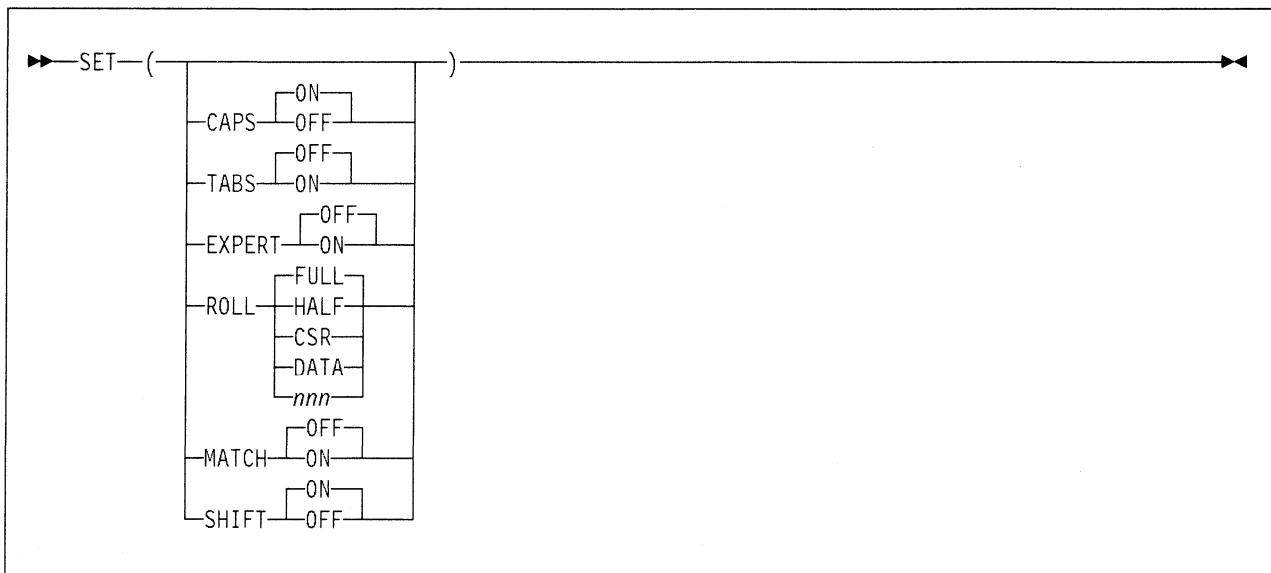


Figure 21. Syntax of the RLU SET Command

SET changes various editing options on the Design Report display. Type SET or S in the display command line followed by one of the following options:

- CAPS to specify which case is valid for text that you enter and for any find or change string. The default value is ON, but you can also specify OFF.
- TABS to specify whether or not the tabs you set with the Tabs line command are active. The default value is OFF, but you can also specify ON. See “Showing and Setting Tabs” on page 43 for more information about setting tabs.
- EXPERT to set your edit or browse session to full screen mode or normal mode. The default value is OFF (normal mode), but you can also specify ON. See “Using Full Screen Mode” on page 54 for more information about using full screen mode.
- ROLL to set the number of lines or columns that move on the display at one time when you use the Page Up key, Page Down key, F19=Left, or F20=Right. The default value is FULL (one full screen), but you can also specify any of the following:
 - HALF or H to move half a screen
 - CSR or C to move by the position of the cursor
 - DATA or D to move a full screen minus one line or column
 - 1 through 999 to move by a specific number of lines or columns.

The values you specify for the SET command (except for TABS) also appear in the corresponding prompts on the Change Session Defaults display. For more information on the MATCH and SHIFT options of the SET command, see “Tailoring Your FIND/CHANGE Operations” on page 51.

Changing the Display

Before you begin to edit your report design or while you are in your edit session, you can specify which lines or which parts of lines you see on the Design Report display.

This section describes how you perform these operations in RLU.

Vertical Positioning

While you are editing a report design, you can use commands to position your report image on the display or to move the report image forwards or backwards by a specific number of lines.

Type one of the following commands in the sequence number area of the appropriate line:

- | | |
|----|---|
| n | (Where n is a line number) to move the display so that line n is at the top |
| +n | (Where n is a number) to move forward by n lines |
| -n | (Where n is a number) to move backward by n lines. |

You can also position your report image by typing either the TOP command, shown in Figure 22 on page 38, or the BOTTOM command, shown in Figure 23 on page 38, in the command line at the top of the Design Report display.

Type the TOP command to position the display to the first screen of data as follows:

TOP or T

Type the BOTTOM command to position the display to the last screen of data as follows:

BOTTOM or B

Figure 22 shows the TOP command.

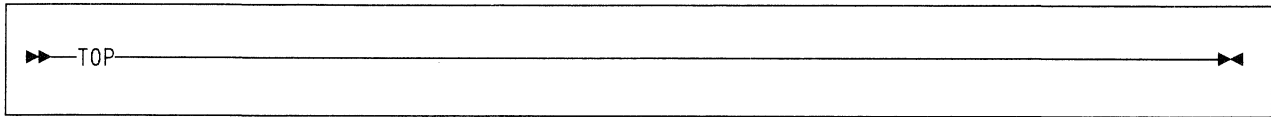


Figure 22. Syntax of the RLU TOP Command

Figure 23 shows the BOTTOM command.

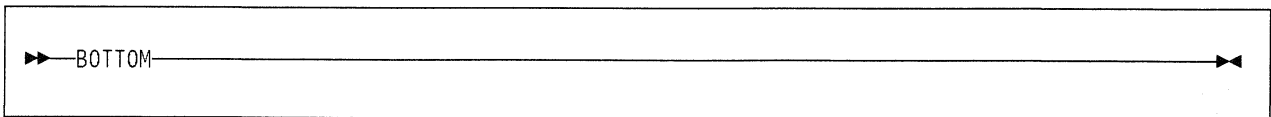


Figure 23. Syntax of the RLU BOTTOM Command

You can also use the roll keys to position the display.

Excluding, Showing, and Hiding Lines

You can use a line command to exclude one or more lines from appearing on the Design Report display, although they remain in your source member when you save it. You can use another line command to show one or more lines from a previously excluded group of lines on the Design Report display.

To exclude lines, type one of the following commands in the sequence number area of the appropriate lines:

- X To exclude this line from the display
- Xn (Where n is a number) to exclude n lines (beginning with this one) from the display
- XX To exclude all the lines between (and including) this one and the next occurrence of XX from the display.

To show lines from a group of lines you previously excluded, type one of the following commands in the sequence number area of the appropriate lines:

- SF To show the first line in this group of excluded lines
- SFn (Where n is a number) to show the first n lines in this group of excluded lines
- SL To show the last line in this group of excluded lines
- SLn (Where n is a number) to show the last n lines in this group of excluded lines.

Note the following about using Exclude and Show line commands:

- You can use the Exclude line command with the Find/Change Options display to search only certain lines

- You can press F5=Refresh to show all excluded records
- Semantic checking is not affected by the Exclude line command.

You can also use the HIDE display command to hide lines that contain a particular character string. The HIDE command is shown in Figure 24.

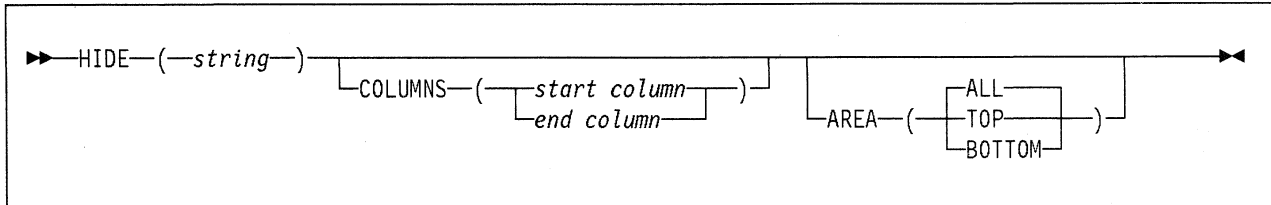


Figure 24. Syntax of the RLU HIDE Command

To use the command, type either HIDE or H on the command line, followed by one or more of the following parameters:

- The character string that you want to find. This parameter is required. All records that contain the string are hidden.
The string must be enclosed in single quotation marks if it contains leading, trailing, or embedded blanks, special values, apostrophes, or single quotation marks. You can enter the string in uppercase, lowercase, or mixed case characters.
- The column range that you want to search. This parameter is optional.
Type a numeric value to represent the starting column, a blank space, and a numeric value to represent the ending column. If you type only one numeric value, RLU uses it as the starting column. If you do not specify a column value, the entire line is searched.
- The area of the member that you want to search. This parameter is optional.
Type T (top) to search records from the line containing the cursor to the top of the member. Type B (bottom) to search records from the line containing the cursor to the bottom of the member. Type A (all) to search all records in the member. If you do not specify the area parameter, A is used, and all records are searched.

You can redisplay the hidden lines by using the Show line command.

Shifting Data

You can use a line command to shift data in a line or in a block of lines without truncating the data.

Type one of the following commands in the sequence number area of the appropriate lines:

- | | |
|-----|---|
| L | To shift the data in this line one position to the left |
| Ln | (Where n is a number) to shift the data in this line n positions to the left |
| LL | To shift the data in all the lines between (and including) this one and the next occurrence of LL one position to the left |
| LLn | (Where n is a number) to shift the data in all the lines between (and including) this one and the next occurrence of LL n positions to the left |

R	To shift the data in this line one position to the right
Rn	(Where n is a number) to shift the data in this line n positions to the right
RR	To shift the data in all the lines between (and including) this one and the next occurrence of RR one position to the right
RRn	(Where n is a number) to shift the data in all the lines between (and including) this one and the next occurrence of RR n positions to the right.

When you are shifting a block of data, you can specify n in either of the commands when you are using pairs of LL, LLn, RR, or RRn Shift commands.

You can also shift data right or left and allow data to be truncated if necessary. Use one of the following commands to perform this operation:

LT	To shift the data in this line one position to the left, losing data off the beginning of the record if necessary
LTn	(Where n is a number) to shift the data in this line n positions to the left, losing data off the beginning of the record if necessary
LLT	To shift the data in all the lines between (and including) this one and the next occurrence of LL one position to the left, losing data off the beginning of the record if necessary
LLTn	(Where n is a number) to shift the data in all the lines between (and including) this one and the next occurrence of LL n positions to the left, losing data off the end of the record if necessary
RT	To shift the data in this line one position to the right, losing data off the end of the record if necessary
RTn	(Where n is a number) to shift the data in this line n positions to the right, losing data off the end of the record if necessary
RRT	To shift the data in all the lines between (and including) this one and the next occurrence of RR one position to the right, losing data off the end of the record if necessary
RRTn	(Where n is a number) to shift the data in all the lines between (and including) this one and the next occurrence of RR n positions to the right, losing data off the end of the record if necessary.

When you shift data in a line that contains fields, all the field positions are shifted accordingly. See Chapter 6, "Working with Fields" on page 109 for information about working with fields in RLU.

Creating a Horizontal Window

When you are editing a report design, you can work with parts of lines not currently shown on the display (because their length is greater than the width of the display) by creating a window.

To define your window and specify which columns of the report design you want to work with, type one of the following commands in the sequence number area:

W	To work with the data starting at column 1 of the report design lines
Wn	(Where n is a number) to work with the data starting at column n of the report design lines.

Entering New Data on the Display

When you are entering new data on the Design Report display, RLU provides a number of line commands to help make this task easier.

This section describes these line commands.

Showing Column Numbers

The third line on the Design Report display is always a format line that marks the columns across the display (unless the display is in full screen mode). While you are editing a report design, you can use a line command to show a format line anywhere else on the display.

To show a format line, type one of the following commands in the sequence number area of the line above which you want the format line:

COLS To display a format line above this line

F To display a format line above this line.

To show a format line and insert a blank line immediately below the format line, type the following command in the sequence number area of the line below which you want the format line:

IF To display a format line and insert a blank line below this line.

Figure 25 shows you what a format line looks like in the edit section of the Design Report display.

```
Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU==>                               REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
00004 . Dept Employee Name                Phone      Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
```

Figure 25. Columns Line

Prompting

While you are editing a report design, you can use a line command to request a prompt for any data record. All prompting in RLU generates free-form prompts.

To show a prompt, type the following command in the sequence number area of the line for which you want the prompt:

P To display a prompt for this record.

Figure 26 shows you what a prompt looks like on the Design Report display.

```

Columns . . . :   1 71           Design Report           RPTLIB/RPTFILE
RLU=>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
00004 . Dept Employee Name                               Phone   Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn   x
----- End of Report -----

Line Number . . . . 00004_
Data area
..... 1 ..... 2 ..... 3..... 1 ..... 2 .....   ..... 7 .....
Dept_Employee_Name_____Phone___Status

F3=Exit   F11=Define field   F16=Delete field
F22=Alternative keys       F24=More keys
  
```

Figure 26. Prompt

You can also prompt for a new record by typing the following command in the sequence number area of the line below which you want the new record:

IP To insert a new record below this line using a prompt.

RLU inserts a blank line and then places a prompt at the bottom of the display.

Note the following when performing prompt operations:

- RLU places the next existing record in the prompt (for P) or inserts another blank line for the prompt (for IP) each time you press Enter until you press F5=Refresh or F12=Cancel, press Enter without typing any data in the prompt line, reach the end or the beginning of the report design, or reposition the Design Report display so that the line in the prompt is not on the display.
- You cannot prompt when you are in a split edit session.

Defining and Inserting Skeleton Lines

You can use a line command to define a line of data that you type repeatedly as a skeleton line and then insert it whenever you need it, keeping the same data or using it as a template.

To create and insert skeleton lines, type one of the following commands in the sequence number area of the appropriate lines:

- S To define the contents of this line as the skeleton line
- IS To insert the current skeleton line immediately below this line
- ISn (Where n is a number) to insert the current skeleton line n times immediately below this line.

Note the following when defining and inserting skeleton lines:

- After you select a skeleton line, RLU keeps it as the skeleton line until you select another one.
- You must type data or a blank on an inserted skeleton line and press Enter to make it part of the report design.
- If you type S in the sequence number area of a line and then move the cursor to a column position in the same line before you press Enter, RLU remembers the cursor position for any subsequent skeleton line insert operations.

Showing and Setting Tabs

If you changed your session defaults to specify that you want tabs set on (by using the Change Session Defaults display or the SET TABS command), you can use a line command on the Design Report display to show a line across the display that indicates your current tab settings.

If you have not set any tabs, you see a blank tabs line and you can set your tabs by typing characters in the appropriate positions. You can use any characters you want, because RLU converts each character to a dash (-) when it creates the tabs line for you.

Type the following command in the sequence number area of the line above which you want the tabs line:

- TABS To set and show the tabs on the display.

Figure 27 on page 44 shows you what a blank tabs line looks like on the Design Report display.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
00004 . Dept Employee Name      Phone      Status
TABS  - - - - -
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx      nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 27. Tabs Line

To set new tabs, you type a character for each tab setting you want on the tabs line, as shown in Figure 28.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
00004 . Dept Employee Name      Phone      Status
TABS  o o - - - - -
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx      nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 28. Setting Tabs

When you press Enter, RLU replaces each character you typed with a dash (-) and shows you your new tabs line. Note that RLU does not create tabs for two consecutive columns.

You can move from one tabs setting (-) to the next on the tabs line by pressing Enter. To clear the settings, replace each dash with a blank. To set new tabs, replace the dashes with characters in new positions.

To turn tabs off, use the Change Session Defaults display or the SET TABS command.

To remove the tabs line from your display, press F5=Refresh or use the Delete line command.

Copying, Moving, Repeating, Inserting, and Deleting Lines

To edit the data you enter on the Design Report display, you can use line commands for copying, moving, repeating, inserting, and deleting lines on the display.

This section describes these line commands.

Note that there are specific effects on record formats and line types when you are performing copy, move, repeat, insert, and delete operations within defined record formats. For more information about working with record formats, see Chapter 5, "Working with Record Formats" on page 93. For more information about how line commands affect record formats and line types, see "Editing Record Formats" on page 96.

Copying Lines

You can use a line command to copy lines in your report design to another location in the same report design.

Type one of the following commands in the sequence number area of the appropriate lines:

- C To copy this line to another location
- Cn (Where n is a number) to copy n lines (beginning with this line) to another location
- CC To copy all the lines between (and including) this one and the next occurrence of CC to another location
- CR To copy this line to another location and retain the command on the display for repeated copy operations
- CCR To copy the lines between (and including) this line and the next occurrence of CCR to another location and retain the commands on the display for repeated copy operations.

Also, type one of the following commands to specify the new location for copied lines:

- A To add the copied lines after this line
- An (Where n is a number) to add the copied lines after this line n times
- B To add the copied lines before this line
- Bn (Where n is a number) to add the copied lines before this line n times
- O To overlay this line with the copied line
- On (Where n is a number) to overlay n lines (including this line) with the copied lines
- OO To overlay the group of lines between (and including) this line and the next occurrence of OO with the copied lines.

Note that if you are overlaying the copied lines and specify more lines to overlay than you are copying, RLU reuses the lines to copy the required number of lines.

For information about further considerations when you are copying lines after defining record formats, see “Copying, Moving, and Repeating Record Formats” on page 97.

Moving Lines

You can use a line command to move lines in your report design to another location in the same report design.

Type one of the following commands in the sequence number area of the appropriate lines:

- M To move this line to another location
- Mn (Where n is a number) to move n lines (beginning with this line) to another location
- MM To copy all the lines between (and including) this one and the next occurrence of MM to another location.

Also, type one of the following commands to specify the new location for moved lines:

- A To add the moved lines after this line
- An (Where n is a number) to add the moved lines after this line n times
- B To add the moved lines before this line
- Bn (Where n is a number) to add the moved lines before this line n times
- O To overlay this line with the moved line
- On (where n is a number) to overlay n lines (including this line) with the moved lines
- OO to overlay the group of lines between (and including) this line and the next occurrence of OO with the moved lines.

Note that if you are overlaying the moved lines and specify more lines to overlay than you are moving, RLU reuses the lines to move the required number of lines.

For information about further considerations when you are moving lines **after** defining record formats, see “Copying, Moving, and Repeating Record Formats” on page 97.

Repeating Lines

You can use a line command to repeat a line or a block of lines immediately below the original line or block of lines you want to repeat.

Type one of the following commands in the sequence number area of the appropriate lines:

- RP To repeat this line immediately below this line
- RPn (Where n is a number) to repeat this line n times immediately below this line

RPP To repeat all the lines between (and including) this one and the next occurrence of RPP immediately below the next occurrence of RPP

RPPn (Where n is a number) to repeat all the lines between (and including) this one and the next occurrence of RPP n times immediately below the next occurrence of RPP.

Because the repeat operation always puts the repeated lines immediately below the original lines being repeated, you do not need to specify a destination for the repeated lines.

For information about further considerations when you are repeating lines **after** defining record formats, see “Copying, Moving, and Repeating Record Formats” on page 97.

Inserting Lines

You can use a line command to insert blank lines on the Design Report display to add new lines of text.

Type one of the following commands in the sequence number area of the appropriate lines:

I To insert one blank line immediately below this line

In (Where n is a number) to insert n blank lines immediately below this line.

Note the following about insert operations:

- RLU inserts a new blank line each time you type data on the inserted blank line until you press F5=Refresh, press Enter without changing the inserted line, or move the cursor off the line.
- If you specify a value for n that is greater than the number of lines below the lines on which you enter the line command, RLU supplies only the number of blank lines that can fit on the display.

Deleting Lines

You can use a line command to delete lines on the Design Report display, including a format line, a tabs line, a field line, and a start-of-page line (except for the first one).

Type one of the following commands in the sequence number area of the appropriate lines:

D To delete this line

Dn (Where n is a number) to delete n lines (beginning with this line)

DD To delete all the lines between (and including) this one and the next occurrence of DD.

Note that you can process more than one Delete line command, or pair of commands, at the same time.

For information about further considerations when you are deleting lines **after** defining record formats, see “Deleting Record Formats” on page 99.

Find/Change and Browse/Copy Operations

You can perform find and change operations in RLU by using the Find/Change Options display, which prompts you for the information required, or by using the FIND and CHANGE commands.

You can perform browse and copy operations by using the Browse/Copy Options display.

This section describes these operations.

Using the Find/Change Options Display

Use the Find/Change Options display to do the following:

- Search for a specific string in the specified line or column numbers
- Change a specific string in the specified line or column numbers.

When you press F14=Find/Change options (A) on the Design Report display, the Find/Change Options display appears as shown in Figure 29.

Find/Change Options

Type choices, press Enter.

Find	_____	
Change	_____	
From column number	1	1-132
To column number	132	1-132 or blank
Occurrences to process	1	1=Next, 2=All 3=Previous
Records to search	1	1=All, 2=Excluded 3=Excluded
Kind of match	2	1=Same case 2=Ignore case
Allow data shift	N	Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F13=Change session defaults
F15=Browse/Copy options F16=Find F17=Change

Figure 29. Find/Change Options Display

The first time you use the Find/Change Options display in your edit session, it contains the default values for each field. When you use the display again, some of the defaults reflect the values you changed the last time. To save current values, press Enter, F16=Find, or F17=Change.

You specify the following on the Find/Change Options display:

- The character string you want to find
- The character string to replace the one you are finding
- The range (in column numbers) of the data you want to search for the character string
- The occurrences of the character string that you want to change: the next occurrence, all occurrences, or the previous occurrence

- The lines you want to search for the character string: all lines, excluded lines only, or nonexcluded lines only
- The kind of match you want to find: matches with the same case, or matches ignoring the case
- Whether or not you want to shift characters as appropriate when the character string you are finding is replaced by the new string and the new string is shorter or longer than the original string.

For detailed information about each prompt on this display, place your cursor on the appropriate line of the display as you use RLU and press Help or F1=Help. You will see online help information that explains how to use the prompt.

Using the FIND Command

You can also use the FIND command on the Design Report display to find character strings in your report design. FIND searches for the occurrences of the string you specify.

The FIND command is shown in Figure 30.

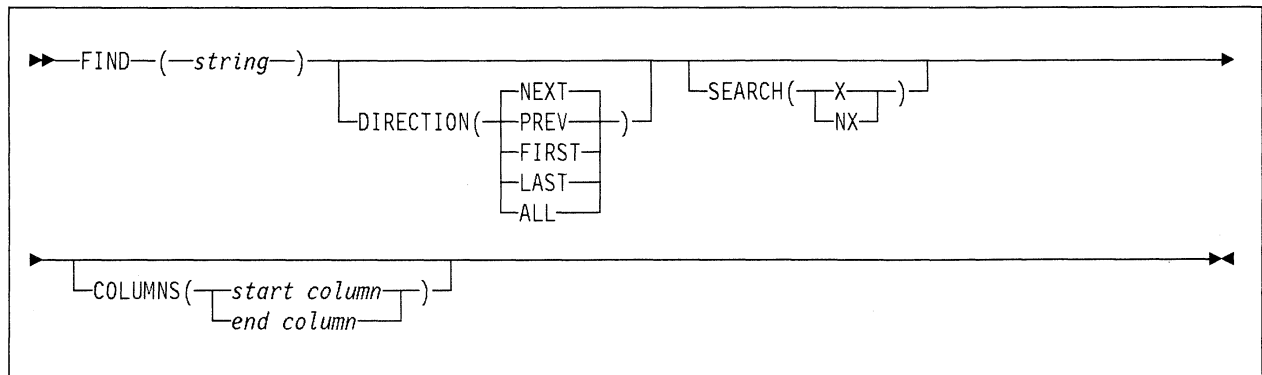


Figure 30. Syntax of the FIND Command

Type FIND or F in the display command line followed by one or more of the following parameters:

- The character string you want to find.
This is a required parameter.
Enclose the string in quotes if it contains leading, imbedded, or trailing blanks, special values, apostrophes, or quotes. Type an asterisk to use the string you used in a previous FIND operation.
- The direction you want to search.
This is an optional parameter.
Type one of the following:
 - NEXT or N to search for the next occurrence
 - PREV or P to search for the previous occurrence
 - FIRST or F to search for the first occurrence
 - LAST or L to search for the last occurrence
 - ALL or A to search for all occurrences.

The default RLU uses is NEXT.

- Which lines you want to search.

This is an optional parameter.

Type one of the following:

- X to search in excluded lines only
 - NX to search in nonexcluded lines only.
- The column range in which you want to search.

This is an optional parameter.

Type a numeric value (representing the starting column) and another numeric value (representing the ending column), separated by a blank. If you only type one numeric value, RLU assumes the value to represent the starting column.

For the FIND command, the values you enter also appear in the corresponding prompts on the Find/Change Options display.

The FIND command is optional when you use F16=Find to begin a search. When you type a character string on the RLU command line and press F16, RLU searches the member for that string. The CHANGE, C, FIND, and F commands are processed as commands when you use them with F16. If you want to use these characters in a search string with F16, you must delimit them with single quotation marks. For example, to find the string CHANGE, type 'CHANGE' and press F16.

Using the CHANGE Command

You can also use the CHANGE command on the Design Report display to find character strings in your report design and change them. CHANGE searches for occurrences of the string you specify and changes it to another string.

The CHANGE command is shown in Figure 31.

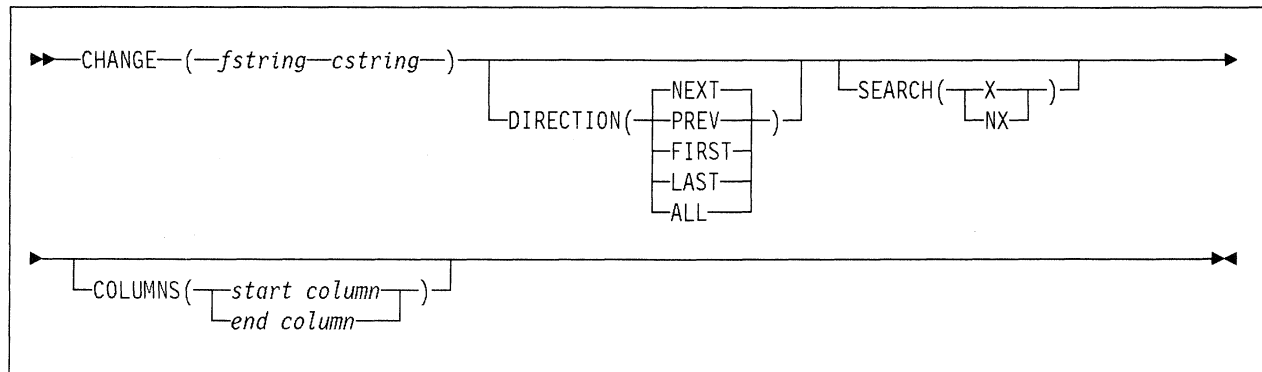


Figure 31. Syntax of the CHANGE Command

Type CHANGE or C in the display command line followed by one or more of the following parameters:

- The character string you want to find and the string you want to replace it with.

This is a required parameter.

Separate the strings with a single blank. Enclose the strings in quotes if they contain leading, imbedded, or trailing blanks, special values, apostrophes, or

quotes. Type an asterisk to use a string you used in a previous CHANGE operation.

- The direction you want to search.

This is an optional parameter.

Type one of the following:

- NEXT or N to search for the next occurrence
- PREV or P to search for the previous occurrence
- FIRST or F to search for the first occurrence
- LAST or L to search for the last occurrence
- ALL or A to search for all occurrences.

The default RLU uses is NEXT.

- Which lines you want to search.

This is an optional parameter.

Type one of the following:

- X to search in excluded lines only
- NX to search in nonexcluded lines only.

- The column range in which you want to search.

This is an optional parameter.

Type a numeric value (representing the starting column) and another numeric value (representing the ending column), separated by a blank. If you only type one numeric value, RLU assumes the value to represent the starting column.

For the CHANGE command, the values you enter also appear in the corresponding prompts on the Find/Change Options display.

Tailoring Your FIND/CHANGE Operations

To tailor your find and change operations, use the SET command with the MATCH and SHIFT options.

SET changes some of the FIND and CHANGE options. Type SET or S in the command line followed by one of the following:

- MATCH allows you to specify whether or not uppercase and lowercase letters must match in the search string.

The default value is OFF.

- SHIFT allows you to specify whether or not you want to shift data when replacing a string.

The default value is ON.

The value you specify for the SET command also appears in the corresponding prompts on the Find/Change Options display. For more information about the SET command, see “Using Commands to Tailor Your Edit Session” on page 36.

Using the Browse/Copy Options Display

Use the Browse/Copy Options display to do the following:

- Look at another source member or a spooled file while editing your report design
- Look at a report prototype you printed as a spooled file while editing your report design
- Look at an output queue to select a spool file to browse while editing your report design
- Copy an existing report image into the source member you are currently editing.

When you press F15=Browse/Copy options (A) on the Design Report display, the Browse/Copy Options display appears as shown in Figure 32.

```

Browse/Copy Options

Type choices, press Enter.

Selection . . . . . 1          1=Member
                                   2=Spool file
                                   3=Output queue
                                   Y=Yes, N=No
                                   Name, F4 for list

Copy all records . . . . . N    REPORT____ Name, F4 for list
Browse/copy member . . . . . REPORT____ Name, F4 for list
File . . . . . RPTFILE____ Name, *CURLIB, *LIBL
Library . . . . . RPTLIB____

Browse/copy spool file . . . . REPORT____ Name, F4 for list
Job . . . . . REPORT____ Name
User . . . . . USERID____ Name, F4 for list
Job number . . . . . *LAST_ Number, *LAST
Spool number . . . . . *LAST Number, *LAST, *ONLY

Display output queue . . . . QPRINT____ Name, *ALL
Library . . . . . *LIBL____ Name, *CURLIB, *LIBL

F3=Exit      F4=Prompt      F5=Refresh      F12=Cancel
F13=Change session defaults  F14=Find/Change options
    
```

Figure 32. Browse/Copy Options Display

You specify the following on the Browse/Copy Options display:

- The type of object you want to browse: source member, spooled file, or output queue
- Whether or not you want to copy all the records from the source member you are browsing
- The name, file, and library of the source member to browse
- The name, job name, user profile name, job number, and number of the spooled file to browse
- The name and library of the output queue to browse.

For detailed information about each prompt on this display, place your cursor on the appropriate line of the display as you use RLU and press Help or F1=Help. You will see online help information that explains how to use the prompt.

Using the Browse Display

The browse display allows you to look at a source member without the risk of accidentally changing it. You can use the scanning and positional operations available on the Design Report display, but you cannot alter the data.

You can also do the following on the browse display:

- Change the browse session environment by using F13=Change session defaults (A) or the SET command
- Perform find operations by using F14=Find options (A) or the FIND command.

For detailed information about the function keys on the browse display, place your cursor on the function key area of the display as you use RLU and press Help or F1=Help. You will see online help information that explains the function keys.

For more information about the FIND and SET commands, see “Using the FIND Command” on page 49, “Using the CHANGE Command” on page 50, and “Using Commands to Tailor Your Edit Session” on page 36.

Using Full Screen Mode

Full screen mode on the Design Report display allows you to remove the format line from the top and the function key list from the bottom, displaying four additional records to work with. The function keys are still valid for the display in full screen mode, even though you cannot see them. Figure 34 shows the Design Report display in full screen mode.

```

Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU==>          REPORT
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name          Phone      Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00006 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00007 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00008 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00009 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00010 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
----- Start of Page 002 -----
RCD003 ABC Company - Employee Directory
00002 +
00003 +
RCD004 Dept Employee Name          Phone      Status
RCD005 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00006 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00007 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00008 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
00009 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

Figure 34. Full Screen Mode

To switch to full screen mode during your edit session, press F13=Change session defaults (A) on the Design Report display. For information about using the Change Session Defaults display, see “Changing Your Edit Session Environment” on page 34.

To cancel full screen mode and return to the normal screen mode of RLU, press F13=Change session defaults (A) again.

You can also start and end full screen mode by using the SET EXPERT ON and SET EXPERT OFF commands. For more information about the SET command, see "Using Commands to Tailor Your Edit Session" on page 36.

Specifying Record Format Spacing

You can select the default spacing keyword that RLU assigns when a new record format is defined using the *Record format spacing* prompt on the Change Session Defaults display. (For more information on the Change Session Defaults display, refer to "Changing Your Edit Session Environment" on page 34.) You can specify one of the following default record spacing values:

- SPACEB
- SPACEA
- No spacing.

The record spacing default value that you specify is, however, overridden if it conflicts with the following RLU spacing rules:

- If a record spans more than one line, a SPACEA(m) keyword is assigned to the record format, where m is the number of continuation lines.
- If a record format is preceded by a filler line, a SPACEB(1+n) keyword is assigned to the record format, where n is the number of filler lines preceding the new record.

The remainder of this section describes the way in which these rules affect each of the default spacing keyword values that you can specify.

Space Before

SPACEB is the default record format spacing keyword generated by RLU. If you accept the SPACEB default, the SPACEB(001) keyword is automatically added when a new record is defined if there are no filler lines preceding the record. Preceding filler (.) lines are represented by a SPACEB(1+n) spacing keyword at the record level, where n is the number of preceding filler lines. Therefore the default keyword SPACEB(001) is overridden if the number of preceding filler lines is greater than or equal to 1.

If the new record spans more than one line, RLU also generates a SPACEA keyword.

For an example of selecting SPACEB as the default spacing keyword when there are no preceding filler lines and when the record does not span more than one line, refer to page 80.

Space After

If you specify SPACEA as the default record spacing keyword, the SPACEA(001) keyword is automatically added when the record is defined if the record does not span multiple lines (that is, there are no continuation lines for the new record). Record continuation lines are represented by a SPACEA(m) spacing keyword at the record level, where m is the number of record continuation lines. Therefore the new default keyword value SPACEA(001) is overridden if the number of record continuation lines is greater than 1.

If there are preceding filler lines, RLU also assigns a SPACEB(1+n) keyword, where n is the number of filler lines preceding the new record.

For example, define record format RCD002 as shown in Figure 35, where SPACEA is the default record spacing keyword.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>      REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----

RCD001
00002 .
DR 03 .
00004 . This is line 4

```

Figure 35. Defining Record RCD002

Press Enter and the Design Report display appears as shown in Figure 36.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>      REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----

RCD001
00002 .
RCD002
00004 +
00005 . This is line 4
----- End of Report -----

```

Figure 36. Record RCD002 Defined with SPACEA as the Default Spacing Keyword

SPACEA(001) is generated in accordance with the record spacing default value specified. SPACEB(002) is also generated in accordance with the RLU spacing rules.

No Spacing

If you specify No spacing as the default record spacing value, RLU generates a new record without assigning a spacing keyword. The No spacing default value is overridden if there are preceding filler lines or if the record spans multiple lines. If there are preceding filler lines, RLU assigns a SPACEB keyword; if the record spans more than one line, RLU assigns a SPACEA keyword.

For example, define record format RCD003 as shown in Figure 37 on page 57, where No spacing is the default record spacing value.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU=>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001
00002 .
RCD002
00004 +
00005 .
DR 06 .
00007 .
----- End of Report -----

```

Figure 37. Defining Record RCD003

Press Enter and the Design Report display appears as shown in Figure 38.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU=>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001
00002 .
RCD002
00004 +
00005 .
RCD003
00007 .
----- End of Report -----

```

Figure 38. Record RCD003 Defined with No Spacing as the Default Spacing Value

RLU overrides the No spacing default and generates a SPACEB(002) keyword in accordance with the RLU spacing rules.

Printing a Report Prototype

While you are designing a report on the Design Report display, and even before you define any record formats or fields, you can print a sample that shows you how the report will look when you actually generate it. You can also print a report sample for an existing RLU source member when you start your session by using the STRRLU command.

For more information about printing report prototypes, see Chapter 8, "Exiting from RLU" on page 153.

Chapter 4. Example: Designing a Report

You are now familiar with the basic RLU concepts, the STRRLU command, and the Design Report display. With this information, you can use RLU to create a simple report. This chapter contains a complete example of designing a simple report and saving it in a new RLU source member.

The following chapters and appendixes contain more detailed information about RLU. You should use the more detailed information after you are familiar with the basic procedures used to create a report.

Assume that you want to create a new source member named REPORT in an existing source physical file called QDDSSRC in library QGPL. The source member you create will be a PRTF type source member, and it will contain the printer file DDS for the report layout you define by using RLU.

This example shows you how to:

- Start RLU
- Change session defaults
- Define record formats
- Define constant fields
- Center a field
- Specify field indicators
- Define named fields
- Reference database fields
- Save a source member
- Prototype a report
- Rename record formats
- Specify record-level keywords
- Specify field-level keywords
- Edit the field line
- Work with a list of fields
- Create sample data
- Mark and move data
- Condition the display
- Create a printer file.

Example Requirements

Because referencing database fields is a task in this example, a database file called DBPF must exist in library QGPL. DBPF must contain DDS for a field reference file that includes the following:

- A 4-character field named DEPT with a column heading Dept
- A 5-character field named PHONE with a column heading Phone.

To create the required database file, do the following:

1. Type the DDS source statements in Figure 39 into a source physical file QDDSSRC using SEU. See the *SEU User's Guide and Reference* for more information. Type the Start SEU (STRSEU) command to call SEU.

A	R INFOR		
A	NAME	20	COLHDG('Name')
A	DEPT	4	COLHDG('Dept')
A	PHONE	5	COLHDG('Phone')

Figure 39. Example DDS

2. Create the database file by using the Create Physical File (CRTPF) command. Make sure that you create the file in library QGPL. For information about using CL commands to create database files, refer to the *Database Guide*.

Starting RLU

To start an RLU session, perform the following steps:

1. Type the STRRLU command in the command line on the AS/400 Main Menu, as shown in Figure 40.

```
MAIN                               AS/400 Main Menu                               System:  TORAS40Z
Select one of the following:
    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. PC Support tasks
    90. Sign off
Selection or command
====> strrlu
-----
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User support
F23=Set initial menu
```

Figure 40. AS/400 Main Menu with STRRLU Command Typed

2. Press F4=Prompt to see the parameters for the STRRLU command. The Start Report Layout Utility (STRRLU) display appears as shown in Figure 41 on page 61.

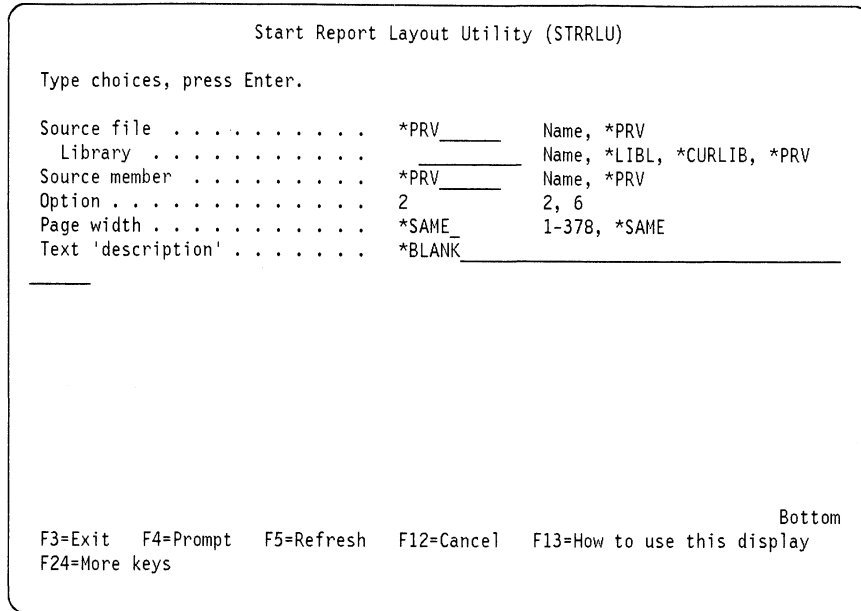


Figure 41. Start Report Layout Utility (STRRLU) Display with Initial Defaults

- Specify that you want to work with a source member called REPORT, which is contained in a source file called QDDSSRC in a library called QGPL. For this example, also specify a page width of 71.

This is shown in Figure 42.

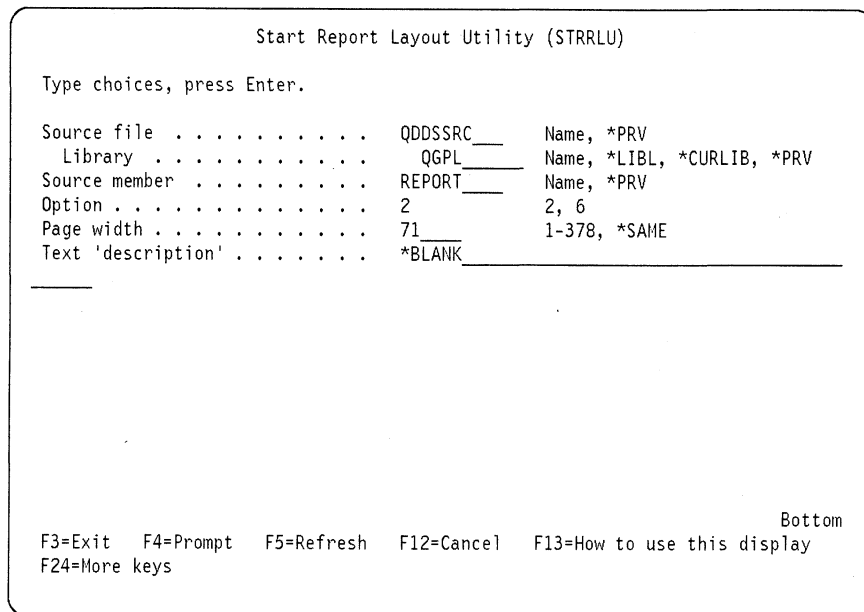


Figure 42. Start Report Layout Utility (STRRLU) Display with Parameters Typed

- Press Enter. You see a display very briefly that tells you RLU is loading the contents of the source member into the work space. Then you see a blank Design Report display, since you are creating a new source member, as shown in Figure 43 on page 62.


```

Columns . . . : 1 71      Design Report      QGPL/QDSSRC
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
DR    ABC COMPANY - Employee Directory
----- End of Report -----

F13=Change session defaults  F14=Find/Change options
F15=Browse/Copy options      F24=More keys

```

Figure 45. Design Report Display with Define Record (DR) Command Typed

4. Press Enter. The name of the record format that RLU automatically generates appears in the sequence number area of the line.

This is shown in Figure 46.

```

Columns . . . : 1 71      Design Report      QGPL/QDSSRC
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
RCD001 ABC COMPANY - Employee Directory
----- End of Report -----

F13=Change session defaults  F14=Find/Change options
F15=Browse/Copy options      F24=More keys

```

Figure 46. Design Report Display with Record Format Defined

5. Because the text on the report line is the report title, define it as a constant field. Type the Define Constant (DC) command shown in Figure 47 on page 64.

```

Columns . . . :   1 71          Design Report          QGPL/QDDSSRC
RLU=>          _____ REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
DC 001 ABC COMPANY - Employee Directory
----- End of Report -----

F13=Change session defaults  F14=Find/Change options
F15=Browse/Copy options      F24=More keys

```

Figure 47. Design Report Display with the Define Constant (DC) Command Typed

6. Press Enter. You see a message indicating that an unnamed (constant) field is created in the record format. You also see a field line immediately above the field you just created.
7. Before you define more fields and record formats, center the report title by using the Center Field (CF) line command, as shown in Figure 48.

```

Columns . . . :   1 71          Design Report          QGPL/QDDSSRC
RLU=>          _____ REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1   <.....>
CF     ABC COMPANY - Employee Directory
----- End of Report -----

F13=Change session defaults  F14=Find/Change options
F15=Browse/Copy options      F24=More keys
Unnamed field created in record format RCD001.

```

Figure 48. Design Report Display with Center Field (CF) Command Typed

8. Press Enter. RLU centers the field relative to the report page width you specified when you started RLU and this new position is reflected in the field definition.

9. To continue designing your report, use the Insert line command to add four new blank lines to the display. Type I4 in the sequence number area of the existing report line and press Enter. You see four new blank lines.
10. Leave the first blank line as a filler line and then type the text for four headings and four fields on the next two blank lines, as shown in Figure 49.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1      <.....>
RCD001      ABC COMPANY - Employee Directory
.....
..... Employee name      Dept      Phone      Status
..... xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn      xnnnn      x
.....
----- End of Report -----

F13=Mark/Unmark data  F14=Copy marked data
F15=Move marked data  F24=More keys

```

Figure 49. Design Report Display with More Text Typed

11. Define the line containing the headings as a record format by typing the Define Record (DR) line command, as shown in Figure 50.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1      <.....>
RCD001      ABC COMPANY - Employee Directory
.....
DR'..... Employee name      Dept      Phone      Status
..... xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn      xnnnn      x
.....
----- End of Report -----

F13=Mark/Unmark data  F14=Copy marked data
F15=Move marked data  F24=More keys

```

Figure 50. Design Report Display with Define Record (DR) Command Typed

12. Press Enter.
13. Define the first field in the line by using F11=Define field. You see the Define Field Information display shown in Figure 51 on page 66.

```

Define Field Information

Edited length . . . . . : 13
Record format . . . . . : RCD002
Number of keywords . . . . . : 0
Number of indicators . . . . . : 0

Type choices, press Enter.

Field . . . . . FLD002___ Name
Option indicators . . . . . ___ ___ 01-99, N01-N99
More indicators . . . . . N ___ Y=Yes, N=No
Starting line . . . . . ___ 1-255
Starting position . . . . . ___1 1-255, +nn
Length of data . . . . . ___13 1-378, +nn, -nn
Data type . . . . . 1 1=Character
2=Zoned
3=Floating point
Decimal positions . . . . . ___ 0-31, +n, -n

More...
F3=Exit F5=Refresh F10=Work with keywords F11=Convert to constant field
F12=Cancel

```

Figure 51. Define Field Information Display

- Because the field represents a heading, define the field as a constant field by using F11 = Convert to constant field. When you press F11 = Convert to constant field on the Define Field Information display, the display changes as shown in Figure 52.

```

Define Field Information

Edited length . . . . . : 13
Record format . . . . . : RCD002
Number of keywords . . . . . : 1
Number of indicators . . . . . : 0
Constant keyword . . . . . : 'Employee name'

Type choices, press Enter.

Option indicators . . . . . ___ ___ 01-99, N01-N99
More indicators . . . . . N ___ Y=Yes, N=No
Starting line . . . . . ___ 1-255
Starting position . . . . . ___1 1-255, +nn

F3=Exit F5=Refresh F10=Work with keywords F11=Convert to named field
F12=Cancel

```

Figure 52. Define Field Information Display for New Constant Field

- Press Enter to return the Design Report display.
- Define the Dept and Phone fields as constants. Use the function keys F11 = Define field and F11 = Convert to constant field described in steps 13 and 14.
- Define the Status field as a constant, and define an indicator for it so that you can condition it on the Design Report display or when you prototype the

report. Use the *Option indicators* prompt to define an indicator for the field, as shown in Figure 53.

```

                                Define Field Information

Edited length . . . . . : 6
Record format . . . . . : RCD002
Number of keywords . . . . . : 1
Number of indicators . . . . . : 0
Constant keyword . . . . . : 'Status'

Type choices, press Enter.

Option indicators . . . . . 01_  _  01-99, N01-N99
More indicators . . . . . N      Y=Yes, N=No
Starting line . . . . .      1-255
Starting position . . . . . +52  1-255, +nn

F3=Exit  F5=Refresh  F10=Work with keywords  F11=Convert to named field
F12=Cancel
  
```

Figure 53. Define Field Information Display with Indicator Specified

Note that the field is not conditioned until you turn the indicator on or off using the Condition Design Report Display.

18. Press Enter to return to the Design Report display.
19. Define the text you typed on the display under the headings as another record format by entering DR in the sequence number area of the line.
20. Define the text in the record format as four separate fields by using the Define Fields (DF) line command, as shown in Figure 54.

```

Columns . . . . : 1 71          Design Report          QGPL/QDDSSRC
RLU=>
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
      ----- Start of Page 001 -----
FLD1  <.....>
RCD001          ABC COMPANY - Employee Directory
00002 .
FLD1  <.....>          <..>  <...>  <....>
RCD002 Employee name          Dept  Phone  Status
DF      xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  xnnnn  x
      ----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
  
```

Figure 54. Design Report Display with Define Fields (DF) Command Typed

21. Press Enter. RLU defines each text string separated by more than two blanks as a new field and you see a message indicating that four fields are created in the record format, as shown in Figure 55.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>      _____      REPORT
BASE      ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1      <.....>
RCD001      ABC COMPANY - Employee Directory
00002 .
FLD1      <.....>      <.>      <...>      <...>
RCD002      Employee name      Dept      Phone      Status
FLD1      <.....>      <.>      <...>      *
RCD003      xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx      nnnn      xnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
DF created 4 fields in record format RCD003.

```

Figure 55. Design Report Display with Four New Fields Created

22. Accept the default values for the first field in the line (a field length of 44, for example, and a data type of character, because you typed 44 characters to represent the field on the display).
 23. Refer to a database file for the field definitions of the next two fields on the line. To specify the database field to reference for the first of the two fields, move the cursor to the first position of the field and press F23 = Field keywords. The Work with Field Keywords display appears as shown in Figure 56 on page 69.
- Note:** You can also reference database fields by building a list of them and adding the reference number to the field line. For more information, see "Using a List of Database Fields and a Field Line" on page 139. If you use this method, continue with this example at step 32 on page 72.

```

Work with Field Keywords
Field . . . . . : FLD005      Record format . . . . . : RCD003
Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    ALIAS        -    EDTCDE      -    SKIPA
-    BARCODE     -    EDTWRD     -    SKIPB
-    BLKFOLD     -    FLTFIXDEC  -    SPACEA
-    CDEFNT      -    FLTPCN     -    SPACEB
-    CHRID       -    FNTCHRSET  -    TEXT
-    CHRSIZ     -    FONT       -    TIME
-    COLOR      -    HIGHLIGHT -    TRNSPY
-    CPI        -    INDXTX    -    UNDERLINE
-    CVTDTA     -    MSGCON    -
-    DATE       -    PAGNBR    -
-    DFT        -    PRTQLTY   -
-    DLTEDT     2    REFFLD

Bottom
F3=Exit  F5=Refresh  F9=Input keyword parameters  F10=Specify information
F12=Cancel  F16=Remove all keywords

```

Figure 56. Work with Field Keywords Display for New Field

24. Specify the database field to reference by using the Reference Field (REFFLD) keyword. Select the REFFLD keyword by typing 2 in the keyword list, as shown in Figure 57.

```

Work with Field Keywords
Field . . . . . : FLD005      Record format . . . . . : RCD003
Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    ALIAS        -    EDTCDE      -    SKIPA
-    BARCODE     -    EDTWRD     -    SKIPB
-    BLKFOLD     -    FLTFIXDEC  -    SPACEA
-    CDEFNT      -    FLTPCN     -    SPACEB
-    CHRID       -    FNTCHRSET  -    TEXT
-    CHRSIZ     -    FONT       -    TIME
-    COLOR      -    HIGHLIGHT -    TRNSPY
-    CPI        -    INDXTX    -    UNDERLINE
-    CVTDTA     -    MSGCON    -
-    DATE       -    PAGNBR    -
-    DFT        -    PRTQLTY   -
-    DLTEDT     2    REFFLD

Bottom
F3=Exit  F5=Refresh  F9=Input keyword parameters  F10=Specify information
F12=Cancel  F16=Remove all keywords

```

Figure 57. Work with Field Keywords Display with REFFLD Selected

25. Press Enter. The Specify Referenced Field display appears as shown in Figure 58 on page 70.

Note: If you already used one of the database reference displays in this RLU session, the *Record format*, *File*, and *Library* prompts may contain default values.

```

                                Specify Referenced Field
Keyword . . . . . : REFFLD
Field . . . . . : FLD006
Record format . . . . . : RCD003

Type choices, press Enter.

Field . . . . . _____ Name
                                F4 for list
Record format . . . . . _____ Name
                                F4 for list

File . . . . . _____ Name
                                *SRC
                                F4 for list
Library . . . . . _____ Name
                                *CURLIB
                                *LIBL

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 58. Specify Referenced Field Display for New Field

26. Specify the database field, record format, file, and library to reference, as shown in Figure 59.

```

                                Specify Referenced Field
Keyword . . . . . : REFFLD
Field . . . . . : FLD006
Record format . . . . . : RCD003

Type choices, press Enter.

Field . . . . . DEPT_____ Name
                                F4 for list
Record format . . . . . INFOR_____ Name
                                F4 for list

File . . . . . DBPF_____ Name
                                *SRC
                                F4 for list
Library . . . . . QGPL_____ Name
                                *CURLIB
                                *LIBL

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 59. Specify Referenced Field Display with Database Reference Specified

27. Press Enter. You see a message indicating that errors exist because you have not yet specified the reference in the field definition. Press Enter again to continue and you return to the Work with Field Keywords display. You see a symbol next to REFFLD in the list to indicate that REFFLD is now specified for the field, as shown in Figure 60 on page 71.

```

Work with Field Keywords
Field . . . . . : FLD005      Record format . . . . . : RCD003
Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    ALIAS        -    EDTCDE      -    SKIPA
-    BARCODE     -    EDTWRD     -    SKIPB
-    BLKFOLD     -    FLTFIXDEC  -    SPACEA
-    CDEFNT      -    FLTPCN     -    SPACEB
-    CHRID       -    FNTCHRSET  -    TEXT
-    CHRSIZ     -    FONT       -    TIME
-    COLOR      -    HIGHLIGHT -    TRNSPY
-    CPI        -    INDTXT     -    UNDERLINE
-    CVTDTA     -    MSGCON
-    DATE       -    PAGNBR
-    DFT        -    PRTQLTY
-    DLTEDT    >    REFFLD

Bottom
F3=Exit  F5=Refresh  F9=Input keyword parameters  F10=Specify information
F12=Cancel  F16=Remove all keywords
Specify reference in FLD005 for REFFLD.

```

Figure 60. Work with Field Keywords Display with REFFLD Specified

28. Add the database reference to the field definition by pressing F10=Specify information. The Specify Field Information display appears. To see the bottom part of this display, use the roll keys. The Specify Field Information display appears as shown in Figure 61.

```

Specify Field Information

Edited length . . . . . : 4
Record format . . . . . : RCD003
Number of keywords . . . . . : 1
Number of indicators . . . . . : 0

Type choices, press Enter.

Reference a field . . . . . N      Y=Yes, N=No
Use referenced values . . . . . Y  Y=Yes, N=No

Bottom
F3=Exit  F5=Refresh  F11=Convert to constant field  F12=Cancel

```

Figure 61. Specify Field Information Display (Bottom Half)

29. Use the values (length and data type) from the referenced database field for the field you are currently defining. Note that you can overwrite the referenced values later in this edit session by defining a different length or data type for the field. Specify that you are referencing a database field and that you are using the values from the database field definition, as shown in Figure 62 on page 72.

```

Specify Field Information

Edited length . . . . . : 4
Record format . . . . . : RCD003
Number of keywords . . . . . : 1
Number of indicators . . . . . : 0

Type choices, press Enter.

Reference a field . . . . . Y           Y=Yes, N=No
Use referenced values . . . . . Y       Y=Yes, N=No

F3=Exit  F5=Refresh  F11=Convert to constant field  F12=Cancel

Bottom

```

Figure 62. Specify Field Information Display with Reference and Referenced Values Specified

30. Press Enter and you return to the Work with Field Keywords display. Then press Enter again and return to the Design Report display. Note that because you referenced a database field using the REFFLD keyword only, RLU does not resolve the database reference for the Design Report display and you do not see the column heading associated with the database field on the display.
31. Move the cursor to the next field in the current line. Reference the field named PHONE in record format INFOR from file DBPF in library QGPL. Specify a database field to reference using the REFFLD keyword and the *Reference a field* prompt on the Specify Field Information display, as you did for the previous field (described in steps 23 to 30).
32. Move the cursor to the last field on the line. Specify an indicator for this field to condition the field on and off. Press F23=Field keywords and then press F10=Specify information. Specify the same indicator (01) you defined for the field above this field as described in step 17.

Printing the Report Prototype

To leave the Design Report display temporarily to save what you have defined so far in the source member and print a prototype of the report to make sure that it appears as you want it to, perform the following steps:

1. Press F3=Exit and you see the Exit RLU display, as shown in Figure 63 on page 73.

Exit RLU		
Type choices, press Enter.		
Option	1	1=Save and exit 2=Exit without saving 3=Resume
Member	REPORT____	Name
File	QDSSRC____	Name
Library	QGPL____	Name
Text		
<hr/>		
Create printer file	N	Y=Yes, N=No
Change defaults	N	Y=Yes, N=No
Prototype report	N	Y=Yes, N=No
Change defaults	N	Y=Yes, N=No
Submit to batch	N	Y=Yes, N=No
Job description	*USRPRF____	Name, *USRPRF, *RLU
Library	_____	Name, *LIBL, *CURLIB
F5=Refresh F12=Cancel		

Figure 63. Exit RLU Display for New Source Member

- Specify that you want to save the report design in the source member, source file, and library that you specified when you started your edit session. Also specify that you want to create a prototype of the report.

This is shown in Figure 64.

Exit RLU		
Type choices, press Enter.		
Option	1	1=Save and exit 2=Exit without saving 3=Resume
Member	REPORT____	Name
File	QDSSRC____	Name
Library	QGPL____	Name
Text		
<hr/>		
Create printer file	N	Y=Yes, N=No
Change defaults	N	Y=Yes, N=No
Prototype report	Y	Y=Yes, N=No
Change defaults	N	Y=Yes, N=No
Submit to batch	N	Y=Yes, N=No
Job description	*USRPRF____	Name, *USRPRF, *RLU
Library	_____	Name, *LIBL, *CURLIB
F5=Refresh F12=Cancel		

Figure 64. Exit RLU Display with Prototype Report Specified

- Press Enter. You see a message telling you that the source member is being saved. Then you see another message indicating that the report prototype printer file is being created. Finally, you see a message telling you that the printer file is successfully created.

You exit from RLU and automatically return to the AS/400 Main Menu, where another message describes the source member you saved and how many records in that source member you added or changed.

Note: You can also create a prototype of the report by specifying the value 6 for the OPTION parameter of the STRRLU command. For more information, see "Using the STRRLU (Start Report Layout Utility) Command" on page 19.

Changing Record Formats and Fields

To resume report design and edit the existing record formats and fields, perform the following steps:

1. Restart RLU from the AS/400 Main Menu, as shown in Figure 65.

```
MAIN                               AS/400 Main Menu                               System:  TORAS40Z
Select one of the following:
    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. PC Support tasks

   90. Sign off

Selection or command
====> strrlu_____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User support
F23=Set initial menu
Member REPORT added to file QGPL/QDDSSRC.
```

Figure 65. AS/400 Main Menu with STRRLU Command Typed Again

2. RLU recalls which source member you worked with in your last session and uses that source member as the default value for the STRRLU command. Press Enter and you see the report design you created in the last RLU session on the Design Report display, as shown in Figure 66 on page 75.


```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU=>          REPORT
BASE  .... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1          <.....>
RCD001          ABC COMPANY - Employee Directory
00002 .
FLD1  <.....>          <..>  <..>  <....>
RCD002 Employee name          Dept  Phone  Status
FLD1  <.....>          <..>  <....>  *
RCD003 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  xnnnn  x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 66. Design Report Display with Existing Report Design

3. Change some of your edit session defaults. Press F22=Alternative keys, and then press F13=Change session defaults. The Change Session Defaults display appears as shown in Figure 67.

```

Change Session Defaults

Type choices, press Enter.

Amount to roll . . . . . H_      H=Half, F=Full
                                   C=Cursor, D=Data
                                   1-999
Uppercase input only . . . . . N      Y=Yes, N=No
Show all field lines . . . . . Y      Y=Yes, N=No
Full screen mode . . . . . N      Y=Yes, N=No

Insert marked data . . . . . N      Y=Yes, N=No
Replace marked data . . . . . N      Y=Yes, N=No
Semantic checking:
  When added/modified . . . . . Y      Y=Yes, N=No
  From page number . . . . . _____ 000-999
  Line number . . . . . _____ 00000-32767
  To page number . . . . . _____ 000-999
  Line number . . . . . _____ 00000-32767
Printer device type . . . . . 1 _____ 1=SCS, 2=IPDS, 3=AFPDS
                                   More. . .

F3=Exit      F5=Refresh      F12=Cancel
F14=Find/Change options  F15=Browse/Copy options

```

Figure 67. Change Session Defaults Display with Initial Defaults

4. Specify that you want to replace marked data when you are marking and moving an area of data during your edit session. Also specify that you want to insert marked data when you move it. Unless you change these defaults again, the data to the right of the data you move shifts to the left to replace the moved data and data in the target area shifts to the right to accommodate the moved data. Leave all the other defaults unchanged.

This is shown in Figure 68 on page 76.

```

Change Session Defaults

Type choices, press Enter.

Amount to roll . . . . . H_      H=Half, F=Full
                                C=Cursor, D=Data
                                1-999
Uppercase input only . . . . . N      Y=Yes, N=No
Show all field lines . . . . . Y      Y=Yes, N=No
Full screen mode . . . . . N        Y=Yes, N=No

Insert marked data . . . . . Y        Y=Yes, N=No
Replace marked data . . . . . Y        Y=Yes, N=No
Semantic checking:
  When added/modified . . . . . Y      Y=Yes, N=No
  From page number . . . . . _        000-999
    Line number . . . . . _          00000-32767
  To page number . . . . . _          000-999
    Line number . . . . . _          00000-32767
Printer device type . . . . . 1        1=SCS, 2=IPDS, 3=AFPDS
                                        More. . .

F3=Exit      F5=Refresh  F12=Cancel
F14=Find/Change options  F15=Browse/Copy options

```

Figure 68. Change Session Defaults Display with Marked Data Options Specified

5. Press Enter. You return to the Design Report display.
6. Change the names that RLU automatically generated for the record formats in your report design to more meaningful names. Press F22 = Base keys to see the base set of function keys at the bottom of the display. Then position the cursor on record format RCD001 and press F18 = Record keywords. The Work with Record Keywords display appears as shown in Figure 69.

```

Work with Record Keywords

Record format . . . . : RCD001

Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    CDEFNT        -    SKIPA
-    CHRISZ        -    SKIPB
-    CPI           -    SPACEA
-    DFNCHR        -    SPACEB
-    DRAWER        -    TEXT
-    FNTCHRSET
-    FONT
-    HIGHLIGHT
-    INDTXT
-    LPI
-    PAGRTT
-    PRTQLTY

Bottom

F3=Exit      F5=Refresh  F9=Input keyword parameters  F10=Rename record
F12=Cancel   F16=Remove all keywords

```

Figure 69. Work with Record Keywords Display for Record Format RCD001

7. Press F10 = Rename record. The Rename Record Format display appears as shown in Figure 70 on page 77.

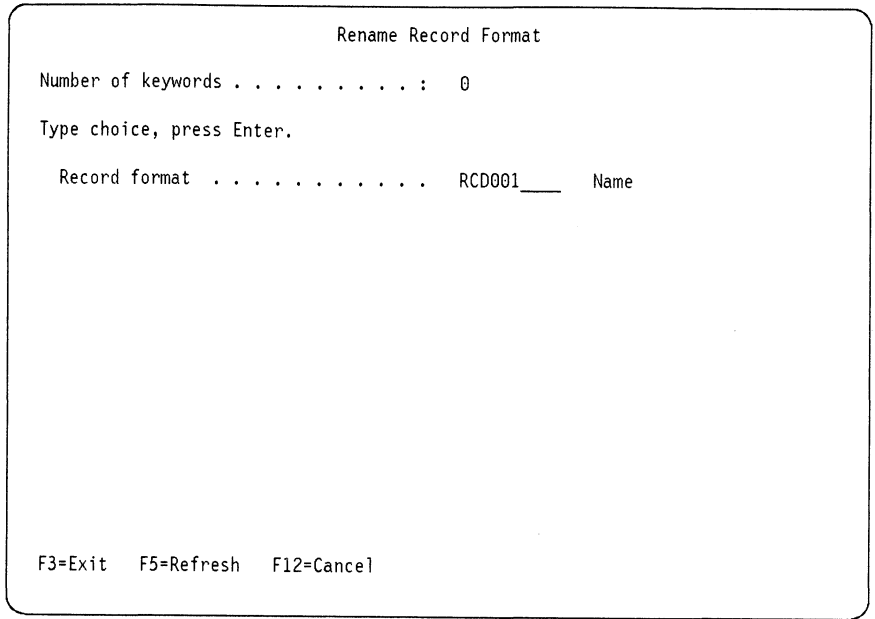


Figure 70. Rename Record Format Display for Record Format RCD001

8. Specify a new name for the record format as shown in Figure 71.

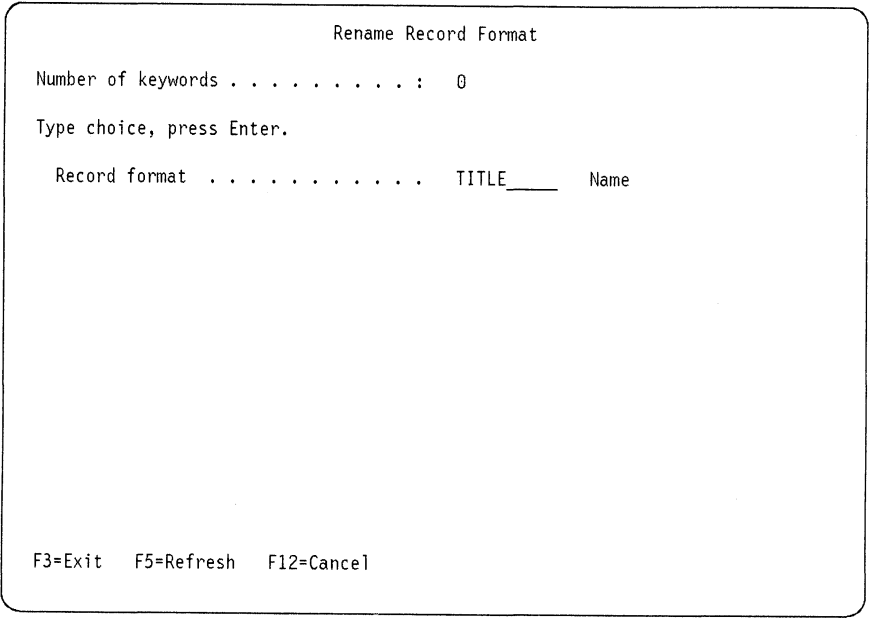


Figure 71. Rename Record Format Display with New Name Specified

9. Press Enter. RLU renames the record format on the Design Report display and in the source. You return to the Work with Record Keywords display. Press Enter again to return to the Design Report display. You see the record format renamed, as shown in Figure 72 on page 78.

```

Columns . . . : 1 71          Design Report          QGPL/QDDSSRC
RLU==>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
TITLE  ABC COMPANY - Employee Directory
00002 .
FLD1  <.....>
RCD002 Employee name          Dept  Phone  Status
FLD1  <.....>
RCD003 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  xnnnn  x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 72. Design Report Display with Record Format Renamed

10. On the Design Report display, you left a filler line below the record format you are working with. Delete the filler line and define two blank lines separating the record format from the next record format.

Note: If you leave a filler line between 2 records, RLU generates the Space Before keyword with a value of 2 lines [SPACEB(002)] for the second record format.

Type D in the sequence number area of the filler line and press Enter to delete the filler line.

11. Use a keyword for record format RCD002 to add two blank lines immediately before it. Position the cursor on record format RCD002 and press F18 = Record keywords. The Space Before (SPACEB) keyword is already specified for RCD002, with a value of 1 line. Specify additional spacing lines by selecting SPACEB on the Work with Record Keywords display, as shown in Figure 73 on page 79.

```

Work with Record Keywords

Record format . . . . . : RCD002

Type options, press Enter.
  2=Specify  4=Remove

Opt   Keyword           Opt   Keyword           Opt   Keyword
-     CDEFNT            -     SKIPA
-     CHRISZ            -     SKIPB
-     CPI               -     SPACEA
-     DFNCHR            2 >  SPACEB
-     DRAWER           -     TEXT
-     FNTCHRSET
-     FONT
-     HIGHLIGHT
-     INDXTX
-     LPI
-     PAGRTT
-     PRTQLTY

Bottom
F3=Exit    F5=Refresh  F9=Input keyword parameters  F10=Rename record
F12=Cancel F16=Remove all keywords

```

Figure 73. Work with Record Keywords with the SPACEB Keyword Selected

12. Press Enter. The Specify Space Before display appears as shown in Figure 74.

```

Specify Space Before

Keyword . . . . . : SPACEB
Record format . . . . . : RCD002
Number of indicators . . . . . : 0

Type choices, press Enter.

Number of lines to space before
printing . . . . .  _1      0-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .  N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 74. Specify Space Before Display for Record Format RCD002

13. Specify that you want a space of two additional blank lines before record format RCD002, as shown in Figure 75 on page 80.

```

                                Specify Space Before
Keyword . . . . . : SPACEB
Record format . . . . . : RCD002
Number of indicators . . . . . : 0

Type choices, press Enter.

Number of lines to space before
printing . . . . .  _3          0-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .  N       Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 75. Specify Space Before Display with Space Lines Specified

14. Press Enter. SPACEB is specified for the record format with a new value and you return to the Work with Record Keywords display.
15. Press Enter again to return to the Design Report display. The two blank lines you specified with SPACEB appear on the display as filler lines before record format RCD002. This is shown in Figure 76.

```

Columns . . . : 1 71          Design Report          QGPL/QDSSRC
RLU==>
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
TITLE  ABC COMPANY - Employee Directory
00002 .
00003 .
FLD1  <.....>          <..>  <...>  <...>
RCD002 Employee name          Dept   Phone   Status
FLD1  <.....>          <..>  <...>  *
RCD003 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  xnnnn  x
----- End of Report -----

F17=File keywords  F18=Record keywords
F23=Field keywords F24=More keys

```

Figure 76. Design Report Display with Space Lines Added

16. Rename record formats RCD002 and RCD003. Specify HEADING as the new name for RCD002 and DETAILS as the new name for RCD003. Refer to steps 6 on page 76 to 9 on page 77.
17. Define the constant field that represents the title of the report further by specifying that the field be underlined. Position the cursor on the field and

press F23=Field keywords. The Work with Field Keywords display appears. Select the UNDERLINE keyword for the field as shown in Figure 77.

```

Work with Field Keywords
Field . . . . . : 'ABC CO... Record format . . . . . : TITLE
Type options, press Enter.
2=Specify 4=Remove

Opt Keyword Opt Keyword Opt Keyword
- ALIAS - EDTCDE - SKIPA
- BARCODE - EDTWRD - SKIPB
- BLKFOLD - FLTFIXDEC - SPACEA
- CDEFNT - FLTPCN - SPACEB
- CHRID - FNTCHRSET - TEXT
- CHRSIZ - FONT - TIME
- COLOR - HIGHLIGHT - TRNSPY
- CPI - INDXTX 2 UNDERLINE
- CVTDTA - MSGCON
- DATE - PAGNBR
- > DFT - PRTQLTY
- DLTEDT - REFFLD

Bottom
F3=Exit F5=Refresh F9=Input keyword parameters F10=Specify information
F12=Cancel F16=Remove all keywords

```

Figure 77. Work with Field Keywords Display with the UNDERLINE Keyword Selected

18. Press Enter. The Specify Underline display appears as shown in Figure 78.

```

Specify Underline
Keyword . . . . . : UNDERLINE
Field . . . . . : 'ABC CO...
Record format . . . . . : TITLE
Number of indicators . . . . . : 0
Type choices, press Enter.
Option indicators . . . . . _ _ _ 01-99, N01-N99
More indicators . . . . . N Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword

```

Figure 78. Specify Underline Display for Existing Field

19. Press Enter and return to the Work with Field Keywords display. RLU specifies underlining for the field. Note that when you return to the Design Report display, the field does not appear underlined. The field definition is changed, however, and to see how the field appears when printed, you can prototype the report.
20. Press Enter again on the Work with Field Keywords display to return to the Design Report display.

21. Change the position of the report title so that it begins at the start of the line.

To move the report title, edit the field line by deleting blanks between the first position in the field line and the left field delimiter, as shown in Figure 79.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
TITLE  ABC COMPANY - Employee Directory
00002 .
00003 .
FLD1  <.....>          <..>  <...>  <...>
HEADING Employee name          Dept  Phone  Status
FLD1  <.....>          <..>  <...>  *
DETAILS xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F17=File keywords  F18=Record keywords
F23=Field keywords F24=More keys

```

Figure 79. Design Report Display with Field Line Edited

22. Press Enter. The field on the report line moves to the start of the line on the display and in the field definition. Note that if you use the delete or insert keys to move the field text rather than the field representation on the field line, the text will physically move on the display but the field definition does not change. You must use the field line to change the field position with the delete and insert keys.
23. To work with the fields in record format HEADING on the display, use a list of all the fields in the record format. Position your cursor on record format HEADING and press F4=Fields. The Work with Fields display appears as shown in Figure 80 on page 83.


```

Work with Fields

Record format . . . . . : HEADING

Type options, press Enter.
  2=Change  5=Work with keywords

Opt  Field                Line  Position  Length  -Indicators--
-   'Employee_name' _____  1
-   'Dept' _____          +35
-   'Phone' _____         +4
-   'Status' _____         +4                01

F3=Exit  F5=Refresh  F11=Display interpreted values  F12=Cancel

Bottom

```

Figure 80. Work with Fields Display for Record Format HEADING

24. Specify that you want to work with keywords for the fourth field in the list, as shown in Figure 81.

```

Work with Fields

Record format . . . . . : HEADING

Type options, press Enter.
  2=Change  5=Work with keywords

Opt  Field                Line  Position  Length  -Indicators--
-   'Employee Name' _____  1
-   'Dept' _____          +35
-   'Phone' _____         +4
5   'Status' _____         +4                01

F3=Exit  F5=Refresh  F11=Display interpreted values  F12=Cancel

Bottom

```

Figure 81. Work with Fields Display with Field Specified

25. Press Enter. The Work with Field Keywords display appears.
26. Specify that you want the field to appear in bold type. Select the Highlight (HIGHLIGHT) keyword in the list by typing 2 next to HIGHLIGHT.
27. Press Enter and the Specify Highlight display appears as shown in Figure 82 on page 84.

```

Specify Highlight
Keyword . . . . . : HIGHLIGHT
Field . . . . . : 'Status'
Record format . . . . . : HEADING
Number of indicators . . . . . : 0

Type choices, press Enter.

Option indicators . . . . . _ _ _ 01-99, N01-N99
More indicators . . . . . N Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword

```

Figure 82. Specify Highlight Display for Existing Field

28. The only parameters to specify are option indicators, so press Enter to specify HIGHLIGHT for the field and return to the Work with Field Keywords display. Press Enter again to return to the Work with Fields list display. Press Enter once more to return to the Design Report display.
29. To give your report design a more realistic appearance on the display and when you prototype the report, create five lines of sample data for the fields in the record format DETAILS. Type the Sample Data (SD) line command on the report line as shown in Figure 83.

```

Columns . . . : 1 71          Design Report          QGPL/QDDSSRC
RLU==>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
      TITLE ABC COMPANY - Employee Directory
00002 .
00003 .
FLD1  <.....>          <.>  <...>  <...>
HEADING Employee name          Dept  Phone  Status
FLD1  <.....>          <.>  <...>  *
SD5   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
      nnnn  xnnnn  x
----- End of Report -----

F4=Fields  F5=Refresh  F10=Database fields
F19=Left   F20=Right   F24=More keys

```

Figure 83. Design Report Display with Sample Data (SD) Command Typed

30. Press Enter. RLU generates five lines of sample data immediately below the report line, as shown in Figure 84 on page 85.

```

Columns . . . : 1 71          Design Report          QGPL/QDSSRC
RLU==>
BASE  .... 1 .... 2 .... 3 .... 4 .... 5 .... 6 .... 7
----- Start of Page 001 -----
FLD1  <.....>
      TITLE ABC COMPANY - Employee Directory
00002 .
00003 .
FLD1  <.....>
HEADING Employee name          Dept      Phone      Status
FLD1  <.....>
DETAILS xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00006 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00007 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00008 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00009 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00010 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F4=Fields  F5=Refresh  F10=Database fields
F19=Left   F20=Right   F24=More keys

```

Figure 84. Design Report Display with Sample Data Created

31. Move the second field and its associated sample data in record format DETAILS to a new position as the first field in the record format, starting at the beginning of the line. Also move the constant Dept above the field in the record format HEADING.

Mark the data area and then move it to perform this operation. Note that you previously changed your session defaults to specify that you want to insert moved data and shift data to replace blank space when you perform mark and move operations. For more information, see steps 3 on page 75 to 5 on page 76.

Mark the top-left corner of the data area to move by placing the cursor on the first position of the constant Dept and pressing F13=Mark/Unmark data. The constant Dept appears in reverse image.

32. Mark the bottom-right corner of the data area to move by placing the cursor anywhere in the field below Dept in record format DETAILS and press F13=Mark/Unmark data. The entire field, and Dept, now appear in reverse image.
33. Move the data area by placing the cursor in the first position of the record format HEADING and press F15=Move marked data. The Design Report display appears as shown in Figure 85 on page 86.

```

Columns . . . : 1 71      Design Report      QGPL/QDDSSRC
RLU==>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
      TITLE ABC COMPANY - Employee Directory
00002 .
00003 .
FLD1  <..><.....>          <...>  <....>
HEADING DeptEmployee Name          Phone  Status
FLD1  <..><.....>          <...>  *
DETAILS nnnxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00006 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00007 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00008 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00009 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
00010 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F13=Mark/Unmark data  F14=Copy marked data
F15=Move marked data  F24=More keys

```

Figure 85. Design Report Display with Marked Data Moved

The field, along with the constant, have moved to the new position you specified. The data already in the target area shifted to the right, and the data to the right of the moved data shifted to the left to occupy the blank space left by the data move. All the field definitions are automatically changed in the source to reflect the new positions.

Conditioning Fields

In “Defining Record Formats and Fields” on page 62, you specified an indicator for two fields: the constant Status in record format HEADING, and the last field in record format DETAILS (described in steps 17 on page 66 and 32 on page 72). To condition the Design Report display so that the indicator specified for these two fields is off and the field does not show on the display, perform the following steps:

1. Press F6=Condition display and the Condition Design Report Display appears, as shown in Figure 86 on page 87.

```

Condition Design Report Display

Number of indicators specified for
new fields and keywords . . . . . : 0

Type choices, press Enter.

Condition display . . . . . N           Y=Yes, N=No
For choice Y=Yes:
  Indicators on . . . . .  _ _ _ _ _ 01-99
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _

Indicators for new fields and
keywords . . . . .  _ _ _ _ _ 01-99, N01-N99
More indicators . . . . . N           Y=Yes, N=No
Generate reference field keyword Y     Y=Yes, N=No

F3=Exit  F5=Refresh  F11=Default indicators to on  F12=Cancel

```

Figure 86. Condition Design Report Display to Condition Fields

2. Press F11=Default indicators to on so that the *Indicators on* prompt changes to *Indicators off*, as shown in Figure 87.

```

Condition Design Report Display

Number of indicators specified for
new fields and keywords . . . . . : 0

Type choices, press Enter.

Condition display . . . . . N           Y=Yes, N=No
For choice Y=Yes:
  Indicators off . . . . .  _ _ _ _ _ 01-99
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _
                        _ _ _ _ _

Indicators for new fields and
keywords . . . . .  _ _ _ _ _ 01-99, N01-N99
More indicators . . . . . N           Y=Yes, N=No
Generate reference field keyword Y     Y=Yes, N=No

F3=Exit  F5=Refresh  F11=Default indicators to off  F12=Cancel

```

Figure 87. Condition Design Report Display with Indicators Defaulted to Off

3. Specify that you want to condition the Design Report display and specify the indicator that you want to turn off, as shown in Figure 88 on page 88.

```

Condition Design Report Display

Number of indicators specified for
new fields and keywords . . . . . : 0

Type choices, press Enter.

Condition display . . . . . Y           Y=Yes, N=No
For choice Y=Yes:
  Indicators off . . . . . 01 _ _ _ _ 01-99
  _ _ _ _ _
  _ _ _ _ _
  _ _ _ _ _
  _ _ _ _ _
  _ _ _ _ _

Indicators for new fields and
keywords . . . . . N _ _ _ _ 01-99, N01-N99
More indicators . . . . . Y           Y=Yes, N=No
Generate reference field keyword Y           Y=Yes, N=No

F3=Exit  F5=Refresh  F11=Default indicators to off  F12=Cancel

```

Figure 88. Condition Design Report Display with Conditioning Specified

4. Press Enter. You return to the Design Report display and the fields you conditioned do not appear on the display. This is shown in Figure 89.

```

Columns . . . . : 1 71           Design Report           QGPL/QDDSSRC
RLU==>                                     REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
      TITLE ABC COMPANY - Employee Directory
00002 .
00003 .
FLD1  <.><.....>                                     <...>
HEADING DeptEmployee Name                             Phone
FLD1  <.><.....>                                     <...>
DETAILS nnnnxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  xnnnn
00007 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  xxxxx
00008 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  xxxxx
00009 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  xxxxx
00010 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  xxxxx
00011 S xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  xxxxx
----- End of Report -----

F6=Condition display  F9=Retrieve
F21=System command   F24=More keys

```

Figure 89. Design Report Display with Fields Conditioned

Exiting from RLU

For this example, you are now finished designing your report. To exit from RLU, save the changes you made in the current edit session, and create a printer file from the changed source member, perform the following steps:

1. Press F3=Exit to get to the Exit RLU display, which appears as shown in Figure 90 on page 89.

```

Exit RLU

Type choices, press Enter.

Option . . . . . 1          1=Save and exit
                               2=Exit without saving
                               3=Resume

Member . . . . .          REPORT____ Name
File . . . . .            QDDSSRC____ Name
Library . . . . .         QGPL_______ Name
Text . . . . .

-----
Create printer file . . . . . N          Y=Yes, N=No
Change defaults . . . . . N          Y=Yes, N=No
Prototype report . . . . . N          Y=Yes, N=No
Change defaults . . . . . N          Y=Yes, N=No
Submit to batch . . . . . N          Y=Yes, N=No
Job description . . . . . *USRPRF____ Name, *USRPRF, *RLU
Library . . . . . _____ Name, *LIBL, *CURLIB

F5=Refresh  F12=Cancel

```

Figure 90. Exit RLU Display for Changed Source Member

- Specify that you want to save your changes and create a printer file, as shown in Figure 91.

```

Exit RLU

Type choices, press Enter.

Option . . . . . 1          1=Save and exit
                               2=Exit without saving
                               3=Resume

Member . . . . .          REPORT____ Name
File . . . . .            QDDSSRC____ Name
Library . . . . .         QGPL_______ Name
Text . . . . .

-----
Create printer file . . . . . Y          Y=Yes, N=No
Change defaults . . . . . N          Y=Yes, N=No
Prototype report . . . . . N          Y=Yes, N=No
Change defaults . . . . . N          Y=Yes, N=No
Submit to batch . . . . . N          Y=Yes, N=No
Job description . . . . . *USRPRF____ Name, *USRPRF, *RLU
Library . . . . . _____ Name, *LIBL, *CURLIB

F5=Refresh  F12=Cancel

```

Figure 91. Exit RLU Display with Create Printer File Specified

You are not creating a prototype of your report at this point, but note that if you did, the conditioning that you specified for the Design Report display would also apply to the report prototype when printed.

- Press Enter. You see a message informing you that the member is being saved. Then you see another message indicating that the printer file is being created.

You exit from RLU and return to the AS/400 Main Menu, which is shown in Figure 92 on page 90.

```
MAIN                               AS/400 Main Menu                               System:  TORAS40Z
Select one of the following:

    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. PC Support tasks

    90. Sign off

Selection or command
====> _____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User support
F23=Set initial menu
Member REPORT in file QGPL/QDDSSRC changed with 84 records.
```

Figure 92. AS/400 Main Menu after Leaving RLU

Example Source

The member REPORT in QGPL/QDDSSRC now contains the source for the example report design. Figure 93 on page 91 shows the source statements RLU generates for REPORT.

Chapter 5. Working with Record Formats

To define and edit the record formats in your report design and supply the necessary information about them so that RLU can generate DDS source, you use line commands and function keys on the Design Report display.

This chapter describes how you use line commands and function keys to perform the following tasks:

- Define record formats
- Edit record formats
- Specify information about record formats
- Specify record-level keywords.

Defining Record Formats

A record format can be one of the following:

- A single report line containing at least one field
- A group of report lines and filler lines containing at least one field
- One or more report lines and filler lines with associated sample lines containing at least one field.

You can use a line command to define a single report line as a record format or to define a group of lines as a single record format.

Type one of the following commands in the sequence number area of the appropriate lines:

DR	To define this report line as a record format
DRn	(Where n is a number) to define this report line and the next n lines as a single record format
DRR	To define every line between and including this line and the next occurrence of DRR as a single record format.

RLU does the following:

- Automatically generates a name for the record format.

The naming convention RLU uses for record format names is RCDnnn, where nnn is a 3-digit number beginning with 001 (for the first record format you create in your edit session) and incremented as you create each subsequent new record format. If you are editing an existing source member, RLU identifies the highest number already used in a record format name and increments from that number.

- Adds a spacing keyword to the new record format based on the *Record format spacing* default in the user profile.
- Displays the generated name in the sequence number area of the first line of the record format.
- Displays + in the sequence number area of the remaining lines of the record format.

If you have already defined some or all of the lines that you are currently defining as part of a record format, you see an error message and RLU does not make any changes.

After you have defined at least one field in the record format, you can define a record format further by positioning your cursor on any report line or sample line within the record format and pressing F18=Record keywords (B). The Work with Record Keywords display appears, which helps you do the following:

- Change the name of a record format
- Specify keywords for a record format.

For a detailed description of how to define this record information, see “Changing Record Format Names” on page 96 and “Specifying Record-Level Keywords” on page 105.

For information about defining fields, see “Defining Fields Using Line Commands” on page 114 and “Defining Fields Using a Function Key” on page 109.

Example: Defining a Record Format

Figure 94 shows a simple report design on the Design Report display.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          _____ REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
00001 . ABC Company - Employee Directory
00002 .
00003 .
00004 . Dept Employee Name           Phone   Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn   x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 94. Design Report Display with Report Design

Assume that you want to define the title and the headings together as a single record format.

1. Type the commands as shown in Figure 95 on page 95.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
DRR01 . ABC Company - Employee Directory
00002 .
00003 .
DRR04 . Dept Employee Name      Phone      Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 95. Design Report Display with Define Record (DR) Commands Typed

2. Press Enter.

RLU assigns a name to the record format and indicates the type of each line within the record format. This is shown in Figure 96.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
00004 + Dept Employee Name      Phone      Status
00005 . nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 96. Design Report Display with Record Format Defined

See “Example: Defining Named Fields by Using a Line Command” on page 115 for an example of defining a field within a new record format.

Editing Record Formats

To edit defined record formats, you can use line commands and function keys on the Design Report display to perform the tasks described in this section.

Changing Record Format Names

You can change the name of a record format you define on the Design Report display by positioning your cursor on any report or sample line within the record format and pressing F18=Record keywords (B).

The Work with Record Keywords display appears. For more information about how you use this display, see “Specifying Record-Level Keywords” on page 105.

To change the name of the record format you are working with, press F10=Rename record on the Work with Record Keywords display. The Rename Record Format display appears as shown in Figure 97.

```

                                Rename Record Format
Number of keywords . . . . . : 0
Type choice, press Enter.
Record format . . . . . RCD001____ Name

F3=Exit  F5=Refresh  F12=Cancel
```

Figure 97. Rename Record Format Display

You specify a new name for the record format by typing the new name in the *Record format* prompt. Your new name must conform with the following naming conventions:

- One to ten characters in length
- First character must be alphabetic
- Other characters must be alphanumeric
- No embedded blanks.

Note that you can define a maximum of 1 024 unique record formats within a file.

Copying, Moving, and Repeating Record Formats

“Copying Lines” on page 45, “Moving Lines” on page 46, and “Repeating Lines” on page 46 describe how to use the Copy, Move, and Repeat line commands on the Design Report display.

Line commands work on lines rather than record formats. Therefore, to copy, move, or repeat an entire record format to another location on the Design Report display, you must copy, move, or repeat the entire block of lines that make up the record format.

When you are copying, moving, or repeating lines that are only a part of a defined record format to another location within other record formats, be aware of how this affects record formats and line types.

Note: The same considerations also apply to inserting report lines using a skeleton line.

Copying, Moving, and Repeating Report Lines

When you use the Copy, Move, or Repeat line command on a report line, RLU creates a new record format for the copied, moved, or repeated lines.

See “Example: Copying Lines in a Record Format” for an illustration of this result.

Copying, Moving, and Repeating Continuation Lines Only

When you copy, move, or repeat lines from an existing record format but you do not include the first line of the record format, RLU creates a new record format for the copied, moved, or repeated lines and makes the first continuation line of the copied, moved, or repeated lines the first report line of the new record format.

See “Example: Copying Lines in a Record Format” for an illustration of this result.

Copying, Moving, and Repeating Lines to Another Record Format

When you copy, move, or repeat lines to another existing record format, RLU creates a new record format for the original continuation lines in the target record format.

Example: Copying Lines in a Record Format

Figure 98 on page 98 shows a simple report design on the Design Report display with record formats already defined.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name      Phone      Status
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 98. Design Report Display with Record Formats Defined

Assume that you want to copy the blank continuation lines to another location immediately following the headings.

1. Type the commands as shown in Figure 99.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
C2
00003 +
A      Dept Employee Name      Phone      Status
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 99. Design Report Display with Copy Commands Typed

2. Press Enter.

Since the new location for the copied lines is within another record format, RLU splits the target record format into three record formats: two for the original report lines, and one for the copied report lines. This is shown in Figure 100 on page 99.


```

Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name          Phone      Status
RCD004
00006 +
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 100. Design Report Display with Report Lines Copied

Deleting Record Formats

“Deleting Lines” on page 47 describes how to use the Delete line command on the Design Report display.

Line commands work on lines rather than record formats. Therefore, to delete an entire record format on the Design Report display, you must delete the entire block of lines that make up the record format.

RLU deletes the following:

- The text of all fields within the record format on the display
- Any sample data associated with fields in the record format
- All information included in the definition of the record format and its fields.

When you are deleting lines that are only a part of a defined record format, be aware of how this affects record formats and line types.

Deleting the First Report Line in a Record Format

When you delete a single report line that is the first line in a record format with more than one report line, RLU automatically defines the next remaining report line as the first line in the record format and displays the record format name on that line. This also applies when you delete a block of report lines that includes the first report line in the record format.

See “Example: Deleting Lines in a Record Format” on page 100 for an illustration of this result.

Example: Deleting Lines in a Record Format

Figure 101 shows a simple report design on the Design Report display with record formats already defined.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name      Phone      Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
```

Figure 101. Design Report Display with Record Formats Defined

Assume that you want to delete the first line of the first record format.

1. Type the commands as shown in Figure 102.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
D      ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name      Phone      Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
```

Figure 102. Design Report Display with Delete Command Typed

2. Press Enter.

Since you are deleting the first report line from an existing record format, RLU defines the next remaining report line as the new first line and you see

the record format name in the sequence number area of that line. This is shown in Figure 103.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001
00002 +
RCD002 Dept Employee Name      Phone      Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx      nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 103. Design Report Display with Report Line Deleted

Merging Record Formats

You can use a version of the Change Line (CL) line command to merge two existing record formats into a single record format. You make the first line of the record format that you want to merge with the previous record format a continuation line. See “Changing Line Types” on page 103 for a description of how to change line types.

Specifying Page Breaks

You can use a line command to specify up to 999 page breaks in your report design on the Design Report display. You can specify a page break on any report line, but not on a sample line or a continuation line within a record format.

Type the following command in the sequence number area of the appropriate line:

NP To start a new page after this line.

RLU does the following:

- Adds a line that marks the page break
- Renumbers the lines on the new page.

Note that you see the page break when you print your report design, but a page break you specify with the New Page (NP) command is not always reflected in the DDS source statements. Page breaks are, however, indicated in RLU comments in the source member.

You can delete a page break on the Design Report display by using the Delete line command on the page break line.

Example: Specifying a Page Break

Figure 104 shows a simple report design on the Design Report display with record formats already defined.

```

Columns . . . :   1 71           Design Report           RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name                               Phone   Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn   x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 104. Design Report Display with Record Formats Defined

Assume that you want to specify a new page immediately before the headings.

1. Type the command as shown in Figure 105.

```

Columns . . . :   1 71           Design Report           RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
NP      Dept Employee Name                               Phone   Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn   x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 105. Design Report Display with New Page (NP) Command Typed

2. Press Enter.

RLU marks the page break and renumbers the lines on the new page, as shown in Figure 106 on page 103.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
----- Start of Page 002 -----
RCD002 Dept Employee Name      Phone      Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 106. Design Report Display with Page Break Specified

Changing Line Types

Before you specify information about the lines that make up your report design, every line is a filler line. As you define record formats and create sample data, RLU sets each line within a record format as a report line or a sample line. Lines between record formats remain filler lines.

While you are designing your report on the Design Report display, you can use a line command to change the type of a line that you have already defined to a report line or a sample line, or to leave it as a filler line. By changing line types, you can merge record formats together, split a single record format into two or more separate record formats, and remove parts of record formats.

You can specify any of the following as a new line type:

- R for the first report line in a record format
- C for a continuation report line in a record format
- S for a sample line
- F for a filler line.

Type one of the following commands in the sequence number area of the appropriate lines:

- CLx (Where x is a line type) to change the type of this line to x
- CLxn (Where x is a line type and n is a number) to change the type of n lines to x
- CLLx (Where x is a line type) to change the type of all the lines between (and including) this one and the next occurrence of CLL to x.

Example: Merging Record Formats

Figure 107 shows a simple report design on the Design Report display with record formats already defined.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name                      Phone   Status
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 107. Design Report Display with Record Formats Defined

Assume that you want to merge the second and third record formats.

1. Use the CLx version of the line command, since you only want to change the type of a single line.

Type the command as shown in Figure 108.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name                      Phone   Status
CLC   nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 108. Design Report Display with Change Line (CL) Command Typed

2. Press Enter.

RLU changes the report line to a continuation line within the second record format, as shown in Figure 109.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>                                     REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +
RCD002 Dept Employee Name                    Phone      Status
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn      x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
```

Figure 109. Design Report Display with Record Formats Merged

Specifying Record-Level Keywords

To further define the record formats in your report design, you can specify printer file DDS keywords. These keywords are called record-level keywords.

The Work with Record Keywords display appears when you place your cursor on an existing record format on the Design Report display that you want to work with and press F18=Record keywords (B).

The Work with Record Keywords list display appears as shown in Figure 110 on page 106.

```

Work with Record Keywords

Record format . . . . : RCD001

Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    CDEFNT        -    SKIPA
-    CHRSTZ        -    SKIPB
-    CPI           -    SPACEA
-    DFNCHR        -    SPACEB
-    DRAWER        -    TEXT
-    FNTCHRSET
-    FONT
-    HIGHLIGHT
-    INDTXT
-    LPI
-    PAGRTT
-    PRTQLTY

Bottom

F3=Exit      F5=Refresh  F9=Input keyword parameters  F10=Rename record
F12=Cancel   F16=Remove all keywords

```

Figure 110. Work with Record Keywords Display

You can do the following on this display:

- Select a keyword to specify
- Select a keyword to remove from the record format definition
- Remove all keywords from the record format definition
- Specify a new name for the record format.

Note: On DBCS-capable systems, DBCS-only keywords are also shown on the Work with Record Keywords display.

See “Changing Record Format Names” on page 96 for a description of how to specify a new name for an existing record format.

Specifying Keywords

To specify a keyword, type 2 next to the keyword you want and press Enter.

If you select a keyword that has further parameters and option indicators to specify, you see a data entry display for that keyword. If you select a keyword that has no further information to specify, you see a message and RLU specifies the keyword for the record format.

Also, regardless of the type of keyword you select, you see > in front of the keyword in the list to indicate that you specified that keyword.

For detailed information about each keyword and its parameters and options, refer to one of the following:

- Appendix A, “DDS Printer File Keywords” on page 159.
- RLU online help information. Press Help or F1=Help when you are on the data entry display for the keyword.
- The *DDS Reference*.

Removing Keywords

To remove a keyword that you previously specified from a record format definition, type 4 next to the keyword you want to remove and press Enter. RLU removes the keyword from the record format definition.

To remove all the keywords that you previously specified for the record format, press F16=Remove all keywords. RLU removes all keywords from the record format definition.

Using the Fastpath

You can use a fastpath to add or remove keywords and parameters.

To work with record keywords this way, press F9=Input keyword parameters on the Work with Record Keywords display. The Input Record Keywords display appears as shown in Figure 111.

```

                                Input Record Keywords

Record format . . . . . : RCD001

Type options and keywords, press Enter.
  1=Add  2=Specify with prompting  4=Remove

Opt  Keyword  Parameters  -Indicators--
--  -----  -
1   SPACEA   001          ---
--  -----  -

                                Bottom
F3=Exit  F5=Refresh  F9=Work with keywords  F10=Rename record  F12=Cancel

```

Figure 111. Input Record Keywords Display

This display also appears if you used it the last time you worked with file-level, record-level, or field-level keywords.

The Input Record Keywords display shows the keywords already specified for the record format, along with any parameters specified for them, as they would appear in the DDS source statements.

You can do the following on this display:

- Add a record-level keyword, along with parameters and indicators, on the first row of the list
- Change the parameters on any row in the list
- Change the indicators on any row in the list
- Rename the record format by pressing F10=Rename record.

Press Enter to return to the Design Report display, press F12=Cancel to return without processing, or press F9=Work with keywords to return to the Work with Record Keywords display.

Chapter 6. Working with Fields

To define and edit the fields in your report design and supply the necessary information about them so that RLU can generate DDS source, you use function keys, line commands, and field lines on the Design Report display.

This chapter describes how to use function keys, command lines, and the field line to do the following tasks:

- Define fields
- Create sample data
- Edit fields
- Specify field-level keywords
- Condition fields and keywords
- Reference database fields.

Defining Fields Using a Function Key

Every time you define a new record format in your report design, you must also define at least one field within the record format.

You can define fields one at a time on the Design Report display by using a function key. When you define a field this way, the operation is valid on a report line, a sample line, or a filler line. The line must already contain text that represents the field.

To define a field, do the following:

1. Position the cursor at the point in a line where you want to define a new field.

If the cursor is on a character, RLU defines the field as all data beginning at the cursor position and ending at the first occurrence of two or more blanks, the first position before the next defined field in the line, or the end of the line, whichever comes first.

If the cursor is on a blank but there is numeric text to the right of the cursor position, RLU defines the field as all data beginning at the cursor position and ending at the last character of the numeric text.

If the cursor is on a blank but there is nonnumeric text to the right of the cursor position, RLU defines the field as a single character.

2. Press F11=Define field (B). RLU does the following:
 - Defines the new field
 - Shows the Define Field Information display, as shown in Figure 112 on page 110
 - Shows a field line when you return to the Design Report display, unless your session defaults specify not to automatically display field lines.

```

                                Define Field Information

Edited length . . . . . : 32
Record format . . . . . : RCD001
Number of keywords . . . . . : 0
Number of indicators . . . . . : 0

Type choices, press Enter.

Field . . . . . FLD001____ Name
Option indicators . . . . . ____ 01-99, N01-N99
More indicators . . . . . N ____ Y=Yes, N=No
Starting line . . . . . ____ 1-255
Starting position . . . . . _1 1-255, +nn
Length of data . . . . . _32 1-378, +nn, -nn
Data type . . . . . 1 1=Character
                                     2=Zoned
                                     3=Floating point
Decimal positions . . . . . ____ 0-31, +n, -n

More...

F3=Exit  F5=Refresh  F10=Work with keywords  F11=Convert to constant field
F12=Cancel

```

Figure 112. Define Field Information Display

RLU determines the necessary information for the field specifications from what you entered on the Design Report display so you do not necessarily need to change any values on the Define Field Information display. The Define Field Information display shows you the field information that RLU automatically defines.

Note: On DBCS-capable systems, the *Data type* prompt also shows 4 = Open and 5 = Graphic.

Field Information

This section describes the following about each field specification:

- How RLU determines the initial value
- How you specify a different value.

For information about indicators and database references, see “Conditioning Fields and Keywords” on page 134 and “Referencing Database Fields” on page 135.

Field Name

RLU assumes that a new field is a named field (not a constant field) and automatically generates a name of FLDnnn for the field where nnn is a number. Starting with 001, RLU uses the lowest number available so that the field name is unique within the record format. The highest number already used for an existing field is incremented by one for each new field.

Note: The maximum number of fields you can define in a single record format is 32 767.

The generated field name appears in the *Field* prompt on the Define Field Information display.

You specify a different name for the field by typing the new name in the *Field* prompt. The new name must conform to the following naming conventions:

- One to ten characters in length
- First character must be alphabetic
- Other characters must be alphanumeric
- No embedded blanks.

If you want the field to contain a constant value, the field must be unnamed. For a description of how to convert a new field to a constant field, see “Converting a Named Field to a Constant Field” on page 113.

Field Length

RLU defines the length of a new field from the actual value you enter for the field on the Design Report display.

This field length appears in the *Length of data* prompt on the Define Field Information display. The length is in number of bytes if the field data is alphanumeric and in number of digits if the field data is numeric. If the field is DBCS-graphic, the length of the field is the number of double-byte characters.

The edited field length appears in the *Edited length* prompt at the top of the Define Field Information display. The edited field length is the actual length of the data plus any characters added because of a keyword such as Edit Code (EDTCDE) that RLU automatically specified for the field or Convert Data (CVTDTA) that you specified for the field yourself. See “Keywords Automatically Specified” on page 113 for information about how RLU automatically specifies keywords. See “Specifying Field-Level Keywords” on page 131 for information about specifying keywords for fields.

You specify a different length for the field by typing a new number in the *Length of data* prompt. The new length you specify must be one of the following:

- 1 to 378 for an alphanumeric field
- 1 to 31 for a numeric field
- 1 to 189 for a DBCS-graphic field
- 4 to 378 for a DBCS-open field
- +nn or -nn, where nn is a number, for a referenced database field length.

You see the field length changed when you press Enter and return to the Design Report display unless you specify a new length that places the field beyond the report width. In this case, RLU displays a message asking you to confirm deletion of the field.

You can overlap fields, and you see a message that indicates field overlapping.

Field Position

RLU defines the position of a new field from the row and column location of the field data on the Design Report display.

Field positioning in RLU is relative. For the first field on a line, the column containing the first character of the field data appears in the *Starting position* prompt on the Define Field Information display. For each subsequent field on the same line, the number of positions relative to the previous field (+15, for example) appears in the *Starting position* prompt. The *Starting line* prompt on the display is initially blank because RLU defines the horizontal position of the field relative to other fields using keywords. You can define a specific starting

line for the field in the *Starting line* prompt, but then you cannot use positioning keywords.

You can specify a different position for the field by typing new values in the *Starting line* and *Starting position* prompts.

The new starting line you specify can be a number from 1 to 255 or a blank. Blank indicates that the horizontal position of the field is determined by the number of lines to skip or space between fields using keywords. See “Specifying Field-Level Keywords” on page 131, and Appendix A, “DDS Printer File Keywords” on page 159 for descriptions of the Skip After (SKIPPA), Skip Before (SKIPPB), Space After (SPACEA), and Space Before (SPACEB) keywords.

The new starting position you specify must be a number from 1 to 255 or an increment (+nn, where nn is a number) which specifies the space between the previous field in the line and the field you are defining.

You see the field in the new position when you press Enter and return to the Design Report display unless you specify a new position that places the field beyond the report width. In this case, RLU displays a message asking you to confirm deletion of the field.

You can overlap fields, and you see a message that indicates field overlapping.

Field Data Type

RLU defines the data type of a new field based on the character string you use to represent the field on the Design Report display. If you use a mixture of alphabetic and numeric characters in the string, RLU defines the data type based on the first character in the string.

The data type RLU determines appears in the *Data type* prompt on the Define Field Information display.

You specify a different data type for the field by typing one of the following in the *Data type* prompt:

- 1 for character data
- 2 for zoned decimal data
- 3 for floating point data
- 4 for DBCS-open data
- 5 for DBCS-graphic data

Note: 4 and 5 appear only on DBCS-capable systems.

- Blank if you are referencing a database field definition.

RLU changes the data type in the field definition when you press Enter and return to the Design Report display.

Field Decimal Positions

RLU defines number of decimal positions for a numeric field from the number of digits after the decimal point in the data you use to represent the field on the Design Report display.

The number of decimal positions in your field data appears in the *Decimal positions* prompt on the Define Field Information display. The *Decimal positions* prompt is blank if the field data you entered is alphanumeric.

You specify a different number of decimal positions for the field by typing one of the following in the *Decimal positions* prompt:

- A number from 0 to 31 that is less than or equal to the field length for numeric field data
- An increment of +nn or -nn, where nn is a number, for a referenced database field
- Blank for an alphanumeric field.

You see the number of decimal positions increased or decreased when you press Enter and return to the Design Report display.

Keywords Automatically Specified

RLU automatically specifies Edit Code (EDTCDE) and Edit Word (EDTWRD) keywords for new fields if the data you use to represent fields on the Design Report display corresponds to an edit code or edit word format. For example, if you enter dd/mm/yy as the data for a new field, RLU will automatically specify the edit code that represents the date format (nn/nn/nn) when you define the field. You can remove an EDTCDE or EDTWRD keyword that RLU automatically specified, or specify other keywords for the field, by pressing F10=Work with keywords on the Define Field Information display.

RLU may also generate the Skip Before (SKIPB) keyword automatically to prevent a record format from printing on the same line as a previous record format. If you want records to print over each other, you must specify a value of 0 for SPACEB, remove the keyword on either the Work with Record Keywords display or the Input Record Keywords display, or specify No spacing as the record format default value on the Change Session Defaults display.

The number of keywords specified for a field appears in the *Number of keywords* prompt at the top of the Define Field Information display. See “Specifying Field-Level Keywords” on page 131 for information about working with field-level keywords.

See Appendix A, “DDS Printer File Keywords” on page 159 for more information about the EDTCDE, EDTWRD, SKIPB, and SPACEB keywords.

Converting a Named Field to a Constant Field

You can convert the named field you are defining on the Define Field Information display to a constant field, and then define information about the constant field, by pressing F11=Convert to constant field.

RLU converts the field, and you see a different Define Field Information display, as shown in Figure 113 on page 114.

The Specify Default (DFT) keyword is automatically specified for the constant field, using the text that you entered on the Design Report display as the constant value. In the generated source, RLU uses the implicit form of the keyword. For example, the source will contain 'Dept' instead of DFT('Dept').

```

                                Define Field Information

Edited length . . . . . : 32
Record format . . . . . : RCD001
Number of keywords . . . . . : 1
Number of indicators . . . . . : 0
Constant keyword . . . . . : 'ABC COMPANY - Employee Directory'

Type choices, press Enter.

Option indicators . . . . .  _  _  _  01-99, N01-N99
More indicators . . . . .   N      Y=Yes, N=No
Starting line . . . . .     _  1-255
Starting position . . . . .  _1  1-255, +nn

F3=Exit  F5=Refresh  F10=Work with keywords  F11=Convert to named field
F12=Cancel

```

Figure 113. Define Field Information Display for Constant Fields

You can use this display to do the following:

- Change the position of the field in the same way you change the field position on the Define Field Information display for a named field. For more information, see “Field Position” on page 111.
- Convert the constant field to a named field by pressing F11=Convert to named field. You see the Define Field Information display for a named field. For more information, see “Defining Fields Using a Function Key” on page 109.

Defining Fields Using Line Commands

You can define one or more fields on report lines automatically by using line commands. To define fields this way, the report line on which you want to define fields must already contain text. You can use the Define Fields (DF) line command to define a named field or the Define Constants (DC) line command to define a constant field. To define fields, you can also use F11=Define field (B).

To use the Define Fields (DF) line command to define a named field, type one of the following commands in the sequence number area of the appropriate lines:

- | | |
|-----|---|
| DF | To define any text followed by two blanks as a field on this line |
| DFn | (Where n is a number) to define any text followed by two blanks as a field on n lines, beginning with this line |
| DFF | To define any text followed by two blanks as a field on all lines between (and including) this line and the next occurrence of DFF. |

For more information on using the DF line command, see “Example: Defining Named Fields by Using a Line Command” on page 115.

To use the Define Constants (DC) line command to define a constant field, type one of the following commands in the sequence number area of the appropriate lines:

- DC To define text followed by two blanks as a constant field on this line
- DCn (Where n is a number) to define text followed by two blanks as a constant field on n lines, beginning with this line
- DCC To define text followed by two blanks as a constant field on all lines between (and including) this line and the next occurrence of DCC.

For more information on using the DC line command, see “Example: Defining Constant Fields by Using a Line Command” on page 117.

RLU does the following:

- Defines all text separated by at least two blanks as either a named field (for the DF command), or a constant field (for the DC command)
- Defines the length of the text as the field length
- Defines the characters that make up either the named or constant field as the field value.

If you try to define either named or constant fields on a sample line or a filler line, or on a report line that does not contain text separated by at least two blanks, you see an error message and RLU does not define the fields.

You can define fields further by positioning your cursor on the field and pressing F23=Field keywords (B). The Work with Field Keywords display appears, which helps you do the following:

- Specify keywords for a field
- Change field information.

For a detailed description of how to define this field information, see “Specifying Field-Level Keywords” on page 131 and “Field Information” on page 110.

Example: Defining Named Fields by Using a Line Command

Figure 114 on page 116 shows a simple report design on the Design Report display after you have defined a record format.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1 <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1 <.>      <.....>      <...>  <....>
RCD002 Dept  Employee Name      Phone  Status
RCD003 nnnn  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 114. Design Report Display with Record Formats Defined

Assume that you want to define all the text in the third record format as individual fields.

1. Type the command shown in Figure 115.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1 <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1 <.>      <.....>      <...>  <....>
RCD002 Dept  Employee Name      Phone  Status
DF          nnnn  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 115. Design Report Display with Define Fields (DF) Command Typed

2. Press Enter.

Four new named fields are defined in the report line as follows:

- A 4-character field called FLD001
- A 40-character field called FLD002
- A 5-character field called FLD003
- A 1-character field called FLD004.

Unless you specify otherwise for your session defaults, a field line appears automatically above the new fields and indicates the field boundaries, as shown in Figure 116.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1  <.>    <.....>
RCD002 Dept  Employee Name      Phone  Status
FLD1  <.>    <.....>
RCD003 nnnn  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn  x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys
DF created 4 fields in record format RCD003.

```

Figure 116. Design Report Display with New Fields Created

For another example of defining fields, see “Defining Record Formats and Fields” on page 62.

Example: Defining Constant Fields by Using a Line Command

Figure 117 shows a simple report design on the Design Report display, immediately after you defined a record format.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
RCD001 ABC Company - Employee Directory
00002 +
00003 +

```

Figure 117. Design Report Display with Record Format Defined

Assume that you want to define all the text in the first record format as a constant field.

1. Type the command as shown in Figure 118.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
DC D001 ABC Company - Employee Directory
00002 +
00003 +

```

Figure 118. Design Report Display with Define Constant (DC) Command Typed

2. Press Enter.

The new constant field is defined in the report line as a 32-character field. Unless you specify otherwise for your session defaults, a field line appears automatically above the new field and indicates the field boundaries, as shown in Figure 119.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1  <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
```

Figure 119. Design Report Display with New Field Created

For another example of defining constant fields, see “Defining Constant Fields by Using Keyword Constants.”

Defining Constant Fields by Using Keyword Constants

All new fields are assumed to be named fields, rather than constant fields. In most situations, a new field must be converted to a constant field before a constant keyword can be applied to that field.

You can specify some constant fields by typing a keyword constant on a field line to define the constant. By using this method, you do not have to use menus, function keys, or line commands to define the constant field. You can use this method with the *DATE, *TIME, *PAGNBR, and *DATESYS keywords only. To specify any of these keywords, do the following:

1. Type the Define Record (DR) command to convert a filler line to a record format, as shown in Figure 120.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
DR 01 .
00002 .
```

Figure 120. Design Report Display with Define Record (DR) Command Typed

2. Press Enter.
3. If the session defaults are set so that the field line is not displayed, use the View Field (VF) command to create a field line for the record, as shown in Figure 121.

```
Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==> _____ REPORT
BASE  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
VF D001
00002 .
```

Figure 121. Design Report Display with View Field (VF) Command Typed

4. Press Enter.
5. Move the cursor to the position on the field line where you want the constant to appear.
6. Type the keyword or keywords that you want. In the example in Figure 122, all the constant keywords that you can type directly on the field line are specified.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1  *DATE          *TIME          *PAGNBR      *DATESYS
RCD001

```

Figure 122. Design Report Display with Constant Keywords Specified

7. Press Enter. A constant field is created, beginning in the location where you typed the keyword, and that keyword is defined for the field. The Design Report display from the example in Figure 122 now looks like Figure 123.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1  <.....>      <.....>      <..>      <.....>
RCD001 09/01/92    17:14:36    9999      09/01/92

```

Figure 123. Design Report Display with Constant Fields

You can specify the following constant keywords on the field line:

- *DATE

Use *DATE to define a constant that displays the date when the member was either created or updated. This keyword is the equivalent of specifying either DATE(*JOB) or DATE. The keyword EDTCDE Y is automatically specified for the constant so that the date separator is displayed.

- *TIME

Use *TIME to define a constant that displays the current system time with the job time separator.

- *PAGNBR

Use *PAGNBR to define a constant that displays the page number.

- *DATESYS

Use *DATESYS to define a constant that displays the current system date. This keyword is the equivalent of specifying DATE(*SYS) in the DDS source. The keyword EDTCDE Y is automatically specified for the constant so that the date separator is displayed.

Creating Sample Data

Sample lines contain sample data that corresponds to all the fields you define in a record format. Sample lines appear on the Design Report display below a record format to give your report design a more realistic appearance.

You can use a line command to create a single sample line for a record format or to create multiple sample lines.

Note that if you have not defined any fields in the record format for which you are creating sample data, the sample lines will be blank. For a description of how to define fields, see “Defining Fields Using Line Commands” on page 114 and “Defining Fields Using a Function Key” on page 109.

Type one of the following commands in the sequence number area of the appropriate lines:

SD To create a single sample line under this report line

SDn (Where n is a number) to create n sample lines under this report line.

RLU creates the number of sample records you specify.

RLU also attempts to maintain consistent spacing in the report design so if a filler line exists below the record format for which you create sample data, RLU generates a filler line between each line of sample data. You cannot delete these filler lines.

In each sample line, the data spans the length of each field in the report line and consists of the following:

- 9 for each character position in a numeric field
- X for each character position in an alphanumeric field
- A single-byte G for each character position in a DBCS-graphic field when the file is created with IGCDTA(*NO) specified
- A double-byte G for each character position in a DBCS-graphic field when the file is created with IGCDTA(*YES) specified
- Any constant values associated with the report line.

RLU also displays S or + (for a continuation line) in the sequence number area of each sample line.

Note the following when you are defining and editing sample data:

- You can also use a line command to change a filler line to a sample line. See “Changing Line Types” on page 103 for more information about changing line types.
- If you specified any edit codes or edit words for fields in the report line, they are reflected in associated sample data.
- When you edit fields on a report line, RLU automatically edits any associated sample lines to reflect the changes.
- When you condition fields with indicators, associated sample data is also conditioned. Sample data only appears on the display or in a printed report prototype if the field also appears.

- To process line commands on sample lines, the sample lines must be below the associated report line. If a line command changes this situation, the sample lines are deleted.
- If you move or copy sample lines without the associated report lines, the sample lines are deleted. You cannot move or copy sample data alone.
- To change the line type of a sample line with continuation lines, you must use a block command that includes the whole group of lines.

Example: Creating Sample Data

Figure 124 shows a simple report design on the Design Report display with record formats and fields already defined.

```

Columns . . . : 1 71      Design Report      RPTLIB/RPTFILE
RLU=>          _____ REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1   <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1   <..> <.....>
RCD002 Dept Employee Name           <...>   <...>
FLD1   <..> <.....>
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 124. Design Report Display with Record Formats and Fields Defined

Assume that you want to define three lines of sample data for the third record format.

1. Use the SDn version of the line command, since you want more than a single line of sample data.
Type the command shown in Figure 125 on page 122.

```

Columns . . . :   1 71          Design Report          RPTLIB/RPTFILE
RLU=>          REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1   <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1   <..> <.....>                                <...> <...>
RCD002 Dept Employee Name                            Phone   Status
FLD1   <..> <.....>                                <...> *
SD3    nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn   x
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 125. Design Report Display with Sample Data (SD) Command Typed

2. Press Enter.

RLU creates three sample lines following the record format with data that matches the fields defined in the report line, shown in Figure 126.

```

Columns . . . :   1 71          Design Report          RPTLIB/RPTFILE
RLU=>          REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1   <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1   <..> <.....>                                <...> <...>
RCD002 Dept Employee Name                            Phone   Status
FLD1   <..> <.....>                                <...> *
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn   x
00006 S 9999 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 99999   X
00007 S 9999 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 99999   X
00008 S 9999 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 99999   X
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 126. Design Report Display with Sample Data Created

For another example of creating sample data, see “Changing Record Formats and Fields” on page 74.

Editing Fields Using Function Keys

This section describes how you can use function keys to edit existing fields in your report design.

Changing Field Information

You can change the current information for an existing field on the Design Report display by positioning your cursor on the field and pressing F23=Field keywords (B).

The Work with Field Keywords display appears. For more information about how you use this display, see “Specifying Field-Level Keywords” on page 131.

To change field information, press F10=Specify information. The Specify Field Information display appears. The only difference between the Specify Field Information display for an existing field and the Define Field Information display for a new field is that F10=Work with keywords is not available on the Specify Field Information display.

You can change the following field information on the Specify Field Information display:

- Name
- Position
- Length
- Data type
- Decimal positions.

See “Field Information” on page 110 for descriptions of specifying this field information.

You can also change the current name of a field on the Design Report display by working with a list of all the existing fields in the record format. Press F4=Fields (B) when the cursor is positioned anywhere in the record format and you see the Work with Fields display. See “Working with a List of Fields” on page 125 for information about this display and how you rename fields in the list.

Marking and Copying or Moving Areas of Data

You can copy or move a field or an entire area of data on the Design Report display by using a series of function keys.

Marking Data

The area of data on the display that you mark for copying or moving can be any of the following:

- A single character
- A single field
- An area containing multiple fields and text.

To specify a single character for copying or moving, position your cursor on the character and press F13=Mark/Unmark data (B). RLU highlights the marked character by showing it in reverse image.

To specify a single field for copying or moving, position your cursor anywhere in the field and press F13=Mark/Unmark data (B). RLU highlights the marked field by showing it in reverse image.

To specify an area of data for copying or moving, place your cursor at a position that represents one corner of the block you want to define and press F13=Mark/Unmark data (B). Then move your cursor to another position that represents the other corner of the block and press F13=Mark/Unmark data (B) again. The block will include all the characters and fields either on the marks you make with the cursor or between the two marks, and RLU highlights the block by showing the data in reverse image. Note that when you copy or move the block, only fields that are fully contained within the block are copied or moved, and that you can only define one marked area at a time.

To cancel a marking operation before you copy or move it, do one of the following:

- Position your cursor within the marked area and press F13=Mark/Unmark data (B)
- Press F5=Refresh to refresh the display.

Copying and Moving Data

You can use another function key to copy or move an area that you marked.

Place your cursor at the top left corner of the area to which you want to copy or move your marked block and press F14=Copy marked data (B) or F15=Move marked data (B).

To specify how you want RLU to handle marked data copy and move operations, you specify the following options:

- Insert marked data (to specify how you want RLU to handle existing data in the target area)
- Replace marked data (to specify how you want RLU to handle the source area after a move operation).

For information about specifying these options, see “Changing Your Edit Session Environment” on page 34.

For a copy or move marked data operation, RLU does the following:

- Copies or moves all fields and individual characters completely contained within the marked area to the new area you specified.
- Creates a new name for each field that you copy or move to a record format that already has a field definition with the same name as the copied or moved field.
- If you copy or move a field on to a report line, RLU also:
 - Creates a new field definition for each field (for a copy operation only), adjusting positional attributes and keywords as necessary
 - Copies or moves any sample data associated with a field, adding new sample lines if you are copying or moving less lines than already exist under the target report line or leaving sample lines uncopied or unmoved if there are more lines than already exist under the target report line.

- If you copy or move a field on to a sample line or filler line, RLU moves the text only for each field that is copied or moved and these field definitions are lost. RLU displays a message indicating that at least one field definition is lost.

If you want to copy or move data without affecting existing field definitions in the target area, specify N=No for the insert option on the Change Session Defaults display. The copied or moved fields overlay the existing fields and the contents of the source area replaces the contents of the target area.

If you want to shift data in the target area, specify Y=Yes for the insert option on the Change Session Defaults display. RLU shifts the data in the target area, along with all data to the right of the target area, to the right by the width of the target area. If this operation would place any data outside the boundary of the report width or if the target area is specified in the middle of an existing field, RLU does not perform the operation and you see an error message.

Working with a List of Fields

To specify field information and keywords for fields that already exist in your report definition, you can display a list of fields and select the field you want to change from the list.

To use a field list, press F4=Fields (B) when your cursor is positioned anywhere in a record format on the Design Report display.

There are three versions of the Work with Fields list display. Each version shows you different information about the fields in the record format. The initial Work with Fields display shows you the values currently specified for each field in the list, as shown in Figure 127.

Work with Fields					
Record format : RCD001					
Type options, press Enter.					
2=Change 5=Work with keywords					
Opt	Field	Line	Position	Length	-Indicators--
-	'Employee Name' _____		1		
-	'Status' _____		+52		01
-	FLD001 _____		1	44	
-	FLD002 _____		+54	1	
F3=Exit F5=Refresh F11=Display interpreted values F12=Cancel					Bottom

Figure 127. Work with Fields Display (Showing Specified Values)

To see the field list on the Work with Fields display that shows you the interpreted values for each current field definition in the list, press F11=Display interpreted values on your initial Work with Fields display. The Work with Fields display appears as shown in Figure 128.

```

Work with Fields

Record format . . . . : RCD001

Type options, press Enter.
  2=Change  5=Work with keywords

Opt  Field                Row    Column  Length  Status
-   'Employee Name'_____  1      1      13     Displayed
-   'Status'_____         1     52      6     Displayed
-   FLD001_____           2      1     44     Displayed
-   FLD002_____           2     54      1     Displayed

F3=Exit  F5=Refresh  F11=Display text  F12=Cancel

Bottom

```

Figure 128. Work with Fields Display (Showing Interpreted Values)

To see the field list on the Work with Fields display that shows you the text description of each field, press F11=Display text on the interpreted value version of the Work with Fields display. The display with descriptions appears as shown in Figure 129.

```

Work with Fields

Record format . . . . : RCD001

Type options, press Enter.
  2=Change  5=Work with keywords

Opt  Field                Text
-   'Employee Name'_____  Heading for Employee Name
-   'Status'_____         Heading for Status
-   FLD001_____           Employee Name
-   FLD002_____           Status

F3=Exit  F5=Refresh  F11=Display specified values  F12=Cancel

Bottom

```

Figure 129. Work with Fields Display (Showing Text Descriptions)

You can do the following on these displays:

- Rename fields.

Type a new name in the *Field* prompt for the named field you want to rename (you cannot rename a constant field). RLU changes the field name when you press Enter.

- Change field information.

Type 2 next to the field you want to change. The Specify Field Information display appears for you to change the field definition. See “Field Information” on page 110 for more information.

- Specify keywords for the field.

Type 5 next to the field for which you want to define keywords. The Work with Field Keywords display appears for you to specify field-level keywords.

Editing Fields Using a Field Line

You can edit the field line on the Design Report display to do the following:

- Shorten fields.
- Lengthen fields.
- Change field positions.
- Define special constant fields. For more information, see “Defining Constant Fields by Using Keyword Constants” on page 118.
- Add database field references. See “Referencing Database Fields” on page 135 for information about referencing database fields.

Unless you changed the default value on the Change Session Defaults display, RLU automatically displays a field line immediately above a report line, as soon as you define at least one field on it. If field lines are not automatically appearing and you want to use them in your report image, do one of the following:

- Use the View Field (VF) line command. Type VF in the sequence number area of the line containing the fields you want to edit and press Enter.
- Specify that you want RLU to automatically display the appropriate field lines above every line with at least one field defined in it. See “Changing Your Edit Session Environment” on page 34 for a description of how to use the Change Session Defaults display.

The field line is made up of the following characters:

- * (asterisk) to indicate a single character field
- < (less than) to indicate the start of a field
- > (greater than) to indicate the end of a field
- . (period) to fill the character positions of the field.

Figure 130 on page 128 shows you what field lines look like on the Design Report display.

```

Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU=>          REPORT
BASE   ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1   <.....>
RCD001 ABC Company - Employee Directory
00002 .
00003 .
FLD1   <.> <.....>          <...> <...>
RCD002 Dept Employee Name          Phone   Status
FLD1   <.> <.....>          <...>   *
00005 + nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn   x
----- End of Report -----

F3=Exit   F11=Define field   F16=Delete field
F22=Alternative keys       F24=More keys

```

Figure 130. Field Lines

To shorten the length of a field, delete as many periods as appropriate from the field line by using the Delete key.

To lengthen a field, add as many periods or blanks as appropriate to the field line by using the Insert key.

To move fields to the right, insert the appropriate number of blanks in the field line before the representation of the field that you want to move. This field, and all fields to the right, will shift to the right by the number of blanks you insert.

To move fields to the left, delete the appropriate number of blanks from the field line before the representation of the field that you want to move. This field, and all fields to the right, will shift to the left by the number of blanks you delete.

To move a field to the right or the left without affecting any other fields to the right, insert or delete the appropriate number of blanks in the field line before the field representation and delete or insert the same number of blanks after the field representation.

When you press Enter, RLU changes the field definition to reflect the new length or position. You see the change in the field line but you may not see the change in the field image itself unless the field is completely filled with characters on the display and you shorten the field.

To refresh the field line to its original state before you last pressed Enter, press F5=Refresh. To delete specific empty field lines, use the Delete line command. To specify that you want all field lines not displayed, use press F13=Change session defaults (A) and use the Change Session Defaults display.

Note that you cannot delete or create a field when you edit the field line. If you change the syntax of the field line, RLU will not make any changes to your field definitions and you see an error message.

Example: Editing a Field Line

Assume that you defined the fields on a report line shown in Figure 131, and that a field line is displayed above the report line.

```

00003 +
RCD003 Employee Name                               Dept  Phone  Status
FLD1  <.....>                                     <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  nnnnn  x
  
```

Figure 131. Field Line Displayed

Assume you want to do the following:

- Lengthen the Employee Name field
- Move the Status field to the right.

To edit the field line, do the following:

1. Insert periods to lengthen the Employee Name field as shown in Figure 132.

```

00003 +
RCD003 Employee Name                               Dept  Phone  Status
FLD1  <.....>                                     <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  nnnnn  x
  
```

Figure 132. Periods Inserted

2. Press Enter and the length of the Employee Name field increases by the number of periods you added, as shown in Figure 133.

```

00003 +
RCD003 Employee Name                               Dept  Phone  Status
FLD1  <.....>                                     <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  nnnnn  x
  
```

Figure 133. Field Lengthened

3. The other fields in the line also moved to the right by the number of periods added, so move them back to their original positions by deleting blanks in the field line, as shown in Figure 134.

```

00003 +
RCD003 Employee Name                               Dept  Phone  Status
FLD1  <.....>                                     <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnn  nnnnn  x
  
```

Figure 134. Blanks Deleted

4. Press Enter and the fields move back to their original positions, as shown in Figure 135 on page 130.

```

00003 +
RCD003 Employee Name                Dept  Phone  Status
FLD1  <.....>                        <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnn  nnnnn  x

```

Figure 135. Fields Moved Back

5. Insert blanks to move the Status field to the right, as shown in Figure 136.

```

00003 +
RCD003 Employee Name                Dept  Phone  Status
FLD1  <.....>                        <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnn  nnnnn  x

```

Figure 136. Blanks Inserted

6. Press Enter and the Status field moves to the right by the number of blanks you inserted, as shown in Figure 137.

```

00003 +
RCD003 Employee Name                Dept  Phone  Status
FLD1  <.....>                        <..> <...>  *
RCD004 xxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnn  nnnnn  x

```

Figure 137. Field Moved

Editing Fields Using Line Commands

This section describes how you can use line commands to edit existing fields in your report design.

Centering Fields

You can use a line command to center a field on a report line, based on the report width you specify when you start RLU and the length of the field. If the report line contains more than one field, RLU uses the length between the starting position of the first field on the line and the last position of the last field on the line for centering.

Type one of the following commands in the sequence number area of the appropriate lines:

- CF To center the field or fields on this line
- CFn (Where n is a number) to center the field or fields on n lines, beginning with this line
- CFF To center the field or fields on all lines between (and including) this line and the next occurrence of CFF.

RLU also shifts any sample data associated with the fields you are centering.

Evenly Spacing Fields

You can use a line command to evenly space the fields on a report line. RLU pads extra spaces to the right.

Type the following command in the sequence number area of the appropriate lines:

SP To evenly space the fields on this line.

RLU also shifts any sample data associated with the fields you are evenly spacing.

Deleting Fields

You can use a function key to delete an existing field on the Design Report display.

To delete a field on a report line or a sample line, position your cursor anywhere in the field you want to delete or on the sample data associated with the field and press F16 = Delete field (B).

RLU deletes the following:

- The field text on the display
- Any sample data associated with the field
- All information included in the definition of the field.

If the field-level keyword REFFLD is specified for the deleted field, the referenced database field is added to the field list at the bottom of the display. You can add this field to the report again. For more information, see “Adding Database References to the Field Line” on page 146.

Specifying Field-Level Keywords

To further define the fields in your report design, you specify field-level DDS keywords.

The Work with Field Keywords display appears when you do any of the following:

- Place your cursor on an existing field on the Design Report display that you want to change and press F23 = Field keywords (B)
- Press F10 = Work with keywords when you are on the Define Field Information display
- Type 5 on the Work with Fields list display next to the existing field you want to work with and press Enter.

The Work with Field Keywords display is shown in Figure 138 on page 132.

```

Work with Field Keywords

Field . . . . . : FLD001      Record format . . . . . : RCD001

Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    ALIAS        -    EDTCDE      -    SKIPA
-    BARCODE     -    EDTWRD      -    SKIPB
-    BLKFOLD     -    FLTFIXDEC   -    SPACEA
-    CDEFNT      -    FLTPCN      -    SPACEB
-    CHRID       -    FNTCHRSET   -    TEXT
-    CHRSIZ      -    FONT        -    TIME
-    COLOR       -    HIGHLIGHT   -    TRNSPY
-    CPI         -    INDXTX      -    UNDERLINE
-    CVTDTA      -    MSGCON      -
-    DATE        -    PAGNBR      -
-    DFT         -    PRTQLTY     -
-    DLTEDT     -    REFFLD      -

Bottom
F3=Exit  F5=Refresh  F9=Input keyword parameters  F10=Specify information
F12=Cancel  F16=Remove all keywords

```

Figure 138. Work with Field Keywords Display

You can do the following on this display:

- Select a keyword to specify
- Select a keyword to remove from the field definition
- Remove all the keywords specified for the field.

Note: On DBCS-capable systems, DBCS-only keywords are also shown on the Work with Field Keywords display.

Specifying Keywords

To specify a keyword, type 2 next to the keyword you want and press Enter.

If you select a keyword that has further parameters and option indicators to specify, you see a data entry display for that keyword. If you select a keyword that has no further information to specify, you see a message and RLU specifies the keyword for the field.

Also, regardless of the type of keyword you select, you see > in front of the keyword in the list to indicate that you specified that keyword.

For detailed information about each keyword and its parameters and options, refer to one of the following:

- Appendix A, “DDS Printer File Keywords” on page 159.
- RLU online help information. Press Help or F1=Help when you are on the data entry display for the keyword.
- The *DDS Reference*.

Removing Keywords

To remove a keyword that you previously specified from a field definition, type 4 next to the keyword you want to remove and press Enter. RLU removes the keyword from the field definition.

To remove all the keywords that you previously specified for the field, press F16=Remove all keywords. RLU removes all keywords from the field definition.

Using the Fastpath

You can use a fastpath to add or remove keywords or parameters.

To work with field keywords this way, press F9=Input keyword parameters on the Work with Field Keywords display. The Input Field Keywords display appears as shown in Figure 139.

```
Input Field Keywords
Field . . . . . : FLD001      Record format . . . . . : RCD001
Type options and keywords, press Enter.
  1=Add  2=Specify with prompting  4=Remove
Opt Keyword  Parameters                -Indicators--
-----
(No keywords specified)

F3=Exit  F5=Refresh  F9=Work with keywords  F10=Specify information  Bottom
```

Figure 139. Input Field Keywords Display

This display also appears if you used it the last time you worked with file-level, record-level, or field-level keywords.

The Input Field Keywords display shows the keywords already specified for the field, along with any parameters currently specified for them, as they would appear in the DDS source statements.

You can do the following on this display:

- Add a field-level keyword, along with parameters and indicators, on the first row of the list
- Change the parameters on any row in the list
- Change the indicators on any row in the list.

Press Enter to return to the Design Report display, press F12=Cancel to return without processing, or press F9=Work with keywords to return to the Work with Field Keywords display.

Conditioning Fields and Keywords

To help you create realistic report prototypes, RLU lets you define indicators for fields and keywords, and then set the indicators on or off to condition your Design Report display. You can also print a report prototype with indicators set on or off. RLU saves the indicator settings you specify and they apply in your next RLU session until you change them.

Defining Indicators

You can specify indicators for any field you define and for some keywords you specify for a field, a record format, or a printer file.

You specify indicators for a field when you define the field using the Define Field Information display or when you change the field using the Specify Field Information display. The Define Field Information display is shown in Figure 140.

```
Define Field Information

Edited length . . . . . : 32
Record format . . . . . : RCD001
Number of keywords . . . . . : 0
Number of indicators . . . . . : 0

Type choices, press Enter.

Field . . . . . FLD001____ Name
Option indicators . . . . . ___ ___ 01-99, N01-N99
More indicators . . . . . N ___ Y=Yes, N=No
Starting line . . . . . ___ 1-255
Starting position . . . . . ___1 1-255, +nn
Length of data . . . . . ___32 1-378, +nn, -nn
Data type . . . . . 1 1=Character
                                     2=Zoned
                                     3=Floating point
Decimal positions . . . . . ___ 0-31, +n, -n

More...
F3=Exit  F5=Refresh  F10=Work with keywords  F11=Convert to constant field
F12=Cancel
```

Figure 140. Define Field Information Display

You can specify up to three option indicators for a new or existing field in the *Option indicators* prompt. You can specify up to 99 indicators by specifying Y=Yes for the *More indicators* prompt. You see another display that allows you to specify more indicators for the field. After you specify indicators for the field, the number of indicators currently specified appears in the *Number of indicators prompt* at the top of the display.

Some keywords allow option indicators while others do not. Refer to the information about each keyword in Appendix A, “DDS Printer File Keywords” on page 159. To specify an indicator for a keyword, you use prompts on the data entry display for the keyword. See Appendix A, “DDS Printer File Keywords” on page 159 for descriptions of each keyword data entry display.

Setting Indicators

To set indicators on or off, press F6=Condition display (B) on the Design Report display.

The Condition Design Report Display appears, as shown in Figure 141.

```
Condition Design Report Display

Number of indicators specified for
new fields and keywords . . . . . : 0

Type choices, press Enter.

Condition display . . . . . N           Y=Yes, N=No
For choice Y=Yes:
  Indicators on . . . . . 01-99
  -----
  -----
  -----
  -----
  -----

Indicators for new fields and
keywords . . . . . N           01-99, N01-N99
More indicators . . . . . Y       Y=Yes, N=No
Generate reference field keyword Y   Y=Yes, N=No

F3=Exit  F5=Refresh  F11=Default indicators to on  F12=Cancel
```

Figure 141. Condition Design Report Display

You set indicators on by specifying them for the *Indicators on* prompt and typing Y for the *Condition display* prompt.

The specified indicators are on, while all others are off, throughout your edit session or until you set them off. The indicator settings you specify here also apply when you print your report prototype.

To use this display for setting the specified indicators off rather than on, press F11=Default indicators to on. The *Indicators on* prompt becomes *Indicators off*, and F11=Default indicators to on becomes F11=Default indicators to off.

For more information about the other prompts, place your cursor on the appropriate line of this display as you use RLU and press the Help key or F1=Help. You will see online help information that explains how to use the prompt.

Referencing Database Fields

There are two ways to reference field definitions from a database file in your report:

- Using a prompt on the Define Field Information display or the Specify Field Information display and a field keyword. For more information, see “Using the Define (or Specify) Field Information Display and a Keyword” on page 136.
- Using a field line on the Design Report display and a list of database fields. For more information, see “Using a List of Database Fields and a Field Line” on page 139.

Using the Define (or Specify) Field Information Display and a Keyword

This section describes one method of referencing database fields. The order in which you perform the steps involved (specifying the prompt on the Define (or Specify) Field Information display and specifying the keyword) depends on how you are defining your field. If you are changing information about a field that you have already defined on the Design Report display, you see the Work with Field Keywords display first. If you are creating a new field on the Design Report display by using F11=Define field (B), you see the Define Field Information display first. Note that you must specify the keyword to use the *Reference a field* prompt on the Define Field Information display or the Specify Field Information display.

When you reference a database field definition using a keyword, be aware that you see the field on the Design Report display with the referenced length and filled with characters of the referenced data type, but you do not see any associated column headings defined in the database field definition. To see defined column headings above a reference field on the Design Report display, you must build a list of database fields and edit the field line.

To specify that you want to reference an existing database field definition for the field you are defining, type Y for the *Reference a field* prompt in the bottom half of the Define Field Information display or Specify Field Information display, as shown in Figure 142.

```
Define Field Information

Edited length . . . . . : 4
Record format . . . . . : RCD003
Number of keywords . . . . . : 1
Number of indicators . . . . . : 0

Type choices, press Enter.

Reference a field . . . . . N           Y=Yes, N=No
Use referenced values . . . . . Y       Y=Yes, N=No

                                           Bottom
F3=Exit  F5=Refresh  F10=Work with keywords  F11=Convert to constant field
F12=Cancel
```

Figure 142. Define Field Information Display with Field Reference Specified

To reference a field on this display, you must also do one of the following:

- Type the name of the referenced field in the *Field* prompt (in the top half of the display).

Note that if you reference a field on this display other than the one specified in the REFFLD keyword, the other values on this display override the field definition from the referenced field.

When you press Enter, RLU changes the field definition to reflect your field reference.

- Specify the Reference Field (REFFLD) keyword for the field.

To specify the REFFLD keyword from the Define Field Information display, press F10=Work with keywords.

To work with the REFFLD keyword, type 2 next to REFFLD in the keyword list on the Work with Field Keywords display, as shown in Figure 143.

```

Work with Field Keywords
Field . . . . . : FLD001      Record format . . . . . : RCD001

Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    ALIAS        -    EDTCDE      -    SKIPA
-    BARCODE      -    EDTWRD      -    SKIPB
-    BLKFOLD      -    FLTFIXDEC   -    SPACEA
-    CDEFNT       -    FLTPCN      -    SPACEB
-    CHRID        -    FNTCHRSET   -    TEXT
-    CHRISZ       -    FONT        -    TIME
-    COLOR        -    HIGHLIGHT   -    TRNSPY
-    CPI          -    INDXTX      -    UNDERLINE
-    CVTDTA       -    MSGCON      -
-    DATE         -    PAGNBR      -
-    DFT          -    PRTQLTY     -
-    DLTEDT       2    REFFLD

F3=Exit  F5=Refresh  F9=Input keyword parameters  F10=Specify information
F12=Cancel  F16=Remove all keywords
Bottom

```

Figure 143. Work with Field Keywords Display with REFFLD Selected

When you press Enter, you see a display called Specify Referenced Field, as shown in Figure 144.

```

Specify Referenced Field

Keyword . . . . . : REFFLD
Field . . . . . : FLD001
Record format . . . . . : RCD001

Type choices, press Enter.

Field . . . . . _____ Name
                          F4 for list
Record format . . . . . _____ Name
                          F4 for list

File . . . . . _____ Name
                          *SRC
                          F4 for list
Library . . . . . _____ Name
                          *CURLIB
                          *LIBL

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 144. Specify Referenced Field Display

RLU sets values for the prompts on the Specify Referenced Field display as follows:

1. If you are working with a field for which the REFFLD keyword is already defined, the values for the *Field*, *Record format*, *File*, and *Library* prompts are the values specified for REFFLD.
2. If you specified the file-level keyword REF, the values for the *Record format*, *File*, and *Library* prompts are the values specified for REF.
3. If neither item 1 nor item 2 applies, the default values for the *Record format*, *File*, and *Library* prompts are those that you specified on the Specify Referenced Field display, the Add Database Fields display, or the Input Field Keywords display, if you used any of these displays in the current RLU session.
4. If none of items 1, 2, or 3 apply, *CURLIB is displayed for the *Library* prompt, and the other prompts are blank.

You define the following on the Specify Referenced Field display:

- The field that you are referencing
- The record format containing the field you are referencing
- The file containing the record format and field you are referencing
- The library containing the file.

For more detailed information about how you use the prompts on this display, place your cursor on the prompt when you are using RLU and press Help or F1=Help. You see information that describes the prompt and how to use it.

For more information about specifying keywords for fields, see “Specifying Field-Level Keywords” on page 131.

After you specify the appropriate values and press Enter, you return to the Work with Field Keywords display. RLU changes the definition of the field you are working with to indicate the reference you defined.

To specify the *Reference a field* prompt on the Specify Field Information display, if you have not already done so on the Define Field Information display, press F10=Specify information on the Work with Field Keywords display.

Using Lists

To select a database file from a list of all the files in a library, specify the name of the library and press F4 for list when your cursor is on the *File* prompt. See “Using a Database File List” on page 142 for information about using the Select Database File display.

To select a record format from a list of all the record formats in a database file, specify the name of the library and the file and press F4 for list when your cursor is on the *Record format* prompt. See “Using a Record Format List” on page 142 for information about using the Select Record Format display.

To select a field from a list of all the fields in a record format, specify the name of the library, the database file, and the record format and press F4 for list when your cursor is on the *Field* prompt. See “Using a Database Field List” on page 143 for information about using the Select Database Field display.

Using a List of Database Fields and a Field Line

This section describes another method of referencing database fields. You can reference database fields by building a list of fields to reference and then including them from the list in your report design by editing a field line on the Design Report display.

Building a List of Database Fields

To build a list of the database fields that you want to reference in your report, begin by pressing F10=Database fields (B) when you are editing your report design on the Design Report display. The Work with Database Fields display appears as shown in Figure 145.

```
Work with Database Fields

Type options, press Enter.
1=Add field 4=Remove 8=Display field description

Option  Field      Library      File      Record
-----  -
(No database fields selected)

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=Delete all fields  Bottom
```

Figure 145. Work with Database Fields Display

You can use this display to add a field to the list.

Once you have added fields to the list, you can also do the following:

- Remove a field from the list
- Remove all the fields in the list
- Display the description of a field
- Display the list at the bottom of the Design Report display as you edit your report design.

Adding Fields to the List

The way you add a field to the list on the Work with Database Fields display depends on what information you specify, whether or not you want to use prompting to specify your information, and whether or not you want to select fields and record formats from lists.

In any case, however, type 1 in the *Option* column.

- If you specify the name of the field and the library, the file, and the record format for the field, and press Enter, RLU adds the field to the list.

- If you specify a library, a file, and a record format but not a field name, and press Enter, the Select Database Fields display appears for you to select a field from a list of all the fields in the record format. For more information, see “Using a Database Field List” on page 143.
- If you specify a library and a file but not a record format or a field name, and press Enter, the Select Record Format display appears for you to select a record format from a list of all the record formats in the file. For more information, see “Using a Record Format List” on page 142.
- If you specify a library only and press Enter, the Select Database File display appears for you to select a database file from a list of all the files in the library. For more information, see “Using a Database File List” on page 142.
- If you press F4= Prompt or press Enter with only option 1 (Add field) specified, the Add Database Fields display appears to prompt you for any information that you have not already supplied about the field. The display appears as shown in Figure 146, and you see the information you specified on the Work with Database Fields display.

Add Database Fields

Type choices, press Enter.

File	_____	Name, F4 for list
Library	_____	Name, *LIBL, *CURLIB
Record format	_____	Name, F4 for list
Field	_____	Name, F4 for list

F4=Prompt F5=Refresh F12=Cancel

Figure 146. Add Database Fields Display

RLU sets values for the prompts on the Add Database Fields display as follows:

1. If you specified the file-level keyword REF, the values for the *Record format*, *File*, and *Library* prompts are the values specified for REF.
2. If item 1 does not apply, the default values for the *Record format*, *File*, and *Library* prompts are those that you specified on the Specify Referenced Field display, the Add Database Fields display, or on the Input Field keywords display, if you used any of these displays in the current RLU session.
3. If neither item 1 nor item 2 applies, *CURLIB is displayed for the *Library* prompt, and the other prompts are blank.

Specify the following on the Add Database Fields display:

1. The name of the file containing the field definition you want to reference. To see a list of all the files in a library, type the library name in the *Library* prompt and press F4 for list. See "Using a Database File List" on page 142 for a description of how to use the Select Database File display.
2. The name of the library containing the database file you want to use. You can also use *CURLIB or *LIBL.
3. The name of the record format containing the field you want to reference. To see a list of all the record formats in a file, type the library name in the Library prompt, the file name in the File prompt, and press F4 for list. See "Using a Record Format List" on page 142 for a description of how to use the Select Record Format display.
4. The name of the field you want to reference. To see a list of all the fields in a record format, specify the library, file, and record format, and press F4 for list. See "Using a Database Field List" on page 143 for a description of how to use the Select Database Fields display.

After you specify a field on the Add Database Fields display, the field is added to the list and you return to the Work with Database Fields display.

When you have added a field to the list, the Work with Database Fields display appears as shown in Figure 147.

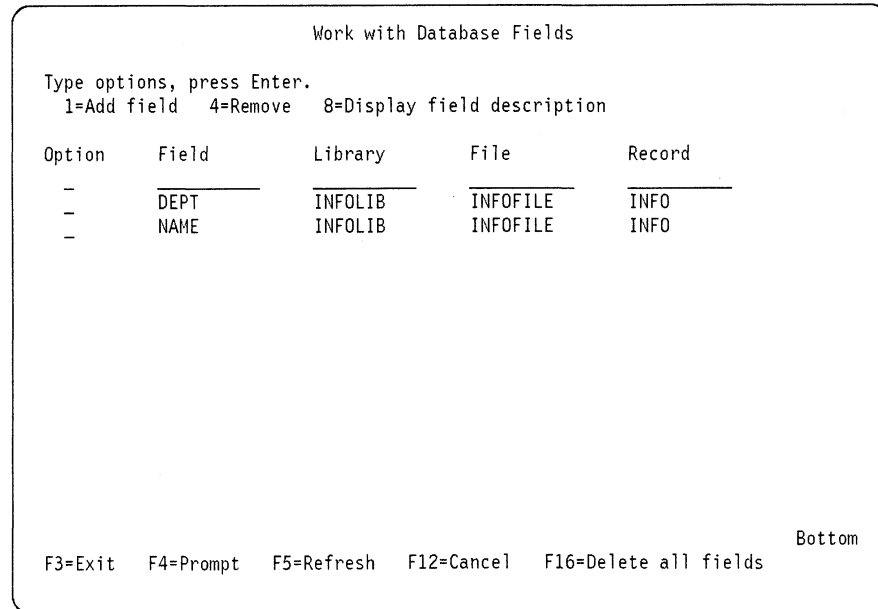


Figure 147. Work with Database Fields Display with Fields Added

For a description of how to display the list of fields as you are editing your report on the Design Report display, see "Displaying a Database Field List on the Design Report Display" on page 145.

Using a Database File List

The Select Database File display appears when you do one of the following:

- Specify a library only on the Work with Database Fields display and press Enter
- Specify a library only on the Add Database Fields display and press F4 for list
- Specify a library only on the Specify Reference Field data entry display for the REFFLD keyword and press F4 for list.

The Select Database File display appears as shown in Figure 148.

```

                                Select Database File

Library . . . . . : INFOLIB

Position to . . . . . _____ File
Subset . . . . . *ALL_____ *ALL, name, *generic*

Type option, press Enter.
1=Select

Option   File      Text
-        INFOFILE  Employee information

F5=Refresh  F12=Cancel

Bottom
```

Figure 148. Select Database File Display

The list on this display includes all the database files that exist in the library you specified.

You can move the list on the display to a specific position, and you can also see a subset of the list by specifying the criteria for the subset you want. For an explanation of how to do either of these operations, position your cursor on the *Position to* or *Subset* prompt and press Help or F1=Help. You see information about how to use these prompts.

To select the file that contains the field definitions you want to reference, type 1 in the *Option* column next to the file name in the list and press Enter.

Using a Record Format List

The Select Record Format display appears when you do one of the following:

- Specify a library and a database file, but not a record format or a field, on the Work with Database Fields display and press Enter
- Specify a library and a database file, but not a record format or a field, on the Add Database Fields display and press F4 for list

- Specify a library and a database file, but not a record format or a field, on the Specify Referenced Field data entry display for the REFFLD keyword and press F4 for list.

The Select Record Format display appears as shown in Figure 149.

```

                                Select Record Format
File . . . . . : INFOFILE
Library . . . . . : INFOLIB

Position to . . . . . _____ Record
Subset . . . . . *ALL_____ *ALL, name, *generic*

Type option, press Enter.
1=Select

Option      Record      Text
_           INFO        1992 INFORMATION

F5=Refresh  F12=Cancel

                                Bottom

```

Figure 149. Select Record Format Display

The list on this display includes all the record formats from the database file you specified.

You can move the list on the display to a specific position, and you can also see a subset of the list by specifying the criteria for the subset you want. For an explanation of how to do either of these operations, position your cursor on the *Position to* or *Subset* prompt and press Help or F1=Help. You see information about how to use these prompts.

To select the record format that contains the fields you want to reference, type 1 in the *Option* column next to the record format name in the list and press Enter.

Using a Database Field List

The Select Database Fields display appears when you do one of the following:

- Specify a valid library, database file, and record format, but not a field, on the Work with Database Fields display and press Enter
- Specify a valid library, database file, and record format, but not a field, on the Add Database Fields display and press F4 for list.

The Select Database Fields display appears as shown in Figure 150 on page 144.

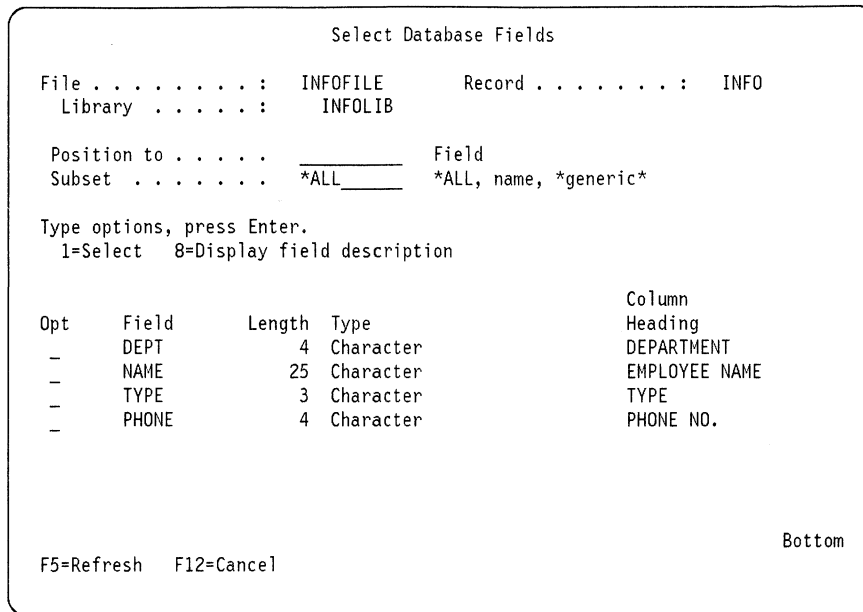


Figure 150. Select Database Fields Display

Note: A similar display called the Select Database Field display appears when you specify a valid library, database file, and record format, but not a field, on the Specify Referenced Field data entry display for the REFFLD keyword. The only differences from the Select Database Fields display are that you can only specify one field and the option to display the field description is not available.

The list on this display includes all the fields in the record format you specified.

You can move the list on the display to a specific position, and you can also see a subset of the list by specifying the criteria for the subset you want. For an explanation of how to do either of these operations, position your cursor on the *Position to* or *Subset* prompt and press Help or F1 = Help. You see information about how to use these prompts.

You can do the following on this display:

- Select fields that you want to reference.
To select a field, type 1 next to the field name in the list, and press Enter. RLU marks a selected field with > (a greater than symbol). Note that you can select as many fields as you want in the list.
- Display a description of a field in the list.
To see the detailed description of any field in the list, type 8 next to the field name, and press Enter. You see the Display Database Field Description display, as shown in Figure 151 on page 145.

```

                                Display Database Field Description
Field . . . . . : DEPT
Alias . . . . . :
Length . . . . . : 4
Type . . . . . : Character
Floating point precision . . . . . :
Text:
  DEPARTMENT
Column Heading . . . . . : DEPARTMENT

Edit code or edit word . . . . . :

Press Enter to continue.

F3=Exit  F12=Cancel

```

Figure 151. Display Database Field Description Display

For explanations of the information on this display, position your cursor on the prompt for which you want more information when you are using RLU and press Help or F1=Help.

Displaying a Database Field List on the Design Report Display

When you return to the Design Report display after editing your list of database fields, you see the list on the display as shown in Figure 152.

```

Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU==>          REPORT
BASE  ..... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
----- Start of Page 001 -----
FLD1 <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1 <..> <.....>          <...>  <....>
RCD002 Dept Employee Name          Phone  Status
FLD1 <..> <.....>          <...>  *
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  nnnnn  x
00006 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  XXXXX  X
00007 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  XXXXX  X
00008 S XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  XXXXX  X
----- End of Report -----

1:DEPT  2:PHONE  3:TYPE
F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 152. Design Report Display with Database Fields List

RLU numbers the fields from your list from 1 to 9. The maximum number of fields you can see on the Design Report display is nine. A plus sign (+) at the end of the line indicates that there are more fields to display. To see more fields, position your cursor on the line and use the Page Up and Page Down keys.

Adding Database References to the Field Line

You use a list of database fields on your Design Report display as a reference to include them in your report design.

After you build the list, you add the references to specific fields on the Design Report display by editing the field line.

To add a database reference for a field in a report line, you type the reference number of the field in the appropriate field line and at the position in the field line where you want the field to start. Use one of the following character strings:

- | | | |
|--|-----------|---|
| | n or &n | (Where n is the reference number of a database field) to add field n to the report design at the position of either n or & with no column headings |
| | nC or &nC | (Where n is the reference number of a database field) to add field n to the report design at the position of either n or & and to add the defined column heading of field n as constant fields above field n |
| | nL or &nL | (Where n is the reference number of a database field) to add field n to the report design at the position of either n or & and to add the defined column heading of field n as a constant field to the left of field n, separated by one blank |
| | nR or &nR | (Where n is the reference number of a database field) to add field n to the report design at the position of either n or & and to add the defined column heading of field n as a constant field to the right of field n, separated by one blank |

You can add more than one database reference to the field line at a time and you can use a particular database reference field more than once, but you can only use the database fields that you selected in the list and that currently appear at the bottom of the display.

When you press Enter, RLU does the following:

- Adds the database references you specified in the field line to the associated report line using the actual name of the database field.
- Creates up to three new report lines for referenced column headings, defined as one new record format, if you specified nC as a database reference.
- Deletes leading and trailing blanks from column headings and combines the resulting character strings, separated by single blanks, if you specify nR or nL as a database reference.
- Removes the field from the database field list at the bottom of the display. Because this creates blank space in the line, you see the next undisplayed field from your database field list added to the line.

When you are adding database field references to the field line, also be aware of the following:

- You cannot add database field references by editing hidden field lines.
- When you position the editing character string, ensure that there is enough space to add the database field or move adjacent fields to create sufficient space.
- If you reference a database field on the field line and then delete the new field from the report image, the referenced field is added to the field list. You can add the referenced field to the report again.

Chapter 7. Working with File Information

This chapter describes how to specify DDS printer file keywords at the file level for your RLU source member. File-level keywords let you use printer attributes and apply to all the record formats in the source member.

Specifying File-Level Keywords

The Work with File Keywords display appears when you press F17=File keywords (B) on the Design Report display.

The Work with File Keywords display is shown in Figure 153.

```
Work with File Keywords

Type options, press Enter.
  2=Specify  4=Remove

Opt  Keyword      Opt  Keyword      Opt  Keyword
-    DFNCHR
-    INDARA
-    INDTXT
-    REF
-    SKIPA
-    SKIPB

F3=Exit  F5=Refresh  F9=Input keyword parameters  F12=Cancel
F16=Remove all keywords

Bottom
```

Figure 153. Work with File Keywords Display

This display shows you a list of all the keywords you can specify at the file level.

You also see any indicators that you previously specified for the keywords in the list. See “Conditioning Fields and Keywords” on page 134 for more information about keyword indicators.

You can do the following on this display:

- Specify a keyword
- Remove a keyword from your file specification
- Remove all the keywords specified for your file.

Specifying Keywords

To specify a keyword, type 2 next to the keyword you want and press Enter.

If you select a keyword that has further parameters and option indicators to specify, you see a data entry display for that keyword. If you select a keyword that has no further information to specify, you see a message and RLU specifies the keyword for the file.

Also, regardless of the type of keyword you select, you see > in front of the keyword in the list to indicate that you specified that keyword.

For detailed information about each keyword and its parameters and options, refer to one of the following:

- Appendix A, “DDS Printer File Keywords” on page 159.
- RLU online help information. Press Help or F1=Help when you are on the data entry display for the keyword.
- The *DDS Reference*.

Removing Keywords

To remove a keyword that you previously specified for the file, type 4 next to the keyword you want to remove and press Enter. RLU removes the keyword from the file specification.

To remove all the keywords that you previously specified for the file, press F16=Remove all keywords. RLU removes all keywords from the file description.

Using the Fastpath

You can use a fastpath to add or remove keywords or parameters.

To work with file keywords this way, press F9=Input keyword parameters on the Work with File Keywords display. The Input File Keywords display appears as shown in Figure 154.

```

                                Input File Keywords
Type options and keywords, press Enter.
  1=Add  2=Specify with prompting  4=Remove

Opt  Keyword      Parameters      -Indicators--
-----
(No keywords specified)

F3=Exit  F5=Refresh  F9=Work with keywords  F12=Cancel
Bottom
```

Figure 154. Input File Keywords Display

This display also appears if you used it the last time you worked with file-level, record-level, or field-level keywords.

The Input File Keywords display shows the keywords already specified for the file, along with any parameters currently specified for them, as they would appear in the DDS source statements.

You can do the following on this display:

- Add a file-level keyword, along with parameters and indicators, on the first row of the list
- Change the parameters on any row in the list
- Change the indicators on any row in the list.

Press Enter to return to the Design Report display, press F12=Cancel to return without processing, or press F9=Work with keywords to return to the Work with File Keywords display.

Chapter 8. Exiting from RLU

This chapter describes how to do the following:

- Leave an RLU session
- Save a report design as a new or changed RLU source member
- Create a printer file for the new or changed source member
- Print a prototype of the report.

Using the Exit RLU Display

To get to the Exit RLU display from your edit session, press F3=Exit to return to the Design Report display (if necessary) and then press F3=Exit on the Design Report display.

The Exit RLU display appears as shown in Figure 155.

Exit RLU

Type choices, press Enter.

Option	1		1=Save and exit 2=Exit without saving 3=Resume
Member		_____	Name
File		_____	Name
Library		_____	Name
Text		_____	

Create printer file	N		Y=Yes, N=No
Change defaults	N		Y=Yes, N=No
Prototype report	N		Y=Yes, N=No
Change defaults	N		Y=Yes, N=No
Submit to batch	N		Y=Yes, N=No
Job description		*USRPRF _____	Name, *USRPRF, *RLU
Library		_____	Name, *LIBL, *CURLIB

F5=Refresh F12=Cancel

Figure 155. Exit RLU Display

The Exit RLU display allows you to perform the following operations with the report design you are editing:

- Exit without saving the changes or creating the source member
- Exit and save the source member with the changes you made
- Exit and create a new source member
- Return to editing the report design
- Create a printer file for the source member
- Print a report prototype.

Exiting without Saving

To leave RLU without saving changes you made, type 2 for the *Option* prompt and press Enter. You return to where you started RLU, and your changes are not saved.

During your RLU edit session but before you get to the Exit RLU display, you can also use the CANCEL command to exit without saving changes. See “Using Commands to Exit from RLU” on page 157 for more information about the CANCEL command.

Resuming Report Design

To return to your edit session at the point where you were before you reached the Exit RLU display, type 3 for the *Option* prompt and press Enter. You return to where you requested the Exit RLU display by pressing F3=Exit.

Saving a Source Member

When you save the changes you made during your edit session, both of the following are saved in an RLU source member:

- DDS source statements that RLU generates for all the defined entries you made during the edit session.
- Comments within the DDS source statements that RLU generates for all the undefined entries, such as undefined filler lines, you made during the edit session. RLU comments also contain information such as date and time.

Note: If you are changing a source member that was created in a previous session, the member can also contain user comments that were entered after the member was created using RLU. RLU attempts to save as many of these comments unaltered as possible through each edit session.

For a detailed description of the DDS source and comments RLU generates, see Appendix B, “Source Generated by RLU” on page 197.

To save a new or changed RLU source member, do the following on the Exit RLU display:

- Use the *Option* prompt to specify that you want to save the source member and leave RLU.
- Use the *Member* prompt to specify the name of the source member. Any changes you made during the edit session are saved into the source member with this name.
- Use the *File* prompt to specify the name of the source physical file that contains the source member you are editing.
- Use the *Library* prompt to specify the name of the library that contains the file you are editing.
- Use the *Text* prompt to specify text that describes the source member.

For more information about how to use each of these prompts, position your cursor appropriately on the Exit RLU display when you are using RLU and press Help or F1=Help. You see information describing how to use the prompt.

Creating a Printer File

To create a printer device file for the report you designed, do the following on the Exit RLU display:

- Use the *Create printer file* prompt to run the Create Printer File (CRTPRTF) command and create a printer file. The source member RLU uses is the source member you specified when you started your current edit session or the source member you specify on the Exit RLU display, if different.
- Use the *Change defaults* prompt to change any of the default values RLU uses for the CRTPRTF command parameters. RLU defaults to the page width specified on the STRRLU command.
- Use the *Submit to batch* prompt to submit the CRTPRTF operation to batch.
- Use the *Job description* prompt to specify the job description for the batch job. You can specify *RLU to have RLU supply the job description for the batch job.
- Use the *Library* prompt to specify the library for the job description.

For more information about how to use each of these prompts, position your cursor appropriately on the Exit RLU display when you are using RLU and press Help or F1=Help. You see information describing how to use the prompt.

Note that to create a printer file without saving the source member, you must have *USE authority to the Create Source Physical File (CRTSRCPF), Add Physical File Member (ADDPFM), and Create Printer File (CRTPRTF) commands.

Creating a Prototype of the Report

When you create a prototype of the report, you generate a printed version of the report that appears as close to the appearance of the final report as possible.

The printed prototype includes the following:

- A page header that indicates whether or not the report design is completed
- A trailer line
- A character (>) in the last position of each report line that contains undefined entries.

Figure 156 on page 156 shows the format of the report prototype page header.

You can also create a prototype of the report with an existing source member by specifying the value 6 for the OPTION parameter of the STRRLU command. For information about the STRRLU command parameters, see “Using the STRRLU (Start Report Layout Utility) Command” on page 19.

Note that to prototype the report, RLU must create an additional printer file. This printer file is different from the printer file you create by specifying Y=Yes for the *Create printer file* prompt in the following ways:

- All undefined fields are printed in the report prototype, so additional DDS statements are added to the report prototype source member.
- New Page (NP) line commands affect the printed report prototype only, so you must use page skipping keywords to include page breaks in your final DDS source and printer file.
- A separate indicator buffer is required for the report prototype so RLU always specifies the INDARA keyword in the printer file for report prototyping.

To prototype a report, you must have *USE authority to the Create Source Physical File (CRTSRCPF), Add Physical File Member (ADDPFM), and Create Printer File (CRTPRTF) commands.

Using Commands to Exit from RLU

You can perform some of the same functions as on the Exit RLU display during your edit session by using the CANCEL, SAVE, and FILE commands.

Using the CANCEL Command

You can use the CANCEL command on the Design Report display to cancel your changes and exit from RLU. Figure 157 shows the CANCEL command.

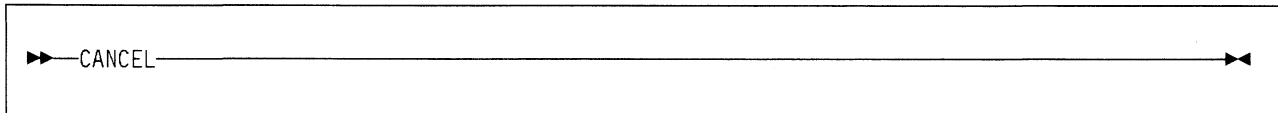


Figure 157. Syntax of the RLU CANCEL Command

Type CANCEL or CAN in the command line and press Enter.

Using the SAVE Command

You can use the SAVE command on the Design Report display to save your changes and then continue editing.

Figure 158 shows the SAVE command.

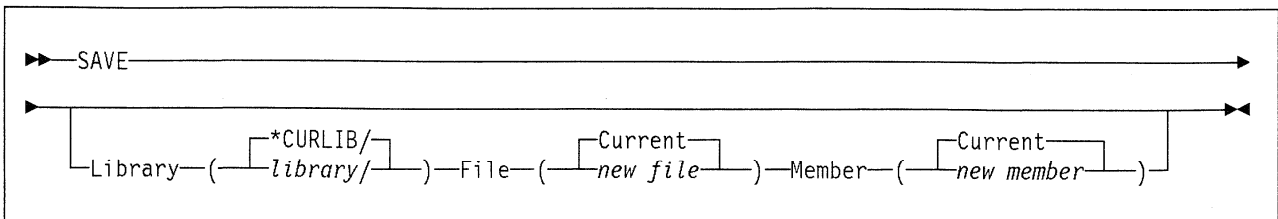


Figure 158. Syntax of the RLU SAVE Command

Type SAVE in the command line followed by one or more of the following:

- The library and source file in which you want your source member to be saved. This parameter is optional. The default is the current library and source file of your source member.
- The source member where you want to save the changes. This parameter is optional, unless you specify the library and the source file. The default is the current source member name.

For the SAVE commands, the values you enter also appear in the corresponding prompts on the Exit RLU display.

Using the FILE Command

You can use the FILE command on the Design Report display to save your changes and exit RLU.

Figure 159 shows the FILE command.

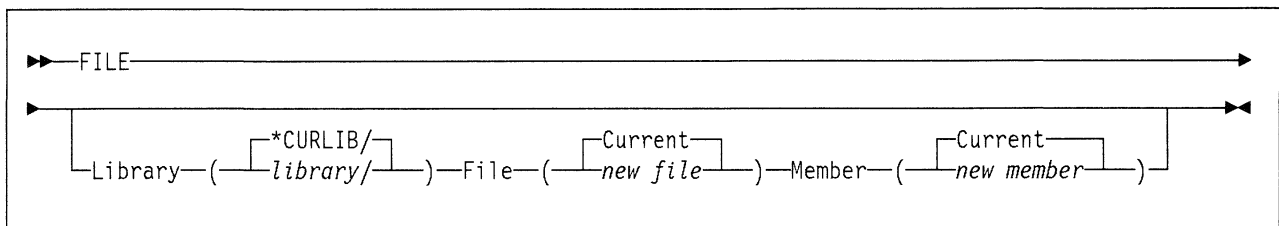


Figure 159. Syntax of the RLU FILE Command

Type FILE in the command line followed by one or more of the following:

- The library and source file where you want your source member to be saved. This parameter is optional. The default is the current library and source file of your source member.
- The source member where you want to save the changes. This parameter is optional, unless you specify the library and the source file. The default is the current source member name.

For the FILE command, the values you enter also appear in the corresponding prompts on the Exit RLU display.

Appendix A. DDS Printer File Keywords

This chapter contains a description of printer file DDS keywords. You can specify most of these keywords in RLU. For information on the printer file DDS keywords that you cannot specify in RLU, see "RLU-Tolerated Advanced Function Printing Data Stream Keywords" on page 195.

For more detailed information about each keyword, refer to the *DDS Reference*.

Data Entry Displays

Data entry displays are shown in RLU so that you can specify the keyword and the parameters associated with the keyword. You see the data entry display for a keyword by selecting that keyword on the appropriate keyword selection list in RLU. For information about how to select keywords, see "Specifying Record-Level Keywords" on page 105, "Specifying Field-Level Keywords" on page 131, and "Specifying File-Level Keywords" on page 149.

Note the following about keyword data entry displays:

- If you previously specified the keyword for the file, record format, or field you are currently working with, the data entry display for the keyword contains the values you specified last.
- Where applicable, you can specify up to three option indicators on the data entry displays. To specify more than three, type Y for the *More indicators* prompt and the Specify Indicators display appears. The Specify Indicators display for each level is shown in Figure 160, Figure 161 on page 160, and Figure 162 on page 160.

```
Specify Indicators
Keyword . . . . . : 00000000

Type indicators, press Enter.
Indicators: 01-99, N01-N99

OR  _ _ _ _ _
OR  _ _ _ _ _
OR  _ _ _ _ _
OR  _ _ _ _ _
OR  _ _ _ _ _
OR  _ _ _ _ _
OR  _ _ _ _ _
OR  _ _ _ _ _

F3=Exit  F5=Refresh  F12=Cancel
```

Figure 160. Specify Indicators Display for File-Level Keywords

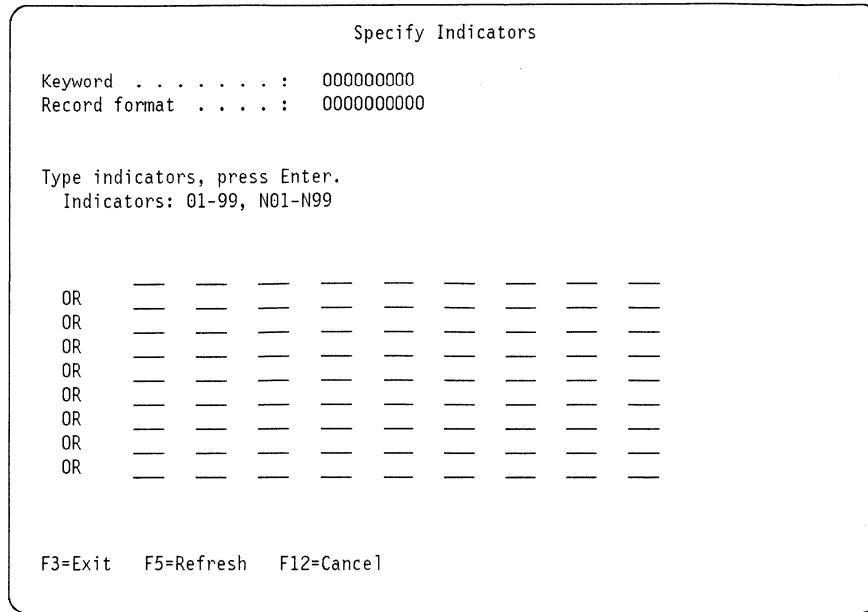


Figure 161. Specify Indicators Display for Record-Level Keywords

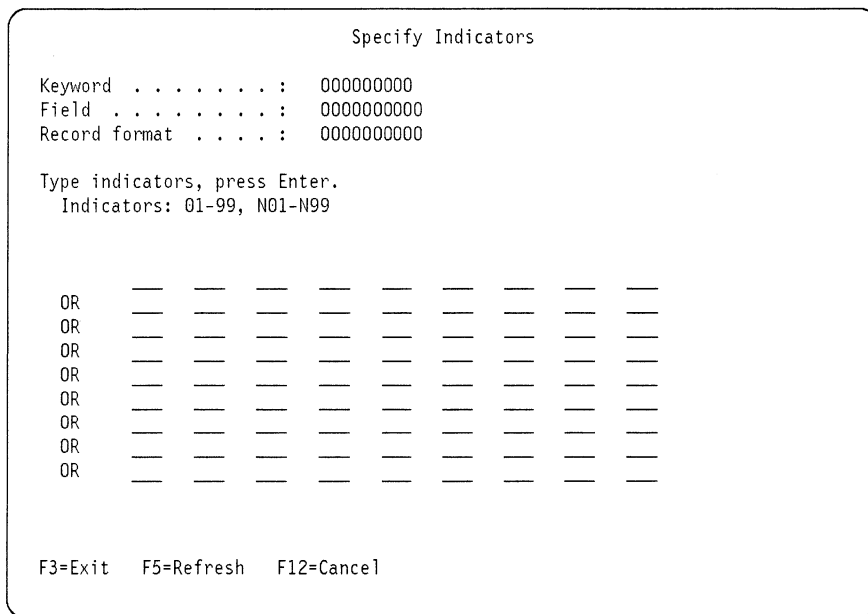


Figure 162. Specify Indicators Display for Field-Level Keywords

When you press Enter again, you return to the keyword data entry display.

- If a keyword parameter requires a string enclosed by apostrophes, RLU automatically adds them so you do not need to type them.

Alternative Name (ALIAS)

Use this field-level keyword to specify an alternative name for a field. When the program that generates your report is compiled, the alternative name is brought into the program instead of the DDS field name. The high-level-language (HLL) compiler in use determines if the alternative name is used. Refer to the appropriate HLL reference manual for information about ALIAS support for that language.

Option indicators are not valid for this keyword.

The Specify Alternative Name display appears as shown in Figure 163.

Specify Alternative Name

Keyword : ALIAS
Field : 000000000
Record format : 000000000

Type choice, press Enter.

Alternative name for
field _____ Name

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword

Figure 163. Specify Alternative Name Display

Bar Code (BARCODE)

Use this field-level keyword to print a field as a user-specified bar code. BARCODE is valid for IPDS printers.

Option indicators are not valid for this keyword.

The Specify Bar Code display appears as shown in Figure 164 on page 162.

```

                                Specify Bar Code
Keyword . . . . . : BARCODE
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Barcode-ID . . . . . _____ Name
Height in lines . . . . . - 1-9
Bar format . . . . . - 1=Horizontal
                                     2=Vertical
Human readable interpretation . . . - 1=Below
                                     2=Above
                                     3=None
Asterisk on CODE30F9 bar codes . . - Y=Yes
                                     N=No
Check digit type . . . . . - 00-FE (Hex)
Narrow bar width . . . . . _____ 0.007-0.208
Ratio of wide bar to narrow bar . . _____ 2.00-3.00

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
Bottom

```

Figure 164. Specify Bar Code Display

Blank Fold (BLKFOLD)

Use this field-level keyword for named fields that overflow onto subsequent print lines to cause folding to occur at a blank rather than at the end of the line. If the blank fold keyword is not specified, the line folds at the end of the physical print line.

This keyword has no parameters, so you do not see a data entry display.

Coded Font (CDEFNT)

Use this record-level or field-level keyword to specify the coded font to be used for a named or a constant field or fields. Use the record-level display to have all fields in the record use the coded font. Use the field-level display to have a specific field use the coded font.

Option indicators are valid for this keyword.

The Specify Coded Font display at the record level is shown in Figure 165 on page 163.


```

                                Specify Coded Font
Keyword . . . . . : CDEFNT
Record format . . . . . : 0000000000

Type choices, press Enter.

Coded font . . . . . _____ Name
                                F4 for list
Library . . . . . *CURLIB__ Name
                                *CURLIB
                                *LIBL

Option indicators . . . . . ___ ___ 01-99, N01-N99

More indicators . . . . . N Y=Yes, N=No

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove Keyword

```

Figure 165. Specify Coded Font Display (Record-Level)

The Specify Coded Font display at the field level is shown in Figure 166.

```

                                Specify Coded Font
Keyword . . . . . : CDEFNT
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Coded font . . . . . _____ Name
                                F4 for list
Library . . . . . *CURLIB__ Name
                                *CURLIB
                                *LIBL

Option indicators . . . . . ___ ___ 01-99, N01-N99

More indicators . . . . . N Y=Yes, N=No

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove Keyword

```

Figure 166. Specify Coded Font (Field-Level)

Character Identifier (CHRID)

Use this field-level keyword to specify that a graphic character set and code page other than the device default can be used for this field. This can be important when extended alphabets (characters such as u with an umlaut or c with a cedilla) are to be printed.

This keyword has no parameters, so you do not see a data entry display.

Character Size (CHRSIZ)

Use this record-level or field-level keyword to expand the width and height of a record or field.

Option indicators are not valid for this keyword.

The Specify Character Size display at the record level is shown in Figure 167.

```
Specify Character Size
Keyword . . . . . : CHRSIZ
Record format . . . . . : 0000000000

Type choices, press Enter.

Expand character size:
Width multiplier . . . . . _____ 1.0-20.0
Height multiplier . . . . . _____ 1.0-20.0

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 167. Specify Character Size Display (Record-Level)

The Specify Character Size display at the field level is shown in Figure 168.

```
Specify Character Size
Keyword . . . . . : CHRSIZ
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Expand character size:
Width multiplier . . . . . _____ 1.0-20.0
Height multiplier . . . . . _____ 1.0-20.0

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 168. Specify Character Size Display (Field-Level)

Color (COLOR)

Use this field-level keyword to specify the color for a field, if it is supported by the printer device. The COLOR keyword is used only by the 4224 printer. If you do not specify COLOR, or if the keyword is not valid for a printer device, black (the default value) is used.

Option indicators are valid for this keyword.

The Work With Colors display is shown in Figure 169.

```
Work With Colors
Keyword . . . . . : COLOR
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type options, press Enter.
  2=Specify  4=Remove  8=Specify more indicators

Opt      Color      ----Indicators-----      Nbr
-        Black      - - - - -                of
-        Blue       - - - - -                ind
-        Brown      - - - - -                0
-        Green      - - - - -                0
-        Pink       - - - - -                0
-        Red        - - - - -                0
-        Turquoise  - - - - -                0
-        Yellow     - - - - -                0

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all colors      Bottom
```

Figure 169. Work With Colors Display

Characters Per Inch (CPI)

This record-level or field-level keyword specifies the horizontal printing density for the record format or field you are defining. Use this keyword to:

- Darken logos and other printed graphics that you create using the DFNCHR keyword
- Place more data in less space on printed forms
- Fit the appearance of a form to your needs.

Option indicators are valid for this keyword.

The Specify Characters Per Inch display at the record level is shown in Figure 170 on page 166.

```

                                Specify Characters Per Inch
Keyword . . . . . : CPI
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Characters per inch . . . . . 10          10, 15
Option indicators . . . . .  _ _ _ _ _ 01-99, N01-N99
More indicators . . . . . N           Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 170. Specify Characters Per Inch Display (Record-Level)

The Specify Characters Per Inch display at the field level is shown in Figure 171.

```

                                Specify Characters Per Inch
Keyword . . . . . : CPI
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Characters per inch . . . . . 10          10, 15
Option indicators . . . . .  _ _ _ _ _ 01-99, N01-N99
More indicators . . . . . N           Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 171. Specify Characters Per Inch Display (Field-Level)

Convert Data (CVTDTA)

This field-level keyword converts character data to hexadecimal data when the field is passed to the printer. Use this keyword to define:

- Logos or emblems for a letterhead on your forms
- Alternative character sets or symbols (such as a copyright symbol)

- The appearance of a physical form (by adding vertical and horizontal lines that act as boundaries on the form or between positions on an invoice)
- IPDS bar code commands.

This keyword has no parameters, so you do not see a data entry display.

Date (DATE)

Use this field-level keyword to display a date as a constant field that is 6 bytes long. The DATE keyword has two parameters: *JOB and *SYS. Use the *JOB parameter to display the job date. Use the *SYS parameter to display the system date. The job date is the date on which the current job or session was started. When this date is set, it does not change. The system date is the current date, and it changes each day.

You can specify the location of the field, the DATE keyword, its parameters and optionally, the CHRSIZ, COLOR, EDTCDE, EDTWRD, FONT, HIGHLIGHT, UNDERLINE, or TEXT keyword.

The sample data used to display the date on the Design Report display is the same for DATE(*JOB) and DATE(*SYS).

Notes:

1. In DDS, DATE and DATE(*JOB) perform the same function. RLU generates DATE in the source for both DATE and DATE(*JOB). If source created outside of RLU contains DATE(*JOB), RLU saves DATE only when you save the source.
2. If you specify DATE(*SYS) and modify the member with a previous release of RLU, the previous release changes the record that contains the DATE(*SYS) keyword into a comment. If other valid keywords are associated with the DATE(*SYS), the results cannot be predicted.

The Specify Date display is shown in Figure 172 on page 168.

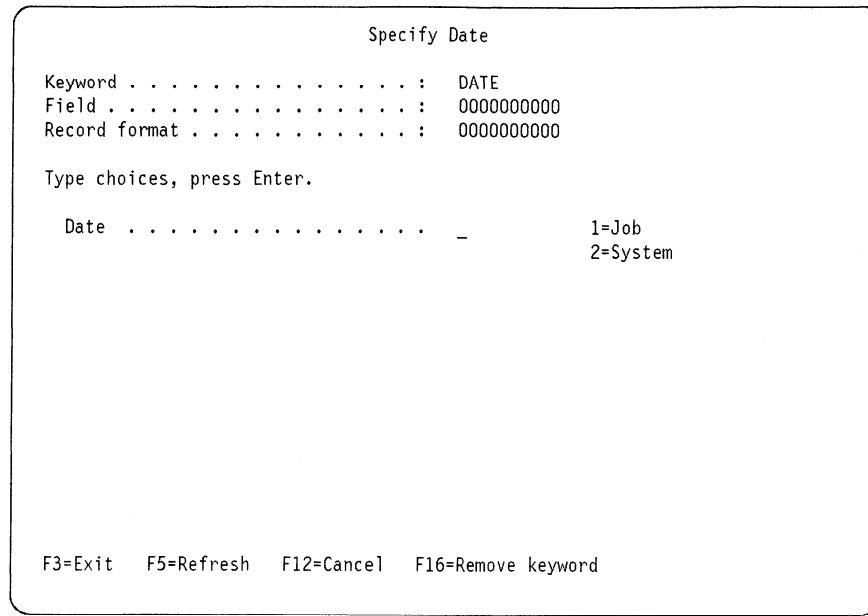


Figure 172. Specify Date Display

Define Character (DFNCHR)

The DFNCHR keyword allows you to define characters of your own design at the file or record level for the 5224 printer and 5225 printer. With this keyword, you can specify DFNCHR more than once at the file or record level, or as many as 50 characters each time you specify DFNCHR.

Option indicators are valid for this keyword.

The Work with Define Characters display at the file level is shown in Figure 173 on page 169.

```

Work with Define Characters

Keyword . . . . . : DFNCHR

Type options, press Enter.
  1=Add  4=Remove  8=Specify more indicators

  Opt      Code      Dot      Nbr
   Point   Matrix   Pattern   of
   -----Indicators-----   ind
  - - - - -

(No keywords specified)

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all code points

Bottom

```

Figure 173. Work with Define Characters Display (File-Level)

The Work with Define Characters display at the record level is shown in Figure 174.

```

Work with Define Characters

Keyword . . . . . : DFNCHR
Record format . . . . . : 0000000000

Type options, press Enter.
  1=Add  4=Remove  8=Specify more indicators

  Opt      Code      Dot      Nbr
   Point   Matrix   Pattern   of
   -----Indicators-----   ind
  - - - - -

(No keywords specified)

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all code points

Bottom

```

Figure 174. Work with Define Characters Display (Record-Level)

Define Line (DFNLIN)

This keyword is valid for DBCS only.

Use this record-level keyword to draw a horizontal or vertical line. A horizontal line is drawn at the bottom of the character spaces from left to right. A vertical line is drawn on the left edge of the character spaces from top to bottom.

Option indicators are allowed for this keyword.

Note: On a non-DBCS system, you can only enter this keyword by using the fastpath.

Figure 175 shows the Work with Define Line display.

```
Work with Define Line
Keyword . . . . . : DFNLIN
Record format . . . . : 0000000000
Type options, press Enter.
  1=Add  4=Remove  8=Specify more indicators

Opt      Line      Pos      Direction      Len      ----Indicators-----      Nbr
-       -       -       -       -       -       -       -       -       of
                                         ind

(No keywords specified)

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all lines      Bottom
```

Figure 175. Work with Define Line Display for Record-Level Keywords

See Appendix D, "Double-Byte Character Set Considerations" on page 215 for more information about using DBCS in RLU.

Specify Default (DFT)

Use this field-level keyword to specify a constant value for constant (unnamed) fields. RLU does not generate the explicit DFT keyword. Constants are stored in the source with the text of the constant delineated by single quotation marks.

Option indicators are not valid for this keyword.

The Specify Default display is shown in Figure 176 on page 171.


```

                                Specify Default (DFT)
Keyword . . . . . : DFT
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type text of constant, press Enter.

_____
_____
_____
_____
_____
_____
_____
_____

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 176. Specify Default Display

Delete Edit (DLTEDIT)

Use this field-level keyword to specify that the Operating System/400* (OS/400*) system is to ignore any edit code or edit word keywords specified for the referenced field. If a field description is referred to from a database file, DLTEDIT prevents certain information from being referenced.

This keyword has no parameters, so you do not see a data entry display.

Drawer (DRAWER)

Use this record-level keyword to specify the drawer from which noncontinuous forms will be selected.

Option indicators are valid for this keyword.

The Specify Drawer display is shown in Figure 177 on page 172.

```

                                Specify Drawer
Keyword . . . . . : DRAWER
Record format . . . . . : 0000000000
Number of keywords . . . . . : 0

Type choices, press Enter.

Forms drawer . . . . . 1          1=Drawer 1
                                   2=Drawer 2
                                   3=Drawer 3
                                   4=Drawer 4

Option indicators . . . . . _ _ _ 01-99, N01-N99

More indicators . . . . . N       Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 177. Specify Drawer Display

Edit Code (EDTCDE)

Use this field-level keyword to edit output-capable numeric fields.
Option indicators are not valid for this keyword.
The Specify Edit Code display is shown in Figure 178.

```

                                Specify Edit Code
Keyword . . . . . : EDTCDE
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Edit code . . . . . _          1-9, A-D, J-Q, X-Z

Fill character . . . . . -      *
                                   Currency symbol

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

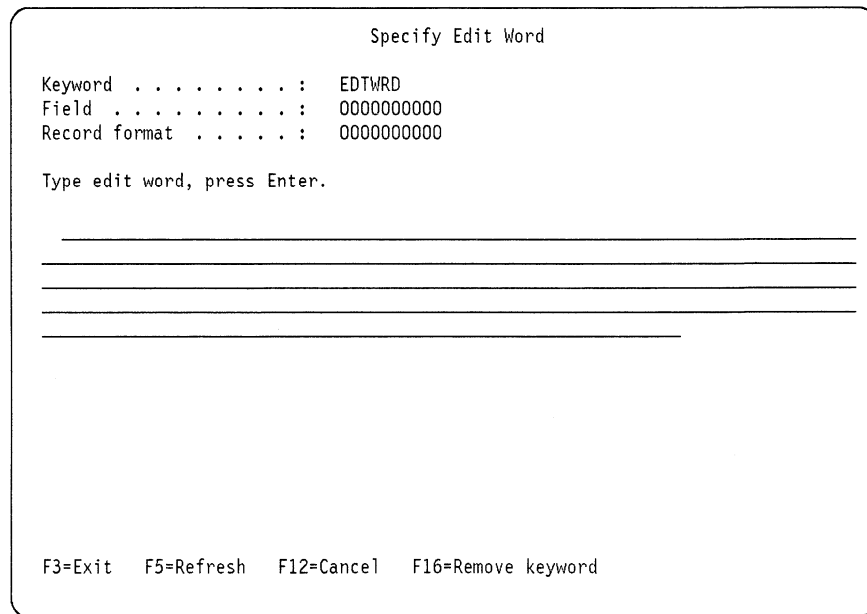
Figure 178. Specify Edit Code Display

Edit Word (EDTWRD)

If you cannot accomplish the desired editing by using the EDTCDE keyword, specify an edit word instead. An edit word specifies the form in which the field values are to print and clarifies the data by inserting characters, such as decimal points, commas, floating-currency and fixed-currency symbols, and credit balance indicators. Also use it to suppress leading zeros and to provide asterisk fill protection.

Option indicators are not valid for this keyword.

The Specify Edit Word display is shown in Figure 179.



The image shows a terminal window titled "Specify Edit Word". It contains the following text:

```
Specify Edit Word
Keyword . . . . . : EDTWRD
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type edit word, press Enter.

_____
_____
_____
_____

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 179. Specify Edit Word Display

Floating-Point to Fixed Decimal (FLTFIXDEC)

Use this field-level keyword to print a number in a floating-point field in fixed decimal notation.

This keyword has no parameters, so you do not see a data entry display.

Floating-Point Precision (FLTPCN)

Use this field-level keyword to specify the precision of a floating-point field.

Option indicators are not valid for this keyword.

The Specify Floating-Point Precision display is shown in Figure 180 on page 174.

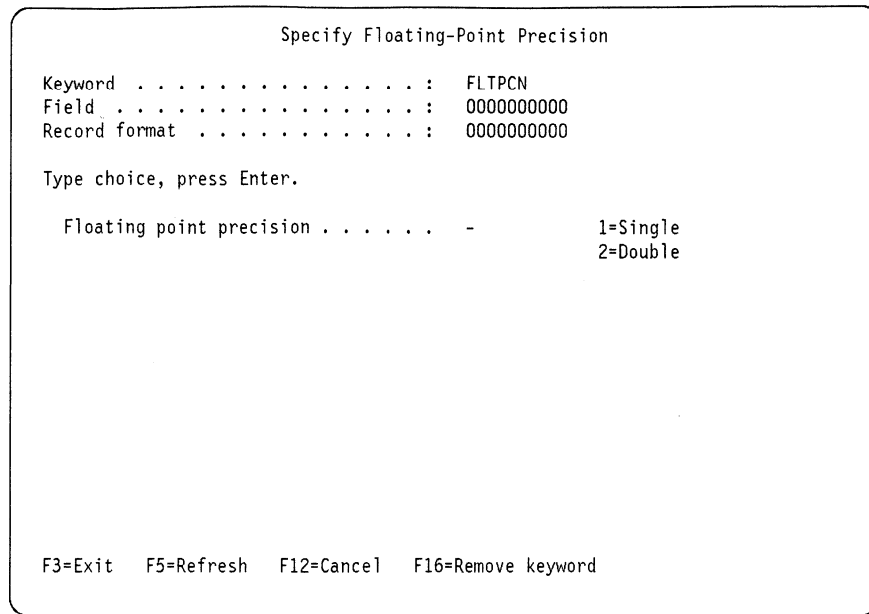


Figure 180. Specify Floating-Point Precision Display

Font Character Set (FNTCHRSET)

Use this record-level or field-level keyword to specify the font character set and code page to be used for a named or constant field or fields. Use the record-level display to have all fields in the record use the font character set. Use the field-level display to have a specific field use the font character set.

Option indicators are valid for this keyword.

The Specify Font Character Set display at the record level is shown in Figure 181 on page 175.

```

Specify Font Character Set
Keyword . . . . . : FNTCHRSET
Record format . . . . . : 0000000000

Type choices, press Enter.

Font character set . . . . . _____ Name
F4 for list
Library . . . . . *CURLIB__ Name
*CURLIB, *LIBL

Code page . . . . . _____ Name
F4 for list
Library . . . . . *CURLIB__ Name
*CURLIB, *LIBL

Option indicators . . . . . _ _ _ _ 01-99, N01-N99

More indicators . . . . . N Y=Yes, N=No

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove Keyword

```

Figure 181. Specify Font Character Set Display (Record-Level)

The Specify Font Character Set display at the field level is shown in Figure 182.

```

Specify Font Character Set
Keyword . . . . . : FNTCHRSET
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Font character set . . . . . _____ Name
F4 for list
Library . . . . . *CURLIB__ Name
*CURLIB, *LIBL

Code page . . . . . _____ Name
F4 for list
Library . . . . . *CURLIB__ Name
*CURLIB, *LIBL

Option indicators . . . . . _ _ _ _ 01-99, N01-N99

More indicators . . . . . N Y=Yes, N=No

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove Keyword

```

Figure 182. Specify Font Character Set Display (Field-Level)

Font (FONT)

Use this record-level or field-level keyword to specify the font ID for printing a named or constant field or fields within a record.

Option indicators are valid for this keyword.

The Specify Fonts display at the record level is shown in Figure 183.

```
Specify Fonts
Keyword . . . . . : FONT
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Font . . . . . _____ Name, number
Point size . . . . . _____ 0.1-999.9
Option indicators . . . . . _____ 01-99, N01-N99
More indicators . . . . . N Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword
```

Figure 183. Specify Fonts Display (Record-Level)

The Specify Fonts display at the field level is shown in Figure 184.

```
Specify Fonts
Keyword . . . . . : FONT
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Font . . . . . _____ Name, number
Point size . . . . . _____ 0.1-999.9
Option indicators . . . . . _____ 01-99, N01-N99
More indicators . . . . . N Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword
```

Figure 184. Specify Fonts Display (Field-Level)

Highlight (HIGHLIGHT)

Use this record-level and field-level keyword to indicate that a field should be printed in bold letters.

Option indicators are valid for this keyword.

The Specify Highlight display at the record level is shown in Figure 185.

```
Specify Highlight
Keyword . . . . . : HIGHLIGHT
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Option indicators . . . . . _ _ _ 01-99, N01-N99
More indicators . . . . . N Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword
```

Figure 185. Specify Highlight Display (Record-Level)

The Specify Highlight display at the field level is shown in Figure 186.

```
Specify Highlight
Keyword . . . . . : HIGHLIGHT
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Option indicators . . . . . _ _ _ 01-99, N01-N99
More indicators . . . . . N Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword
```

Figure 186. Specify Highlight Display (Field-Level)

Alternative Data Type (IGCALTTYP)

This keyword is valid for DBCS only.

Use this field-level keyword to change alphanumeric character fields to the DBCS fields of data type O.

Option indicators are not allowed for this keyword.

Note: On a non-DBCS system, you can only enter this keyword by using the fastpath. This keyword has no parameters, so you do not see a data entry display.

See Appendix D, "Double-Byte Character Set Considerations" on page 215 for more information about using DBCS in RLU.

Alphanumeric-to-DBCS Conversion (IGCANKCNV)

This keyword is valid for DBCS only.

This field-level keyword converts alphanumeric characters to equivalent DBCS characters (Japanese only). Each DBCS character prints twice as wide as a printed alphanumeric character.

Note: On a non-DBCS system, you can only enter this keyword by using the fastpath. This keyword has no parameters, so you do not see a data entry display.

Option indicators are not allowed for this keyword.

See Appendix D, "Double-Byte Character Set Considerations" on page 215 for more information about using DBCS in RLU.

DBCS Coded Font (IGCCDEFNT)

Use this record-level or field-level keyword to specify the DBCS coded font to be used for a named or a constant field or fields. Use the record-level display to have all fields in the record use the DBCS coded font. Use the field-level display to have a specific field use the DBCS coded font. For more information on using DBCS in RLU, see Appendix D, "Double-Byte Character Set Considerations" on page 215.

Option indicators are valid for this keyword.

Note: On a non-DBCS system, you can only enter this keyword by using the fastpath.

The Specify DBCS Coded Font display at the record level is shown in Figure 187 on page 179.


```

Specify DBCS Coded Font
Keyword . . . . . : IGCCDEFNT
Record format . . . . . : 0000000000

Type choices, press Enter.

Coded font . . . . . _____ Name
                                F4 for list
Library . . . . . *CURLIB__ Name
                                *CURLIB
                                *LIBL

Option indicators . . . . . _ _ _ _ Option indicators 01-99, N01-N99
More indicators . . . . . N More indicators Y=Yes, N=No

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove Keyword

```

Figure 187. Specify DBCS Coded Font Display (Record-Level)

The Specify DBCS Coded Font display at the field level is shown in Figure 188.

```

Specify DBCS Coded Font
Keyword . . . . . : IGCCDEFNT
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Coded font . . . . . _____ Name
                                F4 for list
Library . . . . . *CURLIB__ Name
                                *CURLIB
                                *LIBL

Option indicators . . . . . _ _ _ _ Option indicators 01-99, N01-N99
More indicators . . . . . N More indicators Y=Yes, N=No

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove Keyword

```

Figure 188. Specify DBCS Coded Font (Field-Level)

DBCS Character Rotation (IGCCHRTT)

This keyword is valid for DBCS only.

This field-level or record-level keyword rotates each DBCS character 90 degrees counter-clockwise before printing. Rotation allows the system to print the characters vertically, in reading sequence. Use this keyword only for printer files to be printed with the 5553 printers.

Option indicators are not allowed for this keyword.

Note: On a non-DBCS system, you can only enter this keyword by using the fastpath. This keyword has no parameters, so you do not see a data entry display.

See Appendix D, "Double-Byte Character Set Considerations" on page 215 for more information about using DBCS in RLU.

Indicator Area (INDARA)

Use this file-level keyword to remove option indicators from the buffer (also called the record area) and place them in a 99-byte separate indicator area.

This keyword has no parameters. When you specify INDARA, you see a message telling you that there is no further information to specify.

Indicator Text (INDTXT)

Use this file-level, record-level, or field-level keyword to associate descriptive text (indicating intent or use) with a specific indicator. You can specify INDTXT once for each indicator.

Option indicators are not valid for this keyword.

The Specify Indicator Text display at the file level is shown in Figure 189.

The screenshot shows a terminal window titled "Specify Indicator Text". The content is as follows:

```
Specify Indicator Text
Keyword . . . . . : INDTXT

Type options, press Enter.
 1=Add  4=Remove

Option   Indicator   Text
-----
(No keywords specified)

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all indicator text
Bottom
```

Figure 189. Specify Indicator Text Display (File-Level)

The Specify Indicator Text display at the record level is shown in Figure 190 on page 181.

```

                                Specify Indicator Text
Keyword . . . . . :  INDTXT
Record format . . . . :  0000000000

Type options, press Enter.
  1=Add  4=Remove

Option   Indicator   Text
-----
(No keywords specified)

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all indicator text
Bottom

```

Figure 190. Specify Indicator Text Display (Record-Level)

The Specify Indicator Text display at the field level is shown in Figure 191.

```

                                Specify Indicator Text
Keyword . . . . . :  INDTXT
Field . . . . . :  0000000000
Record format . . . . :  0000000000

Type options, press Enter.
  1=Add  4=Remove

Option   Indicator   Text
-----
(No keywords specified)

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove all indicator text
Bottom

```

Figure 191. Specify Indicator Text Display (Field-Level)

Lines Per Inch (LPI)

Use this record-level keyword to change lines per inch within a file. If you do not specify LPI for a record, the LPI value is set from the LPI value on the CRTPRTF command.

Option indicators are not valid for this keyword.

The Specify Lines Per Inch display is shown in Figure 192.

```
Specify Lines Per Inch
Keyword . . . . . : LPI
Record format . . . . . : 0000000000

Type choices, press Enter.

Lines per inch . . . . . _6      4, 6, 8, 9, 12

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 192. Specify Lines Per Inch Display

Message Constant (MSGCON)

Use this field-level keyword to indicate that the text for a constant field is contained in a message description. If the message description does not exist at DDS compile time, the file is not created. If you change the message description, you must create the file again.

Option indicators are not valid for this keyword.

The Specify Message Constant display is shown in Figure 193 on page 183.

```

Specify Message Constant
Keyword . . . . . : MSGCON
Field . . . . . : 0000000000
Record format . . . . . : 0000000000

Type choices, press Enter.

Message length . . . . . ___ 1-132
Message identifier . . . . . _____ Message ID
*LIST
Message file . . . . . _____ Name
F4 for list
Library . . . . . *LIBL_____ Name
*LIBL

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove keyword

```

Figure 193. Specify Message Constant Display

Page Number (PAGNBR)

Use this field-level keyword to specify the location of a constant, 4-digit, zoned decimal field to contain the page number. Specify only the PAGNBR keyword, the location of the field (the location of the field can be either position only, or line number and position), and, optionally, the CHRSIZ, COLOR, FONT, HIGHLIGHT, UNDERLINE, or TEXT keyword.

Option indicators are valid for this keyword.

The Specify Page Number display is shown in Figure 194 on page 184.

```

                                Specify Page Number
Keyword . . . . . : PAGNBR
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Option indicators . . . . .   _ _ _   01-99, N01-N99
More indicators . . . . .     N       Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 194. Specify Page Number Display

Page Rotation (PAGRTT)

Use this record-level keyword to specify the degree of rotation of the text for loading the page into the printer. The PAGRTT keyword is valid only for the 3812 and 3816 printers. If you do not specify a PAGRTT keyword for a record, the page rotation is set from the value specified on the Create Printer File (CRTPRTF) command.

Option indicators are valid for this keyword.

The Specify Page Rotation display is shown in Figure 195 on page 185.

```

                                Specify Page Rotation
Keyword . . . . . : PAGRTT
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Degree of rotation . . . . . ___      0, 90, 180, 270
Option indicators . . . . . ___ ___ ___ 01-99, N01-N99
More indicators . . . . . N          Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 195. Specify Page Rotation Display

Print Quality (PRTQLTY)

User this record-level and field-level keyword to vary the print quality within the file.

Option indicators are allowed for this keyword.

The Specify Print Quality display at the record level is shown in Figure 196.

```

                                Specify Print Quality
Keyword . . . . . : PRTQLTY
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Print quality . . . . . 2          1=Near letter
                                   2=Letter
                                   3=Draft
                                   4=Fast draft
Option indicators . . . . . ___ ___ ___ 01-99, N01-N99
More indicators . . . . . N          Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 196. Specify Print Quality Display (Record-Level)

The Specify Print Quality display at the field level is shown in Figure 197.

```
Specify Print Quality

Keyword . . . . . : PRTQLTY
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Print quality . . . . . 2          1=Near letter
                                   2=Letter
                                   3=Draft
                                   4=Fast draft

Option indicators . . . . . _ _ _ 01-99, N01-N99

More indicators . . . . . N       Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 197. Specify Print Quality Display (Field-Level)

Reference (REF)

Use this file-level keyword to specify the name of a file from which field descriptions are to be retrieved.

Option indicators are not valid for this keyword.

The Specify Reference File display is shown in Figure 198.

```
Specify Reference File

Keyword . . . . . : REF

Type choices, press Enter.

Database file . . . . . _____ Name
                                   F4 for list

Library . . . . . *CURLIB__ Name
                                   *CURLIB
                                   *LIBL

Record format . . . . . _____ Name
                                   F4 for list

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 198. Specify Reference File Display

Referenced Field (REFFLD)

Use this field-level keyword when referring to a field under one of these three conditions:

- The name of the referenced field is different from the name in the DDS.
- The name of the referenced field is the same as the name in the DDS, but the record format, file, or library of the referenced field is different from that specified with the REF keyword.
- The referenced field occurs in the same DDS source file as the referencing field.

Option indicators are not valid for this keyword.

The Specify Referenced Field display is shown in Figure 199.

Specify Referenced Field

Keyword : REFFLD
Field : 0000000000
Record format : 0000000000

Type choices, press Enter.

Field	_____	Name F4 for list
Record format	_____	Name F4 for list
File	_____	Name *SRC F4 for list
Library	*CURLIB____	Name *CURLIB *LIBL

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=Remove keyword

Figure 199. Specify Referenced Field Display

Skip After (SKIPA)

Use this file-level, record-level, or field-level keyword to specify that the printer device is to skip to a specific line number after it prints one or more lines.

Option indicators are valid for this keyword.

The Specify Skip After display at the file level is shown in Figure 200 on page 188.

```

                                Specify Skip After
Keyword . . . . . : SKIPA
Number of indicators . . . . . : 0

Type choices, press Enter.

Line number to skip to after
printing . . . . .  _1          1-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .    N          Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 200. Specify Skip After Display (File-Level)

The Specify Skip After display at the record level is shown in Figure 201.

```

                                Specify Skip After
Keyword . . . . . : SKIPA
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Line number to skip to after
printing . . . . .  _1          1-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .    N          Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 201. Specify Skip After Display (Record-Level)

The Specify Skip After display at the field level is shown in Figure 202 on page 189.

```

                                Specify Skip After
Keyword . . . . . : SKIPA
Field . . . . . : 000000000
Record format . . . . . : 000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Line number to skip to after
printing . . . . .  _1          1-255

Option indicators . . . . .  ___ 01-99, N01-N99

More indicators . . . . .  N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 202. Specify Skip After Display (Field-Level)

Skip Before (SKIPB)

Use this file-level, record-level, or field-level keyword to specify that the printer device is to skip to a specific line number before it prints the next line or lines.

Option indicators are valid for this keyword.

The Specify Skip Before display at the file level is shown in Figure 203.

```

                                Specify Skip Before
Keyword . . . . . : SKIPB
Number of indicators . . . . . : 0

Type choices, press Enter.

Line number to skip to before
printing . . . . .  _1          1-255

Option indicators . . . . .  ___ 01-99, N01-N99

More indicators . . . . .  N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword

```

Figure 203. Specify Skip Before Display (File-Level)

The Specify Skip Before display at the record level is shown in Figure 204.

```
Specify Skip Before
Keyword . . . . . : SKIPB
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Line number to skip to before
printing . . . . . _1          1-255

Option indicators . . . . . _ _ _ 01-99, N01-N99

More indicators . . . . . N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 204. Specify Skip Before Display (Record-Level)

The Specify Skip Before display at the field level is shown in Figure 205.

```
Specify Skip Before
Keyword . . . . . : SKIPB
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Line number to skip to before
printing . . . . . _1          1-255

Option indicators . . . . . _ _ _ 01-99, N01-N99

More indicators . . . . . N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 205. Specify Skip Before Display (Field-Level)

Space After (SPACEA)

Use this record-level or field-level keyword to specify that the printer device is to space some number of lines after it prints one or more lines.

Option indicators are valid for this keyword.

The Specify Space After display at the record level is shown in Figure 206.

```
                                Specify Space After
Keyword . . . . . : SPACEA
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Number of lines to space after
printing . . . . .  _1          1-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .  N          Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 206. Specify Space After Display (Record-Level)

The Specify Space After display at the field level is shown in Figure 207.

```
                                Specify Space After
Keyword . . . . . : SPACEA
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Number of lines to space after
printing . . . . .  _1          1-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .  N          Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 207. Specify Space After Display (Field-Level)

Space Before (SPACEB)

Use this record-level or field-level keyword to specify that the printer device is to space some number of lines before it prints the next line or lines.

Option indicators are valid for this keyword.

The Specify Space Before display at the record level is shown in Figure 208.

```
Specify Space Before
Keyword . . . . . : SPACEB
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Number of lines to space before
printing . . . . .  _1      1-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .  N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 208. Specify Space Before Display (Record-Level)

The Specify Space Before display at the field level is shown in Figure 209.

```
Specify Space Before
Keyword . . . . . : SPACEB
Field . . . . . : 0000000000
Record format . . . . . : 0000000000
Number of indicators . . . . . : 0

Type choices, press Enter.

Number of lines to space before
printing . . . . .  _1      1-255

Option indicators . . . . .  _ _ _  01-99, N01-N99

More indicators . . . . .  N      Y=Yes, N=No

F3=Exit  F5=Refresh  F12=Cancel  F16=Remove keyword
```

Figure 209. Specify Space Before Display (Field-Level)

Text (TEXT)

Use this record-level or field-level keyword to supply a text description (or comment) for the record format or field.

Option indicators are not valid for this keyword.

The Specify Text display at the record level is shown in Figure 210.

Specify Text

Keyword : TEXT
Record format : 0000000000

Type text, press Enter.

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword

Figure 210. Specify Text Display (Record-Level)

The Specify Text display at the field level is shown in Figure 211.

Specify Text

Keyword : TEXT
Field : 0000000000
Record format : 0000000000

Type text, press Enter.

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword

Figure 211. Specify Text Display (Field-Level)

Time (TIME)

This field-level keyword prints the current system time as a constant field 6 bytes long. You can specify the location of the field, the TIME keyword, and, optionally, the EDTCDE, EDTWRD, COLOR, HIGHLIGHT, CHRISZ, FONT, UNDERLINE, or TEXT keyword.

This keyword has no parameters, so you do not see a data entry display.

Transparency (TRANSPY)

This field-level keyword prevents code points you have redefined (using the DFNCHR keyword) from being interpreted as SCS printer control commands when your program sends an output operation that prints the field you are defining.

This keyword has no parameters, so you do not see a data entry display.

Underline (UNDERLINE)

Use this field-level keyword to specify that the OS/400 system is to underline the field when it is printed. Specify UNDERLINE only if the printer supports underlining.

Option indicators are valid for this keyword.

The Specify Underline display is shown in Figure 212.

Specify Underline

Keyword	:	UNDERLINE
Field	:	0000000000
Record format	:	0000000000
Number of indicators	:	0

Type choices, press Enter.

Option indicators	___	01-99, N01-N99
More indicators	N	Y=Yes, N=No

F3=Exit F5=Refresh F12=Cancel F16=Remove keyword

Figure 212. Specify Underline Display

RLU-Tolerated Advanced Function Printing Data Stream Keywords

The DDS keywords required for Advanced Function Printing Data Stream (AFPDS) support are tolerated by RLU, but not supported by it. When you load a source member that contains a record that contains a tolerated keyword, RLU saves all source lines in that record. The record is displayed without any of the fields that are defined for it. In the example shown in Figure 213, RCD004 is the AFPDS record. All other records are displayed with all their defined fields.

```

Columns . . . : 1 71          Design Report          RPTLIB/RPTFILE
RLU=>
BASE  ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
----- Start of Page 001 -----
FLD1  <.....>
RCD001 ABC Company - Employee Directory
00002 +
00003 +
FLD1  <.> <.....>
RCD002 Dept Employee Name          Phone Status
FLD1  <.> <.....>
RCD003 nnnn xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx nnnnn x
----- Start of Page 002 -----
RCD004 ----- AFPDS Record Format -----
----- End of Report -----

F3=Exit  F11=Define field  F16=Delete field
F22=Alternative keys      F24=More keys

```

Figure 213. Design Report Display with AFPDS Record Displayed

When you save the source member, RLU regenerates the tolerated keywords.

Because these keywords are tolerated, but not supported, you can neither specify nor change these keywords during an RLU session. You can, however, use the RLU Copy, Move, Delete, block Copy, block Move, and block Delete line commands on records that contain these keywords. When you print a report prototype, the records that contain these keywords are generated. The tolerated keywords are shown in Figure 214.

Figure 214. RLU-Tolerated DDS Keywords

DDS Keyword	Name	Record Level	Field Level	Description
BOX	Box	X		Prints a rectangle.
ENDPAGE	Page Eject	X		Ejects the current page when the record is printed.
GDF	Graphic Data File	X		Prints a graphic data file.
LINE	Line	X		Prints a vertical or horizontal line.
OVERLAY	Overlay	X		Prints an overlay.
PAGSEG	Page Segment	X		Prints a page segment.
POSITION	Position		X	Defines the location of the field. The location is defined by a unit of measure instead of by line and column.
TXTRTT	Text Rotation		X	Rotates a field 0, 90, 180, or 270 degrees depending on the way the page is loaded into the printer.

Appendix B. Source Generated by RLU

An RLU source member contains three types of data:

- DDS source statements
- RLU comments
- User comments.

This appendix describes this source data.

You can use the Source Entry Utility (SEU) to browse the source member that you either created or changed with RLU. During the browse session, you can also use the SEU HIDE command to hide RLU comments in the member. For more information about using SEU, see the *SEU User's Guide and Reference*. For more information about using SEU to edit an RLU member, see "Editing RLU Source Using SEU" on page 18.

DDS Source Statements

For detailed information about DDS syntax, refer to the *DDS Reference*.

RLU Comments

When you save a new or changed RLU member, RLU stores information that is specific to RLU in comments, called RLU comments. Any information also contained in the DDS source code is not repeated in the RLU comments. DDS code and RLU comments together allow RLU to recreate your report design on the Design Report display.

The following tables describe the location, the purpose, and the contents of each RLU comment type in an RLU source member.

Note that the following RLU comments are always generated:

- Time/Release Information
- File-Level Information.

Figure 215 shows a description of RLU comments.

Figure 215 (Page 1 of 2). Description of RLU Comments

Comment Type	Associated DDS	Location in DDS
Time/Release Information	None	First RLU comment in file-level DDS.
File-Level Information	None	Following the Time/Release Information comment line.
Record-Level Information	Record format	Immediately following a record format specification and before any field specification.
Filler Line Information - Undefined Filler Line	None	Before or after a record format specification, but not within a single record format or set of sample texts.
Filler Line Information - Report Spacing Filler Line	Record format	Within a record format specification or set of sample texts.

Figure 215 (Page 2 of 2). Description of RLU Comments

Comment Type	Associated DDS	Location in DDS
Start of a Set of Sample Texts	All the fields within a record format	First line of a set of sample texts and (if in the first set of sample texts) after all fields in the record format but before the next record format.
Report Sample Data	Field	Immediately following a Start of a Set of Sample Texts comment line.
Report Continuation Line	None	Immediately following a Start of a Set of Sample Texts comment line, within a set of sample texts.
New Page Break	None	Between record formats, sets of sample texts, or Undefined Filler Line comments.
CRTPRTF Command String for Printer File	None	End of source.
CRTPRTF Command String for Sample Report	None	End of source.

Figure 216 shows the contents of RLU comments.

Figure 216 (Page 1 of 8). Contents of RLU Comments

Position	Information	Description
All RLU Comment Types		
1-5	Sequence Number	This position contains blanks. They are not used and are ignored by RLU.
6	Form Type	An A in this position designates this as a DDS form. Any character is valid for input, but A is automatically generated for output.
7	Comment	An asterisk (*) in this position identifies this line as a comment. This must appear in the RLU source.
8-9	RLU Type Identification	%% in these positions identifies this line as an RLU comment.
Time/Release Information		
10-11	RLU Time/Release Information Identification	TS in these positions identifies this line as a file-level time/release information line.
12-13	Positions Not Used	These positions contain blanks.
14-15	RLU Component Identification	These positions contain the RLU component identification.
16-17	Positions Not Used	These positions contain blanks.
18-25	Date of Last Update	These positions contain the last update year-month-day stamp (yyyymmdd).
26-27	Positions Not Used	These positions contain blanks.
28-33	Time of Last Update	These positions contain the last update hour-minute-second stamp (hhmmss).
34-35	Positions Not Used	These positions contain blanks.

Figure 216 (Page 2 of 8). Contents of RLU Comments

Position	Information	Description
36-45	User ID	These positions contain the last update user ID.
46-47	Positions Not Used	These positions contain blanks.
48-57	Release Number and Modification Number	These positions contain the release number and modification number of the current RLU session.
58-59	Positions Not Used	These positions contain blanks.
60-69	Product Number	These positions contain the product number of the current RLU version.
70-80	Positions Not Used	These positions contain blanks.
File-Level Information		
10-11	RLU File Information Line Identification	FI in these positions identifies this line as a File-Level Information line.
12	Continuation Line Identification	A plus sign (+) in this position identifies the next line as a continuation File-Level Information line. A blank in this position identifies the line as the second File-Level Information line.
13	Printer Device Type	The value in this position identifies the type of printer device being used. Valid values are 1 for *SCS (the default), 2 for *IPDS, and 3 for *AFPDS. This position must be blank if the line is a second File-Level Information line to accommodate all the indicators.
14-16	Page Length	These positions contain the page length for the report in number of print lines. The valid range is 001 to 255 (066 is the default), and the value must be right-justified. These positions must be blank if the line is a second File-Level Information line to accommodate all the indicators.
17	Activate Indicators	This position contains 1 for Active or 0 for Nonactive and indicates whether or not conditioned fields and keywords are activated. The default value is 0 and all indicators are assumed to be 1. If the value in this position is 1, all the indicators to become ON must be 1. Indicators of 0 become OFF. This position is blank if the line is a second File-Level Information Line, to accommodate the status of more indicators than can fit on a single line.
18	ON/OFF Toggle	This position contains 1 for ON or 0 for OFF to indicate the current setting of the ON/OFF toggle. The default value is 1 for ON. The ON/OFF toggle value has effect only when the Activate Indicators value is 1 for Active. This position is blank if the line is a second File-Level Information line.

Figure 216 (Page 3 of 8). Contents of RLU Comments

Position	Information	Description
19-68	Set of Indicators	These positions contain the indicator values (50 on the first File-Level Information line and 49 more on a second). The valid values are 1 and 0, and any invalid value is considered 0. If the line is a second File-Level Information line, position 68 must be blank.
69-80	Positions Not Used	These positions contain blanks.
Record-Level Information		
10-11	RLU Record Information Line Identification	RI in these positions identifies this line as a record format information line.
12	Position Not Used	This position contains a blank.
13-17	Number of Sample Lines	These positions specify the number of sample lines generated.
18	Record Type	This position contains an H or a blank to indicate whether or not this is a database header record.
19-80	Positions Not Used	These positions contain blanks.
Filler Line Information - Undefined Filler Line		
10-11	RLU Filler Line Identification	FL in these positions identifies this line as a filler line, and not associated with any record format.
12	Continuation of Undefined Filler Line	This position contains a plus sign (+) to identify the next line as a continuation line or a blank to indicate that there is no continuation.
13-15	Number of Occurrences	These positions specify the number of repeated blank filler lines (including the first one). The valid range is from 1 to 999.
16	Shift-Out Character (Reserved for DBCS)	This position contains a shift-out control character (hex '0E') for the continuation of a DBCS string.
17-78	Undefined Filler Line Data	This position contains the filler line data (exactly what shows on the Design Report display).
79-80	Shift-In Character (Reserved for DBCS)	These positions contain one of the following: <ul style="list-style-type: none"> • A shift-in control character (hex '0F') in position 79 and a blank in position 80, if the filler line text contains DBCS strings and the second byte of the last DBCS character ends in position 78 • A shift-in control character in position 80 if the filler line text contains DBCS strings and the second byte of the last DBCS character ends in position 79 • Blanks in both positions if single-byte character set (SBCS) text ends in position 78.

Figure 216 (Page 4 of 8). Contents of RLU Comments

Position	Information	Description
Filler Line Information - Report Spacing Filler Line		
10-11	RLU Filler Line Identification	FS in these positions identifies this line as a report spacing filler line, associated with a record format.
12	Continuation of Report Spacing Filler Line	This position contains a plus sign (+) to identify the next line as a continuation line or a blank to indicate that there is no continuation.
13-15	Number of Occurrences	These positions specify the number of repeated blank filler lines (including the first one). The valid range is from 1 to 999.
16	Shift-Out Character (Reserved for DBCS)	This position contains a shift-out control character (hex '0E') for the continuation of a DBCS string.
17-78	Report Spacing Filler Line Data	These positions contain the filler line data (exactly what shows on the Design Report display).
79-80	Shift-In Character (Reserved for DBCS)	These positions contain one of the following: <ul style="list-style-type: none"> • A shift-in control character (hex '0F') in position 79 and a blank in position 80, if the filler line text contains DBCS strings and the second byte of the last DBCS character ends in position 78 • A shift-in control character in position 80 if the filler line text contains DBCS strings and the second byte of the last DBCS character ends in position 79 • Blanks in both positions if single-byte character set (SBCS) text ends in position 78.
Start of a Set of Sample Texts		
10-11	Start Sample Text Identification	SS in these positions identifies this line as the beginning of a set of sample texts.
12	Continuation of Line	This position contains a plus sign (+) to identify the next line as a continuation line or a blank to indicate that there is no continuation.
13-15	Positions Not Used	These positions contain blanks.
16	Shift-Out Character (Reserved for DBCS)	This position contains a shift-out control character (hex '0E') for the continuation of a DBCS string.
17-78	Filler Text Data	These positions contain the filler text data (exactly what shows on the Design Report display).

Figure 216 (Page 5 of 8). Contents of RLU Comments

Position	Information	Description
79-80	Shift-In Character (Reserved for DBCS)	<p>These positions contain one of the following:</p> <ul style="list-style-type: none"> • A shift-in control character (hex '0F') in position 79 and a blank in position 80, if the filler text contains DBCS strings and the second byte of the last DBCS character ends in position 78 • A shift-in control character in position 80 if the filler text contains DBCS strings and the second byte of the last DBCS character ends in position 79 • Blanks in both positions if single-byte character set (SBCS) text ends in position 78.
Report Sample Data		
10-11	RLU Report Sample Data Line Identification	SN in these positions identifies this line as a report sample data line.
12	Continuation of Line	This position contains a plus sign (+) to identify the next line as a continuation line or a blank to indicate that there is no continuation.
13-22	Field Name	These positions contain the field name with which the report sample data is associated.
23	Shift-Out Character (Reserved for DBCS)	This position contains a shift-out control character (hex '0E') for the continuation of DBCS sample data text.
24-78	Sample Data	These positions specify the sample data. The data can be alphanumeric or numeric. Blanks preceding the data are interpreted as leading blanks (for alphanumeric data) or suppressed zeros (for numeric data). If the line is not long enough to hold all the sample data text, a plus sign (+) in position 12 indicates that the line is followed by a continuation line. The remaining data is on the continuation line.
79-80	Shift-In Character (Reserved for DBCS)	<p>These positions contain one of the following:</p> <ul style="list-style-type: none"> • A shift-in control character (hex '0F') in position 79 and a blank in position 80, if the sample data contains DBCS strings and the second byte of the last DBCS character ends in position 78 • A shift-in control character in position 80 if the sample data contains DBCS strings and the second byte of the last DBCS character ends in position 79 • Blanks in both positions if single-byte character set (SBCS) text ends in position 78.
Record Continuation Line		
10-11	RLU Continuation Line Identification	CL in these positions identifies this line as a continuation line within a set of field or sample text lines.

Figure 216 (Page 6 of 8). Contents of RLU Comments

Position	Information	Description
12	Continuation of Line	This position contains a plus sign (+) to identify the next line as a continuation line or a blank to indicate that there is no continuation.
13-15	Number of Occurrences	These positions specify the number of repeated blank filler lines (including the first one). The valid range is from 1 to 999.
16	Shift-Out Character (Reserved for DBCS)	This position contains a shift-out control character (hex '0E') for the continuation of a DBCS string.
17-78	Continuation Line Data	These positions contain the filler text data (exactly what shows on the Design Report display).
79-80	Shift-In Character (Reserved for DBCS)	These positions contain one of the following: <ul style="list-style-type: none"> • A shift-in control character (hex '0F') in position 79 and a blank in position 80, if the filler text contains DBCS strings and the second byte of the last DBCS character ends in position 78 • A shift-in control character in position 80 if the filler text contains DBCS strings and the second byte of the last DBCS character ends in position 79 • Blanks in both positions if single-byte character set (SBCS) text ends in position 78.
New Page Break		
10-11	RLU New Page Identification	NP in these positions identifies this line as a New Page Break.
12-80	Positions Not Used	These positions contain blanks.
CRTPRTF Command String for Printer File		
10-11	Command String Identification	CP in these positions identifies this line as a CRTPRTF command string for the printer file.
12	Continuation of Parameter List	This position contains a plus sign (+) to identify the next line as a continuation line or a blank if there is no continuation.
13-15	Length of Command	These positions contain the length of the command, right-justified and padded with leading zeros. From Version 2, Release 2 and later, the value is always set to the maximum (999) for the downward compatibility of RLU.
16-80	Command String	These positions contain the command string to create the printer file, including all the specified parameters.
CRTPRTF Command String for Sample Report		
10-11	Command String Identification	CS in these positions identifies this line as a CRTPRTF command string for the report prototype.

Figure 216 (Page 7 of 8). Contents of RLU Comments

Position	Information	Description
12	Continuation of Parameter List	This position contains a plus sign (+) to identify the next line as a continuation line or a blank if there is no continuation.
13-15	Length of Command	These positions contain the length of the command, right-justified and padded with leading zeros. From Version 2, Release 2 and later, the value is always set to the maximum (999) for downward compatibility of RLU.
16-80	Command String	These positions contain the command string to create the printer file, including all the specified parameters.

User Comments

An RLU source member can also contain text that you enter for documentation purposes and identify with an asterisk (*) in position 7. These user comments can only be added to an existing source member outside an RLU session.

When an RLU source member containing user comments is loaded into the work space at the start of an RLU session, RLU associates each user comment with the next RLU entity (file, record format, field, or keyword) that it encounters.

Note the following consequences of this linking:

- When you delete an entity, RLU also deletes all the associated user comments
- When you move an entity, RLU also moves all the associated user comments appropriately
- When you copy an entity, RLU does not copy the associated user comments.

Non-RLU Source Considerations

When you are using RLU to work with existing printer file DDS source members that you did not create by using RLU, be aware of the following:

- When RLU loads the existing source member:
 - All field text is defaulted, according to data type
 - Non-DDS features such as indicator settings, page width, and printer type, unless they are explicitly specified, are defaulted
 - Record formats are shown in the order in which RLU encounters them in the source
 - The Specify Default (DFT) keyword is dropped from the source
 - Any invalid keywords are stored as comments.
- When you save the existing source member:
 - The appropriate RLU comments are added to the source
 - All occurrences of DATE(*JOB) are stored as DATE (that is, the *JOB parameter is dropped).

Appendix C. Semantic Checking in RLU

RLU can check the DDS source you define with RLU to help you create and change error-free source members.

Semantic checking occurs during an RLU edit session when you are editing a report design on the Design Report display as RLU validates new and changed information that you enter on the display. RLU also validates information that you enter or change on other data entry displays when you return to the Design Report display. If RLU finds an error, you see a message on the work screen and the line containing the error is highlighted. You can then change the information in the appropriate manner. Be aware that if you ignore errors intentionally, RLU will not create the printer file.

When you load an existing source member into the RLU work space, **syntax checking** occurs. RLU does not perform semantic checking at this time. Syntax checking validates that data has not been corrupted since it was last edited with RLU. You could have created errors, such as a misspelled keyword, if you edited the source directly using SEU. If RLU finds any unrecoverable errors, you see a message on the work screen telling you what action RLU took.

This appendix describes how you request semantic checking in RLU and how it works.

How to Request Semantic Checking

You specify that you want RLU to check your source member as you edit on the Design Report display by pressing F13=Change session defaults (A).

The Change Session Defaults display appears as shown in Figure 217.

Change Session Defaults

Type choices, press Enter.

Amount to roll	H_	H=Half, F=Full C=Cursor, D=Data 1-999
Uppercase input only	N	Y=Yes, N=No
Show all field lines	Y	Y=Yes, N=No
Full screen mode	N	Y=Yes, N=No
Insert marked data	N	Y=Yes, N=No
Replace marked data	N	Y=Yes, N=No
Semantic checking:		
When added/modified	Y	Y=Yes, N=No
From page number	__	000-999
Line number	_____	00000-32767
To page number	__	000-999
Line number	_____	00000-32767
Printer device type	1	1=SCS, 2=IPDS, 3=AFPDS More. . .

F3=Exit F5=Refresh F12=Cancel
F14=Find/Change options F15=Browse/Copy options

Figure 217. Change Session Defaults Display

On this display, use the following prompts for semantic checking throughout your edit session:

- *When added/modified*

Y for this prompt specifies that you want RLU to check every new and changed line in your report design as you enter or change it.

- *Printer device type*

Specifying the type of printer you are using for this prompt helps RLU perform a more accurate semantic check since, for example, some keywords are only valid for certain printers.

Use the following prompts for a one-time semantic check of specific pages and lines:

- *From page number*

Since the lines in your report design make up one or more pages, the number you enter for this prompt tells RLU on which page to start the check.

- *Line number*

The number you enter for this prompt specifies the line on the From page where you want RLU to start the check.

- *To page number*

The number you enter for this prompt tells RLU on which page to end the check.

- *Line number*

The number you enter for this prompt specifies the line on the To page where you want RLU to end the check.

What Semantic Checking RLU Provides

For report lines and filler lines on the Design Report display, RLU checks the following:

- Record format definition
- Field definition
- Constant data definition.

For record format, field, and constant data definition on the other data entry displays, RLU checks the following:

- Definable values
- Relations, keywords, and values.

For file, record, field, and constant data keywords on the keyword list displays, RLU checks the following:

- Relations between keywords within the record format and the file.

For required keyword parameters, RLU checks the following:

- Keyword parameter values
- Relations between parameter values.

Summary of RLU Semantic Rules

Figure 218 shows the types of DDS keywords supported by the printers. Some rules for keyword specification are shown in Figure 219 on page 208, and Figure 220 on page 212 shows the rules for bar code specification.

Note: You cannot use RLU to work with the DDS keywords that are in AFPDS records. For more information about AFPDS records, see “RLU-Tolerated Advanced Function Printing Data Stream Keywords” on page 195.

Figure 218 (Page 1 of 2). Valid Printers for Keywords

Keyword	SCS	IPDS	DBCS	AFPDS
ALIAS	Y	Y	Y	Y
BARCODE		Y		Y
BLKFOLD	Y			
CDEFNT				Y
CHRID	Y	Y	Y	Y
CHRSIZ	Y	Y	Y	Y
COLOR		Y		Y
CPI	Y			
CVTDTA	Y	Y		Y
DATE	Y	Y		Y
DFNCHR	Y		Y	
DFNLIN	Y		Y	
DFT	Y	Y	Y	Y
DLTEDT	Y	Y		Y
DRAWER	Y	Y	Y	Y
EDTCDE	Y	Y		Y
EDTWRD	Y	Y		Y
FLTFIXDEC	Y	Y		Y
FLTPCN	Y	Y		Y
FNTCHRSET		Y		Y
FONT		Y		Y
HIGHLIGHT	Y	Y		Y
IGCALTTYP	Y	Y	Y	
IGCANKCNV	Y		Y	
IGCCDEFNT	Y		Y	Y
IGCCHRRTT	Y		Y	
INDARA	Y	Y	Y	Y
INDTXT	Y	Y	Y	Y
LPI		Y	Y	Y
MSGCON	Y	Y		Y
PAGNBR	Y	Y		Y
PAGRRT		Y	Y	Y
PRTQLTY		Y	Y	Y

Figure 218 (Page 2 of 2). Valid Printers for Keywords

Keyword	SCS	IPDS	DBCS	AFPDS
REF	Y	Y	Y	Y
REFFLD	Y	Y	Y	Y
SKIPA	Y	Y	Y	Y
SKIPB	Y	Y	Y	Y
SPACEA	Y	Y	Y	Y
SPACEB	Y	Y	Y	Y
TEXT	Y	Y	Y	Y
TIME	Y	Y		Y
TRNSPY	Y	Y		
UNDERLINE	Y	Y	Y	Y

Figure 219 describes some of the rules for keyword specification in RLU. Each of the conditions listed generates an error message when not valid.

Figure 219 (Page 1 of 6). Some Rules for Keyword Specification

Keyword	Rules
ALIAS	<ul style="list-style-type: none"> • Must be different than any other ALIAS and field name in the record format • Not valid for a constant field.
BARCODE	<ul style="list-style-type: none"> • ID must check as shown in Figure 220 on page 212 • Data type must check as shown in Figure 220 on page 212 • Field length must check as shown in Figure 220 on page 212 • Height can be any value between 1 and 9, or it can be left blank • Printer should not be SCS • ID must be CODE3OF9 if you specify asterisk fill • Not valid for field with DBCS data type • Not valid for a numeric field unless the number of decimal positions is zero • Not valid with constant field DATE, PAGNBR, or TIME • Not valid for field with CHRID, CVTDTA, DATE, EDTCDE, EDTWRD, FONT, HIGHLIGHT, PABNBR, TIME, or UNDERLINE also specified • Not valid for field with CHRSIZ, CPI, DFNCHR, DFNLIN, IGCANKCNV, or IGCCHRRTT specified for the record format • Not valid for database reference field with EDTCDE or EDTWRD specified for the database field.
BLKFOLD	<ul style="list-style-type: none"> • Printer must be SCS • Not valid for a constant field • Not valid for a floating-point field.
CDEFNT	<ul style="list-style-type: none"> • Not valid for field with either FONT or FNTCHRSET also specified for field • Not valid for record with either FONT or FNTCHRSET also specified for record format.

Figure 219 (Page 2 of 6). Some Rules for Keyword Specification

Keyword	Rules
CHRID	<ul style="list-style-type: none"> • Not valid for a constant, numeric, or floating-point field • Not valid for field with BARCODE also specified • Not valid for field with DFNCHR specified for the record format • Not valid for field with DFNCHR specified for the file • Not valid for field with TRANSPY also specified with SCS printer • Ignored for field with graphic FONT also specified or for field with nonnumeric FONT also specified and graphic FONT specified for the record format.
CHRSIZ	<ul style="list-style-type: none"> • Decimal CHRSIZ not valid for a field or record format with numeric FONT also specified for the same record format or field • BARCODE not valid for a field with CHRSIZ also specified for the record format.
COLOR	<ul style="list-style-type: none"> • Printer should not be SCS • Must have option indicators for each COLOR when specified more than once for the same field • Same COLOR not valid more than once for the same field • Not valid with CPI, DFNCHR, DFNLIN, IGCANKCNV, or IGCCHRRTT specified for the same record format.
CPI	<ul style="list-style-type: none"> • Printer must be an SCS printer • Not valid with BARCODE, COLOR, LPI, or PRTQLTY specified for the same record format • Not valid with DRAWER specified for the same record format • IGCANKCNV or IGCCHRRTT not valid for record format with CPI specified at the field level.
CVTDTA	<ul style="list-style-type: none"> • Field should be a character named field • Field length must be an even number • Specify with TRANSPY for SCS printer file • Not valid for a constant field • Not valid for a field with BARCODE also specified.
DATE	<ul style="list-style-type: none"> • Valid for a constant field only • Specify with CPI, EDTCDE, EDTWRD, COLOR, HIGHLIGHT, CHRSIZ, SKIP, SPACE, FONT, INDTXT, PRTQLTY, TRANSPY, TEXT, and UNDERLINE only • Not valid with DFT, MSGCON, PAGNBR, or TIME.
DFNCHR	<ul style="list-style-type: none"> • Printer should be SCS printer • Not valid for a field with CHRID and PRTQLTY also specified • Not valid with DRAWER specified for the same record format • Not valid with PRTQLTY specified for the same record format • Do not specify with IPDS keywords such as COLOR, LPI, and BARCODE.

Figure 219 (Page 3 of 6). Some Rules for Keyword Specification

Keyword	Rules
DFNLIN	<ul style="list-style-type: none"> Starting line must be equal to or less than page length Sum of length must be equal to or less than page length Starting position must be equal to or less than page width Sum of length must be equal to or less than page width Printer should be SCS Not valid for a record format with IPDS keywords such as COLOR, BARCODE, and LPI also specified.
DFT	<ul style="list-style-type: none"> Field must be a constant field Specify with TRNSPY for DFT with hex values Not valid with DATE, MSGCON, PAGNBR, or TIME Not valid with IGCANKCNV or IGCALTYP.
DLTEDT	<ul style="list-style-type: none"> Field must be a named field Valid with REF or REFFLD and when the field is referencing another previously referenced field.
DRAWER	<ul style="list-style-type: none"> Not valid with CPI specified for the same record format Not valid with DFNCHR specified at the record level.
EDTCDE	<ul style="list-style-type: none"> Edit description must exist Field must have zoned decimal data type Field length must be 3 through 7 for edit code Y Currency fill symbol must be blank, asterisk, or the system currency symbol Asterisk fill and currency symbol fill valid for edit codes 1 through 4, A through D, and J through Q only Not valid with BARCODE Not valid for a field with EDTWRD also specified.
EDTWRD	<ul style="list-style-type: none"> Field must have zoned decimal data type Sum of blanks and stop-zero-suppression characters (zeros) must equal field length Edit mask cannot be too large Not valid with BARCODE Not valid for a field with EDTCDE also specified.
FLTFIXDEC	<ul style="list-style-type: none"> Field length must be equal to or greater than 6 Not valid for a constant field Valid for floating-point fields only.
FLTPCN	<ul style="list-style-type: none"> Field must be a floating-point field Specify FLTPCN(*DOUBLE) if field length is greater than 9 Not valid for a constant field FLTPCN(*SINGLE) not valid if field length is greater than 9.
FNTCHRSET	<ul style="list-style-type: none"> Not valid for field with either FONT or CDEFNT also specified for field Not valid for record with either FONT or CDEFNT also specified for record format.

Figure 219 (Page 4 of 6). Some Rules for Keyword Specification

Keyword	Rules
FONT	<ul style="list-style-type: none"> • Not valid for field with either CDEFNT or FNTCHRSET also specified for field • Not valid for record with either CDEFNT or FNTCHRSET also specified for record format.
FONT	<ul style="list-style-type: none"> • Specify FONT(*VECTOR) with CHRSIZ for record format or field • Not valid for a field with BARCODE also specified • Ignored if printer is SCS printer • Numeric FONT not valid for a field or record format with decimal CHRSIZ also specified for the same record format or field • CHRID ignored if specified for field with graphic FONT also specified or for field with nonnumeric FONT also specified and graphic FONT specified for the record format • Do not specify numeric or graphic font with HIGHLIGHT that does not support HIGHLIGHT • Overlapping fields not diagnosed if FONT specified at file level.
HIGHLIGHT	<ul style="list-style-type: none"> • Not valid for a field with BARCODE also specified • Do not specify with a numeric or graphic FONT that does not support HIGHLIGHT.
IGCALTTYP	<ul style="list-style-type: none"> • Field must be a character field • Field must be a named field • Field length must be greater than 3 • BLKFOLD, CPI, and IGCANKCNV not valid with IGCALTTYP.
IGCANKCNV	<ul style="list-style-type: none"> • Field must be a named field • Printer should not be an IPDS printer • Not valid with BLKFOLD, BARCODE, COLOR, CPI, IGCALTTYP, and LPI.
IGCCDEFNT	<ul style="list-style-type: none"> • Field must have DBCS data type.
IGCCHRRTT	<ul style="list-style-type: none"> • Field must have DBCS data type • Printer should not be an IPDS printer • Not valid for a constant field • Not valid with BARCODE, COLOR, and LPI.
LPI	<ul style="list-style-type: none"> • Printer should not be SCS • Not valid with COLOR, CPI, DFNCHR, DFNLIN, IGCANKCNV, or IGCCHRRTT.
MSGCON	<ul style="list-style-type: none"> • Field must be a constant field • Not valid with DATE, DFT, PAGNBR, or TIME • Not valid for a field with IGCANKCNV, IGCALTTYP, or IGCCHRRTT.
PAGNBR	<ul style="list-style-type: none"> • Field must be a constant field • Not valid with DATE, DFT, MSGCON, or TIME • Only CPI, EDTCDE, EDTWRD, COLOR, HIGHLIGHT, CHRSIZ, SKIP, SPACE, FONT, INDXTX, PRTQLTY, TRNSPY, TEXT, and UNDERLINE are valid with DATE.
PAGRTT	<ul style="list-style-type: none"> • Printer should not be SCS.

Figure 219 (Page 5 of 6). Some Rules for Keyword Specification

Keyword	Rules
PRTQLTY	<ul style="list-style-type: none"> Specify with CHRSIZ for a record format Specify with CHRSIZ at the record level or CHRSIZ and BARCODE at the field level when specifying for a field Printer must be an IPDS printer Not valid with CPI, DFNCHR, or DFNLIN specified for the same record format.
REFFLD	<ul style="list-style-type: none"> Field must be a named field.
SKIP A	<ul style="list-style-type: none"> Specify option indicators when specifying for a file Not valid for a field with a line number specified for the first field in the record format Not valid at the file level in a file that contains DDS keywords for AFPDS support.
SKIP B	<ul style="list-style-type: none"> Specify option indicators when specifying for a file Not valid for a field with a line number specified for the first field in the record format Not valid at the file level in a file that contains DDS keywords for AFPDS support.
SPACE A	<ul style="list-style-type: none"> Not valid for a field with a line number specified for the first field in the record format.
SPACE B	<ul style="list-style-type: none"> Not valid for a field with a line number specified for the first field in the record format.
TIME	<ul style="list-style-type: none"> Field must be a constant field Only CPI, EDTCDE, EDTWRD, COLOR, HIGHLIGHT, CHRSIZ, SKIP, SPACE, FONT, INDTXT, PRTQLTY, TRNSPY, TEXT, and UNDERLINE are valid with TIME Not valid with DATE, DFT, MSGCON, or PAGNBR.
TRNSPY	<ul style="list-style-type: none"> Field must have character data type or be a constant field Not valid for a field with CHRID also specified for an SCS printer Printer should not be AFPDS printer.
UNDERLINE	<ul style="list-style-type: none"> Not valid for a field with BARCODE also specified.

Figure 220 shows the rules for bar code specification.

Figure 220 (Page 1 of 2). Bar Codes

Bar Code ID	Data Type	Field Length
MSI	S	1-31
UPCA	S	11
UPCE	S	10
UPC2	S	2
UPC5	S	5
EAN8	S	7
EAN13	S	12
EAN2	S	2
EAN5	S	5

Figure 220 (Page 2 of 2). Bar Codes

Bar Code ID	Data Type	Field Length
CODE3OF9	A	1-50
INTERL20F5	S	1-31
INDUST20F5	S	1-31
MATRIX20F5	S	1-31
CODEABAR	A	1-50
CODE128	A	1-50
POSTNET	S	1-31

Appendix D. Double-Byte Character Set Considerations

You can use double-byte character set (DBCS) data in RLU.

This appendix describes the following:

- Requirements for using DBCS data
- Using DBCS data on the Design Report display
- DBCS-only keywords.

For more detailed information about working with DBCS data, refer to the *Data Management Guide*.

DBCS Requirements for RLU

To use DBCS data when editing an RLU source member:

- You must be using a DBCS-capable work station.
- The source file in which the source member is saved must be one that specifically allows DBCS data.

When you create a source physical file using the Create Source Physical File (CRTSRCPF) command, you must specify the IGCDTA(*YES) parameter to specify that the file will contain members with DBCS data.

For more information about AS/400 system commands, see the *CL Reference*. For more information about creating DBCS-capable source files, see the *Data Management Guide*.

Using DBCS Data on the Design Report Display

With a DBCS-capable work station:

- You can enter DBCS data surrounded by the appropriate shift-out and shift-in characters on the Design Report display.
- Both O and G appear as possible values on the Define Field Information and the Specify Field Information displays.
- If you enter DBCS data and press F11=Define field, the value for the *Data type* prompt defaults to 4=Open on the Define Field Information display.
- You can define constant fields containing DBCS data.

With any work station, you can do the following on the Design Report display:

- Define fields with data type O (Open) and G (Graphic).
- Reference database fields that are DBCS.

Database fields that are of type J (Only), O, or E (Either) are treated as data type O, and fields that are of type G are treated as G.

- Specify DBCS-only keywords.

If you are using a non-DBCS-capable work station on a DBCS-capable system or a source physical file with IGCDTA(*NO) specified, you cannot enter DBCS data but you can still define fields with data type O or G, specify DBCS-only keywords, and reference database fields with data type J, O, E, or G.

If a referenced database field includes column headings that contain DBCS data, RLU replaces the column heading with the field name and you see a message indicating that the column heading is replaced.

DBCS-Only Keywords

RLU provides the following DBCS support with DDS printer file keywords:

- DFT accepts DBCS character strings.
- Other text-related keywords such as INDTXT and TEXT accept DBCS character strings.
- DFNLIN, IGCCDEFNT, and IGCCHRRTT are added to the list of valid keywords for record formats.
- IGCALTTYP, IGCANKCNV, IGCCDEFNT, and IGCCHRRTT are added to the list of valid keywords for fields.

On an SBCS system, you can specify DBCS-only keywords by using the fastpath only. The DBCS-only keywords are not displayed on the Work with Field, Record, and File Keywords displays.

DBCS-Graphic Considerations

If you are using DBCS-graphic data, be aware of the following:

- To define a DBCS-graphic constant, add a G before the quotation mark (') that delimits the string on the Specify Default display.
- On the Design Report display, the default sample data is a single-byte G in files created with IGCDTA(*NO), and a double-byte G in files created with IGCDTA(*YES).

When creating prototype reports, double-byte sample data is used for DBCS-graphic fields in both types of files. Sample data for DBCS-graphic fields in a prototype report contain unrecognizable characters when viewed or printed on devices that are not DBCS-capable.

- On the Design Report display, the shift-in and shift-out characters are displayed for DBCS-graphic fields and constants. So that field alignment is maintained, the last DBCS character is not displayed. Any DBCS-graphic constants defined using the DFT keyword will have the complete constant sent to be printed. With named fields, the last double-byte character always prints as two single-byte blanks on the report.
- If the DBCS-graphic field contains only one DBCS character, only the shift-in and shift-out characters are displayed. If the shift-in and shift-out characters are deactivated, the position of the field is indicated by the field line.

Bibliography

The manuals below are listed with their full titles and base order numbers. When these manuals are referred to in the text, a shortened version of the title is used.

For more information, refer to the following IBM publications:

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Short title *PDM User's Guide and Reference*
- *Application Development Tools: Source Entry Utility User's Guide and Reference*, SC09-1338
Short title *SEU User's Guide and Reference*
- *Database Guide*, SC41-9659
Short title *Database Guide*
- *Data Description Specifications Reference*, SC41-9620
Short title *DDS Reference*
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