Chapter 4
Working with Bands

Introduction

This chapter explains how to create band areas; insert, move, and copy band lines; and specify and modify band line properties. This information is presented in the following sections:

- ❑ Creating Bands and Inserting Band Lines
- ❑ Manipulating Band Lines
- ❑ Modifying Band Line Characteristics
- ❑ Specifying Conditional Line Printing
- ❑ Specifying Scan Conditions

Selecting Lines

To work with one or more band lines, you must first select the line or lines to be operated on. For example, to specify a field to control printing of several lines, you first select those lines so that the fields on them are highlighted.

🖰 With the mouse: Click on the appropriate line in the Band Area. To select multiple contiguous lines, drag the mouse up or down in the Band Area until all lines are highlighted; if the lines are not contiguous, Ctrl-click on each line.

⌨ From the keyboard: Position the cursor on a line and press Shift+Spacebar to select it. To extend the selection to other lines, press ↑ or ↓. After marking the line(s), press Enter. When you are finished working with the selected lines, press Esc to unmark them.

Displaying the Band Line Properties Dialog

You access most band line settings through the Band Line Properties dialog box. To display this dialog to format a single line, either select the line you want to modify and select Format ⇒ Band Line Properties or right-click on the line in the Band Area and select "Properties" from the menu.

If you select multiple lines to modify, you must select Format $\Rightarrow$ Band Line Properties, since right-clicking and then selecting "Properties" displays the Band Line Properties dialog for a single line only.

Creating Bands and Inserting Band Lines

Every R&R report has one or more of the following bands that control where data appears on the report:

◆   Title   ◆   Group Footer

◆   Page Header   ◆   Page Footer

◆   Group Header   ◆   Summary

◆   Record

Each band contains one or more lines. You can include as few or as many bands as your report requires. The bands you create determine where the text and fields you place in those areas will appear in your report output. Figure 4.1 explains where data placed in each band will appear in the report.

Band	*Location in Report Output*
Title	Prints once per report at beginning of first page or on separate title page
Page Header	At top of each page
Group Header	Before each group of records (see Chapter 11)
Record	Once per composite record
Group Footer	After each group of records (see Chapter 11)
Page Footer	At bottom of each page
Summary	Once per report at end of last report page or on separate summary page

Figure 4.1 Band Types

Figure 4.2 shows a sample layout with the bands labeled. Figure 4.3 shows where the data from each band will appear in the report output.
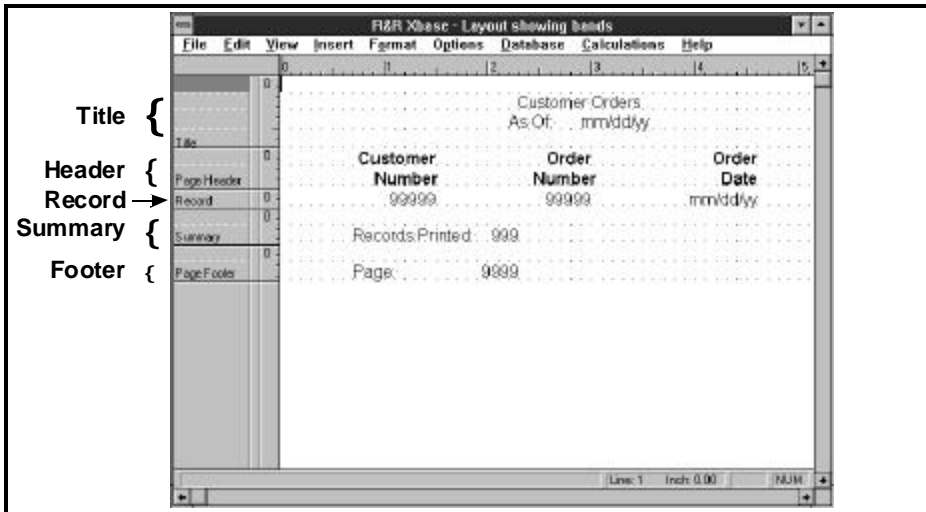
Figure 4.2 Report Layout Showing Bands

Figure 4.3 Corresponding Location of Data in Output

Creating a Band and Inserting Lines

To create a band, select Insert ⟹ Create Band Line, press Ctrl+F11, or double-click in the Band Area to display the Create Band Line dialog (see Figure 4.4). Then do the following:

1. In the "Number to Create" box, enter the number of lines you want to insert in the band area you are creating.

2. Choose the "Select Band" option in the Line Placement group box. A list box opens displaying the available band types. The numbers preceding the GrpHead (Group Header) and GrpFoot (Group Footer) types correspond to the 8 levels of grouping available when you select group fields (see Chapter 11, "Sorting and Grouping Data," for an explanation of group fields).

3. Select a band type. To determine the appropriate band type based on where you want the data to appear in the report, refer to Figure 4.1.

4. Select OK. R&R inserts the line or lines of the specified type in the appropriate place on the layout.
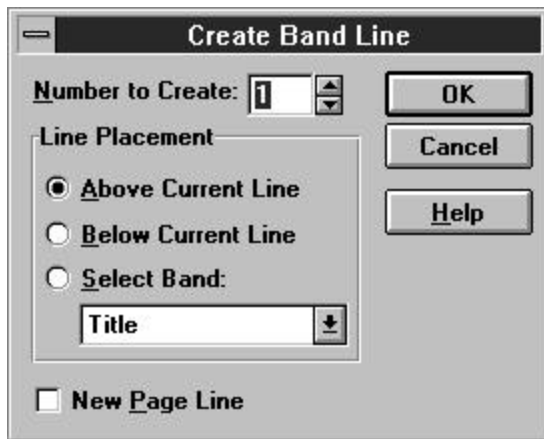

Figure 4.4 Create Band Line Dialog Box

Inserting Page Breaks

To insert page breaks in your report, you use the Create Band Line dialog to place a new-page line where you want the break to occur. You can place a new-page line anywhere on the layout; note that R&R ignores new-page lines in certain bands, such as a Page Header/Footer or a swapped

Group Header/Footer (see Chapter 11, "Sorting and Grouping Data," for information on swapped Headers and Footers).

To insert a page break, do the following:

1. Select Insert ⇒ Create Band Line (or press Ctrl+F11).

2. In the Line Placement group box, specify where you want the new-page line to be inserted (Above Current Line, Below Current Line, or in a selected band area).

3. Turn on the "New Page Line" setting at the bottom of the dialog; an X appears in the box indicating that the line you are inserting is a new-page line.

4. Select OK. R&R inserts a dashed line in the specified area of your report layout, indicating a page break. Figure 4.5 explains where new-page lines should be inserted to produce page breaks in different places.

Position of New-Page Line on Report Layout	*Resulting Page Break in Report*
Last line in Title band	After title
Last line in Group Footer band	After group
Last line in Record band	After each record
First line in Summary band	Before summary

Figure 4.5 Common Locations for New-Page Lines

You can move, copy, or delete a new-page line just like other lines on your report layout.

You can also produce conditional page breaks by assigning a logical control field to a new-page line. For example, if some of your purchase orders require an additional page for footnotes and others do not, you can specify that the inserted new-page line will cause a page break only when the control field contains a specified value. For more information on how to use logical control fields, see the **Specifying Conditional Line Printing** section in this chapter.

Manipulating Band Lines

After you have created bands, you can insert additional lines in those bands as necessary. You can also move or copy one or more lines (and all fields on those lines) to other locations on the layout.

Inserting Band Lines

When you create a band, one or more blank lines are automatically inserted in that band. In some cases you may need additional lines. To insert a line, first position the edit cursor in the band that you want to add lines to; then select Insert $\Rightarrow$ Band Line (or press Shift+F11) to insert an additional line above the current line. Repeat this procedure for each additional line that you need.

Copying or Moving Band Lines

To copy or move one or more lines (and all fields currently on those lines), do the following:

1. Select the line or lines to be copied or moved. To copy the lines, select Edit $\Rightarrow$ Copy or the Copy button (or press Ctrl+C). To move the lines, select Edit $\Rightarrow$ Cut or the Cut button (or press Ctrl+X).

2. Position the edit cursor where you want to copy or move the lines. Select Edit $\Rightarrow$ Paste Lines or the Paste button (or press Ctrl+V).

3. The Paste dialog presents the following options: Above Current Line, Below Current Line, and Select Band. Selecting Above or Below pastes the line(s) either above or below the current line. The band type of the pasted lines will be the same as that of the current line.

   Choosing Select Band lists all available band types. If you select a band type that currently exists on the layout, the pasted lines will be appended to that band. If the band type does not exist, R&R will create the band and paste the lines there.

Deleting Band Lines

Deleting differs from cutting in that you cannot then Paste the line or lines elsewhere on the report. If you delete lines by mistake, however, you can select Edit $\Rightarrow$ Undo Last Clear (Ctrl+Z) or select the Trashcan button again to re-insert the lines in their original position.

Use any one of the following methods to delete one or more lines (and all fields on the line or lines):

❑ Select the line or lines and select Edit ⇒ Clear.
❑ Select the line or lines and select the Trashcan button (🗑).
❑ Select the line or lines and press the Delete key.

Modifying Band Line Characteristics

After you have created and inserted band lines, you can do the following to modify line characteristics:

❑ Justify all fields on selected line(s);
❑ Trim blank space between fields;
❑ Specify Automatic or Freeform line height.

The following sections explain how to perform these procedures.

Justifying All Fields on One or More Lines

To position all fields on one or more lines as a unit, without changing the spacing between fields, first select the line(s). Note that the lines you select for justification need not be contiguous — for example, you can click on Line 1 and then Control-click Lines 2, 4, and 7 to select them. Select Format ⇒ Band Line Justify to display the Band Line Justify dialog. This dialog displays three choices: Left, Center, and Right.

Select the justification you want and then select OK. The fields on the selected line(s) will be justified within the margins of your report.

If any line you justify contains only a single field or a single series of trimmed fields, the format of that field or series of fields will also be set to the specified alignment, so that the data will be appropriately aligned within the width of the field or series of fields.

For example, if you select Center to center a line containing a single field, the format of that field will be changed to centered. If you center a line that contains a series of trimmed fields, the format of the first field in this series will be changed to centered. Since the format of the first field controls the behavior of the entire series of fields, as a result the trimmed data from all the fields will be centered within the fields' collective width.

Note that if more than one record is being printed horizontally across the page, justification of Record lines is based on the record width rather than

the right margin. See Chapter 15, "Printing Reports," for information about printing multiple records across the page.

Controlling Automatic Trim

You can use Format ⟹ Trim to control whether R&R removes or retains blank space between fields on selected lines in your report. When you specify "Print at End of Previous Field," R&R removes blank space (other than space inserted in text fields by means of pressing the spacebar) between fields on the selected line(s). When you specify "Print at Field Position," R&R retains blank space between fields. The default value is "Print at Field Position."

To apply automatic trim to all fields on one or more lines or to remove it from one or more lines:

1. Select the line or lines whose trim you want to control.

2. Select Format ⟹ Trim. The Trim dialog box appears.

3. Select "Print at Field Position" to retain blank spaces between adjacent fields (the default), or select "Print at End of Previous Field" to remove blank spaces between adjacent fields.

4. Select OK.

Auto-Trim Examples

The ability to trim blank space allows you to place fields on the report layout so that they will not be separated by spaces. For example, if you have specified "Print at End of Previous Field" as the trim setting for all fields on a line, `PAGE·999` on a report layout will print as `PAGE 2` instead of `PAGE    2`. Also, when the trim setting is "Print at End of Previous Field", first- and last-name fields on a line will print without space between them. For example, `<xxxxxxxxxxx·<xxxxxxxxx` will print as `William Hickock` instead of `William    Hickock.`

Auto-Trim and Field Alignment

When you place a series of fields so that they will trim, these fields become a single field for the purposes of field alignment. The entire series of fields takes on the alignment (that is, left-aligned, centered, or right-aligned) of the first field in the group.

For example, if you have a series of fields on a Title line, the alignment of these fields within their collective field width depends on the alignment of the

first field. If it is centered, the trimmed data from all the fields will be centered within the fields' collective width. You can then use the Format ⇒ Band Line Justify "Center" setting to center this series of fields between the margins of the page. The result will be a title that is centered on the report page, no matter what fonts are applied to the fields.

Specifying Band Line Height

R&R provides two line height types: Automatic (the default) and Freeform. For any line with an Automatic height setting, R&R adjusts line height to accommodate the largest font on the line. For a Freeform line, you can either specify a height on the Band Line Properties dialog or adjust line height as necessary on the layout.

To specify the height of any line(s) in your report, select the line or lines and open the Band Line Properties dialog (see Figure 4.6). Select the appropriate item (Automatic or Freeform) in the Height group box.

Automatic Line Height

When you set line height to Automatic, R&R automatically adjusts line height to accommodate the largest font on the line(s). This choice is the default, since it provides appropriate line spacing in most cases.

Automatic Line Height and Interline Spacing

When Line Height is set to Automatic (the default), R&R adds interline spacing (often referred to as *leading*) to provide a small amount of "white space" between lines. As a result, the actual height of a line with a Height setting of Automatic is slightly more than that of the largest font on the line. If you do not want R&R to add interline spacing, select File ⇒ Page Setup and turn off the "Interline Spacing" setting at the bottom of the dialog box. (See Chapter 15, "Printing Reports," for more information about the Page Setup dialog box settings.)
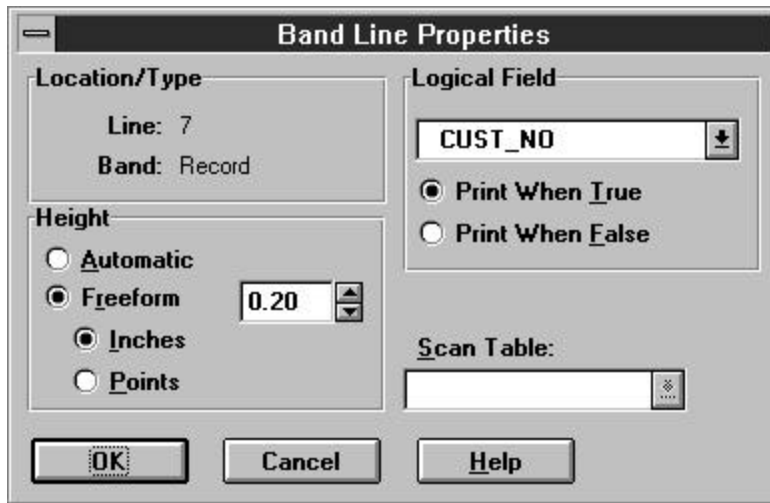
Figure 4.6 Band Line Properties Dialog Box

Freeform Line Height

For any line with a Freeform height setting, you can specify a line height in inches or points on the Band Line Properties dialog. On the layout, a Freeform line is indicated by up and down arrows in the Line Status Area (the narrow channel at the right edge of the Band Area). Freeform lines are useful for areas of a report where you plan to insert images, since you can adjust the height of the line to accommodate any image you insert on it. (Note that a Freeform line will *not* expand to accommodate an image or a word-wrapped field placed on it; you must specify a Height for the Freeform line that is sufficient for the maximum number of lines that the image or word-wrapped field will occupy in the report output.)

Switching Between Freeform and Automatic Line Settings

To change a line from Automatic to Freeform, first select the line; then open the Band Line Properties dialog. Select Freeform in the Height group box and enter a height for the line in the edit box. Then select OK.

You can also switch between Automatic and Freeform line settings by selecting one or more lines and then selecting the Auto/Freeform Line button on the Formatting Toolbar (⫶). For a single selected line, this button acts as a toggle — a Freeform line becomes Automatic, and an Automatic line becomes Freeform.

If you have selected multiple lines, selecting the Auto/Freeform Line button will have one of the following results:

❑ If all selected lines are currently Automatic, they become Freeform.

❑ If all selected lines are currently Freeform, they become Automatic.

❑ If the selected lines are a mixture of Automatic and Freeform, they all become Automatic.

Adjusting the Height of a Freeform Line

You can adjust the height of a Freeform line in either of two ways:

❑ To size a Freeform line on the layout, click and hold on the top or bottom arrow in the Line Status area; the cursor changes to an arrow (either ⮟ or ⮝ depending on whether you clicked on the top or bottom of the line). Drag the cursor up or down as necessary to increase or decrease the line height; when the line is the desired height, release the mouse.

❑ To size a Freeform line to an exact measurement in inches or points, open the Band Line Properties dialog (either right-click on the line and select Properties or select multiple lines and select Format ⇒ Band Line Properties). In the Band Line Properties dialog, select Inches or Points in the Height box; then select a measurement.

Specifying Conditional Line Printing

To print a line or lines only under certain conditions, select a control field from the Logical Field list box on the Band Line Properties dialog. This setting enables you to use any field in the composite record structure except a page total as a control field to trigger line printing.

After selecting a control field, you can turn on either "Print When True" or "Print When False." If you specify "Print When True," the line or lines will print only when the control field contains a "true" value (see Figure 4.7). If you specify "Print When False," the line or lines print only when the control field contains a "false" value.

Data Type of Control Field	True Value	False Value
Logical	True	False
Character	Not empty	Empty
Numeric	Not empty, Non-zero	Empty or zero
Date	Not empty	Empty
Memo	Not empty	Empty

Figure 4.7 Print Values for Control Fields

For example, in invoices that subtotal line item amounts before calculating tax, you might not want a subtotal to print if there is only one line item. In this case, you could suppress printing of the Group Footer line containing the SUBTOTAL field by proceeding as follows.

First, create a total field called ITEMS, which counts the number of line items for each order. Next, create a logical calculated field called PRINT that controls printing of the subtotal Group Footer line. If the value in this field is true, the line will print. If the value is false, the line will be suppressed. The expression for this field is:

ITEMS>1

To assign the control field to the Group Footer line, select the line and open the Band Line Properties dialog. Open the Logical Field list box to display the names of all fields that can be used to control printing. Select PRINT; then select OK.

When the report prints, the Group Footer line will print only when the value in the PRINT field is true, in other words only when the invoice contains more than one line item. (To specify that the line print only when the control field value is *false*, you would select "Print When False" on the Band Line Properties dialog.)

Although logical fields are typically used as control fields, you can use character, numeric, date, or memo fields as well. The value that triggers line printing varies depending on the data type of the control field you use, as Figure 4.7 illustrates.

R&R indicates that a logical field has been assigned to control printing by placing a question mark in the Line Status Area. To remove a logical condition from one or more lines, first select the line or lines. Select Format ⇒ Band Line Properties; the name of the field assigned to control

printing of the selected line(s) appears in the Logical Field box. Open the Logical Field list box and select the first option (None); then select OK.

Specifying Scan Conditions

For multiple-scan reports, you can select a table to control the printing of one or more lines. In a multiple-scan report, two or more tables are scanned by the same controlling table or by a table related to the controlling table by a lookup relation.

To print a line or lines only when a selected table is being scanned, select a table from the "Scan Table" list box (table aliases will appear in this list only for multiple-scan reports). Specifying a scan table is useful when you want to print certain lines when one table is being scanned and other lines when another table is being scanned. See Chapter 17, "Creating Multiple-scan Reports," for more information about using this feature.

When a scan condition has been assigned to a line, R&R places a question mark (?) in the Line Status area for that line.

To assign a scan condition to one or more lines, do the following:

1. Select the line or lines whose printing you want to control. Open the Band Line Properties dialog box.

2. Open the Scan Table list box to display the aliases of all the tables being scanned for the report. Select a table to control printing of the lines.

3. Select OK.

To remove a scan condition from one or more lines, select the line or lines you want to affect and open the Band Line Properties dialog box. If a table has been assigned to control printing of the current line, the alias of that table is displayed in the "Scan Table" box. Open the Scan Table list and select the first option (None); then select OK.