# Chapter 11  Practical Crystal Reports

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# Practical Crystal Reports

This chapter contains a number of topics on the practical aspects of using Crystal Reports to solve typical reporting problems. The topics are broken down into the following groups:

| | |
|---|---|
| Creating a report | Topics on a variety of report creation skills. |
| Manipulating text and data | Topics that show you how to manipulate (copy, delete, move, etc.) text and data on your report. |
| Working with graphics and graphic enhancements | Topics that show you how to size, scale, crop, and fine tune the placement of bit-mapped graphics, and how to create, size, and position lines, boxes, and tables on your report. |

# Creating a Report

This section leads you through the following report creation topics:

- ❑ Selecting a database
- ❑ Selecting additional databases
- ❑ Linking the databases
- ❑ Understanding the invisible grid
- ❑ Creating margins
- ❑ Inserting fields
- ❑ Selecting fields to move, format, etc.
- ❑ Spacing fields
- ❑ Inserting text
- ❑ Selecting text (to delete, change the font, etc.)
- ❑ Aligning text with fields
- ❑ Inserting blank lines
- ❑ Deleting blank lines
- ❑ Changing field and text fonts
- ❑ Highlighting fields with borders and drop shadows
- ❑ Centering text, field values
- ❑ Inserting page headers and footers
- ❑ Inserting page numbers and other special fields
- ❑ Grouping data
- ❑ Summarizing grouped data
- ❑ Creating group headers
- ❑ Sorting your data
- ❑ Hiding parts of the report when printing
- ❑ Selecting records and groups you want included on your report.
- ❑ Selecting page orientation and paper size

## Selecting a Database

You begin the report creation process by selecting (activating) a database. Once activated, the database serves as a source from which you can select fields to appear on your report and to be included in report formulas.

Select a database using the New Report command on the File menu.

### Selecting Additional Databases

Crystal Reports allows you to draw data from multiple databases for use in a single report. Select the first database you want to use from the Choose Database File dialog box that appears when select New Report from the File Menu. Select the second and each additional database using the Add File to Report command on the Database menu.

### Linking the Databases

You link databases so that records from one database will match up with records from another. For example, if you activate a Customer database and an Order database, you link the databases so that orders in the Order database can be matched up with the customers who placed the orders (from the Customer database).

Links are fields that are common to the two databases. The fields do not have to have the same name; but they must have the same structure (size, data type), and contain the same kind of data.

❑ When you activate additional databases using the Database|Add File to Report command, Crystal Reports takes you directly to the Define Link dialog box. Use this dialog box to establish the link between the database you are activating and a database which is already active..

❑ If you later wish to create new links, or update or delete existing links, use the Database|Links command which takes you to the Links dialog box .Use this dialog box for a variety of linking activities.

### Understanding the Invisible Grid

The Report Editor looks very freeform. It looks like you can place anything anywhere and hope for good results. But that is not the case. The Editor contains an invisible grid which directly affects the placement of data fields and text fields.

Think of the grid as a series of row and column coordinates. Crystal Reports allows you to place fields and text only at these coordinates, not between them. In this way it makes it very easy for you to place and space data on your report, and to align text and fields as needed. If you attempt to place a report element between grid coordinates, Crystal Reports "snaps" the element to the grid, (i.e., it moves the element automatically to the nearest coordinate).

❑ When place a data field in the Report Editor, Crystal Reports "snaps" it to the nearest coordinate. Use the arrow keys or the mouse to move the fields once they have been placed.

- When use the arrow keys to move the field, each time you press the arrow the field moves one **grid position**.

- When use the mouse to drag the field to a new location, Crystal Reports "snaps" the field to the nearest coordinate as the field moves.

❑ When you type text in the Report Editor, Crystal Reports always begins the text at a grid coordinate.

- Use the Tab key to move the text; each time you press the Tab key the text moves six **grid positions**

*NOTE:*
*Crystal Reports uses a four pixel horizontal grid and a vertical grid that is variable, based on the line height assigned to the largest font used within a report section.*

## Creating Margins

Set margins in Crystal Reports using the Print|Set Printer Margins command.

❑ Crystal Reports uses a dashed line to display your margins in the Report Editor and Label Editor.

❑ The displayed margins are active: they define the outer printing limits of the report or label. Crystal Reports will not allow you to place or move a field or text so it extends beyond the margins.

❑ The numeric margin settings appear in both the Mailing Labels dialog box and in the Printer Margins dialog box.

❑ When Create a new report, Crystal Reports uses the non-printing areas established for your printer as default margins. For example, if your printer specifications indicate that the left quarter inch of a page is a non-printing area, Crystal Reports sets the default left margin at .25 inches. While you can set margins that fall inside the non-printing areas, parts of your report may be clipped off if you do.

❑ All margins are calculated from the paper edge. Thus, a left margin of .25 inches causes the printing to start exactly one quarter inch in from the edge of the paper.

## Inserting Fields

Insert fields on your report using the Database Field command on the Insert menu.

### Selecting Fields to Move, Format, etc.

To do many things with a field (change the font, move it, etc.), first you must select it. Select means to point to the element with the mouse and then to click the left mouse button to choose the element as the object of the next menu selection. For example, to change font size, you first select the element for which you want to change the font size. Then select the Font option from the Format menu (or Change Font from the right mouse button menu) to select the new font size. The new font size applies only to the field selected.

When select a field, black handles appear on the field box. These handles indicate that the field is selected, and therefore active.

### Selecting Multiple Fields at One Time

To select multiple fields at one time, press the Shift key and, while keeping it depressed, click the various fields you want to select. Handles will appear on each field selected. You can then move or delete the fields as a group. You can also change the font or formatting or add borders for all selected fields.

### Spacing Fields

Set spacing between data fields by placing the fields where you want them in the Report Editor (using the mouse or Arrow keys), checking your spacing using the Print|Print to Window command, and then fine-tuning the spacing, again in the Report Editor.

### Spacing Considerations

The following items can affect column spacing:

**Field size**

The amount of space allotted for a field may be much greater than the size of the value that appears in the field.

- In a number or dollar amount field (which is right justified by default), this can create a large number of leading blank spaces which can impact field spacing.
- In all other fields (which are left justified by default), it can create a large number of trailing blank spaces which can impact field spacing.

You can reduce the amount of space allotted for a field by selecting the field and then resizing it using the mouse or a Shift-Left Arrow or Shift-Right Arrow key combination.

**Mouse**

To reduce the size of a field in the Report Editor using the mouse, select the field and then drag either of the handles to make the field box smaller.

**Shift-Left Arrow key**

To reduce the size of a field in the Report Editor using the Shift-Arrow key combination, select the field, press the Shift key, and, while keeping it depressed, press the Left Arrow key enough times to reduce the field to the desired size.

*NOTE:*

*If you have set up a data block of fields in the Report Editor (i.e., Customer/Address/City in a customer list report), you can resize all of the fields simultaneously. First, click each of the fields while holding down the Shift key. Then resize the fields by dragging on one of the sizing handles from any of the selected fields (using the mouse) or by using the Shift-Arrow key combination.*

**Alignment**

Number and dollar amount fields are right justified by default; all other data types are left justified. A right aligned field following a left aligned field may appear to be spaced properly in the Report Editor. You may need to fine tune the spacing, however, once you review the report in the Print Window.

## Inserting Text (Titles, Labels, etc.)

You can add text to your report by typing it at the insertion point and then moving it into place or, by using the Insert|Text Field command.

Use the following procedure to insert text directly on your report.

1. **Move the I-beam cursor to the line on which you wish to enter text.**

2. **Click the left mouse button to set the insertion point at the left margin of the Report Editor.**

3. **Type in your text.**

4. **Move the I-beam cursor in front of the text, click to set the insertion point and push the text into position using the Tab key.**

Use the following procedure to insert text using a text field.

1.  **Select Insert|Text Field.**

    The Edit Text Field dialog box appears.

2.  **Enter your text in the Enter Text edit box, and click OK when finished.**

    A rectangular placement cursor appears and changes into a field box when it enters the Report Editor.

3.  **Position the field box where you want the text field to appear and click the left mouse button to place it.**

*NOTE:*

*By default, Crystal Reports automatically places a title in the Page Header section to identify each field or formula field insert in your report. These titles are simply text fields. As such, they can be moved, formatted, deleted, resized, or edited to change the text.*

❑  *For fields, the default title is the name of the field.*

❑  *For formulas, the default title is the name of the formula.*

*The left edge of each title aligns with the left edge of the field it identifies.*

*Automatic titles can be toggled off and on via the Insert Detail Field Titles option in the Options dialog box.*

**Selecting Text (To Delete,  Change the Font, etc.)**

To do many things with text (change the font, delete it, etc.), first you must select it. Select means to highlight the text by dragging the I-beam cursor over it while holding down the left mouse button. Your next action (changing the font, selecting Edit|Cut, etc.) acts upon the text selected.

*NOTE:*

*When text is in a text field, select it as you would select any field.*

**Aligning Text with Fields**

Often in reporting, you may find yourself wanting to align text with column data (that entered as fields or formula fields). To do this, place your fields, type

your text, and then move the text into position using the Tab key. It is important to understand why use the Tab key to perform this function and not the Space Bar. Spaces on the screen take up a different amount of space than spaces on the printer. Thus, what looks like it is aligned on screen (using the Space Bar) may not be aligned when you print. If text and fields are aligned to a given tab stop on screen, however, the elements will also be aligned when you print. Since both elements are aligned to the same tab stop, a tab expansion can affect only the absolute position of the elements on a page, not their alignment relative to each other.

Use the following procedure to align text with fields, move the text, the field, or both.

❑ Move the text with the Tab key. Each time you press the Tab key the text moves six grid positions.

❑ Move the fields with the Arrow keys. Each time you press one of the Arrow keys, the text moves one grid position.

***NOTES:***

*a -  If you want to center the text over a field, or right or left align it, you can type the text into a text field and use the Format\Field alignment commands to set the alignment of the text within the text field.*

*b -  Text can be moved right and left (with the Tab and Backspace keys) as can fields (with the Right Arrow and Left Arrow keys). By moving text and fields in concert, you should be able to get good alignment easily.*

*c -  To align field titles with fields, working from left to right is best. Make certain the first title is aligned with its field, then align the second title with its field, etc. Aligning, in this case, consists of aligning the left edge of the title with the left edge of the field.*

*d -  For the best (and easiest) alignment of text and field data, enter your text elements as text fields using the Insert\Text Field command (instead of entering the text directly onto the report).*

**Inserting Blank Lines**

To insert a blank line, move the I-beam cursor to the section in which you want to enter the blank line, click the left mouse button to set the insertion point, and press Enter one time for each blank line you want to insert.

## Considerations

❑ If place the insertion point before text and then press Enter, the blank lines will appear above the text.

❑ If place the insertion point after text and then press Enter, the blank lines will appear below the text.

❑ If place the insertion point before or after a field and then press Enter, the blank lines will always appear below the field. If you want to insert blank lines above the field, insert the number of blanks you need below the field as indicated, and then move the field down to the bottom blank line you have just created.

*NOTE:*
*You can also add blank lines by dragging the section boundary to increase section size .*

## Deleting Blank Lines

By default the Report Editor allots three lines for the Page Header section and three lines for the Page Footer section of your report. The defaults may allot more lines than you need for those items on your report.

Additionally, you may expand a section on your report by a random number of lines prior to inserting text and data, just to make sure you have enough room for your entries. You may find that you have added more lines than necessary

Printing the report without first deleting the unneeded blank lines can leave gaps in your report that make the report less attractive visually and more difficult to read.

Use the following procedure to delete unneeded blank lines.

❑ If an entire section is blank (i.e., if you aren't putting anything into the Page Footer section of your report), you can eliminate the allotted blank lines by eliminating the entire report section via the Hide Section option of the Format Section command.

❑ If you have text and/or data in a section and just want to remove the extraneous blank lines, click the I-beam cursor on the blank line you want to delete. This sets the insertion point. Once the insertion point is set. press the Backspace key (the key that deletes the previous character); Crystal Reports deletes the line on which the insertion point is set.

*NOTE:*
*You can also delete blank lines by dragging the section boundary to decrease section size.*

## Changing Field and Text Fonts

You can change fonts quickly for any field value or text string in your report using the Font dialog box.

Use the following procedure to change fonts for a field value.

1.  **Select the field(s) for which you want to change the font.**

    ❑   To select a single field, click the field.

    ❑   To select multiple fields, hold the Shift key down while click the fields.

    Handles appear on the selected field(s).

2.  **Select Format|Font or click the right mouse button and select Change Font from the pop-up menu.**

    The Font dialog box appears.

3.  **Make the font, style, size, color, and/or effects changes you want and click OK when finished.**

Use the following procedure to change fonts for a text string.

1.  **With the left mouse button depressed, drag the I-beam cursor over the text of interest to select it.**

2.  **Select Format|Font or click the right mouse button and select Change Font from the pop-up menu. The Font dialog box appears.**

3.  **Make the font, style, size, color, and/or effects changes you want and click OK when finished.**

## Highlighting Fields with Borders and Drop Shadows

Crystal Reports makes it easy for you to highlight your data with borders and drop shadows, and color.

Use the following procedure to create borders, drop shadows, and add field color

1.  **Select the field(s) you want to highlight.**

❑  To select a single field, click the field.

❑  To select multiple fields, hold the Shift key down while click the fields. Handles appear on the selected field(s).

2.  **Select Format|Border and Colors or click the right mouse button and select Change Border and Colors from the pop-up menu.**

The Format Border and Colors dialog box appears.

3.  **Set up the text color, fill (field color), border, and drop shadow you want.**

4.  **Click OK when finished to return to the Report Editor.**

The selected fields will be highlighted to your specifications.

*NOTE:*
*If selected multiple fields, the same highlights will be applied to all fields. If you want to highlight different fields differently, you must select and highlight each unique field individually.*

## Centering Text, Field Values

To center text and field values, use the Crystal Reports' alignment command.

1.  **Select Insert|Text Field and create a text field that contains the text you want.**

2.  **Place the text field in the approximate position you want it to appear on the report.**

3.  **Change the font, font size, and font style for the text field if you wish.**

4.  **Resize the text field box so it matches the margins within which you wish to center the text.**

For example, if you want to center text beneath a report title, expand the field box so it's the same size as the report title (or report title field box). If you want to center a header entry over the body of the report, expand the header entry field box so it's the same width as the data in your report.

5.  **Select Format|Field, and then select** *centered* **from the Alignment box in the Field Format dialog box when it appears.**

6.  **Select OK when finished; Crystal Reports centers your text within the expanded field box.**

Use the following procedure to center a field value within the space allotted for the field:

1.  **Select the field whose value you want to center.**

2.  **Change the font, font size, and font style for the field if you wish.**

3.  **Select Format|Field, and then select *centered* from the Alignment box in the Field Format dialog box when it appears.**

4.  **Select OK when finished; Crystal Reports centers the field value within the space allotted for the field.**

## Inserting Page Headers and Footers

In many cases, you may want to include information at the top and each page of your report.

❑ At the top of the report (page header) you may want to include such things as the report title, the report date, the range of dates covered by the report, etc.

❑ At the bottom of the report (page footer) you may want to print the page number, the author's name, "Confidential," etc.

Crystal Reports makes it easy for you to include such header and footer information.

## To Insert Page Headers and Footers

Insert page headers and footers by placing the desired information in the appropriate section of the report editor.

❑ header information goes in the Page header section

❑ footer information goes in the Page footer section

❑ Any information place in these sections prints on each page of the report (unless you take special steps to prevent some printing).

❑ You can use text, fields, or formulas in these sections just as you can in the Details section.

## To Format Page Headers and Footers

You can format each element in a header or footer in the same way you would format that element if it appeared in the details section:

❑   you can change the font for text, fields, or formulas (see Format|Font),

❑   you can center the values horizontally on the page, center them over your report data, or align them flush left, centered, or flush right within the space allotted for them,

❑   you can change the way dates, numbers, and currency appear when they print, (see Format|Field) and

❑   you can suppress any blank lines that occur in the section (see Format| Section).

To format a header or footer element, select the element and then select the formatting option of interest.

## Inserting Page Numbers and Other Special Fields

Crystal Reports allows you to insert special fields in your reports (in addition to the data fields you draw from databases). These special fields allow you to insert dates, page numbers, and group and record numbers in your report.

| | |
|---|---|
| Print Date Field | Use Insert|Print Date Field to insert a field that prints whatever is the current date when the report prints. |
| Page Number Field | Use Insert|Page Number Field to insert a field that prints the current page number. |
| Record Number Field | Use Insert|Record Number Field to have Crystal Reports number each record printed in the Details section of your report. |
| Group Number Field | Use Insert|Group Number Field to have Crystal Reports number each group in your report. |

When select any of these special fields, a rectangular placement cursor appears. Move the cursor to the point where you want to insert the field and click the left mouse button to place it.

## Grouping Data

Grouping data means breaking your data into meaningful groups before it appears on your report. Crystal Reports makes it easy:

❑   to group your data, and

❑ to evaluate or perform calculations on the data in each group should you so wish.

## Simple Grouping

Simple grouping means breaking the data into groups without performing any additional action (totaling, averaging, etc.) on the grouped data.

❑ On a customer list, for example, you may want to group your data by state for use by your customer service or telemarketing personnel. Crystal Reports can quickly organize your data into state groups so that each group contains only customers from a single state.

❑ On a sales report you may want to group data by salesrep (each group containing only sales made by a single salesrep) or by customer (each group containing only sales made to a single customer). Crystal Reports gives you the flexibility to group data in a variety of ways.

### *NOTE:*

*Whenever Crystal Reports groups data, it first sorts the data, and then it breaks the sorted data into groups. For example, if you want to group a customer list by state, Crystal Reports first sorts the data by state. Then it begins a new group whenever the state changes. The following data shows that process*

If all you want to do is group your data, you can do this easily with Crystal Reports using the Insert|Group command.

Use the following procedure to do simple grouping.

1. **Select the field you want to group.**

   For example:

   - if you want to group a customer list by state, select the field that contains the company name, or

   - if you want to group an orders report by customer, select the field that contains the order amount.

2. **Select Insert|Group Section. The Insert Group Section dialog box appears.**

3. **In the top scroll box, select the field that you want to trigger a grouping, whenever its value changes.**

   For example:

   - if you want to group a customer list by state, select the state field, or

- if you want to group an orders report by customer, select the field that contains the customer name or customer number.

4.  **In the second scroll box, select the sort direction (in ascending order = A to Z, 0 to 9, in descending order = Z to A, 9 to 0)**

5.  **If selected a date or Boolean field in the top scroll box, a third scroll box appears near the bottom of the dialog box. In this scroll box, select the date or Boolean condition that finalizes your subtotal specification.**

6.  **Select OK when finished. Crystal Reports sorts the data and then breaks it into groups according to your specifications.**

*NOTE:*
*You can tell that the data is grouped because two new sections appear in the Report Editor bracketing the Details section.*

## Nesting Groups

You may also want to nest groups of data: group data within a group. For example, on a customer list, you may want to group your data by state, and then, within each state group, break the data down further, by city.

Crystal Reports lets you do this easily: use the Insert|Group Section command two times, first to set up the state group and then to set up the city group.

*NOTE:*
*You can add additional nesting levels as needed; there is no practical limit to how many nesting levels you can set up.*

Use the following procedure to group using nesting groups.

1.  **Select the field you want to group.**

    For example:

    - if you want to group a customer list by state and then, within each state group, group the list by city, select the field that contains the company name, or
    - if you want to group an orders report by customer and then, within each customer group, group the list by date, select the field that contains the order amount.

2.  **Select Insert|Group Section.**

    The Insert Group Section dialog box appears.

3.  **In the top scroll box, select the field that you want to trigger a grouping, whenever its value changes.**

    For example:

    - if you want to group a customer list by state and then by city, select the state field, or

    - if you want to group an orders report by customer and then by date, select the field that contains the customer name or customer number.

4.  **In the second scroll box, select the sort direction (in ascending order = A to Z, 0 to 9, in descending order = Z to A, 9 to 0)**

5.  **If selected a date or Boolean field in the top scroll box, a third scroll box appears near the bottom of the dialog box. In this scroll box, select the date or Boolean condition that finalizes your subtotal specification.**

6.  **Select OK when finished.**

    Crystal Reports groups the data according to the first set of specifications.

7.  **Select the same field selected in Step 1.**

8.  **Select Insert|Group Section again. The Insert Group Section dialog box appears.**

9.  **This time select the field you want to trigger the second group (the group within the group) whenever its value changes.**

    For example:

    - if you want to group a customer list by state and then by city, select the city field, or

    - if you want to group an orders report by customer and then by date, select the date field.

10. **Select the sort direction (ascending = A to Z, 0 to 9, descending = Z to A, 9 to 0).**

11. **Select OK when finished. Crystal Reports groups the data, this time using both sets of specifications.**

12. **Repeat Steps 6 to 10 for each additional group you want to set up.**

### SummarizingGrouped Data

Sometimes you may want to go beyond mere grouping of data. You may want to first group the data and then evaluate or perform calculations on the data in each group. You may want to sum, average, or count the values, calculate the

variance or standard deviation of the values, or determine the highest (maximum) or lowest (minimum) value in each group.

❑ You can sum the data using the Insert|Subtotal or Insert|Summary commands.

❑ You can sum, average, count, calculate the variance or standard deviation, or determine the maximum or minimum values using the Insert|Summary commands.

*NOTE:*

*Not all summary options are available for every data type. For example, you cannot sum or average string fields.*

**Grouping and Summarizing Grouped Data**

1. **Select the field you want to group.**

   For example:

   - if you want to group a customer list by state and then count the number of values in each group, select the field that contains the company name, or

   - if you want to group an orders report by customer and then determine the average sized order for each customer, select the field that contains the order amount.

2. **Select Insert|Summary.**

   The Insert Summary dialog box appears.

3. **In the top scroll box, select the action you want to take on the grouped data.**

   For example:

   - if you want to count the number of values in each group, select Count, or

   - if you want to average the values in each group, select Average.

4. **In the next scroll box, select the field that you want to trigger a grouping, whenever its value changes.**

   For example:

   - if you want to group a customer list by state, select the state field, or

   - if you want to group an orders report by customer, select the field that contains the customer name or customer number.

5.  **In the next scroll box select the sort direction (ascending = A to Z, 0 to 9, descending = Z to A, 9 to 0).**

6.  **If selected a date or Boolean field in the top scroll box, a third scroll box appears near the bottom of the dialog box. In this scroll box, select the date or Boolean condition that finalizes your summary specification.**

7.  **Select OK when finished. Crystal Reports sorts the data, and then groups and summarizes it to your specifications.**

## Grouping and Summarizing Using Nesting Groups

1.  **Select the field you want to group.**

    For example:

    - if you want to group and count a customer list by state and then, within each state group, group and count the list by city, select the field that contains the company name, or

    - if you want to group and sum an orders report by customer and then, within each customer group, group and sum the list by date, select the field that contains the order amount.

2.  **Select Insert|Summary. The Insert Summary dialog box appears.**

3.  **In the top scroll box, select the action you want to take on the grouped data.**

    For example:

    - if you want to count the number of values in each group, select Count, or

    - if you want to average the values in each group, select Average.

4.  **In the next scroll box, select the field that you want to trigger a grouping, whenever its value changes.**

    For example:

    - if you want to group a customer list by state, select the state field, or

    - if you want to group an orders report by customer, select the field that contains the customer name or customer number.

5.  **In the next scroll box select the sort direction (ascending = A to Z, 0 to 9, descending = Z to A, 9 to 0).**

6. **If selected a date or Boolean field in the top scroll box, a third scroll box appears near the bottom of the dialog box. In this scroll box, select the date or Boolean condition that finalizes your summary specification.**

7. **Select OK when finished. Crystal Reports groups and summarizes the data to your specifications.**

8. **Select the same field selected in Step 1.**

9. **Select Insert|Summary.**

   The Insert Summary dialog box appears.

10. **Select the action you want to take on the grouped data.**

11. **This time select the field you want to trigger the second group (the group within the group) whenever its value changes.**

    For example:

    - if you want to group and count a customer list by state and then by city, select the city field, or

    - if you want to group and sum an orders report by customer and then by date, select the date field.

12. **Select the sort direction (ascending = A to Z, 0 to 9, descending = Z to A, 9 to 0).**

13. **Select OK when finished. Crystal Reports groups and summarizes the data to your specifications.**

14. **Repeat Steps 8 to 14 for each additional group you want to set up.**

*NOTE:*
*Group values (subtotals, summaries) and grand totals are automatically formatted to match as closely as possible the formatting of the field they are summarizing.*

## Creating Group Headers

Just as Crystal Reports allows you to place a header at the top of each page, it also allows you to place incremental headers above each group in your report. This feature allows you to give your reports a polished, professional appearance.

Whenever you group your data, or insert a subtotal or a summary, Crystal Reports creates two new sections on your report.

❑ One section, the Group Footer section (#1: CUSTNUM in the screenshot), appears below the Details section. This section holds the group value field itself.

❑ A matching section, the Group Header section (#1: CUSTNUM in the screenshot), appears above the Details section. Anything place in this section will appear as a header for your group.

*NOTE:*
*Both sections are given the same designation so you can tell that they are tied together. The two sections are also tied together visually.*

❑ If you put text in the Group Header section, the same text will appear as a header for each group on the report.

❑ If you put the field in the Group Header section that use for the sort and group by field, Crystal Reports will create a "live" header for each group. For example, if you have a subtotal that groups your data by Customer, putting a duplicate copy of the Customer field in the Group Header section for that subtotal heads each group with the customer name. You can then format this header field to make it stand out if you wish, using a larger point size, bold face or italics, etc.

*NOTE:*
*You can hide either the Group Header section or the Group Footer section for any group by activating the Hide Section option available via the Format| Section command.*

### Multiple Groups for the Same Field

When set up a second group for the same field, Crystal Reports creates a second group section on your report beneath the first group section. Likewise, it creates a second Group Header section above the first Group Header section. For each new group field section on an existing field, Crystal Reports creates a pair of sections that effectively "bracket" the existing sections. Each section is clearly marked so you can easily tell which header section goes with each group section.

If place headers in each of the Group Header sections, you produce a report that is extremely easy to read. For example, if you have grouped your data by State and then by City within each state, each new State section will be headed by a State header, and each City section within the State section will be headed by a City header.

## Sorting Your Data

Crystal Reports allows you to sort your data by record and by group. This section discusses each of the sorting procedures in depth.

*NOTE:*
*Crystal Reports sorts your data using the sorting rules appropriate to the country that you have selected in the International dialog box in the Windows Control Panel.*

## Sorting by Record

Crystal Reports allows you to sort your data on one or more sort fields. Single and multiple field sorts will be covered in this section.

## Single Field Sorts

Single field sorts are sorts in which all the data in the report is sorted based on the values in a single field. Sorting an inventory report by stock number and sorting a customer list by customer number are examples of single field sorts.

## Multiple Field Sorts

In a multiple field sort, Crystal Reports first sorts the entries (alphabetic or numeric) in the first field selected, putting them in ascending or descending order as specified. Then it sorts any entries in the second field that can be sorted *without disturbing the sort order of entries in the first field.* It then sorts any entries in the third field that can be sorted *without disturbing the sort order of the entries in the first two fields.* It follows the same pattern for sorting additional fields.

Use the following procedure to sort by record.

1. **Select Print|Record Sort Order. The Sort Order dialog box appears.**

2. **Select the Sort Field(s) and Sort Direction you want and click OK when finished.**

Crystal Reports sorts the records to your specifications.

*NOTE:*

*If you group your data using the Insert|Group, Insert|Subtotal, or Insert| Summary command, Crystal Reports sorts your data automatically, as part of the grouping process. For example, if you sort a customer list by state, Crystal Reports first sorts the list alphabetically by state, before breaking it into state groups. In such a case, you do not need to use the Print|Record Sort Order command to generate the sorting.*

## Sorting Groups

Crystal Reports allows you to change the order in which groups appear on your report. You can:

❑   base the sort on any group (subtotal or summary) in your report, and

❑   sort your report so that groups appear in ascending or descending order.

When you group data, Crystal Reports first sorts the data by record and then groups it according to your specifications. Here is some data typical of that found in the *{file.STATE}* field of a customer list:

In order to group the data by state, Crystal Reports sorts the original data alphabetically by state, on the first pass, and then it breaks the data into groups (whenever the value in the state field changes) on the second pass. The resulting groups appear in ascending alphabetical order; the group containing all the customers from Arizona comes before the group containing all the customers from Colorado. Now this is fine if you want the groups appearing in that order. But let's assume we want the data grouped so that the group containing the most records (the state with the most customers) appears first, then the state with the second highest number of records, then the third, etc. Crystal Reports lets you do this easily using the Print|Group Sort Order command.

Use the following procedure to sort groups.

1.  **Select the Print|Group Sort Order command.**

    The Sort Order dialog box appears, listing all the groups that you have set up in your report. In our example above, since customer data is grouped by state and the number of records in each state group is counted, a group name similar to this will appear in the Summary Fields box:

    ```
    Group #n:customer.STATECount of customer.CUSTNAME
    ```

Translated, this means that the {customer.CUSTNAME} field (the field that contains the customer name) is grouped and counted every time the value in the {customer.STATE} field changes.

**2. Select this group, click the Add button.**

Crystal Reports places it in the Sort Fields box and activates the Sort Direction options.

**3. Since you want the largest groups (by count) to appear first and the smallest last, select Descending. If you wanted the smallest groups to appear first, you would select Ascending.**

**4. Click OK when finished.**

Crystal Reports sorts the groups to your specifications.

*NOTE:*
*When you sort by group, nothing happens to the sort order of the records within a group; only the relative positions of the groups themselves change.*

### Hiding Parts of the Report when Printing

Crystal Reports has four formatting commands that suppress (hide) various parts of a report. Each of these commands is discussed individually in *Crystal Reports Help*. The purpose of this section is to show the differences between the commands and how you can use them together to achieve sophisticated report formatting.

The four commands are:

| | |
|---|---|
| Suppress if Duplicated | Suppress if Duplicated (Field format dialog box) prevents a field value from printing if it is identical to (a duplicate of) the value that comes immediately before it. The value doesn't print but the space in which it would have printed remains. |
| Suppress if Zero | Suppress if Zero (Format Number/ Currency dialog boxes) prevents a value from printing if it is a zero value. The value doesn't print but the space in which it would have printed remains. |
| Suppress Blank Lines | Suppress Blank Lines (Format Section dialog box) eliminates nonessential blank lines from your report. |
| Hide when Printing | Hide when Printing (Field format dialog box) prevents a field from printing. The field doesn't print but the space allotted for the field remains. |

## Selecting Records and Groups to Include on Your Report

You can include all records in your report, or you can restrict your report to specific records or groups of records. For example, you can print a sales report showing year to date sales for all sales reps in the country, or you can print a report that presents nationwide sales but only for the last month, or even a report that shows year to date sales but only for those sales reps in Texas and California. Your reports can be as inclusive or exclusive as you wish.

Crystal Reports includes four commands on the Print menu for selecting records and groups.

- Select Records
- Select Groups
- Edit Record Selection Formula
- Edit Group Selection Formula

❑ Using the first two commands, Crystal Reports generates a selection formula for you automatically, based on your specifications.

❑ Using the last two commands, Create your own selection formula using the Formula Editor.

## Generating a Selection Formula Automatically

The Select Records and the Select Groups commands automatically generate record selection formulas based on your responses to dialog box questions. These commands require no knowledge of the Crystal Reports formula language.

When you're using these commands, select a field/group value and respond to questions about how you want to limit that field or group value. For example, if you want to prepare a report limited to Texas customers, you first click the state field in the customer database. Then, select Print|Select Records (or choose Select Records from the right mouse button menu). When the Select Records dialog box appears enter your selection criteria in the dialog box.

Use the following procedure to have Crystal Reports generate a selection formula.

1. **Select the first field/group value you want Crystal Reports to use for determining the records/groups to be included in the report.**

2. **Select Print|Select Records or Print|Select Groups, whichever is appropriate.**

*NOTE:*
*Alternately, you can select a field or group value and click the right mouse button menu. Select Records appears on the right mouse button menu whenever a field is selected, and Select Groups appears on the right mouse button menu whenever a group value is selected.*

The Select Records or Select Groups dialog box appears, depending on your selection.

3.  **Enter your selection criteria in the dialog box and click OK when finished to return to the Report Editor.**

4.  **Repeat Steps 1- 3 for each additional field/group value you want the program to use for selecting records/groups.**

Crystal Reports will generate a selection formula based on your specifications and limit the report to the records or groups you have specified.

*NOTE:*
*To view or edit the selection formula generated by Crystal Reports, select Print| Edit Record Selection Formula or Print|Edit Group Selection Formula, whichever is appropriate to your selection.*

### Creating a Selection Formula Manually

The Edit Record Selection Formula and Edit Group Selection Formula commands take you to the Formula Editor so you can manually create your own selection formula. Both of these commands require some understanding of the Crystal Reports formula language.

Using the Formula Editor, you can build a formula that restricts your report to the records or groups you specify. For example, to limit your report to those records with a customer number greater than 099999, you would build a record selection formula similar to this:

```
{file.CustNumb} >> "099999"
```

To limit your report to those groups with a subtotal on the Amount column (triggered by changes in the CustNumb field) less than $10,000, you would build a group selection formula similar to this:

```
Sum({file.Amount},{file.CustNumb}) << $10000
```

*NOTE:*

*If select:*

*Grouped by file.CustNumb*

*Sum of file.Amount*

*(the group field of interest in this example) from the Field list, Crystal Reports automatically inserts everything into the formula with the exception of <<$10000.*

You can also restrict the records used in the report by date. For example, to restrict an invoice report to invoices from a specific month, May 1991 in this case, you would build a record selection formula similar to this:

```
{file.Date}>>=Date(1991,05,01) and {file.Date}
<<Date(1991,06,01)
```

or this:

```
{file.Date} in Date(1991,04,30) to Date(1991,06,01)
```

or this:

```
Month({file.Date}) = 5
```

You can make your selection formulas as simple or complex as you wish. You can use most of the functions and operators available for building any formula. *Your only restrictions are:*

❑ your record or group selection formula must be Boolean, (i.e., it must return a Yes (True) or No (False) value). If build a selection formula that isn't Boolean, you get a Formula Compiler Error that says, "The result of the selection formula must be a yes/no value."

❑ it cannot use the PageNumber, GroupNumber, or RecordNumber functions, and it cannot use a Subtotal, Grand Total, or Summary.

## Selecting Date Ranges

When you wish to select records based on a range of dates, you can use any of Crystal Reports' preset date ranges, or you can build a custom range to fit your needs. For a complete list of Crystal Report date ranges, please see Crystal Reports Help.

**Generating Your Own Selection Formula**

1.  **Select Print|Edit Record Selection Formula or Print|Edit Group Selection Formula.**

    The Formula Editor appears.

2.  **Create your selection formula.**

3.  **Click Accept when you are finished.**

    Crystal Reports will limit your report to the records/groups specified.

*NOTE:*
*You will find a number of selection formula templates in the Help facility under Edit Record Selection Formula. These templates cover a wide range of typical record selection needs, and they can be pasted into the Formula Editor via the Windows clipboard. Once they're in the Formula Editor, you can change the formulas to fit your data.*

**Selecting Page Orientation and Paper Size**

You can use Crystal Reports with a variety of paper sizes and with portrait or landscape page orientation. Select paper sizes and page orientation via the Print Setup dialog box which appears when select Print|Select Printer.

Use the following procedure to select a new paper size/page orientation.

❑ To select a new paper size and/or page orientation, select Print|Select Printer.

❑ When the Print Setup dialog box appears, you activate the printer you want to use if it is not already the default printer.

❑ Select your page orientation (Portrait or Landscape) in the Orientation box, and select your paper size and source in the Paper box. Your choice of paper sizes depends on the capabilities of the printer you have selected, and the choice changes from printer to printer. For example, the HP LaserJet driver (PCL) offers a choice of letter, legal, executive or A4 paper sizes whereas the PostScript printer driver lets you choose from letter, letter small, legal, A4, A4 small, B5, and note paper sizes. When Make your selection and return to Crystal Reports, the paper you have selected is active.

# Manipulating Text and Data

This section outlines the various procedures to use for manipulating (copying, deleting, moving, etc.) text and data on your report.

## Adding Text

To add text, set the insertion point where you want the new text to begin, and type in your addition, or use a text field (Insert|Text Field command).

## Copying Text

Use the following procedure to copy text.

1. **Select the text you want to copy by dragging the I-beam cursor over the text.**

2. **Select Edit|Copy.**

   Crystal Reports moves a copy of the selected text to the Clipboard without disturbing the highlighted text.

3. **Set the insertion point where you want to insert the copied text and select Edit|Paste.**

   Crystal Reports copies the text at the selected point.

   *NOTE:*
   *You can also copy text to the Clipboard using the fifth button on the Button Bar. You can also paste text into your report from the clipboard using the sixth button on the Button Bar.*

## Deleting Text

Use the following procedure to delete text.

❑ set the insertion point where you want to begin deleting, and press the Delete key enough times to delete the unneeded text, or

❑ select the text you want to delete by dragging the I-beam cursor over it, then:

- select Edit|Clear (or press Delete) to delete it permanently, or

- select Edit|Cut (or press Shift-Delete) to cut the text to the clipboard for later use, or

❑ set the insertion point at the beginning of a line of text you want to delete and press Shift-End to select the entire line. Then:

- select Edit|Clear (or press Delete) to delete it permanently,

- or select Edit|Cut (or press Shift-Delete) to cut the text to the clipboard for later use.

## Editing Text

Delete, edit, and/or add text as needed following the techniques described above.

## Moving Text

You can move text in Crystal Reports in two different ways:

❑ By pushing or pulling it to a new position using the Tab key.

❑ By cutting it to the Clipboard and then pasting it in a new position.

## Using the Tab Key

Set the insertion point immediately in front of the text you want to move.

❑ Press the Tab key to move the text to the right. All text to the right of the insertion point moves each time you press the Tab key.

❑ Press the Backspace key to move the text to the left. All text to the right of the insertion point moves each time you press the Tab key.

*NOTE:*
*If you want to move several pieces of text on a given line into position (i.e., aligning titles with data fields), begin at the left. Move the leftmost text into position, reset the insertion point to the left of the second text element and move it into position, reset the insertion point to the left of the third text element, etc.*

## Using Cut and Paste

1. **Select the text you want to move.**

2. **Select Edit|Cut.**

Crystal Reports moves the text to the Clipboard.

3. **Set the insertion point to the new text position.**

    **4. Select Edit|Paste to paste the text at the new insertion point.**

## Moving Fields

Move a database field by dragging it to a new position with the mouse, or by selecting it and using the Arrow keys.

## Moving Fields with a Mouse

1. **Select the field you want to move.**

    ❑ To select a single field, click the field.
    ❑ To select multiple fields, hold the Shift key down while click the fields. Handles appear on the selected field(s).

2. **With the cursor on the field (on one of the fields if you have selected multiple fields) and the left mouse button depressed, move the field to its new position.**

3. **Release the mouse button when the field is in place.**

## Moving Fields with the Arrow keys

1. **Select the field you want to move.**

    ❑ To select a single field, click the field.
    ❑ To select multiple fields, hold the Shift key down while click the fields. Handles appear on the selected field(s).

2. **Use the Arrow keys to move the field to its new position.**

The field moves one grid position each time you press the Arrow key.

*NOTES:*

*a - Crystal Reports allows you to move fields across other fields without affecting the placement of the bottom fields.*

*b - You can move fields between sections with the following exceptions:*

❑ *grand totals cannot be moved outside the Grand Total section, and*

❑ *a subtotal or summary can be moved only within its initial section or to the header portion of its initial section.*

## Deleting Fields

You can delete a database field from your report by selecting it and:

❑ pressing the Delete key on the keyboard,

❑ selecting Delete Field from the right mouse button pop-up menu, or

❑ selecting Clear from the Edit menu.

Each of these methods has the same effect: deleting the selected field. You may find one alternative to be more convenient at one time while a different alternative is more convenient at another.

# Working with Graphics and Graphic Enhancements

This section leads you through the following graphics-related topics:

❑ Bit-mapped graphics concepts,

❑ Inserting and moving graphics,

❑ Sizing and scaling graphics,

❑ Cropping graphics,

❑ Creating, moving, and formatting graphic lines

❑ Creating, moving, and formatting graphic boxes

❑ Using graphic boxes to highlight data

❑ Creating tables using graphic lines and boxes

❑ Graphic elements and the Status Bar

❑ Using the status bar when positioning a graphic element

## Bit-mapped Graphics Concepts

Bit-mapped graphics are the kind of graphics (pictures, logos, etc.) that are generally produced by paint programs and scanners. They are composed by the graphic designer as a pattern of tiny dots (pixels) on screen, and they are printed as a pattern of tiny dots on your report. Even though there are some limitations to what an individual can create with dots, a skilled graphics designer can nonetheless achieve some stunning effects that can add visual impact to your report.

Crystal Reports allows you to use bit-mapped graphics in your reports from a wide variety of sources:

❑ scanners,

❑ paint programs,

❑ video capture cards,

❑ screen capture programs,

❑ CompuServe,

❑ commercial graphics developers, and

❑ shareware and public domain graphics suppliers.

As long as the graphic is stored in one of the popular graphics formats that work with Crystal Reports, you can use it in your report.

- Most paint, scanner, screen capture, and video capture programs can save graphics in one of the compatible file formats (.bmp, .pcx, .gif, .tif, and .tga).

- Additionally, many programs (paint programs, graphics conversion programs, screen capture programs, draw programs) will allow you to import a graphic in a different format and save it in a format that is compatible with Crystal Reports.

- There are, in fact, many low cost shareware programs or free public domain programs that allow you to easily convert a bit-mapped graphic stored in one format to another.

Crystal Reports was designed for maximum graphics compatibility.

### *NOTES:*

*a -  When select a graphic for inclusion in your report, Crystal Reports stores a copy of the graphic in the report file. Any changes Make to the graphic affect the copy; they do not alter the original.*

*b -  When click the right mouse button with the cursor over a graphic, a graphic options menu appears with the name and extension of the originating graphic file at the top. The file name is for information only since the graphic in your report is only a copy of the original. That copy is stored as part of the report and no longer has a separate file name. Any changes Make to the graphic affect the copy only; they do not alter the original.*

### Inserting, Moving, and Deleting Graphics

Crystal Reports enables you to insert, move, and delete graphics with ease.

### Inserting a Graphic

You can insert graphics anywhere you want them to appear on your report.

Use the following procedure to insert a graphic.

1. **Select Insert|Graphic (or click the Insert Graphic button on the button bar).**

   The Choose Graphic File dialog box appears.

2. **Select the graphic you want to enter in your report, and click OK when finished.**

   Crystal Reports returns you to the Report Editor, and an outline the size of the graphic appears as an aid in placement.

3. **Position the outline where you want the graphic to appear and click the left mouse button to place it.**

Crystal Reports displays the graphic where placed it.

## Moving a Graphic

You can move a graphic in one of two ways:

❑ using the mouse
❑ using the dialog box

## Moving Graphics Using the Mouse

Move a graphic with the mouse if you want to determine its final placement visually.

❑ To move a graphic using the mouse, click the graphic and, keeping the left mouse button depressed, drag the graphic to the place you want it.

***NOTES:***

*a - You can move the graphic within its current section, or move it to a new section if you wish. The position of the upper left hand corner of the graphic (not the position of the arrow) determines the section in which the graphic will appear.*

*b - Make sure you do not click the graphic on the handles. If you do, you will resize the graphic when you drag it.*

## Moving Graphics Using the Dialog Box

Move a graphic using the dialog box if you want the graphic to appear at an absolute position on your report.

1. **Select the graphic you want to move and select Format|Graphic to call up the Graphic Format dialog box. (Alternately you can double click the graphic to call up the dialog box or select the graphic and then select Change Format from the right mouse button menu.)**

2. **Click the Position button.**

The Graphic Position dialog box appears. This dialog box indicates the position of the graphic relative to the top left corner of its section.

❑ To position the graphic even with the top left corner (the top flush against the top of the section, the left side flush against the left side of the section), enter the following settings: Top 0.00, Left 0.00.

❑ To move the graphic to the right, increase the Left setting. For example, to move the graphic in two inches from the left edge of the section, enter 2.00 for the Left setting (assuming you're working in inches).

❑ To move the graphic down in the section, increase the Top setting. For example, to move the graphic down two inches from the top of the section, enter 2.00 for the Top setting.

*NOTE:*
*Crystal Reports automatically resizes the section to accommodate the new graphic location.*

3. **Click OK when finished to return to the Graphic Format dialog box, and click OK once there to return to the Report Editor.**

Your graphic will be positioned according to your specifications.

## Deleting a Graphic

Crystal Reports makes it easy for you to delete a graphic from your report.

Use the following procedure to delete a graphic.

1. **Select the graphic you want to delete.**

2. **Select Edit|Clear, press the Delete key, or select Delete Graphic from the right mouse button menu.**

## Sizing and Scaling Graphics

*Size* and *Scaling* are two interrelated options that appear in the Graphic Format dialog box.

❑ Size refers to the absolute length and width of a graphic. If the original graphic is one inch wide, it has an absolute width of one inch. If you double the width of the graphic it has an absolute width of two inches.

❑ Scaling refers to the length and width of a graphic as a percentage of the original length and width. If the original graphic is one inch wide, it has a width scaling value of 100%. If you double the width of the graphic, it has a width scaling value of 200%.

❑ When you first place a graphic, Crystal Reports presents it in its original size (the size in which it was saved).

- When you change the size values in the Graphic Format dialog box, Crystal Reports adapts the scaling values to the new height and/or width.

- When you change the scaling values in that dialog box, the program adapts the size values to the new height and/or width.

- When you resize the graphic using the mouse, the program adapts the size values and the scaling values in the dialog box to the new height and/or width.

When select a graphic for placement, Crystal Reports presents an outline that indicates the original size of the graphic (the size in which it was saved). When place the outline, the graphic replaces the frame. You can then enlarge or reduce the size of the graphic to fit your needs. You have two options for doing this:

❑ using the mouse, and

❑ using the Format|Graphic command.

## Resizing Using the Mouse

You can expand or reduce the size of the graphic using a mouse via the sizing handles that appear on the sides and corners of the graphic when select it. (To select a graphic, click it with the left mouse button.)

## The Sizing Handles

The sizing handles provide a very straightforward means of resizing your graphic:

❑ The handles on the right and left sides of the graphic expand or reduce the width of the graphic without affecting the height. For example, if your graphic was a square initially, it becomes a rectangle with the top and bottom becoming longer than the sides (if expanded) or shorter than the sides (if reduced). This kind of sizing results in a graphic that has different proportions than the original.

❑ The handles on the top and bottom of the graphic expand or reduce the height of the graphic without affecting the width. For example, if your graphic was a square initially, it becomes a rectangle with the sides becoming longer than the top and bottom (if expanded) or shorter than the

top and bottom (if reduced). This kind of sizing also results in a graphic that has different proportions than the original.

❑ The handles on the corners of the graphic expand or reduce the height and width of the graphic equally. If your graphic was originally a square, it remains a square even though it has been resized. This kind of sizing results in a graphic that retains the same proportions as the original.

Use the following procedure to resize using a mouse.

1.  **Click the graphic to select it. Handles appear on the sides and the corners.**

2.  **Resize the graphic by dragging on the appropriate handle.**

You can resize your graphic in two different ways using the Graphic Format dialog box:

❑ resizing a graphic to an absolute size, and

❑ scaling a graphic to a percentage of its original size.

## Resizing to Absolute Size

Use the following procedure to resize a graphic to an absolute size.

1.  **Click the graphic to select it and then select Format|Graphic to call up the Graphic Format dialog box. (Alternately you can double click the graphic to call up the dialog box or select the graphic and then select Change Format from the right mouse button menu.)**

2.  **Enter the new height and/or width in the Size box.**

3.  **Click OK when finished.**

    Crystal Reports resizes your graphic to your new specifications.

Use the following procedure to resize a graphic as a rercentage of its original size.

1.  **Click the graphic to select it and then select Format|Graphic to call up the Graphic Format dialog box. (Alternately you can double click the graphic to call up the dialog box or select the graphic and then select Change Format from the right mouse button menu.)**

**2. Enter the new scale value for the height and/or width in the Scaling box.**

**3. Click OK when finished.**

Crystal Reports resizes your graphic to your new specifications.

***NOTES:***

*a -  When you change the Size values, the Scaling values won't change while the dialog box is open. Also, when you change the Scaling values, the Size values won't change while the dialog box is open. The changes will appear the next time you open the dialog box.*

*b -  Crystal Reports automatically resizes the appropriate report section to accommodate the resized graphic.*

## Cropping Graphics

Cropping refers to "cutting away" those portions of your graphic that you do not want to print. If, for example, when you scanned your company logo from a letterhead you also scanned in some extraneous material (company address, corporate officers, etc.), you will probably want to "sanitize" the logo before use it. Using Crystal Reports cropping capability, you can easily cut away the extraneous material leaving only the logo to print.

There are two ways to crop a graphic:

❑  using the mouse
❑  using the dialog box

## Cropping Using the Mouse

Using the mouse is the easiest way to crop a graphic. It doesn't require any guesswork and you see your results immediately on screen.

You crop by dragging the resizing handles while depressing the Shift key.

❑  When you drag the top handle down, you cut off part of the top part of the graphic.
❑  When you drag the bottom handle up, you cut off part of the bottom part of the graphic.
❑  When you drag the right side handle to the left, you cut off part of the right side of the graphic.

❑ When you drag the left side handle to the right, you cut off part of the left side of the graphic.

❑ When you drag one of the corner handles into the graphic, you cut off part of two sides of the graphic simultaneously (the top and a side, or the bottom and a side).

❑ When you drag any of the handles away from the graphic (dragging the top handle up, the left handle to the left, etc.) you expand the frame and put white space between the graphic and the frame.

Use the following procedure to crop a graphic using the mouse.

1.  **Select the graphic you want to crop.**

    Sizing handles appear on the graphic.

2.  **With the Shift key depressed, crop your graphic by dragging the appropriate sizing handle(s).**

3.  **When finished, release the Shift key, resize the graphic if needed, and move the cropped graphic into place.**

    *NOTE:*
    *Resizing a graphic does not undo the cropping. It simply resizes that portion of the graphic that remains after cropping.*

### Cropping Using the Dialog Box

When you crop a graphic using the dialog box, you specify (in inches or centimeters) the piece of the graphic that Crystal Reports is to cut from the top, bottom, right, and/or left side.

*NOTE:*
*This method of cropping can be particularly useful if you want to take a specific sized piece off each side of your graphic. For example, if you want to cut exactly one inch off all four sides of your graphic,you can do it more quickly and accurately with the dialog box than the mouse.*

Use the following procedure to crop a graphic using the dialog box.

1.  **Select the graphic you want to crop and select Format|Graphic to call up the Graphic Format dialog box. (Alternately you can double click the graphic to call up the dialog box or select the graphic and then select Change Format from the right mouse button menu.)**

2. **In the Cropping box, enter the amount you want to crop from the Top, Left, Bottom, and/or right sides of your graphic.**

❑ Enter positive numbers to cut parts off your graphic.

❑ Enter negative numbers to expand the frame, leaving white space between the frame and the graphic.

*NOTE:*

*All cropping settings apply to the size of the original graphic. If the graphic has been resized before cropping, make certain use the Original Size settings as guidelines when entering your new cropping instructions. As a general rule, when you are going to crop and resize a graphic, crop the graphic first, and then resize it.*

3. **Click OK when finished.**

Crystal Reports returns you to the Report Editor with the Graphic cropped to your specifications.

*NOTE:*

*While there are many options in the Graphic Format dialog box, to crop a graphic you only need to concern yourself with the cropping instructions. Crystal Reports automatically maintains the scale and adjusts the absolute size of the graphic so it will display and print to your specifications.*

❑ *To restore a cropped graphic to its original size and shape, change all of the Cropping of original settings to 0.00.*

❑ *To restore a resized graphic to its original size and shape, change both Scaling settings to 100%.*

❑ *To restore a cropped and resized graphic to its original size and shape, change both the cropping and the scaling settings as described above.*

## Creating, Moving, and Formatting Lines

Crystal Reports enables you to create freeform lines that you can use to highlight field data, blocks of data, or entire sections of your report.

Use the following procedure to create a line.

1. **Click Insert|Line.**

A pencil cursor appears.

2.  **Set the tip of the cursor (the pointed end) where you want the line to begin and drag the cursor horizontally or vertically with the left mouse button depressed.**

    The line appears as you drag the cursor.

3.  **Release the mouse button when the line is the length you want it.**

    *NOTE:*
    *To format the line (set line style, width, and color), use the Format|Line command.*

### Moving a Line

You can move a graphic line using the mouse, or with the keyboard using the arrow keys.

Use the following procedure to move a line using the mouse.

1.  **Click the line to select it.**

    *NOTE:*
    *When selecting a line or other graphic, the mouse cursor must be an Arrow. Make sure the cursor changes to an arrow before you attempt to select a line.*

2.  **Drag the line where you want it.**

    Make sure to keep the left mouse button depressed as move it.

3.  **Release the mouse button once your line is in position.**

Use the following procedure to move a line with the arrow keys.

1.  **Click the line to select it.**

2.  **Use the arrow keys to move the line up, down, right, or left and position it where you want it.**

    *NOTE:*
    *Crystal Reports displays line coordinates in the Status Bar to help you adjust the size and position of a line. Using the status bar readings, you can easily place a line at a specific location on your report, or align two or more graphic elements with each other.*

**Formatting a Line**

Crystal Reports allows you to specify the style, width, and color for each graphic line you include in your report. Enter your line formatting specifications in the Line Format dialog box.

Use the following procedure to format a graphic line.

1.  **Select the line of interest and then select Format|Line. (Alternately, you can double click the line or select Change Format from the right mouse button menu.)**

    The Line Format dialog box appears.

2.  **Enter your formatting instructions for the line.**

3.  **Click OK when finished.**

    Crystal Reports returns you to the Report Editor with the line formatted to your specifications.

**Resizing a Line**

Once you have created a line, you can adjust its length using either the mouse or the keyboard arrow keys.

Use the following procedure to resize a line using the mouse.

1.  **Select the line you wish to resize.**

2.  **Move the mouse so that the cursor is over one of the square sizing handles at the endpoints of the line.**

*NOTE:*
*When the mouse cursor is over one of the sizing handles, it changes to a double headed arrow (the Resizing cursor).*

3.  **Drag the handle until the line is the length you want.**

Use the following procedure to resize a line using the arrow keys.

1.  **Using the mouse, select the line you want to resize.**

2.  **While holding down the Shift key, press:**
    ❑  the Right Arrow key to lengthen a horizontal line,
    ❑  the Left Arrow key to shorten a horizontal line,
    ❑  the Down arrow key to lengthen a vertical line, or
    ❑  the Up arrow key to shorten a vertical line.

### Creating, Moving, and Formatting Boxes

Crystal Reports enables you to create free-form graphic boxes that you can use to highlight field data, blocks of data, or entire sections of your report.

You can also use graphic boxes by themselves, as stand-alone graphic elements, to add visual interest to your report.

Use the following procedure to create a box.

1. **Click Insert|Box. A pencil cursor appears.**

2. **Set the tip of the cursor (the pointed end) where you want to anchor one corner of the box and drag the cursor towards the opposite corner with the left mouse button depressed.**

   The box appears as you drag the cursor.

3. **Release the mouse button when the box is the size you want it.**

   *NOTE:*
   *To format the box (set line style and width, line color, etc.), use the Format|Box command.*

### Moving a Box

You can move a graphic box using the mouse, or with the keyboard arrow keys.

Use the following procedure to move a box using the mouse.

1. **Click the box to select it.**

   *NOTE:*
   *You can select a box only with an arrow cursor. Position the I-beam near the box edge until it changes to an arrow and then click the edge of the box (not the center) to select it.*

2. **Drag the box where you want it.**

   Make sure to keep the left mouse button depressed as move it.

3. **Release the mouse button once your box is in position.**

Use the following procedure to move a box with the arrow keys.

1. **Click the box to select it.**

2. **Use the arrow keys on the keyboard to move the box up, down, right, or left until it is in the position that you want.**

*NOTE:*
*Crystal Reports displays box coordinates in the Status Bar to help you adjust the size and position of a graphic box. Using the status bar readings, you can easily place a box at a specific location on your report, or align two or more boxes with each other.*

## Formatting a Box

Crystal Reports allows you to change:

❑ the box style (the kind of line that outlines the box: single solid line, single dashed line, etc.),

❑ the width (thickness) of the line that outlines the box, and

❑ the color of the line that outlines the box.

❑ Additionally, you can specify the fill for the box (whether the box is filled with a color or empty).

Enter your box formatting specifications in the Box Format dialog box.

Use the following procedure to format a box.

1. **Select the box of interest and then select Format|Box. (Alternately, you can double click the box or select Change Format from the right mouse button menu.)**

    The Box Format dialog box appears.

2. **Enter your formatting instructions for the box.**

3. **Click OK when finished.**

    Crystal Reports returns you to the Report Editor with the box formatted to your specifications.

## Resizing a Box

Once you have created a box, you can adjust its size using either the mouse or the keyboard arrow keys.

Use the following procedure to resize a box using the mouse.

1. **Select the box you wish to resize.**

2. **Move the cursor over one of the square sizing handles.**

*NOTE:*
*When the cursor is over one of the sizing handles, it changes to a double headed arrow (the resizing cursor).*

3. **Drag the handle until the box is the size you want:**

   ❑ If you want to change the height of the box, drag the handle at the top or the bottom.

   ❑ If you want to change the width of the box, drag the handle at the right or the left side.

   ❑ If you want to change both the height and the width at the same time, drag one of the handles at the corners of the box.

Use the following procedure to resize a box using the arrow keys.

1. **Using the mouse, select the box you want to resize.**

2. **While holding down the Shift key, press:**

   ❑ the Right Arrow key to make the box wider,

   ❑ the Left Arrow key to make the box narrower,

   ❑ the Down arrow key to make the box taller, or

   ❑ the Up arrow key to make the box shorter.

Notes