

Chapter 2 – The Design Window

Chapter 2 Objectives

- Learn about Crystal sections
- Move objects
- Use Toolbars, Icons, and Menus
- Format fields
- Add Special Fields
- Change a Group
- Use the Crystal Field Explorer
- Create Text Objects

Scenario for Workshop 2

9:00 AM Monday. You created a report for I. M. Bossy, but it doesn't look good enough to present at a Board of Director's meeting. You call Databaseman for help.



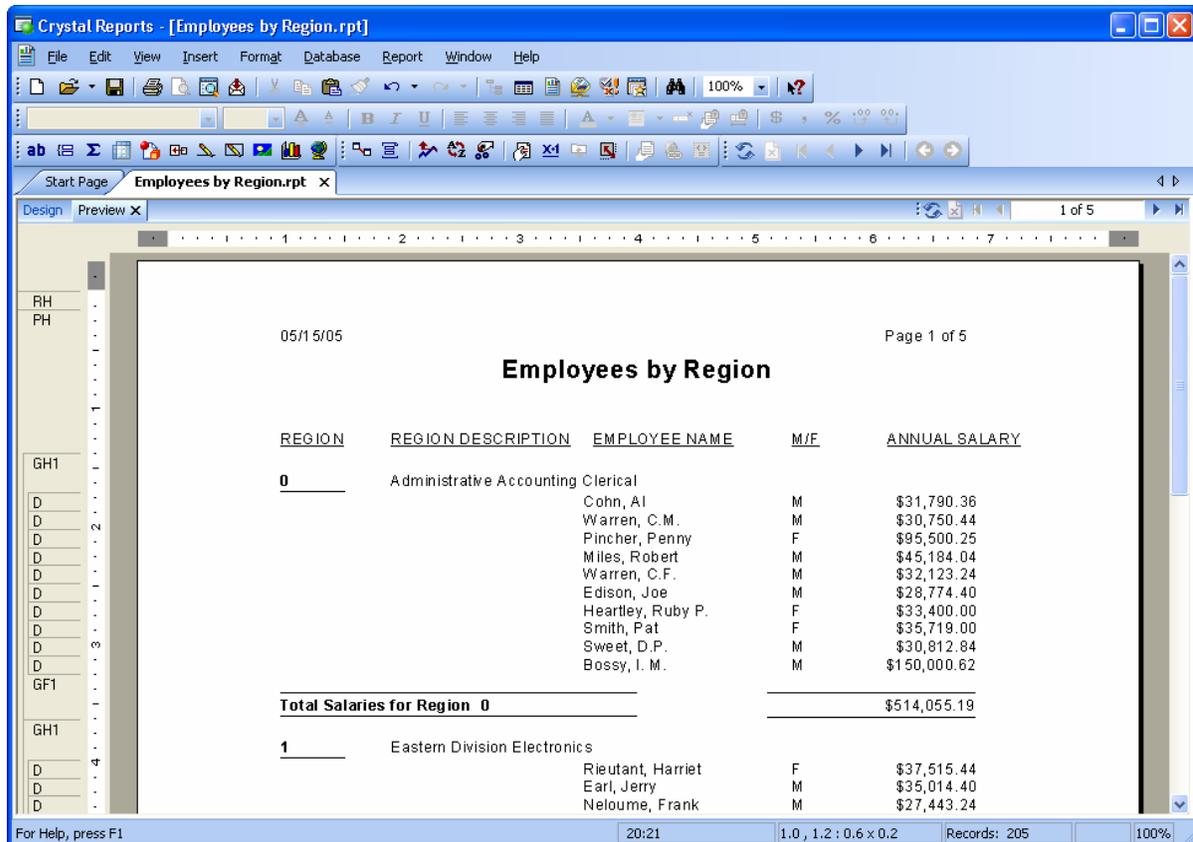
“Now you need to use the Design Window to clean up the formatting of your report.” Databaseman tells you.

“You will then need to format the **ANNUAL_SAL** with dollar signs. And add a **Title, Text Objects**, and other **Special Fields** to your report.”

Databaseman says you should first become familiar with the Design Window, sections, toolbars and menus.

Workshop 2: Move Field, Format Currency, Add Special Fields, and Text Object

In this workshop you will use toolbar icons, pulldown menus, or right-click menus to format fields, add special fields, or text objects. You will move fields from one section of the report to another, and expand a section to hold more fields. When you are finished your report should look like this:



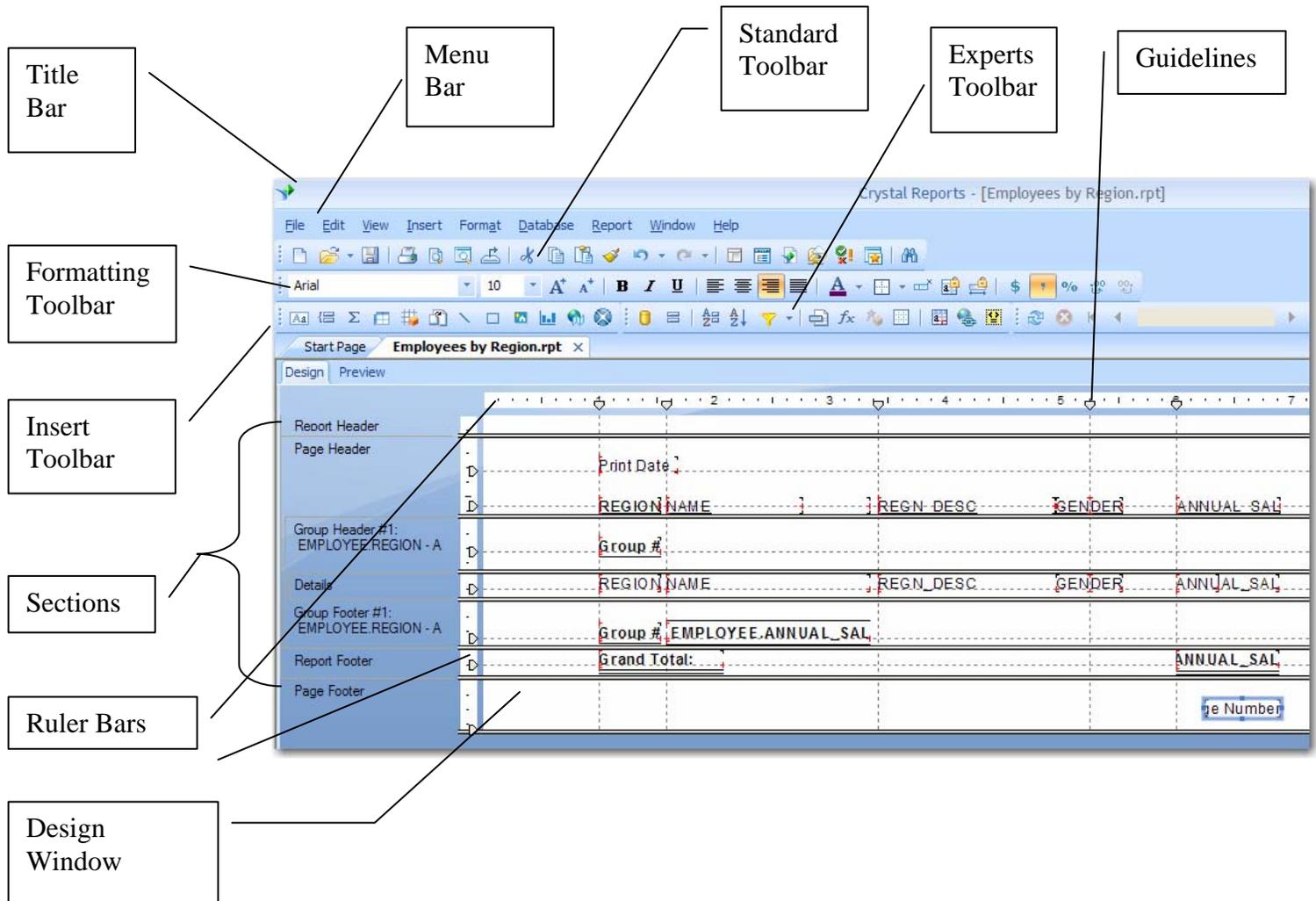
You can move fields in the Preview Window or Design Window. The Preview Window shows your changes immediately. However, if you have a long or complex report, using the Preview Window for formatting fields will be slow.

In this chapter we shall use the Design Window to move and format fields, and the Preview Window to check our results.

- First use **File | Save As** to save your **Crystal_Wizard.rpt** as **Employees_by_Region.rpt**. This way you will not overwrite your first report when you make changes to it later in this workshop.

Design Window

With the report you did in Workshop 1 open, click on the “Design” tab. You will see the Design Window shown below.



The Title Bar contains the name of the program, the name of the report, and the standard Windows (minimize, maximize, exit) buttons.

The Menu Bar has drop-down menus, some of which contain sub-menus. These menus and sub-menus contain all the actions you need to create a report. At times the choices are several menus deep. For a detailed description of all toolbars and menus, see **Appendix B**.

The horizontal and vertical Ruler Bars aid in the layout of your report and allow you to place fields at specific positions in the report.

The Design Window is the main work area that consists of multiple sections for inserting database fields and objects in your report.

Crystal Sections

Any report can be divided into many horizontal sections. You may not need them all. Here are the names of the sections and what they do.

Section Name	Sequence in Report	When and How Often Line(s) are Printed	Typical Usage
Report Header	1	Once per report while processing the <i>first</i> record	Cover page for the report
Page Header	2	Once per page while processing the <i>first</i> record of a page	Column headings, date and page number
Group Header	3	Once per group while processing the <i>first</i> record of the group	Group names (s)
Details	4	Once per record	Detail information for each record
Group Footer	3	Once per group while processing the <i>last</i> record of the group	Group subtotals
Report Footer	1	Once per report while processing the <i>last</i> record	Grand totals
Page Footer	2	Once per page while processing the <i>last</i> record of a page	Footnotes, authorship notes, page numbers

Sections can be hidden or suppressed, however their order cannot be changed. All sections, except Group Header and Group Footer, are present in all Crystal reports. Every Header section has a corresponding Footer section. The Details section is the only single section.

Groups are optional. You can have no group, one group, or several groups. For each group in your report, Crystal inserts a Group Header and Group Footer. This report has one group, REGION. Therefore there is a Group Header #1 section and a Group Footer #1 section. Crystal calls the data in the Group Header #1 and Footer #1, the Group #1 Name. In this case it is the number of the REGION for which the details are grouped.

A section can be as large or as small as you want it to be. You can re-size any section by grabbing the thick gray line that separates the sections and moving it up or down.

You can suppress a section so it will not preview or print (more later). Suppressed sections are displayed with hash marks in the Design window.

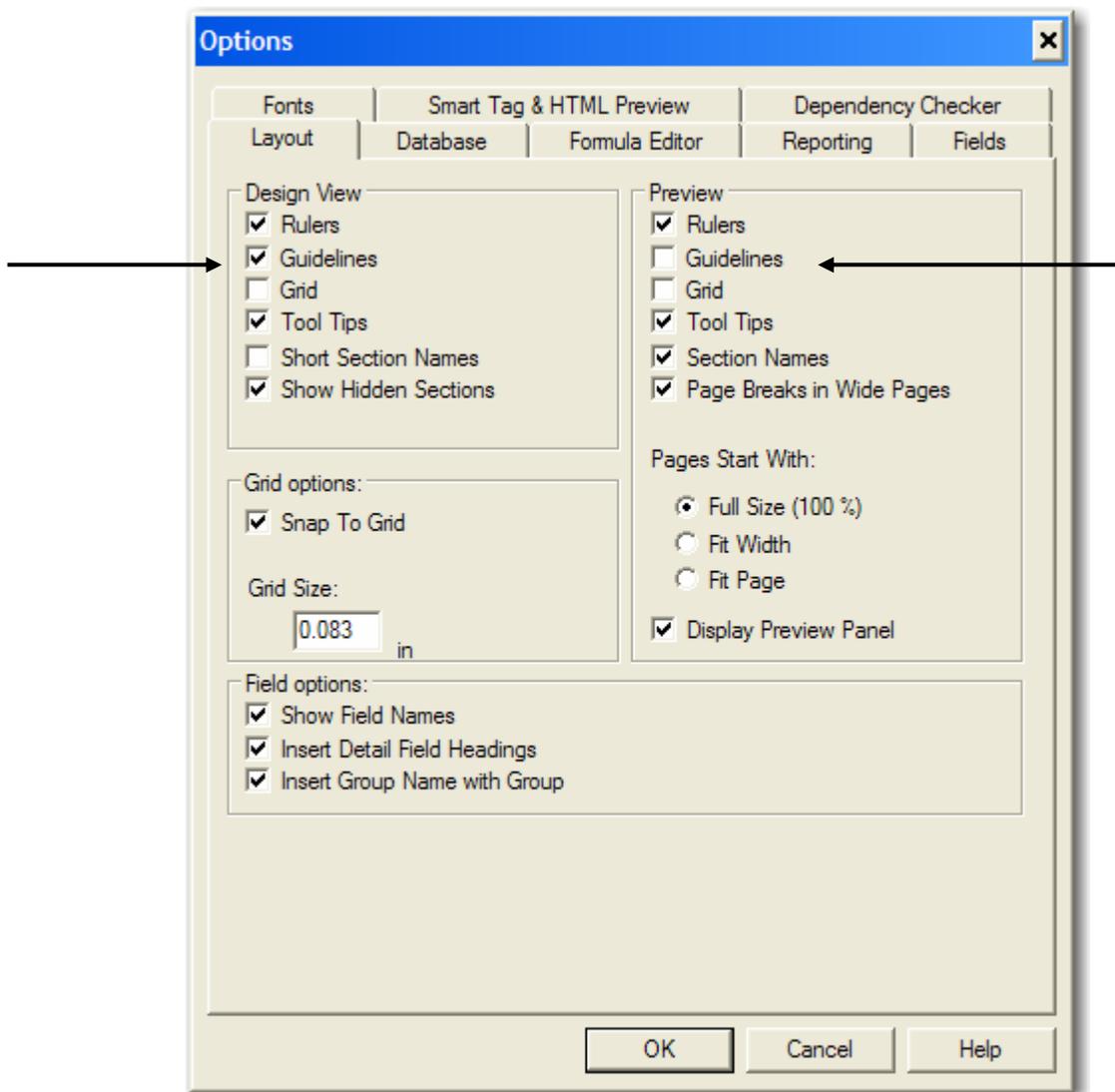
Each section's characteristics define where it is activated, where it prints on the page, and how often it is printed. The name of the section area is always displayed in the Design screen and a shortened version of the section name is displayed in the Preview window.

It is easier to understand Crystal's use of sections by remembering that Crystal only "sees" one record at a time. Crystal knows which sections to print by the relative position of the current record in relation to all the records in the table.

Using Guidelines

Crystal provides guidelines to help you accurately place objects in your report. Guidelines are non-printing dash lines that you can place anywhere on the rulers of the **Design** and/or **Preview** windows to assist in horizontal and vertical alignment. They have a snap property, which automatically anchor the objects to a guideline. You can turn Guidelines on or off in **Options**.

- Select **File | Options | Layout** (This is the only way to open Options.)

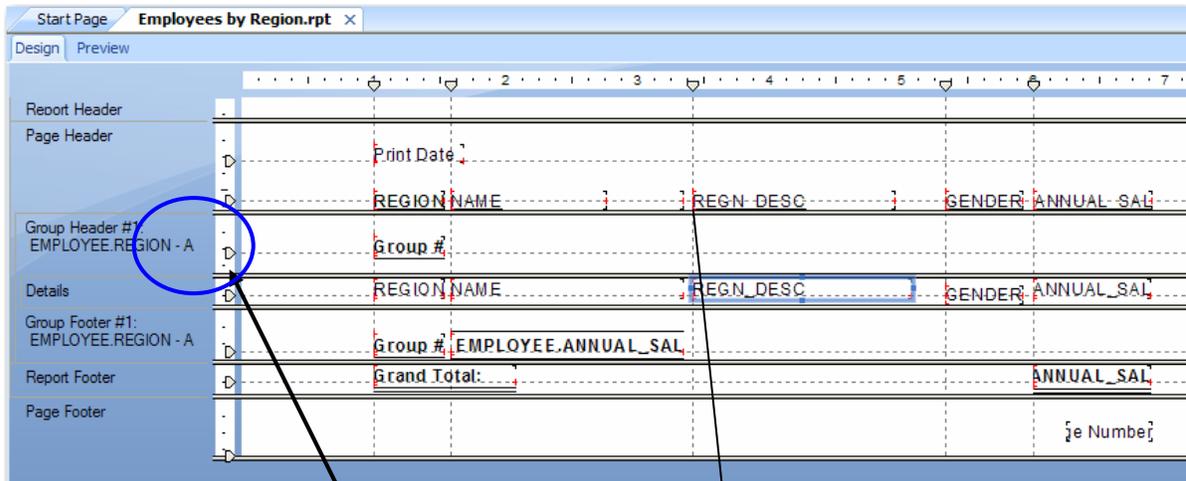


- Check Guidelines under Design View.
- Guidelines in Preview can be distracting. If you want to see them there, check that box too. Otherwise leave it unchecked.

- Click **OK** to close the Options dialog box.

Even though Display Group Tree is checked, once the Group Tree is toggled off in a report it will not be displayed in that report until toggled back on. Options are discussed in detail in **Appendix B**.

Guidelines are now visible in the Design window.



Red dots anchor guideline to objects.

- The arrowhead indicates a guideline has been set and the dash line shows when fields are anchored to it.
- To anchor an object, move the object to the guideline, NOT the guideline to the object.

Problems with Guidelines

What Happened	How to Fix
Wrongly dragged a guideline off the ruler and now the guideline is gone.	Click the Undo button, which will undo the guideline. If you noticed it later, just add another guideline and anchor the objects as described below.
Guidelines do not move with objects.	You detached the objects from the guideline. To anchor an object, move the object to the guideline until red dots appear at the corners.
When you move a guideline the objects stretch instead of move.	The object has been snapped on the left AND on the right. Resize the object away from one of the guidelines, and then move the object.
Multiple guidelines, which are not being used, are showing on the ruler.	Remove unnecessary ones by dragging them off the ruler.
Object does not anchor to guideline	Move the object to the guideline, not the guideline on the ruler.

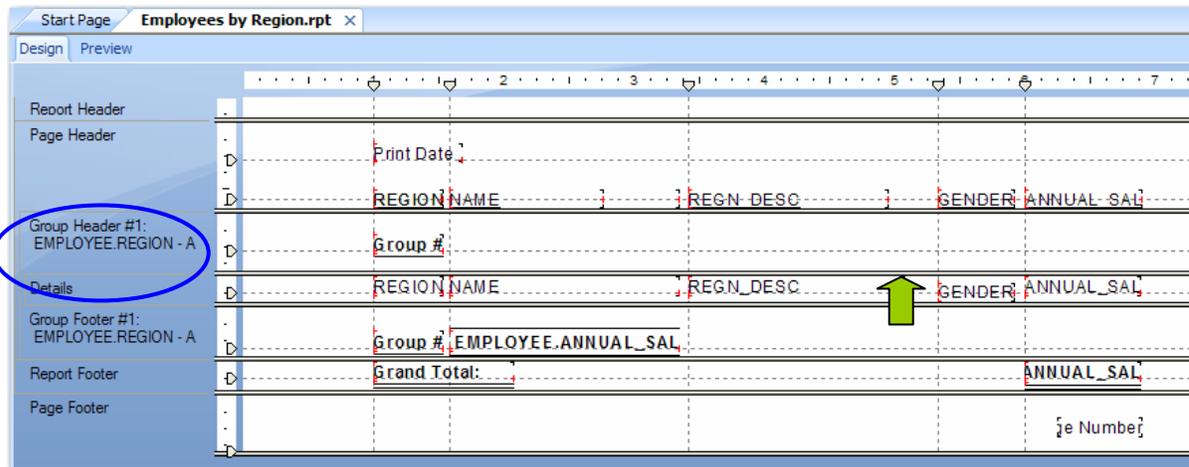
Moving & Resizing Fields

When you insert a field into the Crystal Design window, the program creates a placeholder box that is equal to either the size of the field label or the size of the field itself, whichever is larger. You can move the field with your mouse or the arrow keys. You can change the shape of the placeholder box.

Moving a field

The report wizard placed the **REGN_DESC** field in the Details section. As a result, it is repeated for each record. The report would be more attractive if this field was moved to the Group Header #1 section. This is very easy to do.

- Click on the **REGN_DESC** data field (in Details section, not heading field with same name). When you see the frame outline, your cursor should become a four-way arrow.
- Drag the **REGN_DESC** into the Group Header section.



You can also move fields with the keyboard arrows.

- Select one or more fields by:

Clicking on a field

Holding down the Control key and clicking on additional fields, or

“Lasso” a group of fields by holding left mouse button, dragging mouse over several fields, and releasing the button.

- Press the keyboard arrow to move field(s) in the direction you want

Deleting a field

You can delete an object by selecting the field and then clicking on the **Cut**  icon, or selecting the field and touching the **Delete** key.

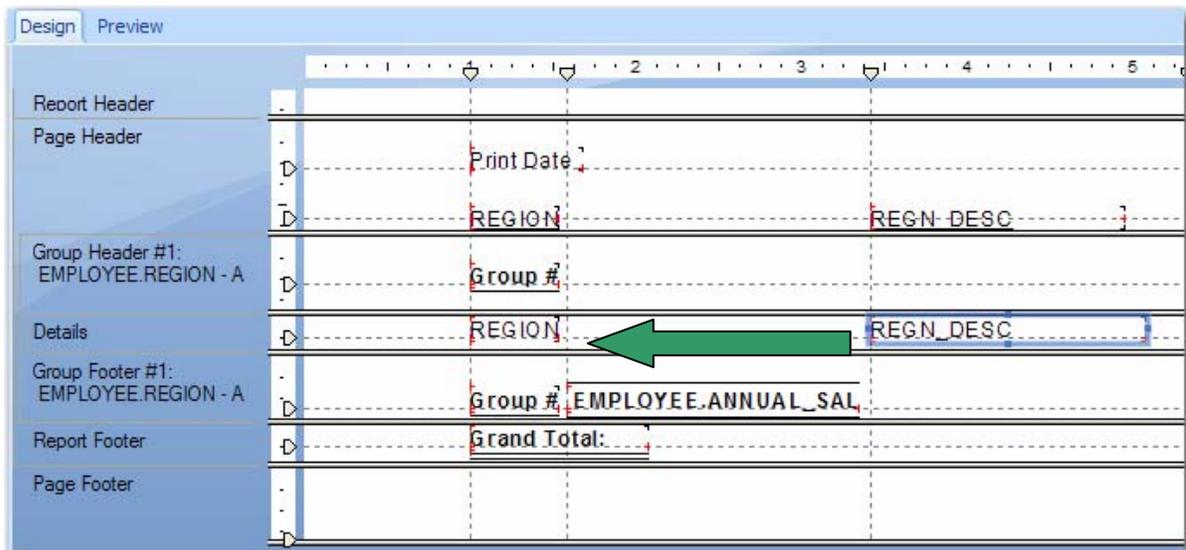
- Delete the **REGION** field from the Details Section (not the Field Title, which is in the Page Header section). What happens to the **Field Title**?
- Click the **Preview tab** to see how these changes affected the report.

If you change your mind after deleting a field, you can always click the **Undo**  button .

Cutting and pasting a field

You need to switch the vertical positions of the **NAME** field and heading with the **REGN_DESC** field and heading.

- Select **NAME** in the Details section and click on the **Cut**  icon. The field is cut and the heading is deleted.
- Select the **REGN_DESC** field (in the Group Header section) and slide it to the left.



- Both the heading and field will move together.
- Now click on the **Paste**  icon, and move your cursor back into the Design Window.
- You will see a rectangular object connected to your cursor. Place this in the Details section to the right of **REGN_DESC**, and click the left mouse button to anchor.

Copying a field

You can also copy an object from one point to another by using the **Copy**  icon and then the **Paste**  icon.

You can use the keyboard commands of **Control** plus the “C” key to copy or **Control** plus the “X” key to cut, and **Control** plus the “V” key to paste.

Stretching a field

The Region Description is cut off. You can fix that by stretching the object.

- Click on the field to show the frame. Notice the dark dots on each side.



- Put your cursor over the right-side dot until it turns into a double-sided arrow.
- Then stretch the field by holding the left mouse button down and pulling the arrow to the right.

Working with Text Objects

Everything in Crystal is an object. Every object has properties. Properties can be viewed and adjusted by right-clicking on an object. The data fields, the headings associated with the data fields, lines, boxes, charts, etc. are all considered objects. An object's properties can be activated or de-activated conditionally. Properties specify the way the object is formatted or displayed.

First you want to change some of the Field Headings inserted by the Wizard, because they look too much like field names from the database (which they are). You want them to look like proper headings.

- In the Design window double-click on the REGN_DESC heading in the Page Header section.

Because this is a text object, your cursor will be placed inside the object frame. Your cursor will become a flashing vertical line in front of the text in the frame. It may be difficult to see this, but hit the space bar a couple of times and you should see REGN_DESC move to the right. Now you can insert new text, delete some of the text, or type over the text in the object.

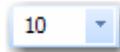
- Change REGN_DESC to REGION DESCRIPTION.
- Do not hit the Enter key. This will put another line into the text box. Click your mouse outside the text box to finish.
- Stretch the text box to show the whole heading.
- When you cut and pasted the **NAME** field, the NAME heading was deleted. Click on the Insert Text Object  icon. Use the cross-hairs to draw a text object over the **NAME** field.
- Type EMPLOYEE NAME in the text object box. Click outside the box to finish.
- Double click on **ANNUAL_SAL** heading and change it to ANNUAL SALARY.
- Resize the text box to see the whole heading.
- The heading over the **GENDER** field takes up more space than necessary for the field. This isn't a problem in a small report but could be in a bigger report. Shorten the GENDER heading to M/F.

Formatting Text Fields

Formatting a text field is the same as formatting text in MS Word or similar word processing applications. Use the icons on the Format toolbar to change the font, font size and attributes (bold, italics, underline):



Change the font (pick one)



Change the font size (pick one)



Increase (left) or decrease (right) the font size



Make a field **bold**, *Italic*, or underscore.



Align the content of an object within its object box: left, center, right, or justified, respectively. This does not change alignments between margins.

- Click on the **Preview tab** to preview the report again.

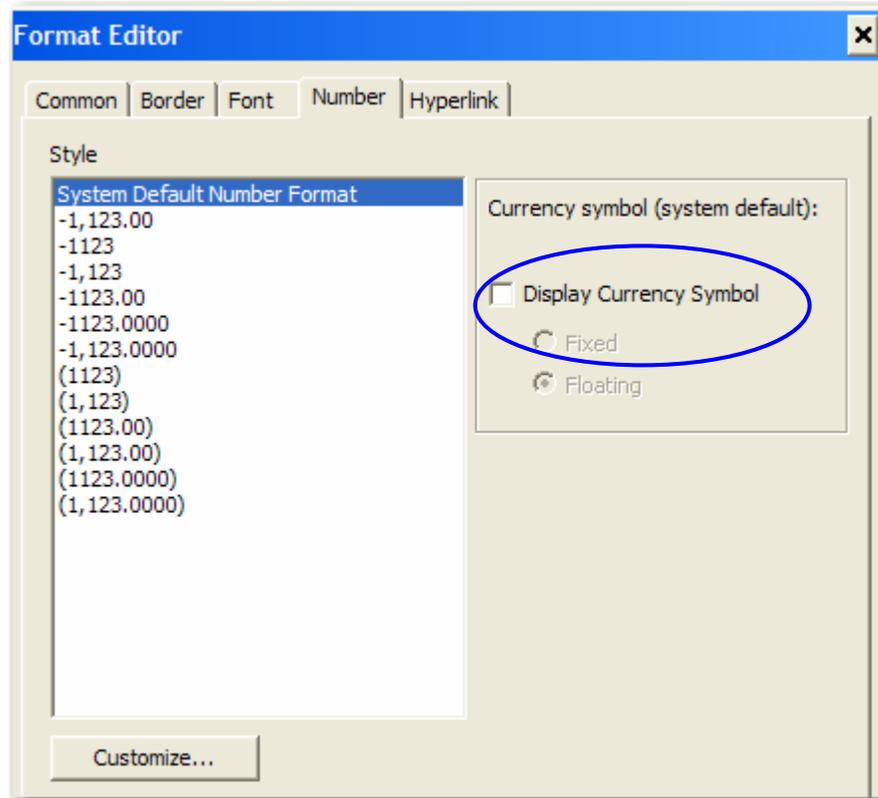
Do the Field Titles look OK? Do any of them need to be resized? Remember how to do that (stretch the dots on the object frame).

Formatting Number Fields

You need to add dollar signs to the Annual Salary field. You may also need to change the number of decimal places or add a comma separator for thousands.

- Click on the field you want to format. In this case **ANNUAL_SAL** in the Details section.
- Right click the mouse button and choose **Format Field** from the floating menu, **or**
- Select **Format | Format Field** from the Menu Bar, **or**
- Click on the **Format**  icon on the **Format Toolbar**.

You will get the Format Editor window shown below. The Number tab is displayed because you selected a numerical field.



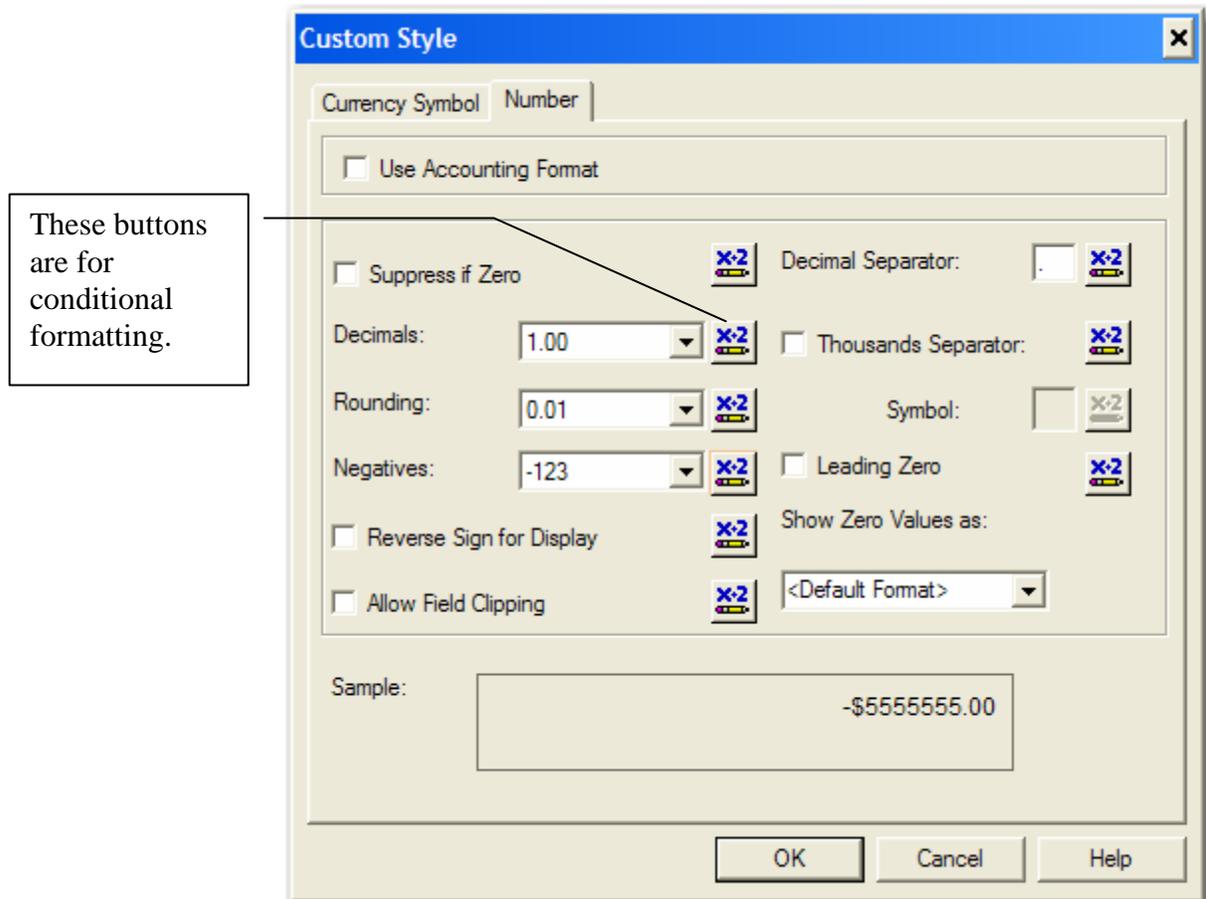
- Click on Display Currency Symbol checkbox.

When you do, you will get a choice of “Fixed” or “Floating.” Fixed puts the currency symbol, in our case a \$, in a fixed position at the far left of the number. Floating puts the \$ next to the first digit in the number. The Sample box at the bottom will show you the format.

- Change the Style in the window, and see how it changes the display in the Sample box.
- For even more customization, click the **Customize Button**.

Customize Numbers

You can customize your numbers by clicking on the Customize button. This opens the window shown below.



The table on the next page describes all the options in this window.

Number Formatting Properties

Number Property	What it does
Use Accounting Format	Displays a Negative Symbol as either a minus sign or brackets depending on Windows Regional Settings .
Suppress if Zero	Print nothing rather than the number zero. The field is still available for calculations.
Decimals	Sets the number of decimals (1 to 10) to be displayed. This is not the same as rounding.
Rounding	Formats the number of decimals to which the number will be rounded. This can be the same as or different from the number of decimals displayed.
Negatives	Controls the way that negative numbers will be displayed. The minus sign can be positioned before the number, after the number, or the number is enclosed in parentheses.
Reverse Sign for Display	Changes the sign for debit and credit amounts.
Allow Field Clipping	Determines the overflow display for the object. When checked, the value will cut off the extra digits of numbers too long to print within the field (example 1.11 for 1111.11). When unchecked, the value will be displayed as a string of pound (#) signs (example ### for 1111.11). If field size is too small for whole amount, either resize it or select Can Grow property on the Common tab.
Decimal Separator	The character used to indicate a decimal separator.
Thousands Separator	Determines whether the thousands separator should be displayed. The Symbol box is used to indicate the character used as the thousands separator.
Leading Zero	Uses leading zero for values under one, i.e., 0.45 vs. .45.
Show Zero Value As	Options are default, minus sign, or zero.

Global Settings

You can set these defaults globally, for all reports, by using **File | Options | Fields** from the Main Menu. Changing global settings will affect new objects in your report, but is not retroactive to existing objects. The Options Dialog box is described in detail in **Appendix B**.

Formatting Numbers from the Toolbar

Crystal 11 has formatting icons for numbers and currency on the toolbar, so you don't even have to open the Format Editor.



You can click on \$ to add the currency symbol, the comma to add the thousands separator, the % to add a percent sign, and increase or decrease decimals. When you are in the Design or Preview Window, you can select any numeric field and easily tell how it is formatted by seeing which icons are selected on the toolbar.



Tip from Databaseman:

Some programmers make fields numeric that shouldn't be, like phone numbers or zip codes. You don't want dollar signs, thousand separators, leading zeros, or decimal places in those. You can remove the currency formatting by using the toolbar icons.

Don't forget to format the Group Footer #1 Subtotal for **ANNUAL_SAL** and the Grand Total in the Report Footer. You also must move this field under the **ANNUAL SALARY** column.

Crystal Format Painter

The **Format Painter**  was a new feature and icon in Crystal 10.0. You can use it to copy the format from one field to others. You cannot copy formats from Text Objects to Database fields or visa versa. Try using the Format Painter on the Group Total, and Grand Total.

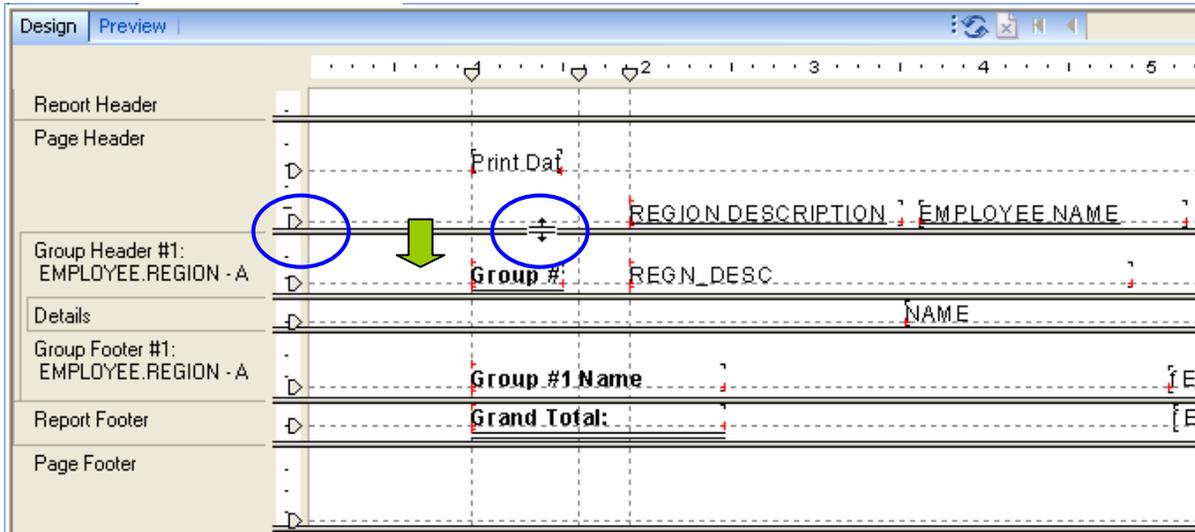
- Select the formatted **ANNUAL_SAL** field.
- Click the **Format Painter**  icon or select **Format | Format Painter**.
- Click on the **Sum of EMPLOYEE.ANNUAL_SAL** in the Group #1 Footer. The object will be formatted and the **Format Painter** will be deactivated.
- If you want to copy the format to both the Group #1 Total and the Grand Total, hold the ALT key until all objects are selected.
- To deactivate the Format Painter, click the icon or press ESC.
- Resize any fields if necessary.

- Move this field under the ANNUAL SALARY column.

Resizing Sections

You will be adding a Title for this report in the Page Header. You need to make the Page Header bigger. The thick gray lines separating sections can be pulled down to increase the size of each section.

- Place your cursor over the line dividing the Page Header from the Group Header #1. It will turn into a double arrow, as shown below.



- Hold the left mouse button down, and drag the section separator down about 1". What happens to the Field Titles?
- To move the Field Titles back to the separator bar and over the fields where they belong, grab the horizontal Guide Line arrow  and pull it down. This moves all the objects anchored (touching the red dots) to the guideline at once.

Adding a Text Box

You can use a Text Object as a Report Title. This does not change the name in the Title Bar, and does not require refreshing the report when you add or change the title.

- Click on the **Insert Text Object**  icon and move your cursor into the Page Header. Your cursor changes into cross-hairs.
- Draw the text box in the middle of the Page Header. Click the left mouse once to anchor the frame.
- Type the title, **Employees by Region**.
- Click outside the object frame. You are now out of text-editing mode.
- Select the object and change the attribute to **BOLD** and the font size to **16**.
- Resize the text object if necessary.

To center the text on the page:

- Resize the text object so that it is the same size as the page width (LEFT to RIGHT).
- Select the text object (if it is not already selected) and click on the **Center** icon . The text is centered in the object and the object is centered on the page.

or

- Place a vertical guideline by clicking on the ruler at the 4-inch mark. An arrowhead and a vertical guideline will appear.
- Select the text object title and click the Center Align icon .
- Drag the title object so that the vertical midline of the object snaps to your centered vertical guideline. It may take a bit of adjusting to place it exactly, but when you do your title will be centered between the margins.

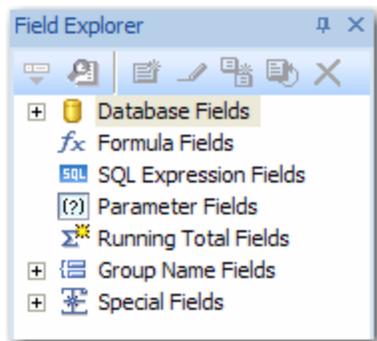
Special Fields

Crystal has special fields for Report Title, Page Numbers, Dates, etc. These are all listed under Special Fields in the Field Explorer.

The Field Explorer

- Click on the Field Explorer icon  in the Standard Toolbar, or in **View | Field Explorer** from the Main Menu.

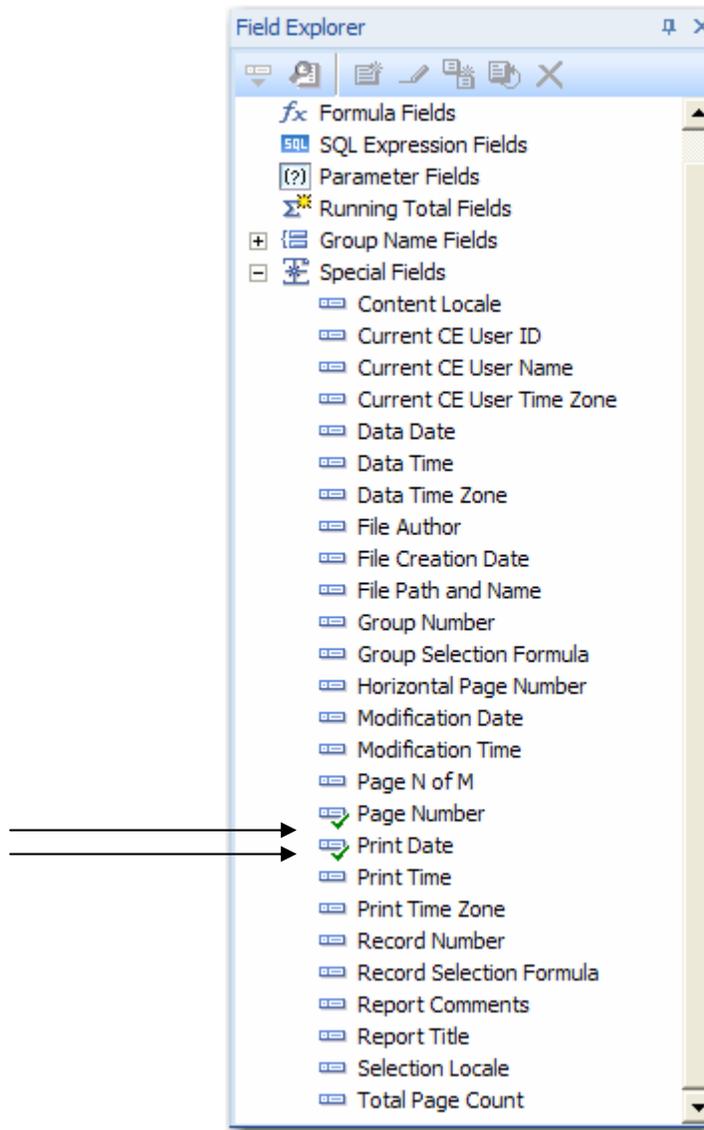
The Field Explorer may be anchored on the right or left of the Design Window or Preview Window. You can move it from one side to the other, or detach it as a floating window. The floating window can also be resized.



The Field Explorer contains all the fields in your report, in the Database Tables you selected for the Report, any Group, Formula, Running Total or Parameter fields you may have added to the report, and Special Fields provided by Crystal.

- Click on the + sign next to Special Fields

This displays all of the Special Fields Crystal provides for use in your reports.



Notice that Page Number and Print Date are checked. That's because the Standard Report Wizard automatically adds these fields.

Page N of M

If you have a report with more than one page, you might want to use Crystal's Special Page N of M field. This automatically calculates the total number of pages in your report, and displays the current page with the total number of pages, i.e. Page 1 of 16. However, if you have a large report this will slow down producing it.

- In the Field Explorer expand Special Fields (as shown on page 2-17).
- Drag the Special Field **Page N of M** to the upper right-hand corner of the Page Header.
- Delete the **Page Number** field from the Page Footer section.

File Path and Name



Tip from Databesman:

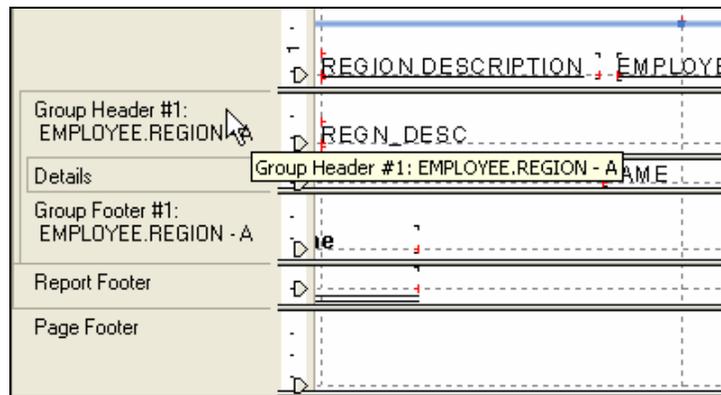
Crystal has a special field for File Path and Name. This is useful to have somewhere on the report for documentation.

- Drag the Special Field **File Path and Name** into the lower left of the Page Footer.
- Stretch the field to show the whole text.
- Click **Decrease Font Size**  icon, to make the text unobtrusive, but readable.
- Save your **Employees by Region.rpt** again. Use **File | Save** or click **Save**  icon.

Changing a Group's Options

When you scroll through the pages of your report, you will see a continuation of the group, REGION, from one page to the next, but you have to go back to the previous page to see which REGION it is. You can fix this by repeating the Group Header at the top of each page.

- In the Design window put your cursor into the Group #1 Section as shown below.



- Right click and select Change Group from the popup menu.

You will get the window shown below. Earlier versions of Crystal used one dialog box, while Crystal 9 through 11 put Options on a second tab.

Select order for group:

- Ascending – A to Z, 0 to 9.
- Descending – reverse order.
- Original – order used in database.
- Specified – you set the order.

Change Group Options

Common
Options

When the report is printed, the records will be sorted and grouped by:

CRSR EMPLOYEE.REGION

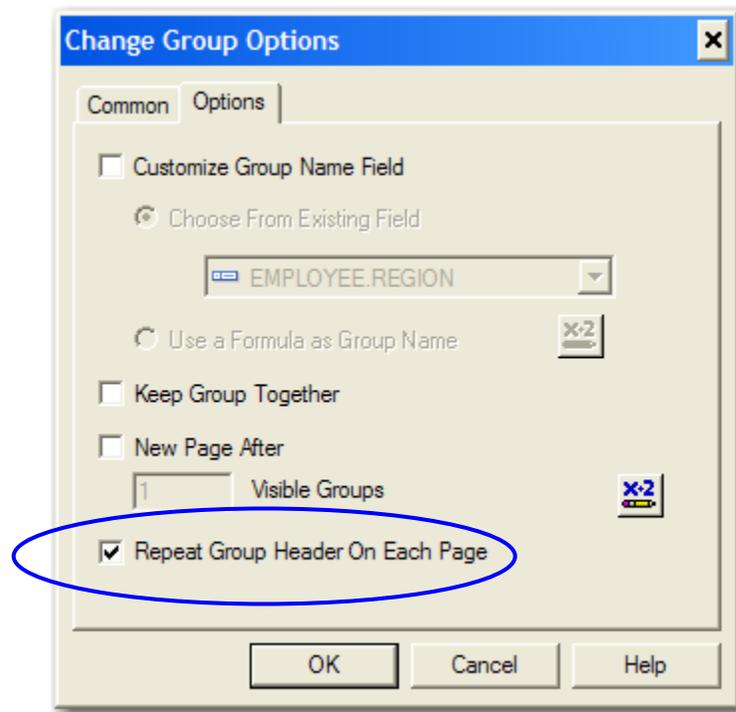
CRSR in ascending order.

Use a Formula as Group Sort Order X2

The section will be printed on any change of:
EMPLOYEE.REGION

OK
Cancel
Help

- Click on the **Options tab** to go to the next window.



- Check **Repeat Group Header on Each Page** and click **OK**.

Keep Group Together will print the group header, details and the group footer sections on the current page or on the next page. This can result in less data on each page, more pages in your report, and even blank pages.

Customize Group Name Field allows you to create a different name for the Group field.

- View report again in **Preview tab**.
- Use the VCR arrows to scroll through each page. The Group Header now appears at the top of each page.

Inserting a Field into a Text Object

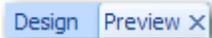
There's only one last thing to fix on this report and it will be ready to print and deliver. The subtotals in the Group Footer are not very clear.

Nelson, Claire L.	F	18,769.64
Noffill, Ruth B.	F	42,390.96
Wessens, Dorothy	F	15,400.04
Derocha, Ray	M	53,411.96
Revlon, Michael J.	M	77,708.00
Derocha, Harold M.	M	15,400.04
		464,361.68

1

All that's there now is the Group Name, which is the Region Number. This doesn't look very good. To fix this you can insert the Group Name into a descriptive Text Object.

- Go back to the Design Window by clicking on the **Design Tab**



- Click on the **Insert Text Object**  icon and place your cursor in a blank part of the Group Footer.
- Draw a text box and click to anchor.

The box is now in text editing mode, and an insertion bar blinks inside the box. Also, the Format toolbar that was inactive before you positioned the box is now active.

- Type in **Total Salaries for Region** Leave two spaces after the word Region. Click outside the object frame to finish your entry (do not press Enter).

Pressing **Enter** while you are inside a text box adds a new line (like pressing the return key in a Word document).

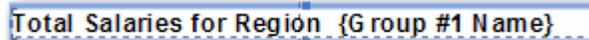
You may have to stretch the object frame to show all the words.

Format the text to match the Group Name format. (Hint: Click on Group Name field and you will see how it is formatted by the settings in the Format Toolbar.) You cannot format numeric fields with dollar signs or decimals once they are embedded in a text object.

You cannot use the **Format Painter** to copy the Group Name format to the Text Object, because they are different types.

Click on the Group Name field in the Group Footer, hold down the left mouse button, drag the field into the Text Object and release the mouse button.

When you insert the Group Name field correctly, you will see the flashing insertion bar in the text object two spaces from the text. When you release the mouse button, your result should look like this:



Total Salaries for Region {G roup #1 Name}

If you accidentally insert a field into a text object, you must immediately undo  it. The only other way to remove a field from a text object is to delete or cut  it.

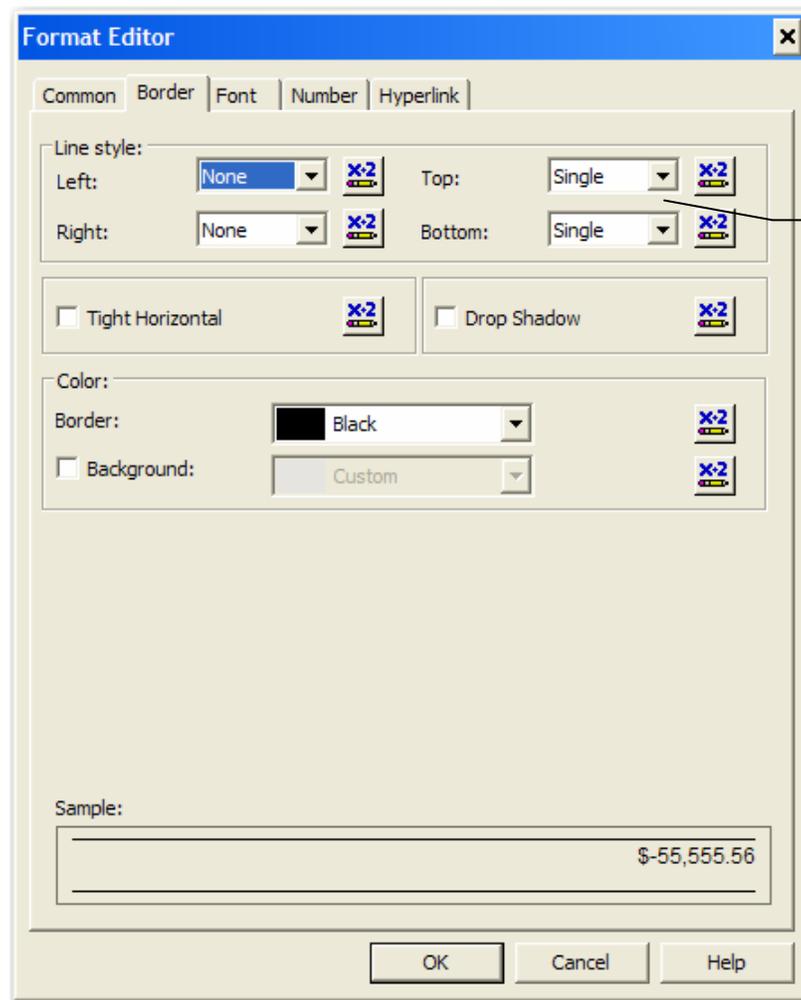
- Preview the report again and see how this looks in the Group Footer.
- Save your report again. Use **File | Save** or Click **Save**  icon.

Formatting Borders Around Objects

The subtotals in the report originally had lines on top and bottom. This format is used by default in the Standard Report Wizard. If you used the Format Painter to format the Regional totals to match the Annual Salary format, these lines were removed. These were top and bottom borders. You can add, remove, or change borders around objects in the Format Editor.

Wessens, Dorothy	F	15,400.04
Derocha, Ray	M	53,411.96
Revlon, Michael J.	M	77,708.00
Derocha, Harold M.	M	15,400.04
Total Salaries for Region 1		464,361.68

- Click on the **Sum of EMPLOYEE.ANNUAL_SAL** field (if the borders are still there, use the **Total Salaries for Region** text box).
- Right click the mouse button and choose **Format Field** from the floating menu, or
- Select **Format | Format Field** from the Menu Bar, or
- Click on the **Format**  icon on the **Format Toolbar**.
- The Formula Editor will open on the Common Tab. Click on the **Border Tab**. The Border dialog box is described in detail in **Appendix B**.



Use pull down list to select line format for border.

- Select **Single** line for top and bottom borders.
- Click **OK**.
- **Save** your report again.

You can also select top and bottom borders from the **Outside Borders**  icon on the Format Toolbar, but the Format Editor gives you more choices.

Crystal will keep the report in memory until you close the report, either by selecting **File | Close** from the Main Menu or clicking the **X** in the upper right corner of the report window. If you close your report without saving changes, you will be prompted to save it first.

EXTRA WORKSHOP 02A – DESIGN WINDOW

SETUP:

Willy Loman is interested in the sales figures for the newly acquired company. He needs 50 copies of the report for the Board of Directors meeting starting tomorrow at 7:00 AM.

This workshop uses the XTREME database, provided by Crystal. Your instructor will help you find it.

NOTES/HINTS:

Open	Crystal Standard Report Wizard.
Connect	The CUSTOMER table.
Group by	REGION.
Create Group and Grand Totals	For LAST YEAR'S SALES field.
Center	Each title using both centering methods.
Right Align	All dollar values and corresponding field heading.
Insert	Dollar signs only on group totals.
Format	Totals to eliminate top and bottom lines.
Insert	Special Fields where appropriate.
Change Group	Keep groups together.
Save as	WS_02 CUSTOMER SALES.RPT

FINISHED REPORT:

XTREME MOUNTAIN BIKES CUSTOMER LAST YEAR'S SALES		
DATE: 6/16/2005		Page 1 of 20
<u>Region</u>	<u>Customer Name</u>	<u>Last Year's Sales</u>
<u>Abu Dhabi</u>	UAE Cycle	95,900.85
Total Sales for Abu Dhabi		\$95,900.85
<u>AL</u>	The Great Bike Shop	15,218.09
	Benny - The Spokes Person	6,091.96
	Psycho-Cycle	52,809.11
Total Sales for AL		\$74,119.16
<u>Alsace</u>	Sports Alsace	52,787.50
	Mulhouse Vélos	5,359.70
Total Sales for Alsace		\$58,147.20

Top of first page

DATE: 6/16/2005		Page 20 of 20
<u>Region</u>	<u>Customer Name</u>	<u>Last Year's Sales</u>
<u>WI</u>	Pedals Inc.	5,000.00
	Blazing Saddles	42,709.86
	Trail Blazer's Place	123,658.46
	Rough Terrain	37,488.75
Total Sales for WI		\$208,857.07
<u>WW</u>	Two Wheelin'	556.35
Total Sales for WW		\$556.35
<u>Grand Total:</u>		<u>\$9,076,755.40</u>
Data Date & Time: 6/16/2005 10:08:02AM		

Bottom of last page

This page is for your notes.