Chapter 1

Report Formatting and Appearance

New Art Needed

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Crystal Reports, being a Windows-based report writer, provides all the tools you need for creating presentation-quality reports. While you may think you need to use a word processor or a desktop publishing tool to get real presentation quality output, you can often get exactly what you need with Crystal Reports directly. This chapter shows you how to make innovative use of some of Crystal Reports' formatting options.

Create a Watermark

A *watermark* is a graphical or textual element that is placed behind the rest of your report. Examples of useful watermarks are your company logo, the word "Draft," or other items that you may want to appear right behind the rest of the elements of your report.

III 1-1

AZ			
Bicycle Races	Mr. Seth Smithers	Tempe	$659.70
Biking and Hiking	Mr. Ukariah Jonstone	Phoenix	$65.70
CA			
Changing Gears	Mr. David Baker	Irvine	$26,705.65
Rowdy Rims Company	Dr. Anthony Shoemaker	Newbury Park	$30,131.46
Off the Mountaing Biking	Ms. Laurie Lee-Johnson	Irvine	$25,000.00
Sporting Wheels Inc.	Mr. Patrick Reyess	San Diego	$85,642.56
Tyred Out	Mr. Donald Edwards	Santa Ana	$18,126.33
Bike Shop from Mars	Mr. John MacCloud	Newbury Park	$25,873.25
CO			
Fred's Bikes	Mr. Fred Danforth	Denver	$7,874.25
CT			
Phil's Bikes	Mr. Phil Pranklyn	Concord	$27.00
DC			
Colin's Bikes	Mr. Colin White	Washington	$40.50
DE			
Barry's Bikes	Mr. Barry Wilcox	Dover	$33.90
FL			
Wheels and Stuff	Mr. Dan Simpson	Clearwater	$25,556.11
Extreme Cycling	Mr. Zach Fabro	Clearwater	$69,819.10
GA			
Tony's Better Bikes	Mr. Anthony Weatherhead	Atlanta	$2,735.25

Watermark.rpt from CrystalBook.com

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1. Open the report you wish to add the watermark to. Ensure that the Design tab is selected.

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2. Position your mouse over the gray Page Header section name. Right-click.

3. Choose Insert Section Below from the pop-up menu. This will insert a second page header section (you'll now see Page Header a and Page Header b).

4. Insert the graphic or text you want to appear behind the rest of the report into Page Header b (it's helpful if the graphic has been lightened with a graphic editing program, or if the text is formatted with a light shade of font color).

5. If you want the watermark to appear more toward the vertical center of the page, make Page Header b taller and move the graphic or text farther down in the section.

6. If you want to repeat the watermark more than once on a page, insert it into Page Header b several times, or copy and paste the original item several times in Page Header b.

7. Position your mouse over the gray Page Header b section name. Right-click.

8. Choose Format Section from the pop-up menu in Crystal Reports 8.5, or Section Expert from the pop-up menu in Crystal Reports 9. This will display the Section Expert.

9. Choose the Underlay Following Sections check box for Page Header b in the Section Expert. Click OK to close the Section Expert.

10. If you wish to underlay items in the existing Page Header a section (field titles, the report title, and so forth), swap Page Header b and Page Header a by holding your mouse button down on either gray page header section name. When the mouse cursor changes to the hand icon, drag and drop the page header on top of the other page header. The sections will swap.

Change Graphics According to a Condition

Crystal Reports features the capability to format report objects (database fields, formulas, text objects, and so forth) *conditionally,* depending on the contents of a field, formula, or other condition. However, you may wish to actually insert several different graphic or picture files on your report and display them only when a certain condition occurs.

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III 1-2
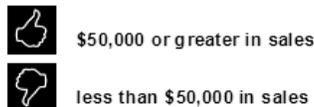
ame	Contact	City	Last Year's Sales	
	Mr. Jerry Esler	Tualatin	$41,954.72	👎
ntals	Mr. Will Castillo	Tualatin	$68,000.00	👍
	Miss Elizabeth Kawa	Philadelphia	$301,568.22	👍
ansportation Co.	Mr. Bill Carter	Conshohocken	$23,789.25	👎
Cycle Shop	Mr. Joe Lee	Philadelphia	$25,162.05	👎

DOWNLOAD *Conditional Graphics.rpt from CrystalBook.com*

1. Open or create the report that you wish to add multiple conditional graphics to.

2. Add as many graphics to the report as are required. For example, if you want to display "thumbs up" and "thumbs down" graphics, add both graphic files to the report.

3. Place the graphics side by side, so that you may select each graphic individually.

4. Select the first graphic by clicking on it. Right-click. From the pop-up menu, select Format Graphic. The Format Editor will appear.

5. Select the Common tab. Next to the Suppress check box, click the Conditional Formula button. The Format Formula Editor will appear.

6. Add a Boolean formula to conditionally suppress the graphic. For example, to suppress the graphic if Last Year's Sales is less than $50,000, enter a formula similar to this:

```
{Customer.Last Year's Sales} < 50000
```

7. Click the Save button to close the Format Formula Editor. Click OK to close the Format Editor.

8. Repeat steps 4–7 for the remaining graphics, using "mutually exclusive" condition formulas, so that only one graphic at a time will display. For example, to suppress another graphic if Last Year's Sales is greater than or equal to $50,000, enter a formula similar to this:

```
{Customer.Last Year's Sales} >= 50000
```

9. Select each graphic and place it on top of the others, so that all graphics are placed in the same position. Because of the "mutually exclusive" conditional formatting, only one will appear at a time when the report is displayed.

Use WingDings and Other Symbol Fonts

By default, Crystal Reports uses a particular font face and size for report objects. While you can change the default font choices in the File | Options dialog box, you can also choose font face and size for individual report objects. You are not limited to standard letter-oriented fonts—you may choose symbol fonts such as Wingdings and Webdings as easily as you can choose letter-oriented fonts.

☺ $50,000 or greater in sales

☹ less than $50,000 in sales

Name	Contact	City	Last Year's Sales	
s	Mr. Jerry Esler	Tualatin	$41,954.72	☹
Rentals	Mr. Will Castillo	Tualatin	$68,000.00	☺
	Miss Elizabeth Kawa	Philadelphia	$301,568.22	☺
Transportation Co.	Mr. Bill Carter	Conshohocken	$23,789.25	☹
l Cycle Shop	Mr. Joe Lee	Philadelphia	$25,162.05	☹

Symbol Fonts.rpt from CrystalBook.com

DOWNLOAD

1. Add a database field, text object, formula, or other textual element that you wish to display as a symbol to the report.

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2. Ensure that the object returns a character value that will "map" to the proper symbol. For example, to display a smile or frown with the Wingdings font, you might create a formula similar to this:

```
If {Customer.Last Year's Sales} < 50000 Then
     "L"
Else
     "J"
```

3. Select the object you wish to format with a symbol font.

4. Either using the Formatting toolbar or the Format Editor, select the symbol font (such as Wingdings or Webdings) that you'd like to use.

> **TIP** *To determine what the proper character value is for the desired symbol, make use of the Windows Character Map. You may choose the symbol font and character you'd like to use and copy the character to the clipboard. Then, when you paste the character into a Crystal Reports formula or text object, the proper symbol will appear when you format the object with the symbol font. The Character Map is available from the System Tools submenu of the Accessories menu from the Start button Programs list.*

III 1-4
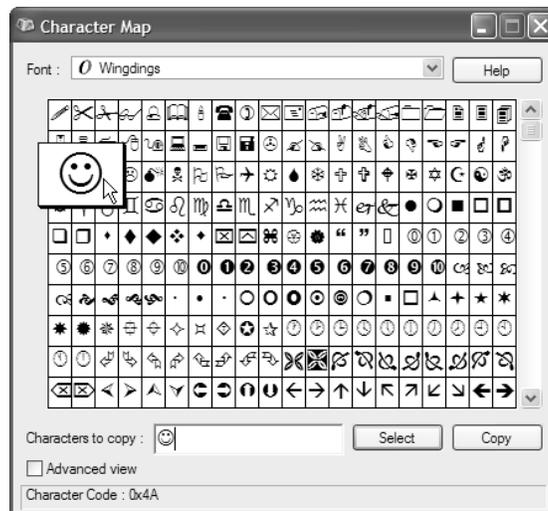
Print Bar Codes

Crystal Reports opens up a wealth of possibilities for inventory, sales, and manufacturing reporting. A common requirement is printing bar codes for labeling, mailing, manufacturing, tracking, or a multitude of similar applications.

III 1-5

Bar Code.rpt from CrystalBook.com

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1. Add the object (database field, formula, and so forth) that you wish to display as a bar code to your report.

2. If necessary, create a formula using the StringToCode39, StringToPostnet, NumberToCode39 or NumberToPostnet functions from the Additional Functions category of the Formula Editor. These functions are provided by the U2LBAR.DLL User Function Library (available for download from support.crystaldecisions.com).

3. Using the Formatting toolbar or the Format Editor, format the object using the proper bar code font face and size.

NOTE   *You'll need to obtain and install your own bar code fonts. Crystal Reports doesn't include any bar code fonts with the product.*

Eliminate Blank Address Lines

Crystal Reports is often used for form letters, envelopes, or other mailing applications. In many cases, there is a need to eliminate blank address or "suite number" lines in an address for certain addresses. This can be accomplished in two ways: by

Eliminate Blank Address Lines

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embedding multiple address lines in a *text object,* or by using *multiple report sections*.

The text object method, while simpler in approach, will not automatically adjust vertical placement of objects that follow on the report. For example, if the address contains four lines in one form letter and three lines in the next, the remainder of the form letter below the text object will not move up or down automatically depending on the vertical size of the text object. For situations that require automatic vertical adjustment of text that follows the address, you'll need to use multiple report sections.

III 1-6

```
March 6, 2003

Rowdy Rims Company
Dr. Anthony Shoemaker, Sales Agent
4861 Second Road
Newbury Park, CA  91341


Dear Dr. Shoemaker,

Thanks for purchasing $30,131.46 in merchandise last year.
--------------------------------------------------------------
March 6, 2003

Rowdy Rims Company
Dr. Anthony Shoemaker, Sales Agent
4861 Second Road
Newbury Park, CA  91341

Dear Dr. Shoemaker,

Thanks for purchasing $30,131.46 in merchandise last year.
```

DOWNLOAD *No Blank Address Lines.rpt from CrystalBook.com*

Text Object

To eliminate blank lines using a text object, follow these steps:

1. Add a text object to your report. You will combine several database fields inside this text object.

2. Display the Field Explorer. Drag desired fields into the text object, separating database field with necessary characters, such as commas and spaces. In particular, drag the first address line (that might contain the street number) into the text object. Press ENTER to add a carriage return. Then, drag the

second address line that will not always contain data (this might contain the suite number) into the text object. Press ENTER again. Then, drag in City, State, and Zip Code.

3. End editing by clicking anywhere outside the text object.

4. Select the text object you just created. Right-click and choose Format Text from the pop-up menu. The Format Editor will appear.

5. On the Common tab, click the Suppress Embedded Field Blank Lines options. This will suppress any lines in the text object that contain no data.

Multiple Report Sections

To eliminate blank lines using multiple report sections, follow these steps:

1. Add fields up to and including the first address line into an existing report section.

2. Reduce the vertical size of the existing section so that its bottom border is even with the bottom of the first address line. If you choose, you may right-click the existing gray section name and choose Fit Section from the pop-up menu.

3. Insert an additional section (such as Details b) below the existing section. Right-click the gray section name of the existing section. From the pop-up menu, choose Insert Section Below. An additional section (such as Details b) will appear.

4. Place the second address line that will not always contain data (this might contain the suite number) into the new section. Reduce the vertical size of the second section so that its bottom border is even with the second address line.

5. Insert a third section using the same right-click, Insert Section Below sequence. A third section (such as Details c) will appear.

6. Add the remainder of the fields, such as City, State, and Zip Code into the third section.

7. Right-click the gray section name of the second section containing the second address field. Choose Format Section from the pop-up menu in Crystal Reports 8.5 or Section Expert from the pop-up menu in Crystal Reports 9. The Section Expert will appear.

Eliminate Blank Address Lines

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8. Choose the Suppress Blank Section option for the section containing the second address line. Click OK to close the Section Expert.

9. When the report displays, the section containing the second address line will be suppressed if the address field is empty. The remainder of the material on the report will "flow up" vertically, with no extra vertical space left over.

Print Page Continuation Messages

Although Crystal Reports features the Repeat Group Header On Each Page option to display a group header at the top of each page where the group appears, there's no built-in capability to print a similar message at the bottom of the page. Also, if your report is just sorted and not grouped, the Repeat Group Header On Each Page option is not available.

By creating simple formulas, you may indicate if the field that a report is sorted or grouped on continues on the next page or is continued from the previous page. The formulas use the Next and Previous functions to determine if the database value on the next or previous record is the same as the current record.

III 1-7

2,933	1,505.96	4/17/1998 12:00:00AM	4/21/1998 12:00:00AM	Loomis
1,727	18.00	6/17/1997 12:00:00AM	6/19/1997 12:00:00AM	Loomis
2,141	845.55	9/25/1997 12:00:00AM	10/2/1997 12:00:00AM	Loomis
1,549	83.80	4/20/1997 12:00:00AM	4/30/1997 12:00:00AM	Parcel Post
1,176	101.70	1/15/1997 12:00:00AM	1/15/1997 12:00:00AM	FedEx
2,819	64.84	3/14/1998 12:00:00AM	3/14/1998 12:00:00AM	Purolator
2,394	1,619.55	11/21/1997 12:00:00AM	11/25/1997 12:00:00AM	Loomis
1,010	14,872.30	12/3/1996 12:00:00AM	12/3/1996 12:00:00AM	UPS

Dag City Cycle
3,144	863.74	6/20/1997 12:00:00AM	6/21/1997 12:00:00AM	Parcel Post

Deals on Wheels
1,738	1,030.08	6/19/1997 12:00:00AM	6/28/1997 12:00:00AM	Pickup
2,099	59.70	9/14/1997 12:00:00AM	9/14/1997 12:00:00AM	Pickup
1,002	5,060.28	12/2/1996 12:00:00AM	12/2/1996 12:00:00AM	Pickup
2,841	659.70	3/21/1998 12:00:00AM	3/23/1998 12:00:00AM	Purolator
1,469	587.65	3/30/1997 12:00:00AM	4/2/1997 12:00:00AM	Pickup
1,438	3,065.55	3/20/1997 12:00:00AM	3/22/1997 12:00:00AM	Parcel Post
2,321	1,084.48	11/3/1997 12:00:00AM	11/6/1997 12:00:00AM	UPS
2,387	16.50	11/19/1997 12:00:00AM	11/19/1997 12:00:00AM	Parcel Post
2,459	43.50	12/7/1997 12:00:00AM	12/11/1997 12:00:00AM	Loomis
2,026	43.50	8/26/1997 12:00:00AM	8/28/1997 12:00:00AM	Parcel Post
2,566	40.50	1/4/1998 12:00:00AM	1/14/1998 12:00:00AM	Purolator

Deals on Wheels continues on next page

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DOWNLOAD   *Next Page Previous Page Message.rpt from CrystalBook.com*

1. Ensure that the report you wish to add a "continues on next page" or "continued from previous page" to is sorted or grouped by the desired field.

2. To display a "continues on next page" message, create a formula similar to this:

```
If {Customer.Customer Name} = Next({Customer.Customer Name}) Then
    {Customer.Customer Name} & " continues on next page"
```

3. Place the formula in the page footer of the report.

4. To display a "continued from previous page" message, create a formula similar to this:

```
If {Customer.Customer Name} = Previous({Customer.Customer Name}) Then
    {Customer.Customer Name} & " continued from previous page"
```

5. Place the formula in the page header of the report.

CAUTION   *If you use these techniques with a report containing groups and group summaries, you may occasionally find a "widow" or "orphan" situation where this technique will not work properly. For example, if a group's last details section appears at the bottom of a page and the associated group footer appears at the top of the next page, the "continues on next page" message won't appear. This is because the Next function will determine that a mismatched record appears as the first record on the next page. Should this occur, you may see improved results by using the Keep Group Together option when creating the group. Or, you may develop a set of more sophisticated formulas using variables that determine if a group has changed when a new page appears.*

Shade Every Other Report Line

Although most companies have replaced mainframe "green-bar" or "blue-bar" reports with laser-printed output, there's still a benefit to shaded sections when heavy textual information is being viewed. Shading lines in alternate colors or shades makes it easier for the eye to follow the line across the page. Crystal Reports enables this technique to be easily used for reports that may be printed on paper or viewed online.

Shade Every Other Report Line

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By using the Mod function (which performs *modulus arithmetic*—returning the remainder of a division operation instead of the quotient), combined with the RecordNumber function (which simply numbers each report record sequentially), you may produce creative banded reports.

III 1-8

Customer Name	City	Region	Country
7 Bikes For 7 Brothers	Las Vegas	NV	USA
Against The Wind Bikes	Rome	NY	USA
AIC Childrens	Hong Kong	Hong Kong	China
Alley Cat Cycles	Concord	MA	USA
Ankara Bicycle Company	Ankara	Ankara	Turkey
Arsenault et Maurier	Clermont-Ferrand	Auvergne	France
Aruba Sport	Oranjestad	St. George	Aruba
Athens Bicycle Co.	Athens	Evia Evvoia	Greece
Auvergne Bicross	Vichy	Auvergne	France
Backpedal Cycle Shop	Philadelphia	PA	USA

Customer Listing

DOWNLOAD   *Banded Shading.rpt from CrystalBook.com*

1. Point to the gray Details section name in the Design tab, or the gray D section name in the Preview tab. Right-click.

2. Choose Format Section from the pop-up menu in Crystal Reports 8.5 or Section Expert from the pop-up menu in Crystal Reports 9. The Section Expert will appear.

3. Ensure that the Details section is selected in the Section Expert. Click the Color tab.

4. Click the Conditional Formatting button. The Format Formula Editor will appear.

5. Enter a formula similar to the following (you may change the formatting color to your desired color):

```
If RecordNumber Mod 2 = 0 Then crSilver Else crNoColor
```

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6. You may alter the frequency of the banding if you desire. For example, to shade every two lines, you can modify the formula as follows:

```
If RecordNumber Mod 4 In 1 To 2 Then crSilver Else crNoColor
```

TIP *Use of the crNoColor color constant instead of crWhite will show the alternating report sections with a certain degree of transparency. This may be helpful for certain reporting situations where you wish background information (such as a watermark) to appear behind the sections.*

Choose from Thousands of Colors

As with most Windows-oriented design tools, Crystal Reports allows very flexible choices of colors when formatting report objects and report sections. By using the Format Editor or Section Expert, you may choose from a standard set of colors, such as red, green, blue, and cyan. However, most recently acquired video and printing hardware support a much broader set of color choices. Crystal Reports allows you to choose from a much larger set of colors, such as pastels and subtle shades, as well.

DOWNLOAD *Thousands Of Colors.rpt from CrystalBook.com*

1. Select the object you wish to format with a unique color.

2. Using the Format Editor (from pull-down or pop-up menus, or the toolbar button), choose the color property you want to set. You may choose any color property, such as a font color, background color, or border color.

3. Choose Custom from the color choice list in Crystal Reports 8.5, or More from the color choice list in Crystal Reports 9. The Windows Color dialog box will appear.

Choose from Thousands of Colors

III 1-9
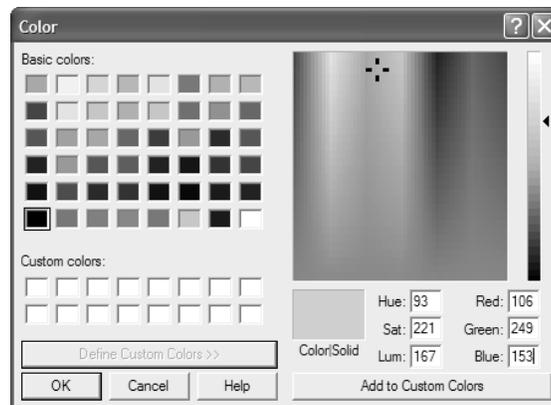
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4. Choose from the expanded set of basic colors, or click the Define Custom Colors button to choose from a broad array of available colors. (The color dialog box is already expanded to show the broad array of colors in Crystal Reports 9.)

5. If you want to use a custom color in conditional formatting, choose the color you wish to use in the Custom Color dialog box. Make note of the Red, Green, and Blue numeric values for your custom color.

6. Click OK to close the Color dialog box. The color you chose will appear in the Format Editor. Click OK to close the Format Editor.

7. If you wish to apply the custom color conditionally, use the Red, Green, and Blue values you noted earlier with the Color function in the conditional formula, as in the following example:

```
If RecordNumber Mod 4 In 1 to 2 Then Color (106,249,153) Else crNoColor
```