

Crystal Reports 8.5 Quick Start Workshop

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This course covers Crystal Reports software

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Introduction

Introduction Objectives

This manual is written to give you a step-by-step guide for your classroom training and a handy reference for your daily work. In this Introduction, you will learn how to use this training guide effectively. This section covers the following topics:

- An introduction to the Crystal Reports application
- Class objectives
- Help with using this training guide
- Information on how to start the program

About Crystal Reports

In today's information intensive environment, every business has a database of some sort. After all, business today is all about information and databases give you a handle on the massive amounts of information you must deal with. Therefore, your business has a database and from that database, you need reports. The problem is, most reporting capabilities that come with database programs are limited. They only report on data from that program. Many users need to report on data from multiple sources, even databases that are in SQL (Structured Query Language), such as Oracle, Microsoft SQL Server, Informix or Sybase.

Crystal Reports is one of the most powerful reporting programs available with the ability to pull data from all types of data sources. You can use Crystal Reports to generate reports from any of the standard PC database programs, Access, Paradox, or FoxPro, as well as from a mainframe or server database. Crystal also has a powerful web-reporting server that allows you to distribute your reports over the web.

Crystal Reports is bundled with more than 160 other programs including Visual Basic, some medical applications and several accounting packages. It makes report generation easy without requiring you to be a programmer or a database expert. If you know how to work in Windows 98 and are familiar with the data you want to use, you can create a Crystal Report that looks professional and makes sense.

Training Philosophy

Studies show that people retain 10% of information they see, 20% of information they hear, 50% of what they see and hear, and 80% of what they see, hear and do. In line with this, this class utilizes a hands-on method of training. You will see the effects of new procedures on the screen, hear the instructor explain how and why to use features, and perform the actions yourself as you learn.

In addition, this class focuses on your ability to perform tasks using the most productive techniques. The manual may contain several methods of accomplishing a certain task. However, class time does not allow for practice of all methods for each task. Your instructor will guide you in the most effective method of performing a task, but inform you of other methods that are available.

Questions are encouraged. While we give our best effort to explain new concepts in understandable terms, you may need to hear the concept again or have it explained more thoroughly. Please let the instructor know when you need more information!

Class Objectives


This class is a performance based instructional system. It is geared to provide you with the tools you need to build and distribute reports the quickest, most efficient way. After completing this course, you will be able to perform the following tasks:

- Plan and organize a report
- Create a new report
- Save and preview a report
- Navigate through the report
- Format and edit report objects
- Use a report style for formatting
- Add text objects to reports
- Add lines, boxes, and graphics images to reports
- Select specific data from a database
- Group, sort and summarize reports
- Use a Report Expert to create a report
- Set default options for the Crystal Reports program
- Create reports that pull data from multiple tables
- Use the Formula Editor to perform number calculations
- Create formulas that manipulate dates
- Modify string fields using powerful text functions.
- Conditionally format numbers with the Highlighting Expert
- Format sections on the report
- Use formulas to conditionally format any type of field
- Create summary reports for efficient analysis of data
- Add charts and customize how they look
- Distribute reports throughout your organization with Crystal's export feature
- Create geographical maps for charting
- Set up an ODBC connection to your database

About This Manual

Each section of this manual contains objectives to provide you with the overall goals for the lesson. Lessons have descriptions of features and concepts followed by systematic directions for completing a specific task. Each section ends with a challenge exercise to help you practice the skills you learned in the lesson. Challenge exercises provide you with tasks to accomplish. Try to complete these exercises on your own.

As you work in this Training Guide, certain conventions are used to identify specific procedures. Use the following table as a guide:

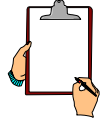
TRAINING GUIDE CONVENTIONS	
Item	Illustrated As
Menu Commands	Underlined letters for accessing menu commands are shown: Example: <u>F</u> ile/ <u>O</u> pen
Command Buttons	Command Buttons in dialog boxes are shown as buttons: Example: <input type="button" value="Tables..."/>
Categories, Radio Buttons, Text Boxes, Check Boxes	All options within dialog boxes are listed in italicized text: Example: the <i>Keep Group Together</i> check box the <i>Other</i> radio button
Keystrokes	Keyboard keys are indicated by uppercase text: Example: press ENTER Keyboard combinations are shown in uppercase text with a plus sign (+) between the keys that need to be pressed simultaneously. Example: press CTRL + S to save
Toolbar Buttons	Toolbar buttons are indicated by the button name and a graphic image of the button: Example: click the Print  button
Typing or File Selections	Text to be typed or file names to be selected are printed in bold letters: Example: type Henry select grouping.rpt
Exercises	Step-by-Step exercises in the text are indicated by bold text and the ❖ symbol. For example: ❖ Exercise - Format Objects

Tips, Notes, and Warnings

Tips, notes and warnings display with the following icons. Text for these additional comments display in bold and italics.



This icon indicates a tip or shortcut.



This icon points out a note of additional information.



This icon calls attention to a warning or very important note.

Getting Technical Support

You can also get technical support through the Vision Harvest, Inc. support forum. Go to the Vision Harvest, Inc. website, www.visionharvest.com then click on **Support**. Here you can post questions, view other's questions and answers, attach reports and benefit from the expertise of our technical reporting professionals. It is fast and easy, and a great resource for information on the Crystal Decisions Crystal Reports and Crystal Decisions Info applications.



Section 1:

Basic Reporting

Lesson 1: Before You Begin

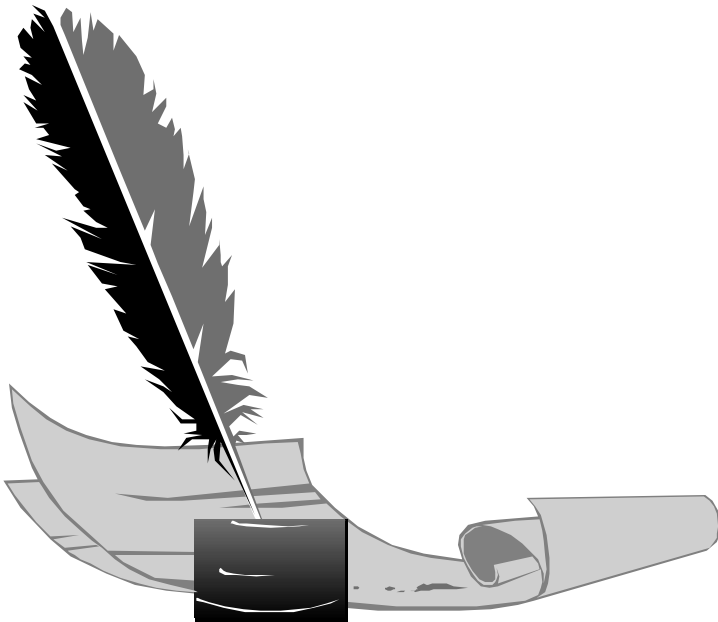
Lesson 2: Creating a Simple Report

Lesson 3: Formatting Features

Lesson 4: Selecting Specific Data from the Database

Lesson 5: Grouping and Sorting Data for Summary Purposes

NOTES



Lesson



Before You Begin . . .

Lesson Objectives

After completing this lesson, you will be able to:

- Understand and define the purpose of the report
Decide the overall purpose of your report. Who will view it? What do they need to see? What decisions will be made from the data viewed?
- Define the layout for the report
What will the title be? Do you need information in the header and footer on each page? Do you need summaries or other totals?
- Find the data
Where is the data that you need to use in the report? Is it in a PC database file or on a client/server database? Does the data exist or does it need to be calculated?
- Organize the data on the report
Should you sort or group your data? Do you only want to see certain records from the database? If so, which ones? Do you want to call attention to certain information? If so, how will it be identified?
- List the fields and tables needed for the report
Create a list of the fields needed for the report and the tables in which those fields are located.

Defining the Purpose of the Report

Before you ever open the Crystal Reports application, you should do some planning on paper. A structured approach to planning a report will make the report creation process shorter and easier, with less rewriting and editing.

Essential to this process is clear and frequent communication with the user of the report, if that is someone other than you. Remember that a report is a management tool. It should help the reader quickly understand the relationships and/or essential elements contained in the raw data. Good reports present the correct data in a well-organized, easy-to-read manner. If the data is incorrect, or, if it is difficult to locate information, then the decision-making process can be slower or ineffective decisions may be made.

A good starting place is to write out, in one or two sentences, the purpose of the report. A purpose statement assists you in keeping your focus. It gives the report a goal. Think about or ask about what information the report is intended to convey and how it will be used. Ask the user what decisions will be made based on the information in the report. Often, users may not know exactly what they want. Nevertheless, with your expertise in Crystal Reports, you can help them get exactly what they need.

Here are some examples of report purpose statements:

- The purpose of this report is to show monthly sales of each product and the total dollar amount of each product sold.
- The purpose of this report is to keep track of inventory and quickly call attention to items that need to be reordered.
- The purpose of this report is to provide demographic information on our customers and suppliers in order to determine if we need to expand our supplier base.
- The purpose of this report is to compare year-to-date sales with last year's year-to-date sales to gauge how we are doing compared to last year. The information needs to be presented region by region.

You should also be aware of who is going to read the report. Often, different people at different levels of responsibility in the organization read the same report, but for different reasons. If this is the case, you need to organize the report so that each level of information is clear and easy to find. A common example would be a company sales report.

- The sales representatives might use the report to evaluate individual sales performance and do comparisons to other representatives.
- The regional sales manager might also use the report for comparisons of the sales reps in his/her region. But this person would also want to know how his/her region compares with other regions or what percentage of total company sales are represented by his/her region.

Lesson 1: Before You Begin . . .

- The national sales director might use the report to evaluate regional manager's performance. It could also be used to compare sales to forecasts and determine if company-wide adjustments are needed.
- The Vice President of Sales might use this report to project manufacturing needs, warehouse locations, sales campaigns, etc.

Write out all these needs and formulate them into your purpose statement. If you can design the report to meet the needs of all these people, you will save yourself development time and serve your company as a whole.

Determining the Layout of the Report

The layout of the report is the plan for what information appears where.

What should the report title be? Plan a title that encompasses all uses of the information or the most detailed use of the information. Write out the title.

Is there information that should appear on each page of the report, such as the file name, author name, or page numbers? Will the users want to know how current the information is? Make a list of the items you need to include.

What pieces of information need to display at each level of the report? Do you need to summarize, total, calculate averages or percentages or perform any statistical analyses? If so, which information needs to be calculated and how do you want to divide the report for the calculations? For example, in the sales report mentioned above, you might need to calculate total sales by each sales representative, also by each region, also by country, and grand total for the entire company.

Write listings of what you need to see at each level of the report including totals and grand totals. Also, include the information by which you need to divide the report.

Finding the Data

Paramount to getting a report created is knowing where the data you need is located. You should know if the database you need to use is a PC data file or an SQL/ODBC data source or a Crystal Dictionary. Where is the database located and is there an ODBC connection already set up on your computer to access the database? If you do not know the answer, contact your MIS professional, database administrator or possibly even your co-workers to get this information.

Next, decide which pieces of information you need to see at the greatest level of detail in your report. Write down these pieces of information. Once you have determined the data you need for details, you can add this to all the other information you have listed for the report. You can then use this list to determine which fields you need to access for the report.

Lesson 1: Before You Begin . . .

As you look through your list of pieces of information needed, you may see three types of information:

- Data that is taken directly from fields in the database
- Data that is calculated from fields in the database (such as summary totals)
- Information that is typed directly into text objects in the report (such as a title)
- Information that is generated automatically, but not from the database (such as page numbers)

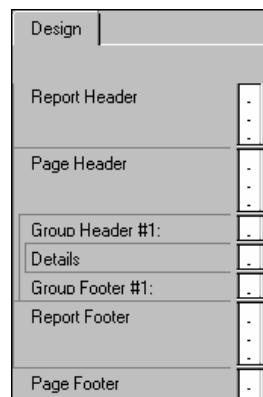
Go through this list and determine which pieces come directly from fields in the database, then make a list of the field names you are going to need. After you list the fields, make a list of the table or tables that contain these fields. Obviously, you are going to have to be somewhat familiar with the database to do this. If you do not know the database well, talk with your database administrator and see if you can obtain a data map or data dictionary that tells you where specific pieces of information are stored.

In addition to knowing field names, you should also become familiar with *field types* or *data types*. Many of the functions and commands used in Crystal Reports are designed to work with a specific type of data. You need to become comfortable with the types of data contained in your database. Most fields are one of the following data types: string, number, currency, date, time, date/time, Boolean, or memo.

Organizing the Data for the Report

Now that you know what data you need and where it is located, what you have to pull from the database, what you can type, and what you have to calculate, you need to put all this together. In other words, you need to organize it all, so you know what will print where on the report.

Each report that you create is divided into *sections* and the sections determine where things print on the report. The sections display in the Design view of Crystal Reports and print in the same order in which they display. Each section has its own characteristics that determine where objects print on the final report.



*Lesson 1: Before You Begin . . .***Report Header**

Objects in this section print only one time at the beginning of the report. You might use this section for the report title (if you only wanted it to print on the first page) or for charts or maps that represent all the data in the report.

Page Header

This section prints the objects it contains at the top of each page of the report. This is a good location for print dates, page numbers, file name and author, or any other information that the user would want to see on each page.

Group Header

If you decide to divide the information in the report, you do it by creating *groups*. The items in this section appear at the beginning of each new group. Typically, this section contains the name of the group or other group identifying text and/or charts or cross-tabs that represent data group by group.

Details

This section contains the detail records for the report and gets repeated for each record pulled from the database. This is where you want to put the items that represent the details on the report.

Group Footer

This section prints at the end of each group in the report and only displays when the report has been divided into groups. Here is where the group subtotals and summaries appear and any other information you want included at the end of each group.

Report Footer

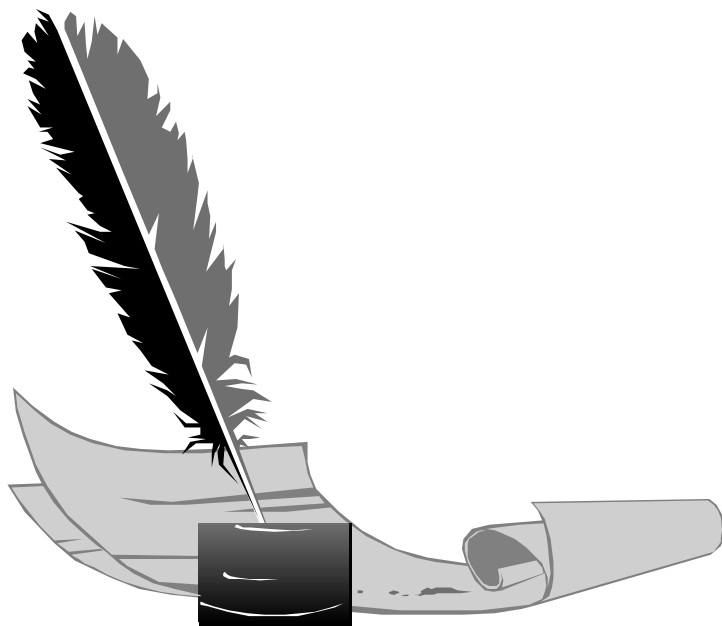
Objects placed in this section print only once at the end of the report. It is the perfect place for grand totals or other summaries for the entire report. Often it is used for charts, maps or cross-tabs that display information for the entire report.

Page Footer

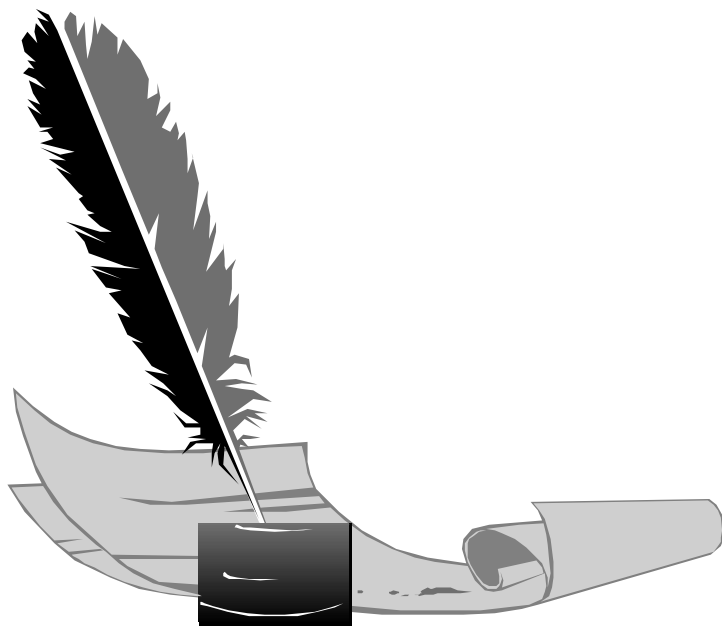
Like the Page Header, this section appears on each page of the report, only this one displays at the bottom of the page. Use it for page numbers, print dates or other information that the user needs to see on every page of the report.

Now you can design your report on paper, placing each piece of data where it belongs. It can even be helpful to indicate the sections at the left of the paper to help you remember which objects to put into each section. Basically, draw a picture of what the report should look like. You are not going to do this planning in class because there is not time. Your class time is best spent learning the Crystal Reports program. However, this is a highly recommended process for you to follow when you begin to create your own reports. If you plan your reports on paper first, it will save you time, work and aggravation later.

NOTES



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Lesson

2

Creating a Simple Report

Lesson 2: Creating a Simple Report

Lesson Objectives

After completing this lesson, you will be able to:

- Use the Design and Preview windows to build reports
The Design window is the main window for building a report. Become productive in putting together the basic items on the report, and then use the Preview window to see the results of your work.
- Place data fields on your report
Learn how to insert fields on the report.
- Size and move objects
Learning how to manipulate the objects on the report gives you control over the look and feel of the report.
- Use guidelines to align objects
Guidelines provide an easy method for moving and aligning objects. Become proficient at manipulating the guides and snapping objects to them.
- Create text objects
Add titles and other text to reports by creating a text object
- Save and Preview the report
Learn about the Preview view and how to navigate through the report. Set up the report to save automatically. Understand what happens when you refresh the data in the report.

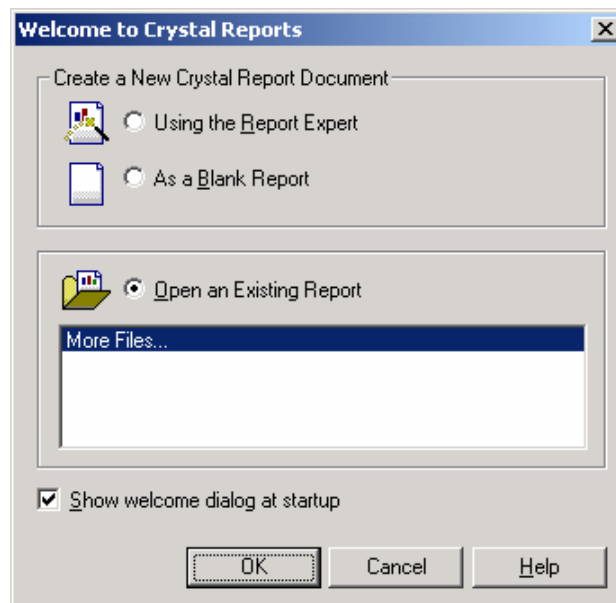
Starting the Crystal Reports Program

You can start Crystal Reports in one of three ways:

- Click the Start button then point to the Programs menu. Click on Crystal Reports.
- If you prefer to use the My Computer icon or Windows Explorer, open either one of these windows. Double click the Program Files folder, double click the Seagate Software folder, double click the SI folder, and then double click **crw32.exe**.
- If you have a desktop icon for 32-bit Crystal Reports, you can double click the desktop icon to open the Crystal Reports program.

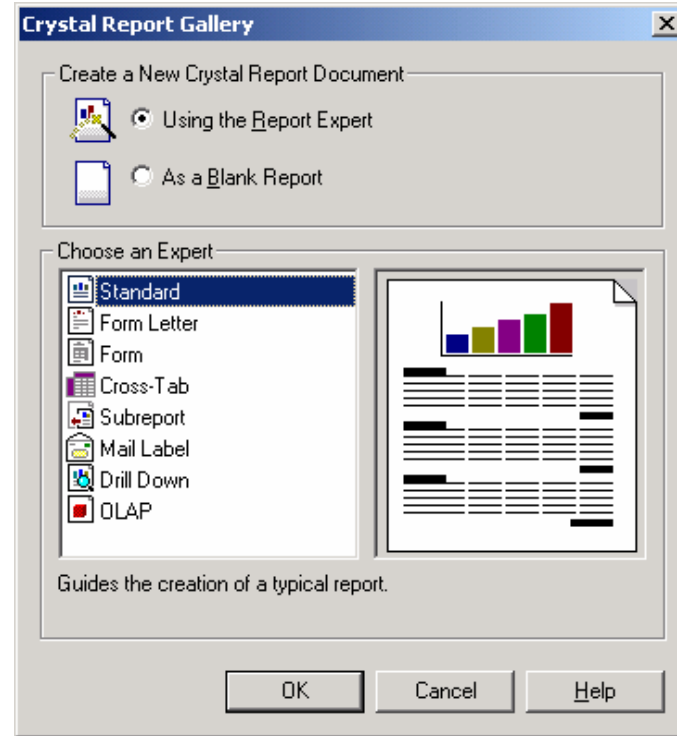
Starting a New Report

When you first open Crystal Reports, the program helps you to begin creating a report by presenting the Welcome dialog box.



Lesson 2: Creating a Simple Report

In this dialog box, you can begin a new report in one of two ways. You can create the report using a Report Expert or you can open a blank report. If you choose the *Using the Report Expert* button, Crystal displays the Crystal Report Gallery dialog box.



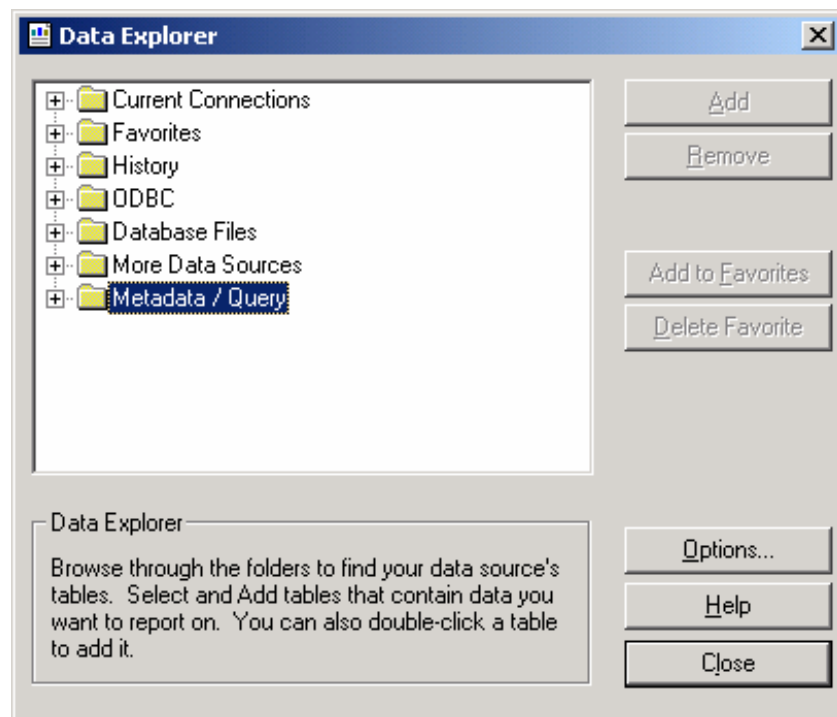
The Report Experts are tabbed dialog boxes that assist you in creating a specific type of report by doing some of the work for you. You will learn how to use a Report Expert later in this class.




If you click the *As a Blank Report* button, Crystal immediately takes you to the Data Explorer screen in order to select the report's data source. You can also open an existing report. Crystal displays the last nine reports you have opened in the list. Alternatively, you can choose More Files to display an Open dialog box where you can go to any folder and choose the report yourself. Alternatively, you can simply close this dialog box by clicking the Cancel button.

Choosing a Data Source



Whenever you create a report, the first thing you have to do is select a data source. Crystal uses a dialog box called the Data Explorer to present all possible data sources and allow you to choose one.

Lesson 2: Creating a Simple Report




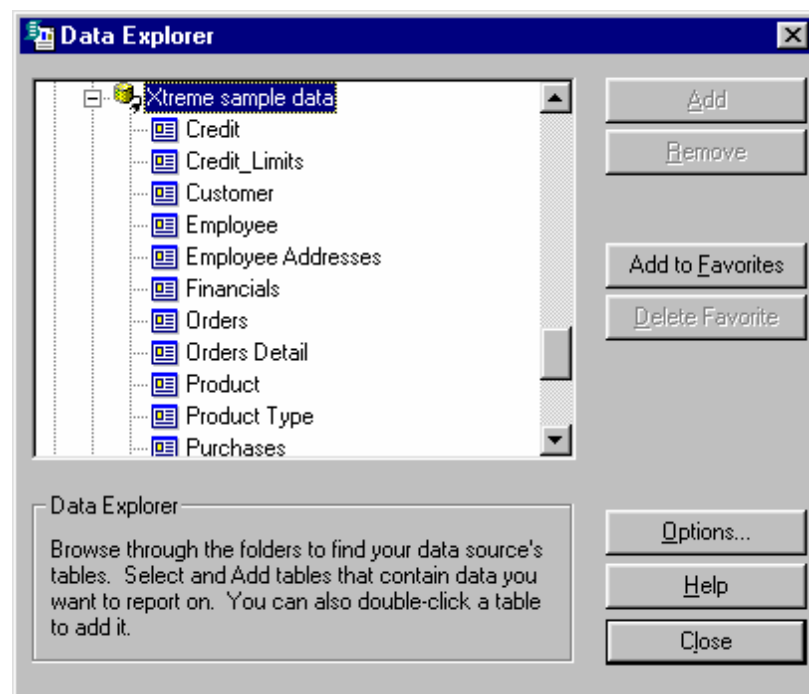
- The Current Connection option displays the server or data file to which you are currently connected. If you just opened Crystal Reports, this option indicates **no items found**.
- Favorites works like Favorites or Bookmarks in a browser. You can add connections to the Favorites category so they are quick and easy to access.
- History shows a list of recently accessed connections, again for quick and easy viewing.
- ODBC is typically used for server-based databases like Oracle, Sybase, Informix, and MS-SQL Server. ODBC (Open Database Connectivity) technology provides an interface for accessing data stored in many different types of databases. ODBC is an industry standard for data access for both Windows-based and Macintosh-based applications. It allows Crystal to communicate with almost any database. Click the  icon to display all defined ODBC data sources or to create a new ODBC data source.
- The Data File connection is used for PC data files run from the C: drive or from a network server, such as MS Access, Paradox, Btrieve, Dbase and FoxPro. Click the  icon, choose **Find Database File**, then click the  button to display an Open dialog box where you can find and select the appropriate database file.
- The More Data Sources option lists all other data sources on your system. These can include, but are not limited to, Microsoft Outlook files, OLE DB data sources, OLAP cubes, the NT Event Log, Web/MS IIS (Internet Information Server) log files, and Exchange folders and Address Books.
- The Metadata / Query option is used to locate and list Crystal Dictionaries or SQL queries designed with 's SQL Designer.



Lesson 2: Creating a Simple Report

To choose a data source, click the  icon to the left of the appropriate option, and then select the data source you want. The  icon to the left of the data source displays the tables within that data source.

For this class, you are going to use an ODBC data source called Xtreme Sample Data. This sample database comes with Crystal Reports and installs automatically when you install the application.


Once you find the data source and click the  icon to the left of it, the Data Explorer lists the tables contained in that data source.



To add a table to the report, select it, and then click  button. You can also double click a table to add it. Once a table has been added to the report, a checkmark appears on its icon, like this: 




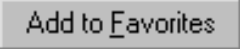







For the exercises in this course, you are going to use a Microsoft Access database with an ODBC connection. The database is referred to as Xtreme sample data.

❖ Exercise - Start a New Report

1. Click the  button, choose **Programs**, and choose **Crystal Reports**.

The application opens and displays the Welcome dialog box.

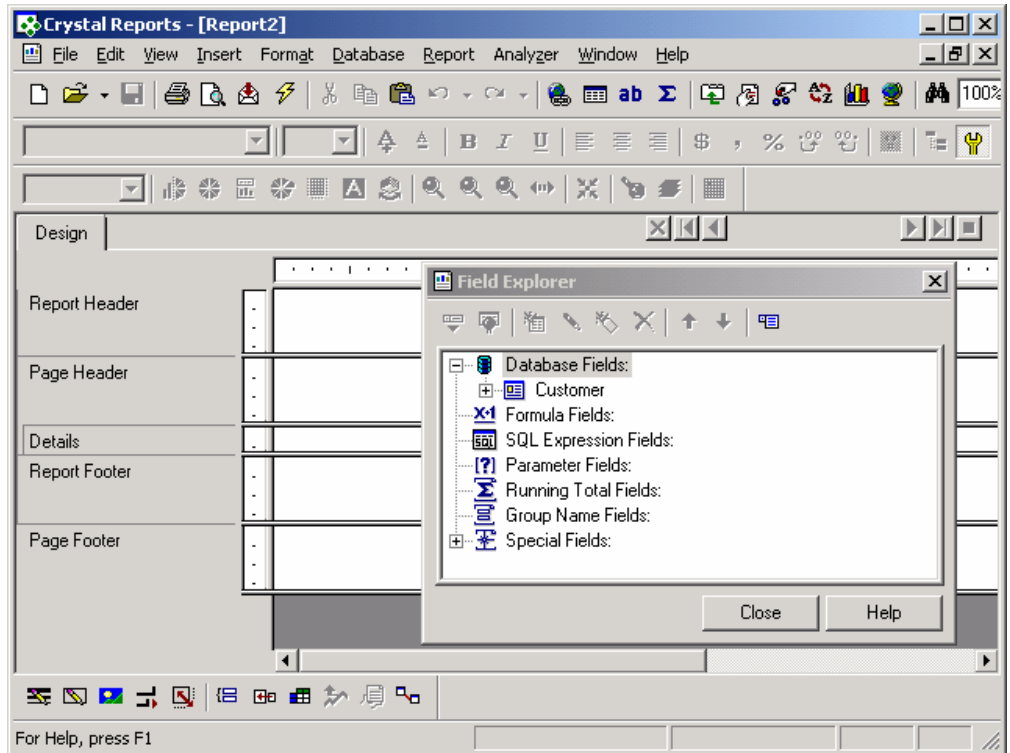
Lesson 2: Creating a Simple Report

2. Click the *As a Blank Report* option button, and then click .
The Data Explorer dialog box appears.
3. Click the  to the left of  ODBC.
The list of ODBC data sources displays.
4. You are going to add the sample server for class to the Favorites folder so it is easy to access for the rest of the class. Select the **Xtreme sample data** server, and then click  button.
5. Click the  icon to the left of  ODBC to close that data source.
6. Click the  icon to the left of  Favorites to open the **Favorites** list.
7. Click the  to the left of **Xtreme sample data**.
The tables in the Xtreme sample data server appear.
8. Click the **Customer** table, then click the  button.
The icon for the Customer table shows a checkmark.
9. Click the  button.
The Crystal Reports Design window displays on the screen with the Field Explorer dialog box open showing the fields for the Customer table.

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The Main Components of the Design Window

The Design view in Crystal Reports contains all the report creation features needed to build a report. Take a moment to look at the screen and identify the features of the Design window.



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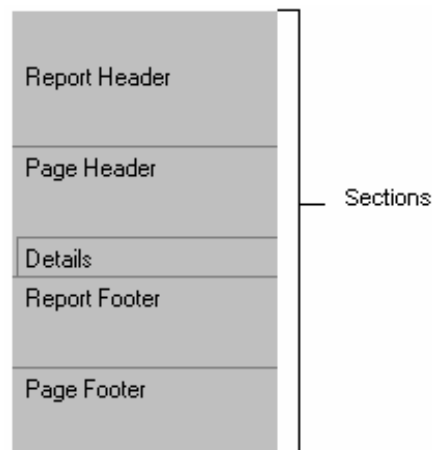
The window has the standard features of any Windows based program. These allow you to execute commands and perform tasks in Crystal Reports:

- The Menu Bar contains all the commands available in Crystal Reports. As with all Windows programs you can open the menus by clicking with the mouse or by pressing ALT + the underlined letter for the menu you want.
- The Toolbars contain buttons that are shortcuts to menu commands. You can view the function of a button by moving the mouse pointer over the button. When you do this, a Tool Tip displays the button name and the Status Bar at the bottom of the screen displays the function of the button.



TIP: You can open and close the toolbars by **RIGHT** clicking on any toolbar. To hide a toolbar, click the checkmark to the left of the toolbar name. To show a toolbar, click the toolbar name.

- The Design tab indicates that you are in Design view. Once you have previewed the report, there is a Preview tab as well. You can easily switch between Design view and Preview view by clicking the appropriate tab.
- The Status Bar displays at the bottom of the Design and Preview screens and shows information about the object currently selected. If no object is selected the Status Bar shows information about the toolbar button to which the mouse is pointing, information about the report itself, or help information.
- The default Design window is divided into five *sections*. Each section corresponds to a specific part of the final, printed report. Section names display at the left of the Design window. The behavior of the sections was discussed earlier in this manual. Refer to page 14 for descriptions of the sections.

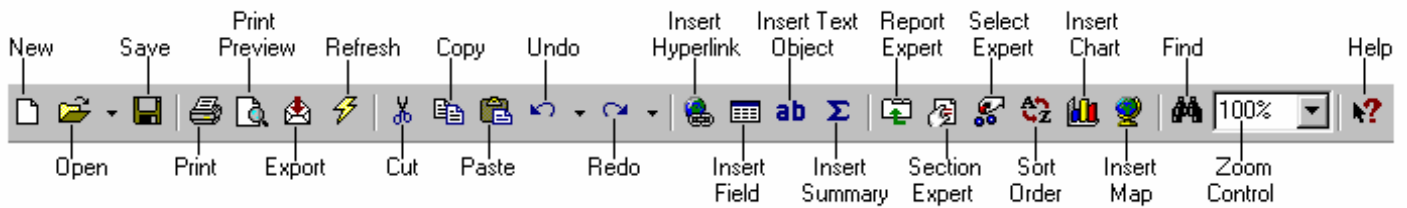


Lesson 2: Creating a Simple Report

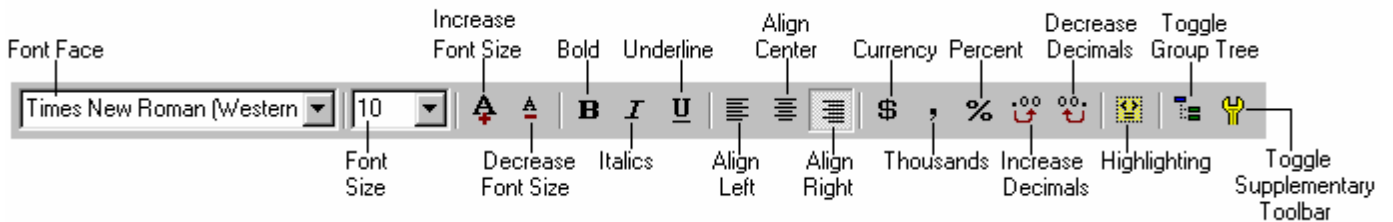
Each section has a bar at the bottom of the section that defines the height of the section. When you place the mouse pointer over a section bar, the pointer changes to a black double-headed arrow. Using this arrow, you can drag the bar to make the section taller or shorter.

Exploring the Toolbars

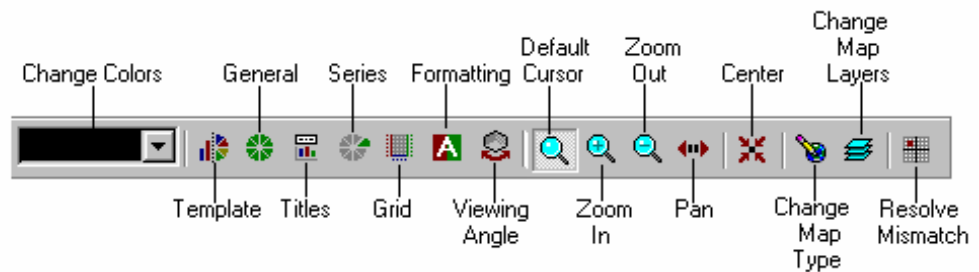
Crystal Reports has three toolbars. The Standard toolbar contains buttons for basic editing commands such as save, open, cut, copy and paste, undo, and help.



The Formatting toolbar has buttons for formatting commands such as bold, italic, underline, alignment, number formats, etc. Most of these buttons are not active unless you have an object selected.




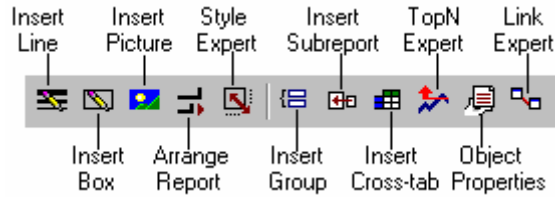
The Analyzer toolbar shows buttons for modifying and formatting charts and maps. These buttons are not active unless a chart or map is selected.



Crystal Reports 8.5 also has a supplementary toolbar that contains some very useful buttons. You can toggle the supplementary toolbar on and off by clicking the Toggle Supplementary Toolbar button in the Formatting toolbar. By default, the Supplementary toolbar displays at the bottom of the screen.

Lesson 2: Creating a Simple Report

The Toggle Supplementary Toolbar button 

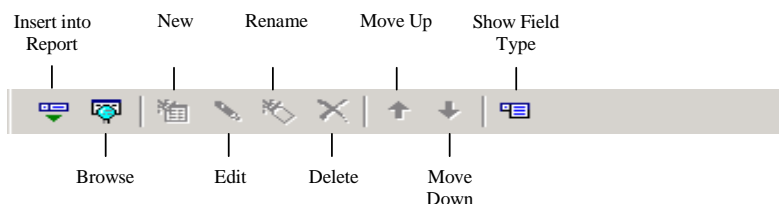


Using the Field Explorer

When you first start a report, the Field Explorer dialog box appears in the middle of the Design window.








Use the Field Explorer to insert all types of fields into the report. The Field Explorer lists the seven types of fields you can insert into a report: Database, Formula, SQL Expression, Parameter, Running Total, Group Name, and Special fields. With the icons at the top of the Field Explorer, you can manipulate the fields in the list.





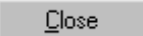

New in version 8.5 is the ability to determine the data type in each field by clicking the Show Field Type button. Once clicked, the data type and field length (for text fields) are displayed to the right of the field name.

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As you look at the Field Explorer, you should notice that some of the field types have a  icon to the left of the name. These indicate that there are fields of that type available to the report. Click the  icon to see the fields of that type. The Database type lists the table or tables that you have added to the report. Click the  icon to the left of the table name to see the fields contained in that table.


Since the Field Explorer can often be in your way, you need to be able to reposition it on the screen and open or close it. You can close the Explorer by clicking the  button at the bottom of the dialog box. The Insert Fields  button on the Standard toolbar opens the Field Explorer. In addition, you can move the dialog box by dragging its title bar.

❖ Exercise - Explore the Design Window

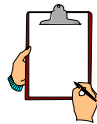
1. When you have the Design Window in front of you, take a few moments and practice these steps before adding data fields:
 - a. Move the mouse pointer across the Toolbar, reading the tool tips that appear when you touch the pointer on the buttons.
 - b. Now, hide the Analysis toolbar since you are not going to use it in this class. RIGHT click on any toolbar, and then click the checkmark to the left of Analyzer.
The Analyzer toolbar no longer appears on the screen.
 - c. Run your mouse across the options on the Menu Bar, just above the Toolbar, and read the menu choices to familiarize yourself with the terms used by Crystal Reports.
 - d. Click the Toggle Supplementary Toolbar  button
Notice the Supplementary Toolbar displays at the bottom of the screen.
 - e. Click the Toggle Supplementary Toolbar  button again to turn off the toolbar display.
 - f. Place the mouse pointer over the Section boundaries and stretch them up and down.
2. Click the  button to close the Field Explorer.
3. Now click the Insert Fields  button to reopen it.
4. Position the Field Explorer so that you can see the entire Details section. Remember that you can move the Explorer by dragging its title bar.

Placing Fields on the Report

There are several ways to place fields onto the report. The Field Explorer dialog box provides access to all the fields in the table you selected when beginning the report. Using the Field Explorer dialog box, you can place a field in the report in one of five ways:

- Select the field in the list, then click the Insert Fields  button, and then click in the report where you want the field to appear.
- Select the field in the list, then press ENTER, and then click in the report where you want the field to appear.
- Double click the field in the list, and then click in the report where you want the field to appear.
- Drag the field to the report. Release the mouse button when the pointer is pointing where you want the field to appear.
- Right Click on the field and chose Insert from the Short Cut Menu, then click in the report where you want the field to appear.

Typically, you would place fields in the Detail section of a report. When you place a field in the Detail section, Crystal Reports adds a field title directly above the data field in the Page Header section. The field defaults to the actual size of the field in the database or to the size of the field name, whichever is longer. By default, a data field displays with the field name. This is very helpful for identifying the field at a glance.






NOTE: Boolean fields display as True or False in relation to the data they represent.



WARNING: If you place a field in any section other than the Detail section, Crystal Reports does NOT create a field name in the page header section of the report. Even if you later move the field to the Detail section, the field name is not created automatically.

❖ Exercise - Place Fields in the Detail Section of the Report

1. Click the  to the left of the Customer table.
2. Select the Customer ID field in the list of fields.
3. Click the  button.

The mouse pointer appears as a  symbol when it is pointing to a location where you cannot place a field.

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4. Click in the Details section at the left side of the report. *Crystal Reports places the field in the detail section and the field name in the Page Header section.*
5. Select the Customer Name field, then press ENTER.
When you move the mouse, you again see a Ø symbol until you point into the report.
6. Click in the Details section after the Customer ID field to place the field.
Crystal Reports places the field in the report.
7. Double click the City field.
The mouse pointer changes to a Ø symbol until you point into the report.
8. Click in the Details section after the Customer Name field.
9. Drag the Region field to the Details section after the City field.
NOTE: In the Field Explorer, you should see a green checkmark on the icon to the left of each field you add to the report.

Selecting and Sizing Objects

Once a field is placed on a report, it is good practice to resize it to a proper character length. When Crystal inserts the field it is the same size as the data field in the database, or the size of the field title, whichever is larger. To resize the field to a size you want, you must select it first. When a field is selected, a dot appears at the center of each of the four sides surrounding the object. These are called *sizing handles*. When you place the mouse pointer directly over a handle, the pointer changes to a two-headed arrow. Use this mouse pointer to drag the border of the object to change the size.



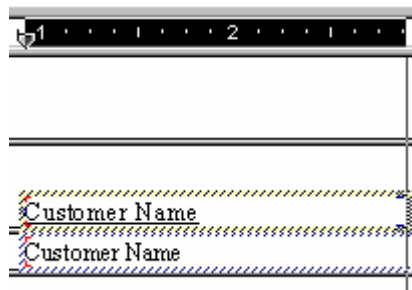
Since the data field and the field name appear in the report at the same size, you may often need to select *both* objects, so you can resize them at the same time. To select multiple objects, you can use one of two methods:

- Click the first object to select it. Then, while pressing the SHIFT key or the CTRL key, click other objects.
- Drag a marquee around the objects you want to select. Make sure the mouse pointer is NOT pointing to an object when you begin to drag. The marquee you drag selects any object touching the marquee or contained within the marquee. This process is sometimes referred to as “to lasso” objects.

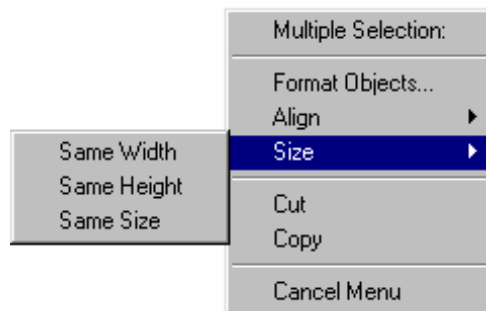
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❖ Exercise - Size a Field Using the Resize Handles

1. Multiple select the Customer Name field and its field name in the Page Header section.
2. Point to the sizing handle on the right side of the selected object. *The mouse pointer changes to a double-headed arrow when you are pointing to the correct location.*
3. Drag to the left to make the field and fields name about half their original size.
Notice that Crystal provides a line and shading on the ruler so you can easily see exactly how wide you are making the objects.



You can also resize fields to be the same size as another field using the Size command. To do this, simply multiple select the fields you want to size plus the field that is the size you want to match. RIGHT click the field that is the size you want, and then choose Size from the Shortcut menu. Crystal makes all selected fields the same width, height, or overall size as the field on which you RIGHT clicked.




❖ Exercise – Resize a Field to Match Another Field

1. Select and resize the City field to be about 1.5” long.
Use the shaded area on the ruler to determine the size. Oops! You meant to resize both the field and its title



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2. Multiple select the City field and its title, then RIGHT click the field.
Be sure you RIGHT click on the field, the object you have already resized.
3. Point to Size in the shortcut menu, and then choose Same Width.
Crystal makes both the field and the title the width of the shorter object.


Browsing Field Data

If you are not familiar with the data contained in a field, you might not know what size the field needs to be on the report. Crystal Reports lets you preview the data contained in a field to help you determine how big a field should be. To view the data in a field, select the field in the Field Explorer dialog box, and then click the Browse  button. If the Field Explorer dialog box is not open, you can open it by choosing Insert/Database Field from the menu bar or by clicking the Insert Fields button on the Toolbar.

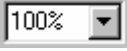
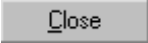
❖ Exercise - Browse Field Data

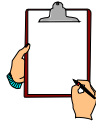
1. Click the Insert Fields  button in the toolbar to open the Field Explorer. Select the Region field in the field list.
2. Click the  button.
The Browse Field Data dialog box opens.



3. When you are finished viewing the field data, click  to close the Browse dialog box.
4. Multiple select the Region field and its field title. Resize them to make them smaller. When you are finished, click away from the objects to deselect them.
However, what if you can't see the right edge of the fields to resize them?

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5. Click the drop-down arrow after the Zoom Control box  on the Standard toolbar, and then choose **50%**.
6. Now, drag the resize handle to resize the Region field so it fits on the page.
7. Reset the Zoom Control box to **100%**. Then click the  button to close the Field Explorer.



NOTE: *The Browse dialog box, by default, displays the first 500 unique values in the database.*



TIP: *You can also open the Browse dialog box by **RIGHT** clicking the field in the report and choosing **Browse Field Data...** Be sure you **RIGHT** click the data field in the **Details** section, not the field name object.*

Moving and Aligning Objects

To move a field, you must first select it. Once selected, position the mouse directly over the object until you see a four-headed arrow. With this arrow, you can move the field by dragging it. To drag both a data field and its field name at the same time, just multiple select the fields, and then drag with the four-headed arrow. You can even drag fields from one section of the report to a different section.

The only problem with moving fields like this is that they get out of alignment with their titles. However, the shortcut menu has an Align command that works similarly to the Size command you have already used. Just multiple select the fields you want to align, then **RIGHT** click the field you want to align to. Choose Align from the shortcut menu, then choose to align on the left side, the right side, the center, or to the closest grid point.

❖ Exercise - Move an Object

1. Move the field name for the Region field to the left, closer to the City field.
Notice that only the title moved. Now it is out of alignment with the field itself.
2. Multiple select the Region field and its title. Then **RIGHT** click on the title.
3. Choose Align, then Lefts from the shortcut menu.
Crystal aligns the field and its title on the left edge of the title.



TIP: You can also move or size an object with the keyboard. To move an item, select it, and then use the arrow keys on the keyboard to move it. If Snap to Grid is turned on, the arrows move the item one grid point. If it is turned off, the arrow keys move in very small increments. This is referred to as NUDGING an object. To resize using NUDGE, press and hold down the SHIFT key while pressing an arrow key.

Using Guides and Guidelines to Move and Align Objects

Although you can simply drag an object to move it, it is easier to move fields and their field names using the *guidelines*. Guidelines are triangular buttons with attached dashed lines that appear on the ruler bar at the top of the Design window. You can use these guidelines to easily move and align objects.

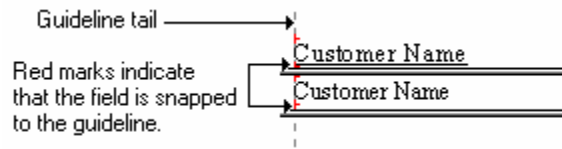
Crystal Reports inserts guidelines automatically in these situations:

- Whenever you insert a field in the Details section of a report, the program automatically creates a guideline at the left edge of the field frame and snaps the field and field title to it. You can move both the field and the field name, keeping them aligned, by dragging the guideline marker in the ruler.
- If you summarize a field, the program snaps the summary to the same guideline as the field you summarized to assure proper alignment.
- When you RIGHT click the shaded areas to the left of a section and choose the Arrange Lines command, the program automatically creates one or more horizontal guidelines in the section and snaps the fields to them.

When you move an object by dragging it with the four-headed arrow, you may move it off the guideline. If you do this, the object no longer snaps to the guide and does not move with the guide. You can re-snap the object, or snap any other object to any guide by moving the left edge of the object so it touches the guide.

When an object is snapped to a guideline, small red marks appear on the edge of the object where it touches the guideline.

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You can also work with guidelines manually. Crystal Reports lets you add guidelines and delete them whenever you need.

- To add a guideline to the horizontal ruler in any section, click in the ruler where you want the guideline to appear.
- To add a guideline to the vertical ruler, simply click in the ruler where you want the guideline to appear.
- To delete a guideline, drag its triangular button off the ruler.
- To snap an object on its right side or center, drag it until the right edge or the center touches the guideline.

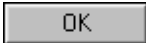


WARNING: To snap a field to a guideline, you **MUST** move the field. You cannot snap a guideline to a field by moving the guideline.




TIP: Guidelines are much easier to work with if you can see the “tails”, that is the dashed lines that drop down from the guideline. To turn on the tails, choose **File/Options...** Click the **Show Guidelines in Design** command, and then click the **OK** button.

❖ Exercise - Work with Guidelines

1. First, turn on the tails for the guidelines. Choose **File/Options...**
2. Click the *Show Guidelines in Design* command, then click . Crystal displays the dashed lines dropped down from the guideline markers in the ruler.
3. Point to the guideline marker for the City field and drag it to the left. Position it right after the Customer Name field.
4. Since you previously moved the Region field by dragging it with the four-headed arrow, you unsnapped it from its guideline. Using the four-headed arrow, move the field name for the Region field so its left edge touches its guideline. Now move the field title so its left edge touches the guideline. *Be sure to look for the red marks to see if the field is snapped to the guideline.*
5. Move the guideline so the Region field and its field name are positioned just to the right of the City field.

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6. Now you need to add another field. Click the Insert Fields  button on the toolbar to open the Field Explorer.
7. Insert the Last Year's Sales field to the right of the Region field, and then close the Field Explorer.
8. The Last Year's Sales field is a number. Numbers usually look better if they line up on the right. Therefore, you need to create a new guideline for this field. Click on the horizontal ruler at the 7" mark.
Crystal creates a new guideline there.
9. Multiple select the Last Year's Sales field and its field name, then drag the objects so their right edges touch the new guideline.
10. Delete the guideline that was originally used to align the field by dragging its marker off the ruler. Then use the new guideline to position the Last Year's Sales field to the right of the Region field.

❖ Exercise - Use the Arrange Lines Command to Align Field Titles Horizontally

1. Click in the gray Page Header section at the left of the screen with the RIGHT mouse button.
A shortcut menu opens.
2. Choose Arrange Lines.
Guidelines appear wherever a field is located in the section.
3. Make sure all the Field Titles are lined up on a single guideline. Move any titles to the guideline if they are not.
4. If you see additional guidelines in the vertical ruler, delete them by dragging them off the ruler.
5. Move the vertical guideline to position the field titles where you want them.



WARNING: *Be careful when you are moving a guideline. If the mouse pointer is not positioned in the ruler when you release the mouse button, you will delete the guideline. If this happens, just create a new guideline by clicking in the ruler where you want it to appear.*

Creating Text Objects

In addition to adding fields to a report, you can also add text objects. A *text object* is an object in which you can type any text you wish. It is not related to the underlying database in any way. Typically, you use text objects as titles or identifiers for summary information. To create a text object, choose **Insert/Text Object** from the menus or click the **Insert Text Object** button on the **Toolbar**. The mouse pointer becomes a \emptyset symbol until you point to a location on the report where you can insert objects. Just point to the location you want the object, then click to add it.

When you first insert a text object, it is in **Edit mode**. You see a flashing insertion bar inside the object. You can type text at this point. When you are finished adding text, click away from the object to finish editing. You cannot end the editing by pressing the **ENTER** key. This adds another line to the text in the object.



TIP: You can tell if you are in **Edit mode** by looking for the flashing insertion bar. Crystal Reports also displays a small ruler above or below the object when you are in **Edit mode**. If you need to make corrections to an object after you have exited **Edit mode**, double click the object to return to **Edit mode**.

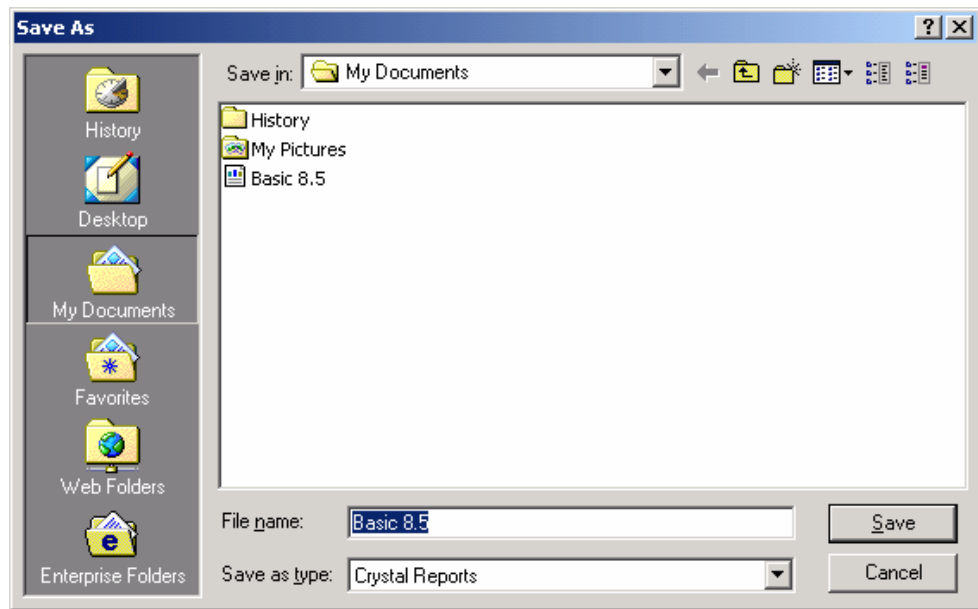
❖ Exercise - Insert a Text Object

1. Click the **Insert Text Object** **ab** button.
The mouse pointer displays as a \emptyset symbol until you point into the report.
2. Click in the **Report Header** section to add the object.
The text box appears with a flashing insertion bar.
3. Type **Customer Sales**.
4. Click away from the text object to finish editing.
5. Resize the object if necessary to view the entire text on one line.

Saving the Report

As with any software, it is a good idea to save your reports frequently in Crystal Reports so you do not lose work that you have done. To save a report, you can choose **File/Save** from the menu or click the **Save** button on the **Toolbar**.

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The first time you save a report, Crystal Reports opens the Save As dialog box.

In this box, you can specify a folder location for the report and give the report a filename. The five icons on the left give you one click access to common locations.

- The History folder opens the Windows Recent files folder.
- The Desktop icon lets you save this report as an icon on your Desktop.
- My Documents opens the Windows My Documents folder.
- The Favorites folder opens the list of favorite folders you have specified in Internet Explorer. If you have a folder where you want to keep all of your reports, add it to the Favorites folder, then it is easily accessible from here.
- Web Folders lets you save your report to a web folder on a web server. You no longer have to download reports, edit them locally, and then upload them to the web server.

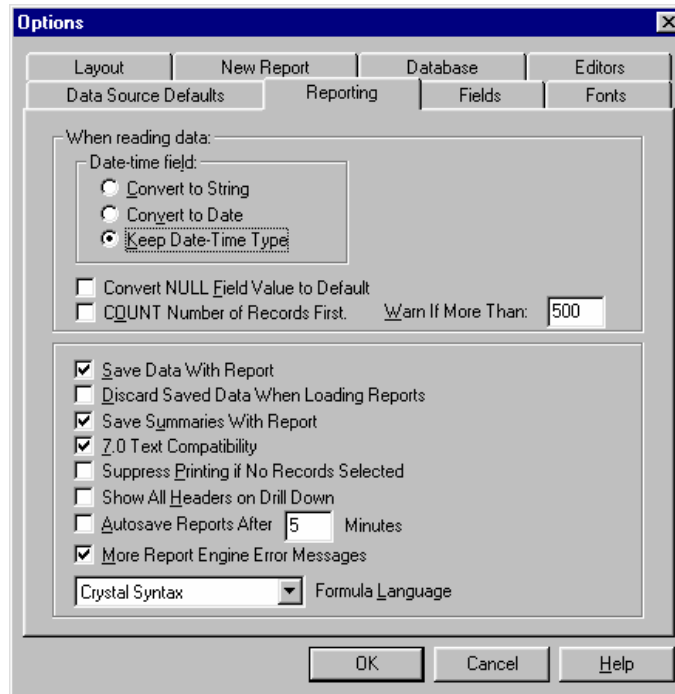
Notice the *Save as type*: text box at the bottom. Crystal Reports 8 lets you save a file as a Crystal Reports (version 7.0) file.

Once you have saved and named a file, the Save command automatically overwrites the previous version of the file with the revised version. Crystal Reports does not prompt you to overwrite. If you want to preserve the previous version of the report, you must use the Save As command on the File menu to give the revised report a new name.

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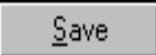
Autosaving the Report

Crystal Reports 8.5 has an Autosave feature that automatically saves the report for you in a time frame you specify. To turn on the Autosave feature, choose **File/Options** from the menu and then select the Reporting tab.



You can checkmark the Autosave Reports After command, then enter the number of minutes between saves.

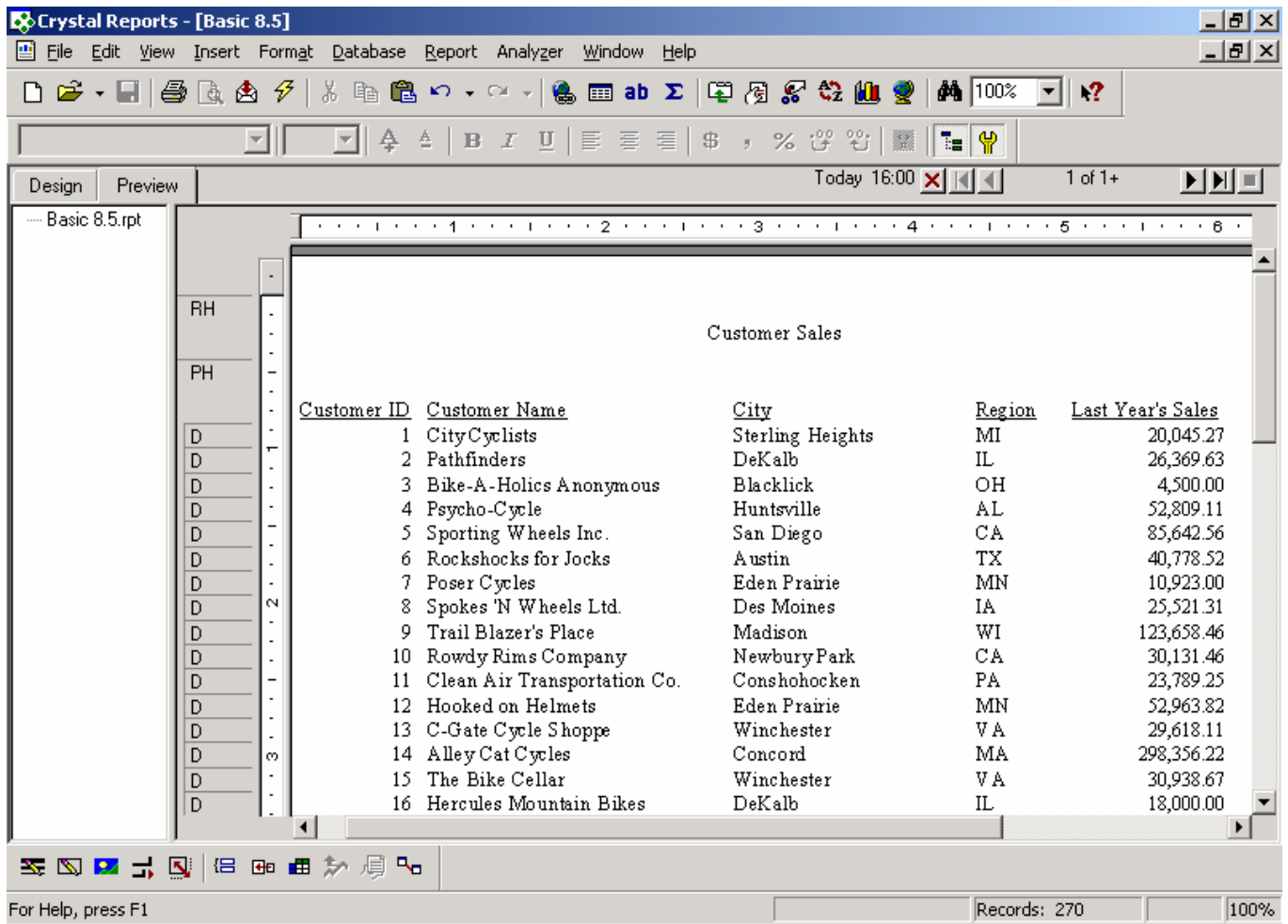
❖ Exercise - Save the Report

1. Click the Save  button on the Toolbar.
Crystal Reports opens the Save As dialog box.
2. Be sure you are in the Crystal Reports folder (C:\Program Files\Seagate Software\Crystal Reports\) Type **basic 8.5** in the *File name:* box.
3. Click the  button.

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Previewing the Report

When you have saved the report, you can see how it looks with data in it by using the Preview command. To preview the report for the first time, choose File/Print Preview or click the Print Preview button on the toolbar. Crystal Reports creates a Preview tab and displays the report similar to how it will look when printed. Once you have created the Preview tab, you can switch between Design and Preview views by clicking the appropriate tab.



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At the upper right corner of the Preview view, you see navigation buttons.



Use the and buttons to move through the report one page at a time. Use the and buttons to move to the first page and last page of the report. The button deletes the Preview tab. The button stops the processing of the report and displays the report with whatever data it has gathered up to the point you stopped the processing.

The page indicator in the middle of the arrow buttons indicates the page you are viewing and the total number of pages in the report. Crystal formats the report only one page at the time to save time when you preview. If you see a + sign after the total page count, that means that Crystal has not formatted all the pages of the report, so the total count is not known. To get the actual total page count, go to the last page of the report.

The date and time at the left of the buttons indicates the last date and time that the report was refreshed, or the last date and time that data was pulled from the database.

Refreshing the Data

When you preview a report, Crystal Reports queries the underlying database, pulls the records you requested, then saves them in memory and/or to a disk file. Thereafter, Crystal Reports works with the same record set on the local machine rather than re-querying the database. Once you have pulled the initial set of records, Crystal Reports can work very quickly because it does not have to re-query the database each time you want to preview the results of your work. If you want Crystal Reports to re-query the database, you can choose to *refresh* the data.









Crystal Reports automatically refreshes the data in certain circumstances:

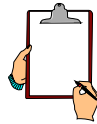
- When you add additional fields to the report.
- When you add criteria that causes Crystal Reports to select additional records from the database.
- When you add a formula that uses a field that is not currently on the report.
- If you want Crystal Reports to automatically discard the saved data and pull new data from the database whenever you open the report, you can specify for Crystal to do this. Choose File/Options, select the Reporting tab, and then check the *Discard Saved Data When Loading Reports* command.


Lesson 2: Creating a Simple Report

You can refresh the data manually whenever you want by choosing Report/Refresh Report Data or by clicking the Refresh  button on the Toolbar.

❖ Exercise - Preview the Report

1. Click the Print Preview  button.
2. Click the  and  buttons to navigate the report one page at a time.
3. Click the  and  buttons to go to the first and last page of the report. *Notice the change in the total page count after you have navigated to the last page of the report.*
4. Click the  button to delete the Preview tab.
5. Click the Print Preview  button to restore the tab.
6. Click the Design tab to return to Design view. Click the Save  button again to save the report.



NOTE: When you preview the report, you may see a blank white area on the left of the screen. This is the Group Tree – Smart Navigation area. You will learn more about using this later. For now, you can turn this off by clicking the Toggle Group Tree  button on the Formatting toolbar.

Lesson 2: Creating a Simple Report

Getting Help

You can obtain help on Crystal Reports by choosing **H**elp, Crystal Reports Help or by pressing the F1 key.



The left side of the screen provides help in locating the information you want.

- *Contents* show a table of expandable subjects through which you can look for the information. Think of this as a table of contents.
- *Index* provides a search method that looks through screen titles. Just type the keyword you want. Crystal interactively displays topics with that keyword in the title.
- *Search* is a word search option that searches help screen text. Again, type the keyword or words you want, then click the **List Topics** button to see a listing of screens that contain your keyword.

Lesson 2: Creating a Simple Report



TIP: If you need help on functions in the Formula Editor, look them up by the function name or by the general category to which they belong. For example, search for ReplicateString. If you cannot find the function by searching for the name, then look up the general category to which it belongs. For example, you cannot locate For Loop by searching for the name, but you can find it by searching for its category, Control Structures.




WARNING: Help is not installed on the Crystal Reports 8.5 Start menu as it has been in past versions. The actual help file is located in the following location, so you can add it to the Start menu if you want:

C:\Program Files\Seagate Software\Crystal Reports\Help\En\crw.chm

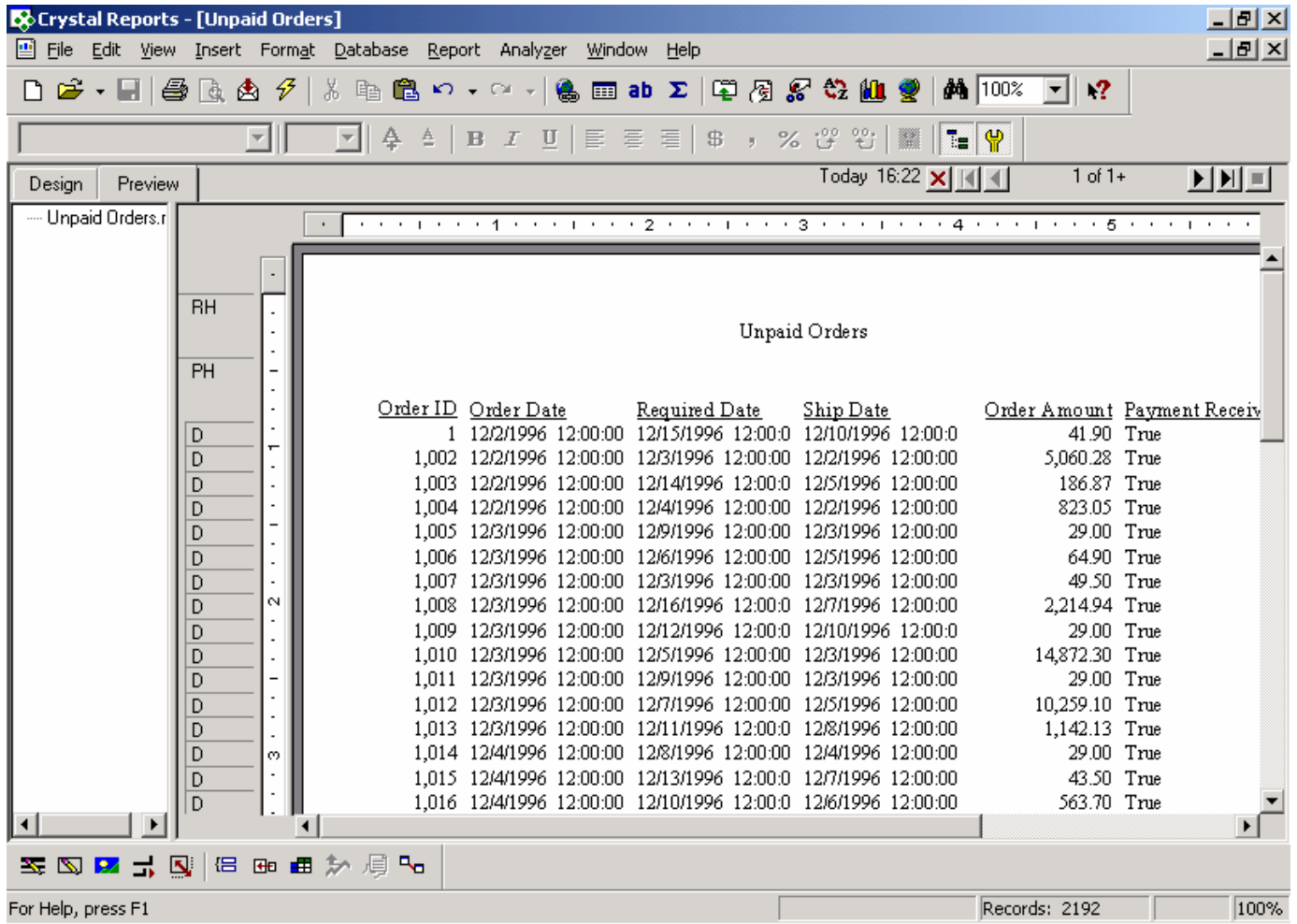
Challenge Exercise – Creating a Basic Report

Create a report that lists orders, their important date and payment information.

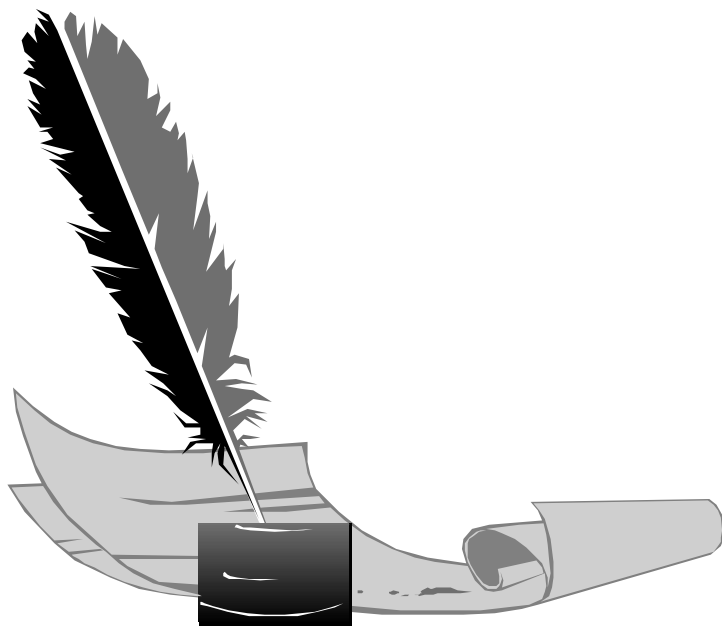
1. Click the New  button on the toolbar to begin the new report.
2. Create this report as a blank report.
3. Open the Favorites folder, the Xtreme sample data server, then add the Orders table. Close the Data Explorer.
4. Add the following fields to the Details section: Order ID, Order Date, Required Date, Ship Date, Order Amount, and Payment Received.
5. The Order ID field is a number, which is by default right aligned. To be sure the field and title line up as well, attach both objects to a guideline on the right border, then use the guideline to position it close to the left edge of the report.
6. The Order Amount field is also a number. Attach this field and its title to a guideline to ensure they line up on the right.
7. Browse the Order Date field to see what the date looks like. When you are finished, close the Browse box and the Field Explorer.
Notice the field shows both the date and the time. It needs to be about 1" long to display all the data.
8. Resize the Order Date field to be 1" long.
9. Using the Size command on the shortcut menu, resize the Required Date and the Shipped Date fields to be the same width as Order Date.
10. Resize the field titles to be just a little larger than the actual text.
11. Use guidelines to position the fields so they look good to you.
12. Add a text box to the Report Header section. Type **Unpaid Orders**.
13. Save the report. Name it **Unpaid Orders**. Preview the report then resave it after you have previewed. When finished, close the report.

Lesson 2: Creating a Simple Report

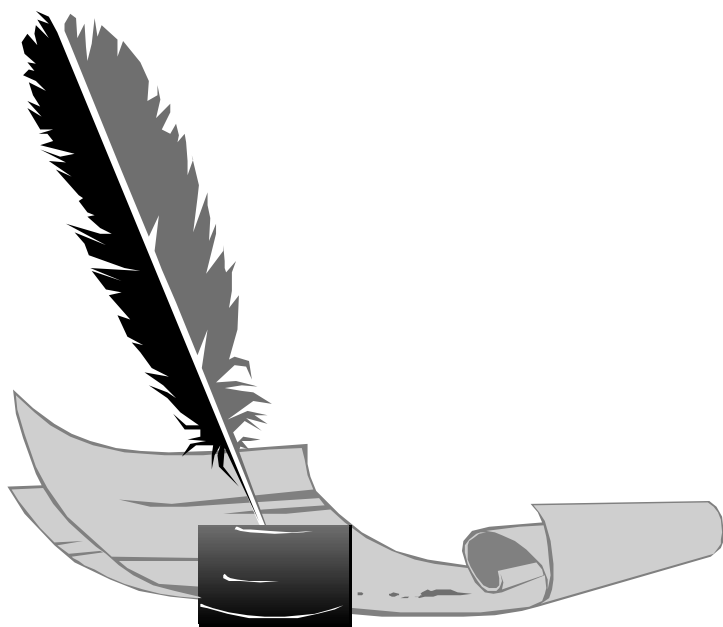
The Preview view of the report should look similar to the following illustration:



NOTES



NOTES



Lesson



Formatting Features


Lesson 3: Formatting Features

Lesson Objectives

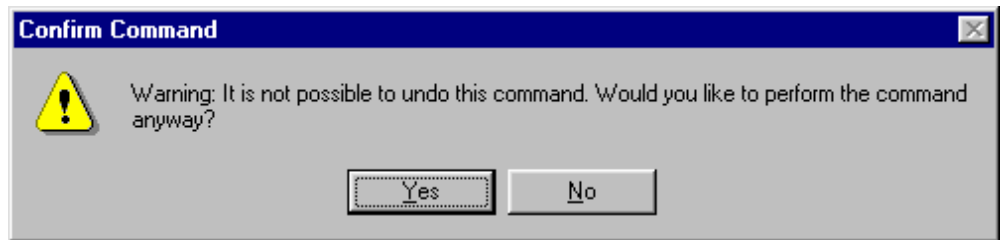
After completing this lesson, you will be able to:

- Use the Report Style Expert
Choose a pre-formatted style. It's the fastest way to make dynamite reports.
- Format objects
Learn the best methods for controlling the formatting of the fields.
- Add lines and boxes to reports and format them
Create professional looking reports by adding separator lines or boxes to surround groups. Format drawing objects to look like you want.
- Add and format graphics
Graphics images add zip to reports. Crystal Reports imports most graphic image formats so you can dress up the printed output.
- Set the page orientation and margins of the report.
Choose whether to print the report on a Landscape or a Portrait oriented page and learn how to define margin settings.
- Place fields within Text Objects
Combine fields with text quickly and easily. Crystal Reports trims field data automatically when you put a field into a text object, so it is simple to create text based documents in a report.
- Format all or part of an object
Format an entire object, a single character, or a field within a text object to call attention to important data.
- Insert Special Fields into the report
Tell Crystal Reports to automatically print the date and time, page numbers, titles and comments and refresh dates. You can quickly add these special fields from the menu bar.

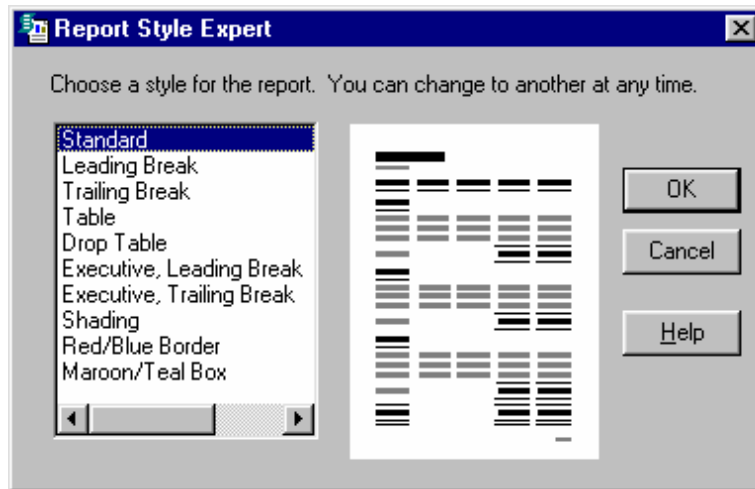
Quick Formatting with the Report Style Expert

Crystal Report's Style Expert contains several pre-formatted report styles that can quickly make your report into a professional looking printout. It applies borders, shading, lines, arrangement and other options to your report. To open the Report Style Expert, choose **Format/Report Style Expert...** or click the Style Expert  button in the Supplementary toolbar.

The Style Expert applies multiple commands to your entire report. Because of the complexity of the process, it is not possible to undo this command. Whenever you are about to perform a command that you cannot undo, Crystal warns you with the following dialog box.






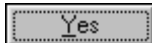
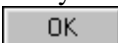

It is always a good idea to save a report before you execute one of these types of commands. If you save first, then you have a way to get back the original report if the command causes changes you do not want.



In the Report Style Expert, you can select a style from the list on the left. The image at the rights shows you how the style looks. Click **OK** to apply the style to the report.

Lesson 3: Formatting Features

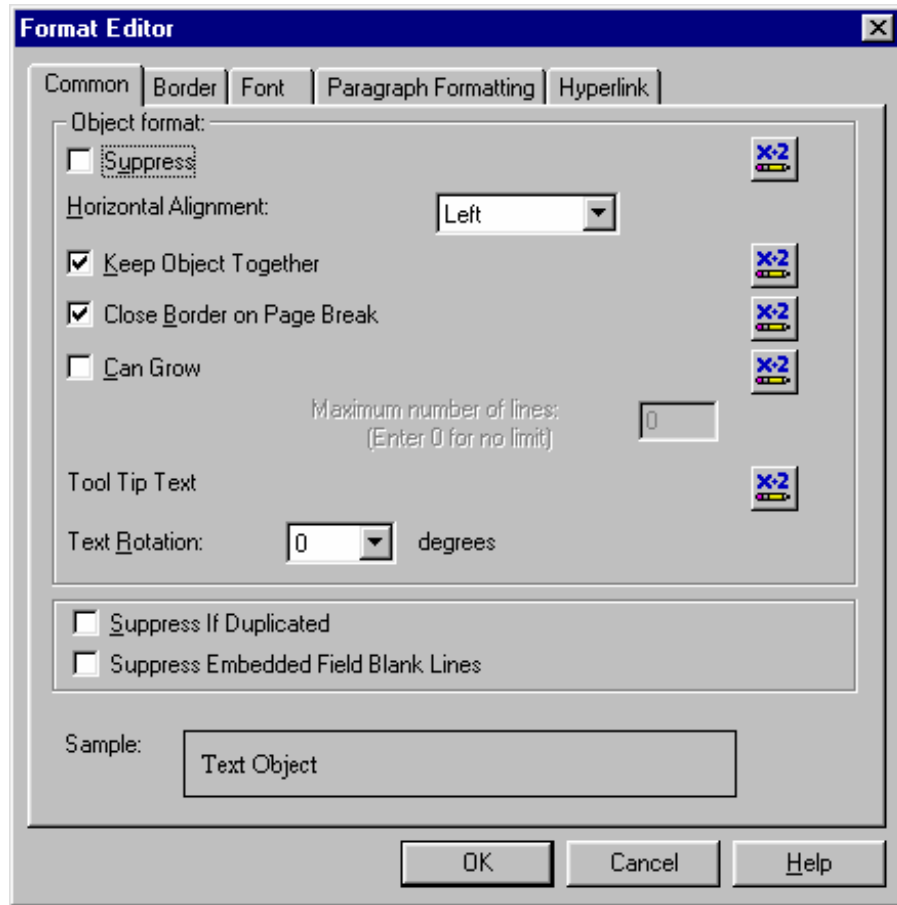
❖ Exercise – Apply a Style Using the Report Style Expert

1. You should still have the **basic 8.5.rpt** report open (C:\Program Files\Seagate Software\Crystal Reports\). If you do not, choose File, then select the report from the list at the bottom of the menu.
2. Go to Preview view and make sure the report is saved. *Look at the Save button in the toolbar. If it is grayed out , then the report is saved. If not, click the button to save the report.*
3. Click the Toggle Supplementary Toolbar  button at the right of the Standard toolbar. *Crystal opens the Supplementary toolbar at the bottom of the screen.*
4. Click the Style Expert  button. *The warning dialog box displays.*
5. Click 
6. Select each of the styles to see what they do, then choose the one you like and click 
7. Sometimes automatic styles do not provide the look you want for your report. However, since you saved this report first, you can easily get your original back. Close this report. *Crystal prompts you to save the report.*
8. Click 
9. Choose File, then select the **basic 8.5.rpt** report from the list and return to Design view.

Formatting Objects

You can format objects with greater control over what happens by using the Format Editor. The easiest method for opening the Format Editor is the RIGHT mouse click. RIGHT click any report object or multiple selected objects, then choose Format ... The Format menu choice may say Format Field, or Format Text, or Format Object, depending on what you have selected when you RIGHT click. Whatever it says, the Format ... option opens the Format Editor dialog box.

Lesson 3: Formatting Features



The Format Editor displays different choices depending on the type of object and the type of field you chose to format. The next few pages show a table of tabs you may see in the Format Editor and the types of fields for which they appear.

Lesson 3: Formatting Features

Format Editor Tabs and Options	
Option	Description
Common Tab	
Suppress	Causes the object to NOT display on the report.
Horizontal Alignment	Defines the alignment of the text or numbers inside the field.
Keep Object Together	Prevents the object from being split with a page break in the printed report.
Close Border on Page Break	If the object is split with a page break and has a border, checking this option closes the border at the end of the page.
Can Grow	For objects with variable lengths, this option allows the object to grow vertically to accommodate all the text. You can define a limit to the growth by typing a number in the Maximum Lines text box.
Tool Tip Text	Allows you specify different text based on different conditions.
Text Rotation	Use the Text Rotation options to rotate the text within the object 90 or 270 degrees.
Suppress if Duplicated	Causes the object to NOT display duplicate values.
Suppress Embedded Field Blank Lines	When checked, this option suppresses any blanks in fields embedded in the text object.
Border Tab	
Line Style	Defines the style of line independently for each side of the object.
Tight Horizontal	Trims the box to the size of the data in the object.
Drop Shadow	Adds a shadow to the lower right of the object.
Border Color	Defines the color of the border line.
Background Color	Defines the color of the background of the object.
Number Tab	
Style	This list displays several pre-defined styles for the number. To apply a style, select it in the list, then click OK .
Currency Symbol	Click here to display a currency symbol on the number. You can display a <i>Fixed</i> symbol, which displays the symbol at the left edge of the field, or a <i>Floating</i> symbol, which displays the symbol directly to the left of the number.
Customize	Click this button to display an additional dialog box to customize the number style. Look in the table on page 57 to see the customized number style options.

Lesson 3: Formatting Features

Option	Description
Font Tab	
Font	Sets the font face for the object.
Font Style	Defines bold, italic, bold and italic, or normal styling.
Font Size	Sets the size of the font for the object. New in version 8.5 is the ability to specify fractional point sizes such as 10.5,12.5 and so on.
Color	Sets the color for the text in the object.
Effects	Turns on or off strikethrough and underline features for the object.
Character Spacing Exactly	Use this option to specify the value that each character in your selected font occupies. The value is defined as the distance in number of points measured from the start of one character to the start of the next. When you change the character spacing, you change only the spacing between adjacent characters, not the font size of the characters.
Date/Time Tab	
Style	This list displays several pre-defined styles for the date and time. To apply a style, select it in the list, then click OK .
Customize	Click this button to display an additional dialog box to customize the number style. Look in the table on page 58 to see the customized date and time style options.
Paragraph Formatting Tab	
First Line Indent	Enter the distance in inches (or the default measurement for your report) that you want the first line of the paragraph to be indented from the left margin of the page.
Left Indent	Enter the distance in inches (or the default measurement for your report) that you want the paragraph to be indented from the left margin of the page.
Right Indent	Enter the distance in inches (or the default measurement for your report) that you want the paragraph to be indented from the right margin of the page.
Spacing	Enter the spacing you want for lines as a multiple of the font size you are using, or as an exact number of points.
Text Interpretation	Use this list to select the type of pre-formatted data (string or memo fields only) or text you are inserting in a field. Crystal Reports extracts information about the font, size, style, color, and paragraph and displays the data or text with the specified attributes. Your choices are: <ul style="list-style-type: none"> • "none" to interpret the string or memo field or imported text as if it contains plain text • "RTF Text" to interpret the string or memo field or imported text as if it contains Rich Text Format data • "HTML Text" to interpret the string or memo field or imported text as if it contains HTML data

Lesson 3: Formatting Features

Option	Description
Hyperlink Tab	
Hyperlink Type	Click the type of hyperlink you want to create. Hints about how to use each of these options are provided in the Helpful Hints section. Not all hyperlink types are available at all times.
Hyperlink Information	Use this box to enter information about the hyperlink such as the URL address, the path name to the file, etc.
Picture Tab	
Crop From	Defines area of the picture to NOT display. This area is cut off from the picture.
Scaling	Lets you reduce or enlarge the picture based on scale percentage.
Size	Defines the actual size of the picture's width and height.
Reset	Resets the picture format to the defaults specified in the Original size display box.
Boolean Tab	
Boolean Text	Sets the display of the Boolean text.
Subreport Tab	
On-demand subreport	Select this checkbox to create a hyperlink to a subreport.
Subreport Preview tab caption	Click the X+2 button to enter text that the user will see to identify the hyperlink to the subreport.
Re-import when opening	Select this checkbox to import the subreport from the original file whenever you open the main report. If you have made changes to the original file, you see these when you re-import it.

Lesson 3: Formatting Features

The following table lists the options available for customizing the number styles.

Customize Number Style Tabs and Options	
Number Tab	
Use Accounting Format	When you select this option, three defaults are set automatically. The negative symbol used, and its position, is determined by the Windows Regional Settings (it will be either the minus sign or the brackets). The dash will be automatically chosen for "Show Zero Values as". Zero values are automatically displayed as dashes (-) in your report, and the currency symbol is fixed on the left side.
Suppress if Zero	Hides the data if the value is zero.
Decimals	Truncates the number to the number of decimals you define.
Rounding	Rounds the number to the number of decimals you define.
Negatives	Defines how negative numbers display, with leading -, or trailing – or parentheses.
Reverse Sign for Display	You can reverse the sign for debit and credit amounts in financial reports by selecting this check box.
Allow Field Clipping	When this box has a checkmark, Crystal truncates the number for fields where the number is longer than the length of the field. For example, if the field is set to display 6 characters, and the number is 5,407.65, the field displays 407.65. If there is no checkmark, then the field displays ##### to indicate that the field is not long enough to display the number. NOTE: WE STRONGLY RECOMMEND YOU REMOVE THE CHECKMARK FROM THIS FEATURE.
Decimal Separator	Sets the character for the decimal separator.
Thousands Separator	Sets the character for the thousands separator.
Leading Zero	Includes a zero before the decimal point for numbers between zero and one.
Show Zero Values As	This list lets you define how zero values display as 0 or as -.
Currency Symbol Tab	
Enable Currency Symbol	Turns display of currency symbol on or off. You can choose to display the symbol at the left of the field by clicking the <i>Fixed</i> radio button.
One Symbol Per Page	Displays the currency symbol on only the first item on each page.
Position	Displays a list of all available positions for the currency symbol.
Currency Symbol	Lets you type the symbol you want to use for the currency symbol. \$ is the default.

Lesson 3: Formatting Features


The following table lists the options available for customizing the date and time styles.

Customize Date and Time Style Tabs and Options	
Date/Time Tab	
Order	Specifies the order of the date and time. There are four choices: Date Time, Time Date, Date, and Time.
Separator	Defines the separator between the date and time.
Date Tab	
Date Type	Sets the date format based on settings of Short Date, Medium Date or Long Date.
Calendar Type	
Format	Defines the display of the month, day and year. Select display formats from the drop-down lists. Era/period type????
Order	Sets the order of the three date sections: year, month, day or day, month, year or month, day, year.
Leading Day	Displays the day of the week before the date.
Separators	Defines the separator characters placed between the three date sections.
Time Tab	
12 Hour/24 Hour	Chooses to use a 12-hour clock or a 24-hour clock (military time).
Hour: Minute: Second:	Defines the display for hours, minutes or seconds. Select display formats from the drop-down lists.
Separators	Defines the separator characters placed between the three time sections.

❖ Exercise - Format a Single Field

1. Open basic **8.rpt** and select the report title.
2. RIGHT click the title, then choose Format Text...
The Format Editor dialog box is displayed.
3. Using the above table, set the following formats:
 - a. Add a double line border.
 - b. Add a drop shadow.
 - c. Change the border color to a color of your choice.
 - d. Change the background color to a color of your choice.
 - e. Change the title font and font size.
4. Resize the field to display all the title text on one line.

Lesson 3: Formatting Features

5. Select the Last Year's Sales field.
6. RIGHT click the field, then choose Format Field...
7. Click the *Display currency symbol* check box, then click 


❖ Exercise - Format Multiple Fields

1. Multiple select the field titles in the Page Header section.
2. RIGHT click one of the titles.
Notice that the shortcut menu is different from when you have one field selected.
3. Choose Format Objects...
The Format Editor dialog box opens.
4. Change the font color and make the titles bold.
5. Remove the underline on the titles.
6. Make sure all the titles are left aligned, except Customer ID and Last Year's Sales, which should be right aligned.
7. When you are finished, deselect the titles.
You might need to resize some titles to display all the bolded text.
8. Using the Save As command, save this report and name it **Format**.
9. Preview the report.

Inserting Lines and Boxes

A valuable feature of Crystal Reports is its ability to integrate graphics into reports to make them more attractive and useful. This lesson discusses how to add lines and boxes as separators or to draw attention to particular figures or groups.

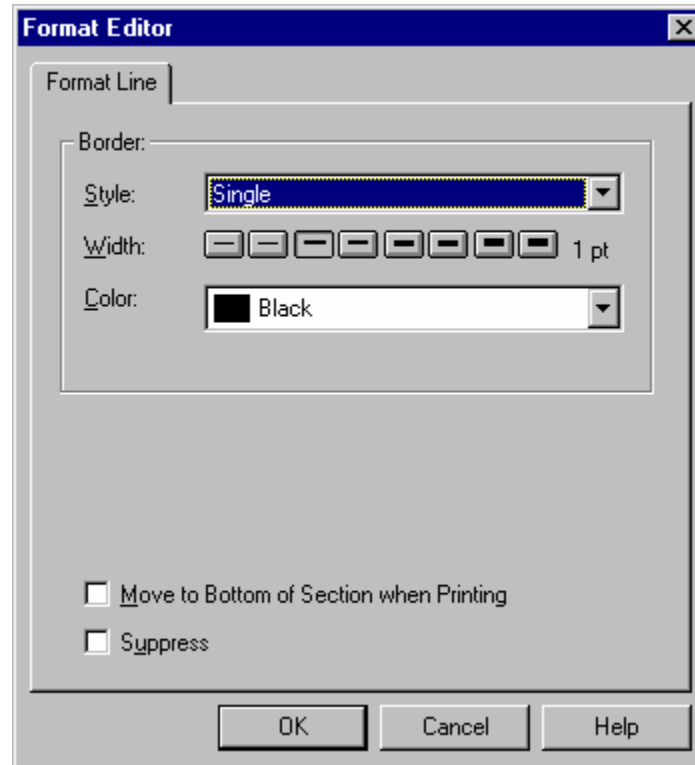
Drawing a Line

To draw a line, choose Insert/Line from the menu or click the Insert Line  button in the Supplementary Toolbar. The mouse pointer changes to the shape of a pencil. Drag the pencil to draw a line wherever you wish (under a title, sub-total, grand total etc.).


Lesson 3: Formatting Features

When you point to the line, the mouse pointer changes to a 4-directional arrow. This mouse pointer allows you to move the line just like any other object on the report. If you select the line, it has handles at each end. Point to a handle to see a two-headed arrow. Click and drag the arrow either direction to shorten or lengthen the line.

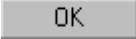
If you wish to change the style of the line, select it, then choose Format/Format Line... from the menu. An even faster way to format the line is to RIGHT click it, then choose Format Line...



❖ Exercise - Insert and Format a Line

1. Make sure you still have the **Format.rpt** report open. Click the Design tab to return to Design view. Make sure the Supplementary Toolbar is open.
2. You need to have some space under the field titles in the Page Header. If you do not, drag the Page Header border down to make some space.
3. Click the Insert Line  button.
The mouse pointer changes to the shape of a pencil.
4. Drag a line in the Page Header under the field titles the width of the report.

Lesson 3: Formatting Features

5. RIGHT click the line, then choose Format Line...
6. Choose a style, width and color that you like.
7. Click 
8. Save and preview the report.

Drawing a Box

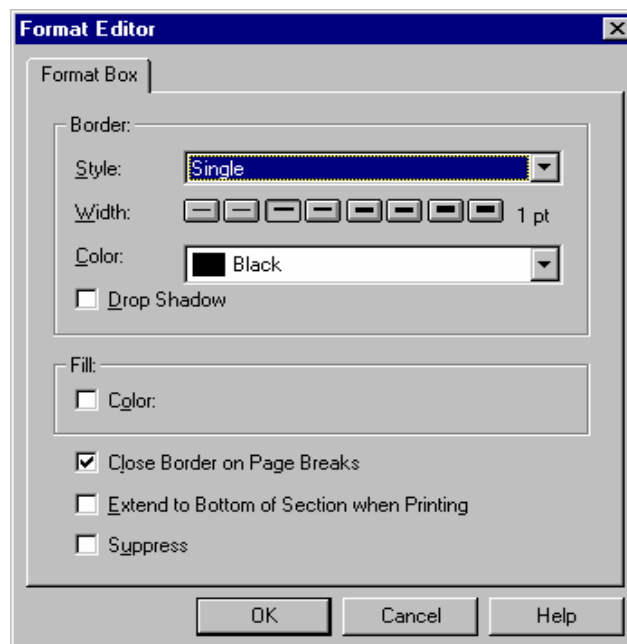
Drawing boxes is much like drawing lines. You can click the Insert Box button on the Supplementary Toolbar or choose Insert/Box from the menu system. Again, you get a pencil mouse pointer. Drag with the pencil to draw a box.

Be careful what sections you are working in when drawing a box. If you want a box around only a group header, make sure you do not release the mouse button while pointing into any other section. On the other hand, Crystal Reports does let you draw boxes around multiple sections so you can enclose objects in different sections within a single box.



TIP: *It is always better to work in Design view when drawing lines or boxes. You can more easily see the sections in which you are working.*

To move or resize the box, select it first. Then, just like any other object, move it by dragging with the 4-dimensional arrow, or resize it by dragging one of the handles. Just like a line, you can format the box by RIGHT clicking it while it is selected.




Lesson 3: Formatting Features

Suppose you want to call special attention to the Last Year's Sales of each customer. You can shade the cell by enclosing it in a box, then specifying a background color. You could also just put a background color on the field object itself, but that would display each specific value with shading, like this:


\$4,500.00
\$52,809.11
\$85,642.56

What you want is a continuous shaded area around all the values plus the field title. For that, you have to draw a box.

❖ Exercise - Insert and Format a Box

1. Make sure you are in Design view.
2. Click the Insert Box  button on the Supplementary Toolbar.
3. Point the pencil above and to the left of the Last Year's Sales title in the Page Header section.
4. Drag down and to the right until the pencil is pointing below and to the right of the Last Year's Sales field in the Details section, and then release the mouse button.

Make sure you get the bottom border of the box as close as possible to the bottom of the Details section.


5. RIGHT click on the box (you must be pointing to the box border), and then choose Format Box...
6. Choose a Silver border color.
7. Choose a Silver fill color, then click 
8. Save and preview the report.

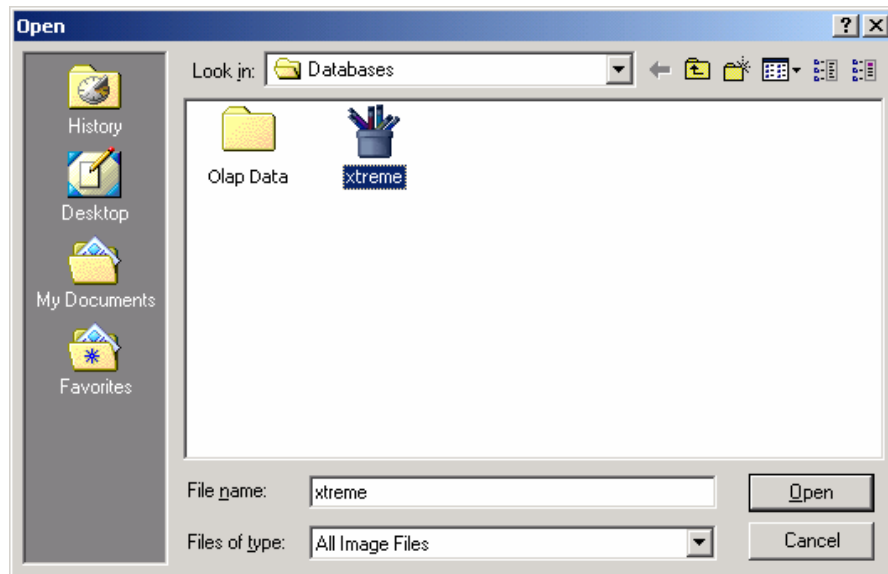
The box should surround the Last Year's Sales field and its title continuously, like this:

Last Year's Sales
\$20,045.27
\$26,369.63

Lesson 3: Formatting Features

Inserting Graphics


Adding pictures, logos or other graphics images to a report can increase the attention the report receives. Crystal Reports allows you to add graphics to any Section of the report. To insert a picture, choose **I**nser**P**icture from the menu bar or click on the  Insert Picture button on the Supplementary Toolbar. The Open dialog box displays where you can choose the appropriate graphics file.



Once you open the file, the mouse pointer appears with a shadow border the size of the graphics image you selected. Simply click in the report where you want the picture to be inserted.

When the picture is in the report, you can format it, move it or resize it just like any other object.

❖ Exercise - Insert a Graphic

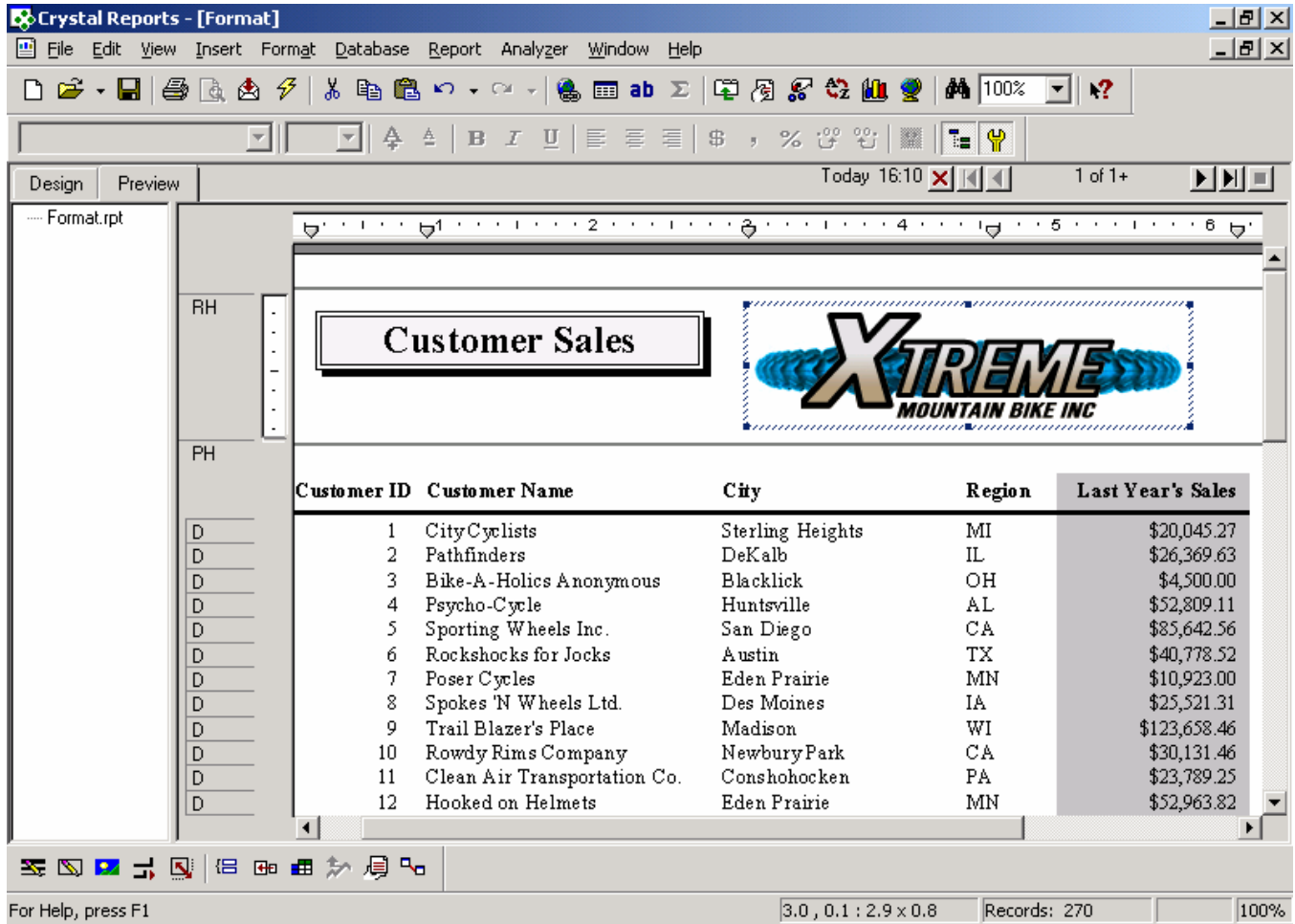
1. Return to Design view.
2. Scroll to the right if necessary to see some space in the Report Header to the right of the title object.
3. Click the Insert Picture  button on the Supplementary Toolbar.
4. You should be in the C:\Program Files\Seagate Software\Crystal Reports\ folder. Double click the Samples folder. Double click the Databases folder. Double click the **xtreme.bmp** file.

Lesson 3: Formatting Features

Crystal Reports returns you to the report. The mouse pointer has a shadow box attached that is the actual size of the graphics image.

5. Click in the Report Header to the right of the title to place the graphic. Crystal Reports places the graphic where you clicked.
6. Save and preview the report. Make whatever changes are necessary.


The report should look like the following illustration:



Auto-Arranging the Report

The Auto-arrange command provides three specific formatting options and does them for you automatically.



- It trims the fields in the report to the shortest possible length, but long enough to accommodate the longest data entry. By default, Crystal puts fields in at the length they are specified at in the database. Often this is much longer than the longest entry. Auto-arrange shortens the fields to the length of the longest entry so you can see everything.
- It specifies a consistent amount of spacing between fields. Crystal calculates how much room is needed for the fields across the width of the report, and then calculates a consistent amount of spacing between fields. It puts the same spacing between all fields on the report.
- It centers everything between the margins of the report.

To apply auto-arranging to the report, choose **Format/Auto-arrange Report** or click the **Arrange Report**  button. If you choose the Auto-arrange command from the menu, Crystal opens the Style Expert so you can choose a style by which you want to arrange the report. If you click the button, Crystal uses the default style to arrange the report.



WARNING: *Like the Style Expert, this is a command that you cannot undo. Always save the report before you issue this command.*

❖ Exercise – Auto-arrange the report



1. Return to Design view and save the report, if necessary.
2. Click the **Arrange Report**  button on the Supplementary toolbar.
The warning dialog box displays indicating that you cannot undo this command.
3. Click 
Notice that Crystal arranges the report according to the default style. Sometimes this command can be very helpful, but often it moves around fields to positions where you do not want them.
4. Close the report without saving.

Working with the Page Commands

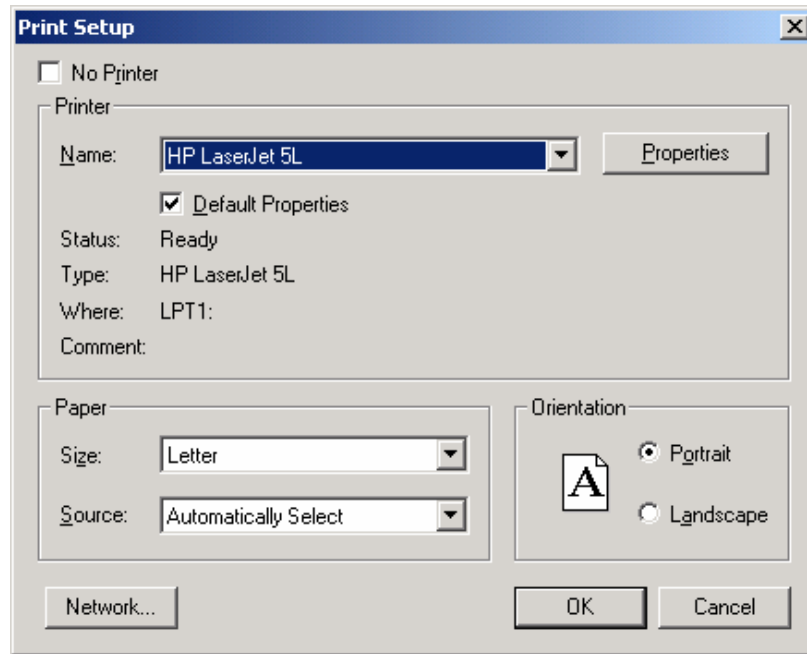
Crystal provides a couple of options to help you define how a page looks in a report. You can change the page orientation and you can set the margins.

Changing Page Orientation

By default, Crystal Reports creates new reports with the page orientation set in the Printer Properties. You can reset the page layout to either a

Landscape  page orientation or a Portrait  page orientation.

To change the page layout, choose File/Printer Setup...



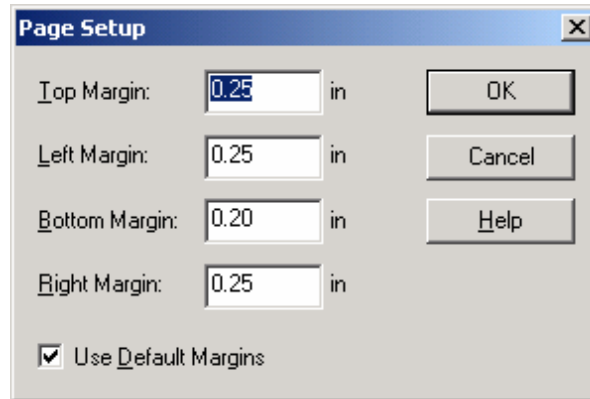
In the Printer Setup dialog box, select the radio button for the layout you want in the *Orientation* section.

Changing Margins

You can also define margins for a report. By default, Crystal sets the margins to the narrowest possible settings available on the printer. Usually, these result in margins .25" wide or less.

To change the margins, choose File/Page Setup...



Lesson 3: Formatting Features



Type numbers for the margin setting you want, and then click **OK**.

❖ Exercise – Set Margins for a Report

You are going to create a report that is formatted as letter. The narrow default margins do not look appropriate for this type of report. Therefore, you need to change them to 1” margins.

1. Start a new report using the *As a Blank Report* option button.
2. Open the Favorites folder, then open the Xtreme sample database if necessary.
3. Add the Employee table, then click .
4. Choose File/Page Setup...
5. Type **1** in the *Top Margin:* text box, then press TAB.
6. Continue to type **1** in each of the other boxes, pressing TAB after each entry.
7. Click  when finished.

Working with Text Objects

You have already learned how to create a text object, but you have not yet explored the power of text and how flexible text objects can be in Crystal Reports. In this lesson, you are going to go into more depth, learning how to place fields inside Text Objects and how to import formatted text. You are also going to see how to format parts of a text object.

Lesson 3: Formatting Features

Adding Fields into a Text Object

Placing fields inside text objects lets you merge database data with text that you type on a report. Crystal Reports makes it simple to create things like form letters or other text based documents with this ability.

To add a field to a text object, you must first create the text object. Place it on the report in the appropriate section and make sure you are in Edit mode (flashing insertion bar in the text box). Now you can simply drag existing fields from the report into the text object. You can also insert fields from the Field Explorer dialog box. As you drag the field into the text object or point to the text object to click to insert the field, the mouse pointer changes shape from a plain arrow to an arrow with a + sign attached.



TIP: Crystal Reports inserts a field into a text object at the location of the insertion bar. Before you click or release the mouse button, be sure that the insertion bar is located where you want the field to be inserted. You can move the insertion bar by moving the mouse.

The mouse pointer MUST be shaped like the arrow with the + sign when you release the mouse button or the field is not included as part of the text object.

The biggest advantage to adding fields to text objects is that Crystal Reports automatically trims the field for each value it inserts. This way there is no extra space at the end of the field when you print the report.

Lesson 3: Formatting Features

To work with this feature, you are going to create an employment update letter that looks like the following:

Update Report

Page 1 of 1

C:\Program Files\Seagate Software\Crystal Reports\Update.rpt

Report Print Date: 4/19/01

Data Collection Date: 4/19/01

Dear Nancy Davolio:

Our records indicate your hire date as March 29, 1991 with a current salary of \$40,000. We also have the following information about your education: Education includes a BA in Psychology from Colorado State University in 1970. She also completed "The Art of the Cold Call." Nancy is a member of Toastmasters International. Please notify your manager if this information is not correct.


Sincerely,
Your name
Human Resources

Dear Andrew Fuller:

Our records indicate your hire date as July 12, 1991 with a current salary of \$90,000. We also have the following information about your education: Andrew received his BTS in Commercial in 1964 and an MBI in International Marketing from University of Dallas in 1971. He is fluent in French and Italian and reads German. He joined the company as a sales representative, was promoted to sales manager in January 1992 and to vice-president of sales in March 1993. Andrew is a member of the Sales Management Roundtable, the Seattle Chamber of Commerce, and the Pacific Rim Importers Association. Please notify your manager if this information is not correct.

Sincerely,
Your name
Human Resources

❖ Exercise - Insert a Data Field into a Text Object

1. Click the  button. Add the text object to the left of the Details section.
2. Type **Dear** in the text box, then press the SPACEBAR.
3. Double click the First Name field in the Field Explorer dialog box. Point to the text object.
Be sure the mouse pointer is shaped like an arrow with a + sign.

Lesson 3: Formatting Features

4. Click in the text object.
Crystal Reports adds the field into the text object after the space.
5. Click into the text object, and then press the SPACEBAR.
6. Double click the Last Name field in the Field Explorer dialog box. Click in the text object after the First Name field and the space.
Crystal Reports adds the Last Name field to the text object.
7. Click in the text object after the Last Name field and type a colon : Then press ESC to exit text edit mode.
8. Resize the text object to be about 6" long.
9. Double click the text object to return to Edit Mode. Position the flashing insertion bar at the end of the line of text after the colon. Press ENTER twice, then type, **Our records indicate your hire date as** then press the SPACEBAR.
10. Add the Hire Date field to the text object.
11. Click in the text object, press the SPACEBAR, then type **with a current salary of**, then press the SPACEBAR
12. Add the Salary field.
13. Click in the text object, then type **. We also have the following information about your education:**, then press the SPACEBAR.
14. Add the Notes field to the text object.
15. Type the last sentence of the paragraph in the text object using the sample on the previous page.
16. Add another text object, below the first one and enter the closing to the letter.
17. Save the report and name it **Update**. Preview the report.
Notice that there is no extra space between the first name and last name because Crystal Reports automatically trims the fields. You should also notice that there is a problem with the longer entries.

Lesson 3: Formatting Features

Placing Multi-Line Text Objects

The Notes field used in this exercise, is a memo type field with varying length depending on the amount of text in the field. When placing multi-line objects, you can encounter problems if other objects are placed directly below them in the same section. When you do this, the height of the object increases according to the size of the text.

Dear Nancy Davolio:

Our records indicate your hire date as March 29, 1991 with a current salary of \$40,000. We also have the following information about your education: Education includes a BA in Psychology from Colorado State University in 1970. She also completed "The Art of the Cold Call." Nancy is a member of Toastmasters International. Please notify your manager if this information is not correct.

Sincerely,
Your name
Human Resources



In the first letter the closing prints below the body of the letter.

Dear Andrew Fuller:

Our records indicate your hire date as July 12, 1991 with a current salary of \$90,000. We also have the following information about your education: Andrew received his BTS in Commercial in 1964 and an MBI in International Marketing from University of Dallas in 1971. He is fluent in French and Italian and reads German. He joined the company as a sales representative, was promoted to sales manager in January 1992 and to vice-president of sales in March 1993. Andrew is a member of the Sales Management Roundtable, the Seattle Chamber of Commerce, and the Pacific Rim Importers Association. Please notify your manager if this information is not correct.

Sincerely,
Your Name
Human Resources



The text in the Notes field in the second letter is longer, so the body prints on top of the closing.

You can correct this problem by simply placing the closing of the letter in the same text box as the rest of the letter. As the size of the Notes field increases, Crystal automatically expands the text box to accommodate it and moves the following lines down.

Lesson 3: Formatting Features

❖ Exercise – Place Multi-Line Text Objects

1. Double click the second text object to enter edit mode. Copy the text by first highlighting it, then CTL-C.
2. Double click the letter text object to return to Edit Mode. Position the flashing insertion bar at the end of the last line of text. Press ENTER twice.
3. Paste the copied text with CTL-V.
4. Select the second text object, and then press DELETE to delete it.
5. Save and Preview the report.
All of the text now appears in the letter.



TIP: You can import pre-formatted, text-based objects from an existing file onto your report. To do this, simply double click the text object where you want to import the text, or create a new text object, then right click on it to bring up the shortcut menu. From the shortcut menu, choose Insert from File. Select the file where you want from the open dialog box, then click the Open button. The object is imported from the file onto your report and replaces the original object.

Formatting Part or All of an Object

You can format an entire text object or you can apply a different format to the fields. You can use the Format Editor to make these changes, or, if the formatting choice is one located on the Format toolbar, you can use the Format toolbar buttons and drop-down lists to change how the text looks.

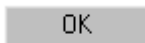
If you want to format the entire text object, you already know how. Select it, then choose the appropriate options from the Format toolbar or RIGHT click it and choose Format Object...

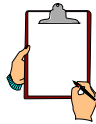
If you want to format *only* a field within the text object, you must select just the field. To do this, you must be in Edit Mode. Remember, when you are in Edit Mode, there is a flashing insertion bar in the text box and a small ruler above or below the text object. To get to Edit Mode, double click the object.

You can highlight individual characters in the object to format them by dragging the mouse pointer over them just as you would highlight words in any word processing program. You can highlight a field within a text object by clicking it one time while in Edit Mode.

Lesson 3: Formatting Features



❖ Exercise - Format All and Part of an Object

1. Return to Design view. Select the entire text object you added.
2. Change the font to Times New Roman, 12 pt. using the Format toolbar drop-down lists.
Notice that all the field contents are formatted.
3. Double click the text object to enter Edit Mode.
You should see a flashing insertion bar in the field and a small ruler.
4. Click the Hire Date field once.
The field becomes highlighted.
5. RIGHT click the highlighted field, then choose Format {Employee.Hire Date}...
6. Scroll down in the *Style* list then choose **March 01, 1999**.
7. Click the Font Tab. Drop-down the *Style:* list, and then choose Bold. Click 
8. Deselect the text box. Save the report and preview it.
You should see the hire date as a text based date in bold letters.



NOTE: It is strongly recommended to return to design view when formatting a field within a text object.

Inserting Special Fields

Crystal Reports contains several special fields, unrelated to the fields in the database, which you can use to make the report more useful. To insert a special field, first open the Field Explorer by clicking the Insert Fields  button on the Standard toolbar. Click the  icon beside Special Fields to see the fields of that type. You can insert a special field using one of the same four techniques you use to insert database fields. You can also place special fields in text objects to combine text with the special field information.

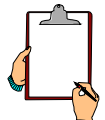
Lesson 3: Formatting Features

The table below lists the special fields and their descriptions:

Special Fields	
Special Field	Description
Page Number	Automatically prints the page number on each page
Total Page Count	Calculates and prints the total pages in the report
Page N of M	Insert the page number with a total page count, i.e., <i>Page 1 of 5</i>
Report Title	Automatically places the report title in the File / Summary Info window along with other information about the report for future reference.
Report Comments	Automatically places any comments you make about the report in the File / Summary Info window along with other information about the report for future reference.
File Path and Name	Inserts the file path and name of the current report.
File Author	Automatically places the Author in the File / Summary Info window along with other information about the report for future reference.
File Creation Date	Inserts the date that the report was created.
Print Date	Takes the date from your PC's calendar/clock and prints it on the report
Print Time	Takes the time from your PC's clock and prints it on the report
Data Date	Prints the date that the data in the report was last refreshed
Data Time	Prints the time that the data in the report was last refreshed
Modification Date	Shows the date when the report was last saved based on the PC's calendar/clock.
Modification Time	Shows the time when the report was last saved based on the PC's clock.
Record Number	Assigns a number to each record in the report and acts as a counter field
Group Number	Allows the numbering of each group in the group header or group footer.
Record Selection Formula	Inserts the Record Selection Formula that was created for the report in the Record Selection Formula Editor.
Group Selection Formula	Inserts the Group Selection Formula that was created for the report in the Group Selection Formula Editor.



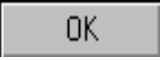


WARNING: *If you are using a release earlier than Crystal 7.0, you may not have all the Special Fields listed above.*




NOTE: *Information for the Report Title, Report Comments and File Author special fields comes from the document Properties dialog box, Summary tab. You can open this dialog box by choosing File/Summary Info.*

Lesson 3: Formatting Features

❖ Exercise - Insert a Special Field in the Report

1. Return to Design view. Choose File/Summary Info
2. Type **Update Report** in the *Title* text box, then click 
3. Click the Insert Fields  button on the Standard toolbar to open the Field Explorer.
4. Click the  icon beside Special Fields. Insert the Report Title special field in the Report Header section.
The mouse pointer changes to a Ø symbol until you point into the report.
5. Format the Report Title special field to be bold with a 12 pt. Font.
6. Insert the File Path and Name special field in the Page Header on the far left side.
7. Insert the Page N of M special field in the Page Header above the File Path and Name special field.
8. Format both special fields in the Page Header to be italicized.

❖ Exercise - Insert Special Fields in Text Objects

1. Click the  button, and then insert the text object in the Page Header section upper right.
2. Type the text **Report Print Date:** then press the SPACEBAR. Insert the Print Date special field in the text box after the colon and space. Press ENTER. Type the text **Data Collection Date:** then press the SPACEBAR. Insert the Data Date special field after the colon and space.
3. Resize the text box so the text displays on two lines (make it wider).
4. Save the report and preview it. Make any changes necessary. Save and close the report.

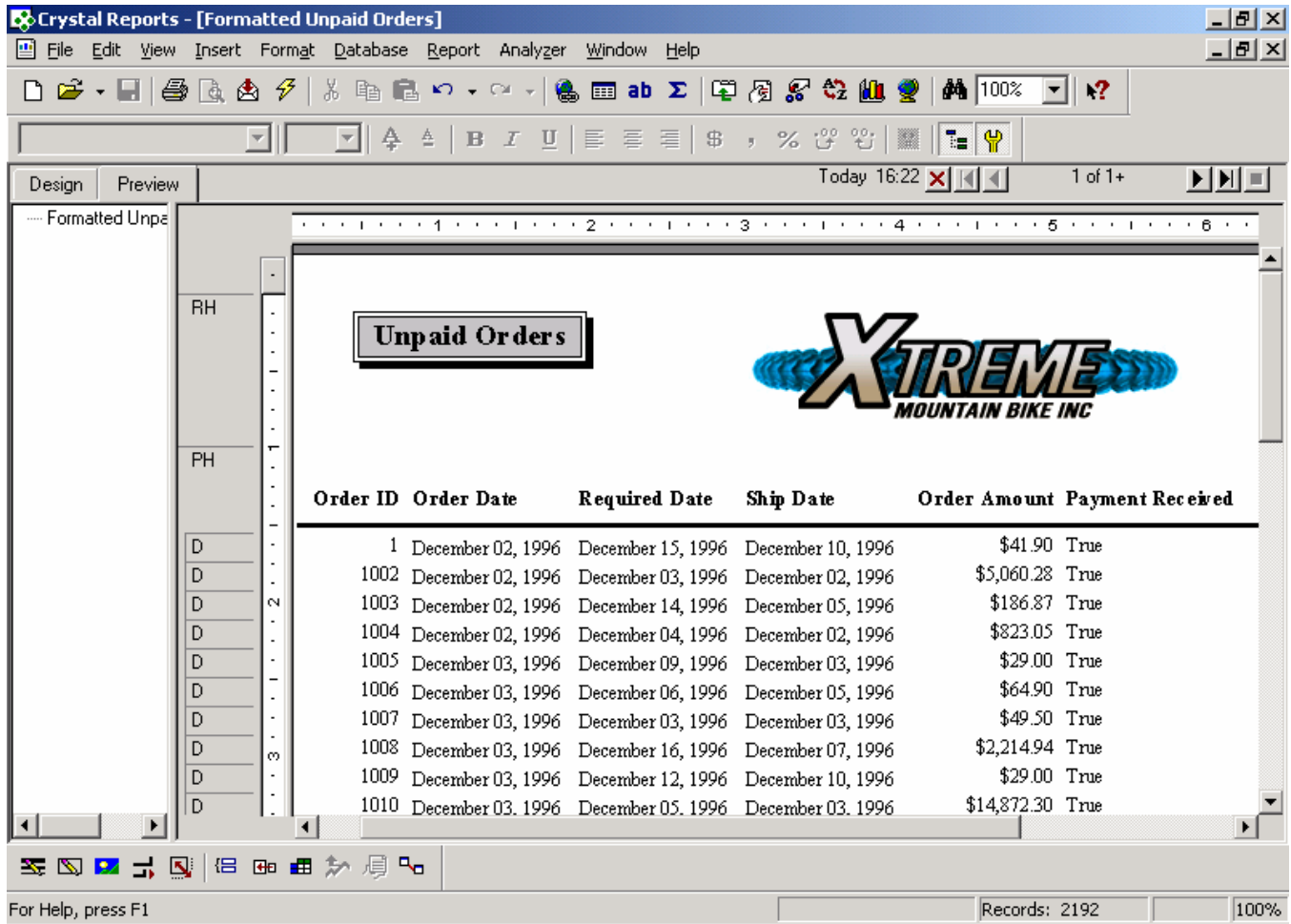
Challenge Exercise – Formatting Features

Format the Unpaid Orders report created in the challenge exercise for the second lesson.

1. To open the **Unpaid Orders** report, choose File, and then select the report from the list at the bottom of the menu.
2. Click once on the report title text object in the Report Header to select it. *Blue slash lines (also called the selection border) and sizing handles appear around the object.*
3. Format the title to be centered in its text object. Add a double lined border, a drop shadow, and any border and background color you choose. Make the text bold and 14pt.
4. Multiple Select the Field Titles in the Page Header section. Make them bold and not underlined.
5. Make sure you have enough space under the field titles in the Page Header and draw a line under the field titles the width of the report. Format the Line with any style, width and color you choose.
6. Insert the Xtreme Mountain Bike logo in the Report Header to the right of the title object.
*Remember that the **Xtreme.bmp** graphic is located in the Program Files\Seagate Software\Crystal Reports\Samples\Databases folder.*
7. Remove the thousand separator from the Order ID field.
HINT: click the Comma button in the toolbar to turn off the comma.
8. Add a floating currency symbol to the Order Amount field.
9. Format the Order Date, Required Date and Ship Date to display the date only with the full name of the month, two digit day and four-digit year.
10. Use guidelines to position the fields so they look good to you.
11. Use the Save As... command to save the report. Name it **Formatted Unpaid Orders**. Preview the report. When finished, close the report.

Lesson 3: Formatting Features

The Preview view of the report should look similar to the following illustration:



NOTES

