



# Creating Forms with Form Wizards

**A** form offers an alternative way to view and work with data in your tables. Unlike the datasheet view, which always displays data in rows and columns, a form can display data in just about any format. Perhaps the most common use of a form is to create a fill-in-the-blanks view of your data that resembles a paper form your company already uses.

With Form Wizards you can create great-looking data entry forms in about two seconds flat. You just pick the style you want, click your mouse a few times, and voilà, a form appears. You can use any Wizard-created form, except a chart or PivotTable (described later in this chapter), to enter data into tables. This chapter explains how to use Form Wizards to create several types of predesigned forms. These designs (with a few tweaks here and there) probably can handle most of your data entry needs.



You can save lots of time by using Form Wizards to set up forms, even if you plan to customize those forms extensively. Chapter 3 explains how to work with Wizards and gives you hands-on practice with them.

Just in case you're wondering whether Access has more form design tools to offer, the answer is a resounding Yes! If you need a more elaborate form than the Form Wizards can create, Chapter 13 explains how to design and customize forms and reports.

If you need extra help with designing a new form, double-click on the *Working With Forms* book in the Access Help Contents and then double-click on books and topics that interest you.

## What Kinds of Forms Can the Form Wizards Create?

The Form Wizards can create several types of forms showing fields from one or more tables and/or queries. To help you decide which type of Wizard-designed form is best for your own data, we show some representative examples. Then we explain how to create forms with Wizards, save those forms, and use them effectively.

### Columnar Forms

In a columnar form each field appears on a separate line with a label to its left; only one record is shown on each screen. The Wizard fills the first column with as many fields as will fit on a single screen, then it fills the next column with as many fields as will fit, and so forth. Figure 11.1 shows a sample columnar form for the Customers table.



#### TIP

You can customize the styles available in Form Wizards. To get started, open any form in design view and choose Format ► AutoFormat, or click on the AutoFormat button on the Form Design toolbar. Click on the format you want to customize in the AutoFormat dialog box and then click on the Customize button. See Chapter 13 for more details.

### Tabular Forms

Figure 11.2 shows a tabular form for the Products table. As you can see, tabular forms display fields in a horizontal row with field labels at the top of the form. Each new row represents a new record.

Tabular forms are best when you want to display just a few relatively narrow fields and you want to see several records at once. To avoid spending most of your time scrolling back and forth in a tabular form, add just a few fields to the form.

**FIGURE 11.1**

A columnar form for the Customers table, in the Standard style.

**FIGURE 11.2**

A tabular form for the Products table in the Clouds style. The tabular layout is best when you have just a few narrow fields to display and you want to see several records on a single screen.

Product ID	Product Name	Unit Price
1	Basketball	\$4.95
2	Football	\$5.65
3	Soccer ball	\$12.95
4	Volleyball	\$3.25
5	Golf balls	\$6.75
6	Crystal ball	\$45.55
7	Baseball	\$8.75
8	Billiard balls	\$127.45
9	Tether ball	\$9.65
10	Foosball	\$17.85

## Datasheet Forms

A datasheet form initially displays data in datasheet view much as it appears when you open a table or run a query or when you use the Form View toolbar button to switch to datasheet view in any form. This type of form is often used as the basis for subforms, described in a moment. Figure 11.3 shows a datasheet form for the Employees table.

**FIGURE 11.3**

A datasheet form for the Employees table in datasheet view.

EmployeeID	FirstName	LastName	Title
1	Anita	Lift	Sales Representative
2	Andrew	Van Nosto	Vice President, Sale
3	Emily	Niktog	Sales Representative
4	Albert	Niktog	Sales Manager
5	Doris	Ajar	Sales Representative
6	Lane	Clozure	Office Manager
7	Joseph	Swipple	Vice President, Mark
8	Helen	Wheels	Product Evangelist
9	Ed	Honcho	President

You can switch from datasheet form to form view by choosing View ► Form View, or by clicking on the drop-down arrow next to the Form View toolbar button and then choosing Form View. In form view the fields appear in a tabular layout, but only one record is visible on each page of the form. Figure 11.4 shows the Employees form after we switched from datasheet view to form view; this example uses the International style.

**NOTE**

The Form Wizards take their best guess when trying to fit labels and fields on your form. After creating the form, you may need to switch to design view and refine the design. In Figure 11.4, for example, the Employee ID label is cut off because the font is too large. To fix this problem, switch to design view and widen the label control or choose a smaller font for the labels.

**FIGURE 11.4**

The datasheet form, shown in form view. To resize the window to fit snugly, we chose Window ► Size To Fit Form.

Employee ID	First Name	Last Name	Title	Extension	Work Phone
1	Anita	Lift	Sales Represent		(206) 555-9857

## Hierarchical Forms

Sometimes you'll want to work with related tables in your forms. For example, you might want to design an order form that includes customer and order information,

along with details about the products ordered. A hierarchical form showing data from tables that have a one-to-many relationship is perfect for jobs like this.

The Form Wizards can create hierarchical forms in two basic flavors: a main form and subforms or a main form and linked forms. (A *subform* is a separate form that's embedded in a main form.)

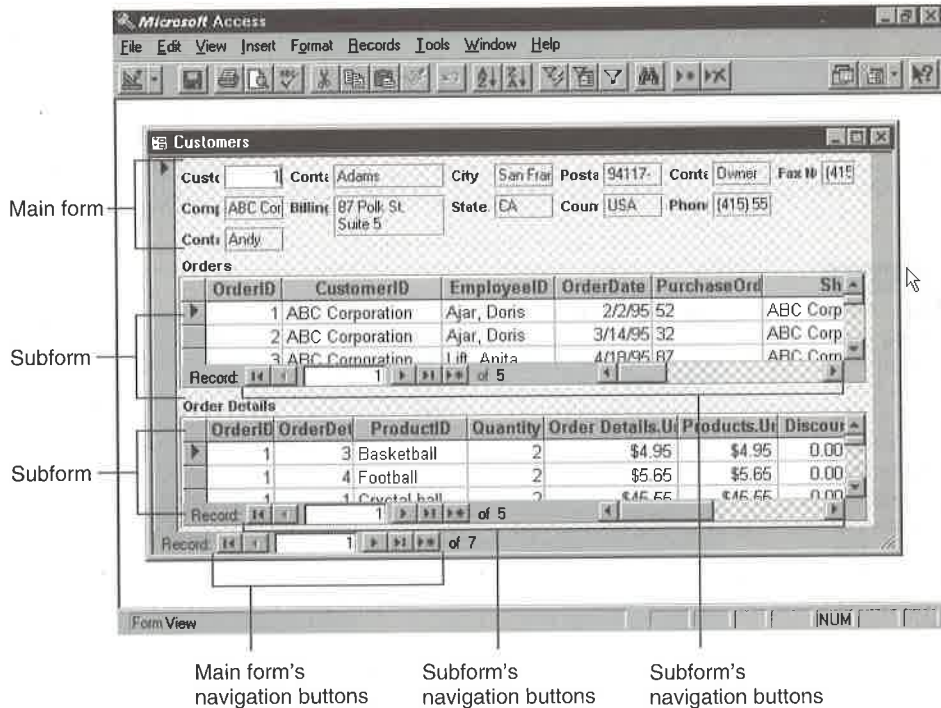
Figure 11.5 shows a main form with subforms and displays information from four tables: Customers, Orders, Order Details, and Products. The main form shows fields from the Customers table, arranged in columnar layout. The subforms for the Orders table and the Order Details and Products tables appear in datasheet layout.

**NOTE**

The main form and subform often go by the names *main/subform*, *form/subform*, or *master/detail form*.

**FIGURE 11.5**

This hierarchical main form shows fields from the Customers table, and its two datasheet subforms show fields from the Orders, Order Details, and Products tables. This example uses the Colorful2 style.



Linked forms, such as those shown in Figures 11.6 and 11.7, also present multitable data hierarchically. But instead of showing all the fields from the main table crowded on the same page used for subforms, the main table's fields appear on a separate form. You can then click on the command button near the top of the form to show records that are synchronized with the record on the first form. The linked form can be a main form or a main form with a subform (see Figure 11.7).

To produce the forms shown in Figures 11.5, 11.6, and 11.7, we ran the Form Wizard and selected all fields from the Customers, Orders, and Order Details tables and just the Unit Price field from the Products table. While viewing the Order Details subform, we dragged the Unit Price field for the Products table next to the unit price field for the Order Details table; this arrangement lets us see the unit price from the Products table while we enter the actual selling price into the unit price field of the Order Details table. We also dragged the OrderID field in the Order Details subform to the left of the Order-DetailID field.



If you've already created forms that include the necessary linking fields, you can quickly combine them into a main form with a subform. To do so, open the main form in design view, press F11 to bring the database window to the front, click on the Forms tab on the database window, and choose Window ► Tile Vertically. Then drag the subform from the database window to an appropriate spot on the main form's design grid and respond to any prompts that appear. See Chapter 13 for more details.

**FIGURE 11.6**

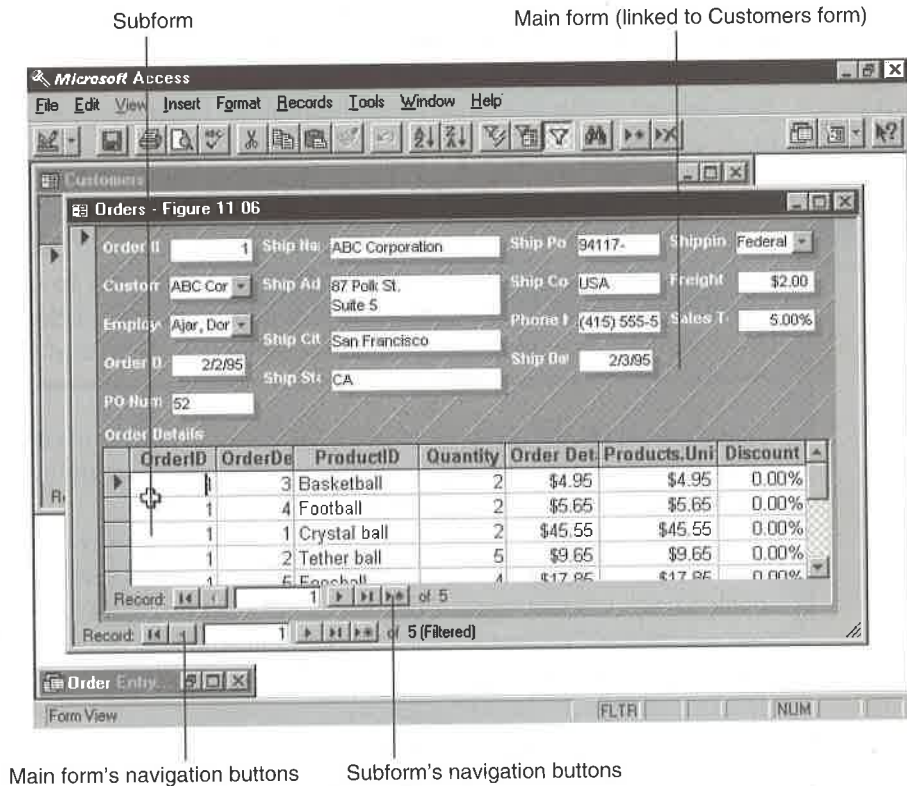
A linked form showing Customers data on the main form. Clicking on the Orders command button displays the form shown in Figure 11.7. This example uses the Flax style.

Main form

Command button opens linked form

**FIGURE 11.7**

The linked form and subform appear when we click on the Orders button shown in Figure 11.6. This form shows Orders, Order Details, and Products information for the customer whose name appears in Figure 11.6. To return to the main form, close the linked form.



## Making Hierarchical Forms Work Properly

To work properly the main form and subform must be linked by a common field in a one-to-many relationship (or, less often, a one-to-one relationship).

- The table or query on the one side—for example, Customers—supplies data for the main form.
- The table or query on the many side—for example, Orders—supplies data for the subform.
- The forms are linked by a primary key field on the one side and a normal field (called the *foreign* key) on the many side. In the Customers and Orders example, CustomerID is the primary key field on the one side and a foreign key on the many side.



The most common problem with creating hierarchical forms occurs when the Form Wizard can't figure out how to link your main form and subform. This problem can occur, for example, if you haven't explicitly set up a relationship between the tables, either via the Relationships window or a multitable query. As you'll see shortly, the Form Wizard will let you know when this problem exists, and it will give you a chance to set up relationships.

**NOTE**

Chapter 6 explains how to use the Relationships window to define relationships between tables in your database. Chapter 10 explains how to use queries to define relationships, select specific data, and perform calculations on data. Chapter 13 explains how to set properties that link main forms and subforms.

One way to get the most out of using the Form Wizards is to create hierarchical forms. For best results, include all fields from tables on the many side. You can always remove unwanted fields or rearrange them later.

In some cases involving multiple related tables that have lookup fields, Access may not connect the related tables and fields properly, and it might not tell you that it is unable to do so. For example, when we included all the Order Entry database fields from our sample Customers, Orders, Order Details, and Products tables on a form, the drop-down list for the ProductID field in the Order Details subform was empty and the lookup values displayed incorrectly.

To work around this glitch, we opened the problem subform (Order Details Subform) in form design view, opened the property sheet (View ► Properties), and clicked on the OrderDetails.ProductID control. Then we changed its Row Source property to Products, its Column Count property to 2, and its Column Widths property to 0";1" and saved the subform. See Chapter 6 for information about lookup fields and Chapter 13 for details about working with properties.

You should also avoid renaming subforms or linked forms. Doing so can prevent Access from finding and opening those forms. If you do rename the forms, you'll need to open each main form and subform in design view, choose View ► Properties (if the property sheet isn't visible), and click on the All tab on the property sheet. Then fix every reference to the old form name in the Name and Source Object properties and in all Event Procedures. (You can edit any event procedure, and then use the Edit ► Replace command to globally change references in the current module.) Be sure to fix these properties for the entire form and for any command buttons and subforms on the form.

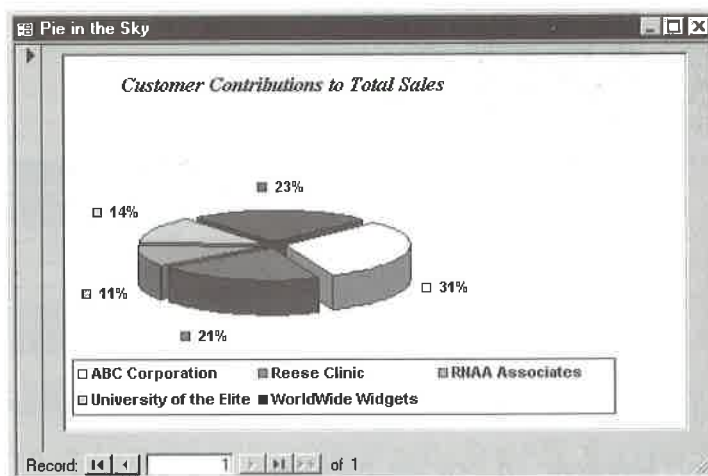
For more details about creating hierarchical forms, look up *Subforms, Creating* in the Access Help Index. Chapter 13 explains how to alter properties and select controls. See Parts Four and Five for more about events and the Visual Basic program code that's used in Event Procedures.

## Charts

Charts convert the numbers in your data to useful graphs that help to clarify the meaning of those numbers. The chart in Figure 11.8 shows the contribution of each customer's orders to the company's total sales. We used a Select query as the data source for the sample chart (refer to Figure 10.17 in Chapter 10). Chapter 14 explains how to create charts.

**FIGURE 11.8**

*A pie chart showing the contribution of each customer's orders to total sales. We tweaked the appearance of this chart after the Chart Wizard created it.*



## PivotTables

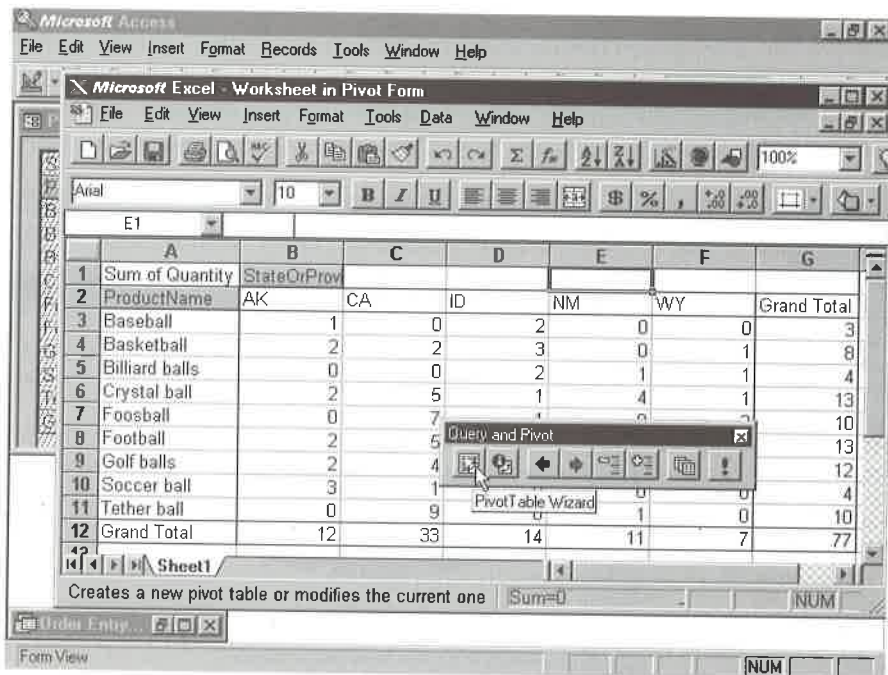
A PivotTable lets you summarize large amounts of data, much as a Crosstab query does (see Chapter 10). But a PivotTable is more flexible than a Crosstab query because it lets you interactively switch the row labels, column labels, and summary calculations as needed. In Figure 11.9 you see a PivotTable that's based on the query shown below. Chapter 14 explains how to create and use PivotTables.

### NOTE

You must have Microsoft Excel installed to create and use PivotTables.

**FIGURE 11.9**

This PivotTable shows the number of each product sold, by state. After opening a form showing a PivotTable in Access, we clicked on the Edit Pivot Table button (not shown) to launch Microsoft Excel and customize the PivotTable as needed.



## Using Wizards to Create a Form

Now that you've seen the many types of forms the Form Wizards can create, why not try the Wizards? The steps are easy:

1. Start from any of these places:
  - To base your form on a specific table, start from the database window, click on the Tables tab, and highlight the table name. Or open the table in datasheet view. If the table has a filter and sort order associated with it, the new form will inherit the filter and sort order automatically (see Chapter 9).

### NOTE

You also can start your form from table design view. If you do, however, the form can be displayed in design view only; you'll get an error message that your table is exclusively locked (click on OK to clear the message). To view the form in form view, pull down the Window menu and switch to the table design window. Then close the table design window (Ctrl+W), switch back to the form design window, and click on the Form View toolbar button.

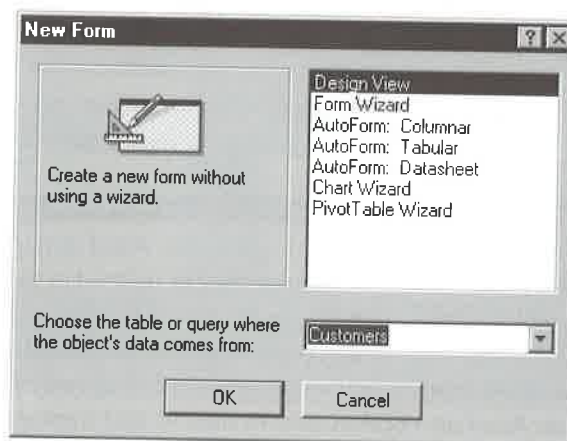
- To base your form on a specific query (or saved filter), start from the database window, click on the Queries tab, and highlight the query name. Or open the query in datasheet or design view.
  - If you're not sure which table or query you want to base the form on, start anywhere in Access (of course, a database must be open) or click on the Forms tab in the database window.
2. Click on the drop-down arrow next to the New Object toolbar button. You'll see this menu:



3. Choose one of these options:

**AutoForm** Creates a one-column form using the template named in the Form Template box on the Forms/Reports tab of the Options dialog box (Tools ► Options ► Forms/Reports; see Chapter 15). Typically, this template is named Normal, and it resembles the Standard style shown in Figure 11.1. After choosing this option, skip to step 11—you're done! Using the AutoForm option makes sense only if you selected a table or query in step 1.

**New Form** Opens the New Form dialog box, shown here:



**TIP** To open the New Form dialog box in fewer steps, click on the Forms tab in step 1 and then click on the New button in the database window. Or start from any tab on the database window and choose Insert ► Form. To create an AutoForm quickly, highlight a table or query name on the Tables or Queries tab in the database window and then choose Insert ► AutoForm.

4. Choose the table or query from the drop-down list (near the bottom of the New Form dialog box) on which you want to base the form. (This box may be filled in already.)

**NOTE** You must select a table or query before choosing any of the AutoForm Wizards or the Chart Wizard in step 5. If you plan to use the Form Wizard or PivotTable Wizard in step 5, you'll have another chance to choose tables and queries.

5. Click on one of the following options (they appear in the list near the top of the New Form dialog box) and then click on OK; or just double-click on the appropriate option. When you click on an option, the area in the left side of the dialog box will show an example and describe the form the selected option will create. Your options are

**Design View** Opens an empty form design window.

**Form Wizard** Opens the Form Wizard. From here you can select which tables, queries, and fields to include on the form, create subforms or linked forms (if appropriate), choose a style for the form, and specify a title and name for your form(s). Figures 11.1 through 11.7 show examples of forms that we created with the Form Wizard.

**AutoForm: Columnar** Creates a columnar form from all the fields in the selected table or query (see Figure 11.1) without asking any more questions.

**AutoForm: Tabular** Creates a tabular form (see Figure 11.2) without asking any more questions.

**AutoForm: Datasheet** Creates a datasheet form (see Figures 11.3 and 11.4) without asking any more questions.

**NOTE** When you choose AutoForm: Columnar, AutoForm: Tabular, or AutoForm: Datasheet, Access places fields in the order they're defined in the table design or query, puts the name of the table or query on the form's title bar, and uses the default style. The default style is the style you (or someone else) chose most recently. If necessary, the Wizard will create a main form and subforms, even if you don't ask it to. After choosing an AutoForm option, skip to step 11 and then save your form.

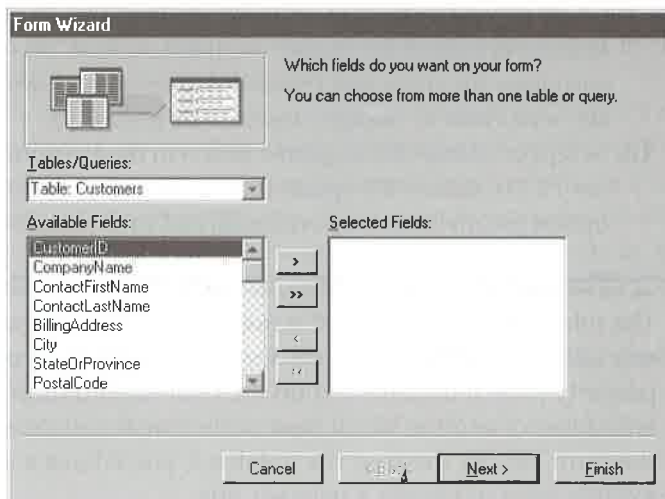
**Chart Wizard** Creates a form that displays a free-standing chart of your table or query data (see Figure 11.8 and Chapter 14).

**PivotTable Wizard** Creates a form that can display a Microsoft Excel PivotTable (see Figure 11.9 and Chapter 14).

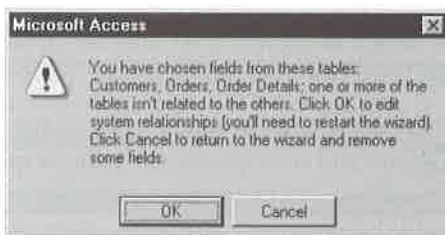
6. Assuming you chose Form Wizard in step 5, you'll see the first Form Wizard dialog box, shown in Figure 11.10. Use any of the techniques described below to add as many fields from as many tables or queries as you need and then click on Next.
  - **To select a table or query**, click on the drop-down arrow button below Tables/Queries and then choose the table or query to use.
  - **To add one field to the form**, click in the Selected Fields list where the new field should appear (optional). Then double-click on the field in the Available Fields list, or click on the field in the Available Fields list and then click on the > button. The field you select will move to the Selected Fields list and will appear on the form in the order shown.
  - **To copy all the Available Fields to the Selected Fields list**, click in the Selected Fields list where the new fields should appear and (optional) then click on the >> button.
  - **To remove a field from the Selected Fields list**, double-click on that field, or click on the field and then click on the < button.
  - **To remove all fields from the Selected Fields list**, click on the << button. The fields will reappear in the Available Fields list.

**FIGURE 11.10**

*Use this Form Wizard dialog box to specify which fields should appear on your form. You can select fields from as many tables and queries as you wish. Access will use your selections to decide how to lay out the form.*



7. If you chose fields from multiple tables, but haven't yet defined relationships between the tables, the Wizard will display the dialog box shown below. Click on OK if you want to exit the Wizard and define relationships (see Chapter 6) or click on Cancel to return to step 6 and remove some fields from your form.



8. In the next dialog box or two, you'll be asked to choose a layout of Columnar, Tabular, Datasheet, Justified, Form With Subform(s), or Linked Forms, depending on which tables and fields you selected in step 6. Choose the options you want and then click on Next to continue to the next dialog box.



As you make choices in the dialog boxes described in steps 8 and 9, the Wizard will give you detailed instructions and show previews of your form as it takes shape. Just watch the screen carefully and you shouldn't have any trouble figuring out what to do.

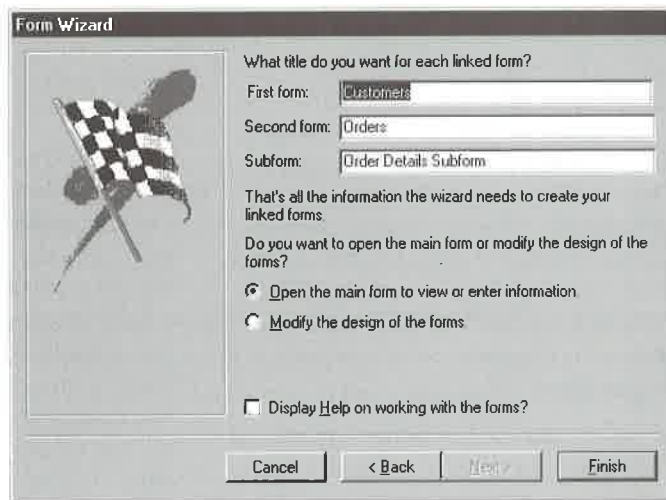
9. Choose a style by clicking on one of the available styles and then click on Next. For maximum readability, choose the Standard style. (As Chapter 13 explains, you can customize the styles and create new ones of your own. Later in this chapter we'll show you how to change a form's style instantly.)
10. Accept or change the suggested title(s) in the last Form Wizard dialog box (see Figure 11.11), choose the option that lets you view or enter information (because this option usually is most convenient), and then click on Finish.



The title you select in step 10 is used for the form name, the form's Caption property (which displays text on the form's title bar), the command button's Caption property (which displays text on the command button of a main form that has a linked form), and the Visual Basic code that Access creates behind the form. If the form already exists in the database, you'll have a chance to overwrite the existing form or choose a different title.

**FIGURE 11.11**

The final Form Wizard dialog box. It's often easiest to accept the default settings and click on Finish. This example shows a final dialog box for a form with linked subforms; the final dialog box for a simple form without subforms is similar.



11. (Optional) Resize or maximize the form that Access created for you. As long as the form is not maximized, you can choose Window ► Size To Fit Form to get a nice snug fit of the form window around the form's fields.

After your form appears in form view, you can

- Use your form to edit existing records or add new ones (see “Opening and Using a Form”).
- Edit or add records in datasheet view. To switch to datasheet view, choose View ► Datasheet View, or click on the drop-down arrow button next to the Form View toolbar button and choose Datasheet View.
- Change the form's design in design view, as explained in Chapter 13. To switch to design view, click on the Form View toolbar button or choose View ► Design View, or click on the drop-down arrow button next to the Form View button and choose Design View. Typically, you'll just need to rearrange or widen the fields and labels. You had a chance to rearrange and resize fields in the Chapter 3 hands-on lessons.
- Print or print preview the form (see Chapters 3 and 9).
- Sort or filter the records, or search for records that meet specific criteria (see Chapters 3 and 9).
- Save and close the form (see “Saving a Form” later in this chapter).





A black and white photograph of a mountain range. The mountains are covered in snow and have dark, rocky patches. In the foreground, there are dark, silhouetted evergreen trees. A full moon is visible in the dark sky above the mountains. The word "Chapter" is written in a large, white, serif font across the middle of the image.

Chapter

12

Creating Reports  
with Report Wizards



## FEATURING

*The kinds of reports the Wizard can create* 448

*Using Wizards to create a report* 455

*Saving a report* 470

*Opening a report* 470

*Changing the style for a report* 471

# Creating Reports with Report Wizards

**F**or most of us, printing the data stored in tables or the information gathered from queries is an essential part of using a database. Access Report Wizards provide easy-to-use—yet powerful—tools for creating reports in several predefined formats. Even if you plan to customize the designs later (as we did in many examples shown in this chapter), you'll save time if you use the Report Wizards to set up reports.

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**NOTE**

Chapter 3 explains how to work with Wizards and gives you hands-on practice with Report Wizards. Chapter 9 covers printing. In Chapter 13, you'll learn how to design forms and reports from scratch and how to customize existing designs.

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If you need more help with designing a new report, open the *Working With Reports* book in the Access Help Contents and explore subtopics in the *Basics* and other books. Or double-click on *Reports, Creating* in the Help Index and explore the subtopics that appear.

## What Kinds of Reports Can the Wizards Create?

The Report Wizards can create several types of reports showing fields from one or more tables and/or queries. To help you decide which type of Wizard-designed report might be best for your own data, we'll show some examples. Then we'll explain how to create, save, and use Wizard-generated reports.

### Columnar (Vertical) Reports

In a columnar or vertical report, each field appears on a separate line with a label to its left. Figure 12.1 shows a sample columnar report for the Products table.



#### TIP

You can customize the styles available in Report Wizards. To get started, open any report in design view and choose Format ► AutoFormat or click on the AutoFormat button on the Report Design toolbar. In the AutoFormat dialog box, click on the format you want to customize and then click on the Customize button.

### Tabular Reports

Figure 12.2 shows a tabular report for the Products table. As you can see, tabular reports display fields in a horizontal row with field labels at the top of the report. Each new row represents a new record.

### Groups, Totals, and Summary Reports

Groups/totals reports such as the one shown in Figure 12.3 organize your data into groups that appear in tabular format. At your request, the Wizard will calculate sum, average, minimum, and maximum values for numeric and currency fields in each group and display sums as percentages of totals.

The group/totals report shown in Figure 12.3 is based on the query shown in Figure 12.4. The calculation in the last column of the query is as follows:

```
$ Before Tax:CCur([Quantity]*  
[Order Details].[UnitPrice]*(1-[Discount]))
```

Summary reports are just like group/totals reports except that they omit the detail records between each group. Figure 12.5 shows a report that's almost the same as Figure 12.3, only designed as a summary report. (We omitted the Product Name field in Figure 12.5.) This report is based on the query shown in Figure 12.4.

**FIGURE 12.1**

A columnar report for the Products table in the Soft Gray style.

## Products

Product ID	1
Product Name	Basketball
Unit Price	\$4.95
Product ID	2
Product Name	Football
Unit Price	\$5.65
Product ID	3
Product Name	Soccer ball
Unit Price	\$12.95
Product ID	4
Product Name	Volleyball
Unit Price	\$3.25
Product ID	5
Product Name	Golf balls
Unit Price	\$6.75
Product ID	6
Product Name	Crystal ball
Unit Price	\$45.55
Product ID	7
Product Name	Baseball
Unit Price	\$8.75
Product ID	8
Product Name	Billiard balls
Unit Price	\$127.45



**FIGURE 12.2**

*A tabular report for the Products table in the Bold style. The tabular layout is best when you have just a few narrow fields to display and you want to see many records on a single page.*

## Products

<b>Product ID</b>	<b>Product Name</b>	<b>Unit Price</b>
1	Basketball	\$4.95
2	Football	\$5.65
3	Soccer ball	\$12.95
4	Volleyball	\$3.25
5	Golf balls	\$6.75
6	Crystal ball	\$45.55
7	Baseball	\$8.75
8	Billiard balls	\$127.45
9	Tether ball	\$9.65
10	Foosball	\$17.85

Tuesday, September 05, 1995

**FIGURE 12.3**

A Casual style groups/total report that's grouped by Order Date and subtotaled on numeric and currency fields. This report is in Outline1 form. We tailored the appearance of this report after the Report Wizard created it.

## Orders by Date

Order Date 2/1/95

Product Name	Quantity	Unit Price	Discount	\$ Before Tax
Basketball	1	\$4.95	0.00%	\$4.95
Billiard balls	2	\$127.45	0.00%	\$254.90
Football	1	\$5.65	0.00%	\$5.65
Football	1	\$5.65	0.00%	\$5.65

Summary for 'OrderDate' = 2/1/95 (4 detail records)

Sum	5			\$271.15
Avg	1.25	\$35.93	0.00%	\$67.79
Min	1	\$4.95	0.00%	\$4.95
Max	2	\$127.45	0.00%	\$254.90
Percent	6.49%			16.48%

Order Date 2/2/95

Product Name	Quantity	Unit Price	Discount	\$ Before Tax
Basketball	2	\$4.95	0.00%	\$9.90
Crystal ball	2	\$45.55	0.00%	\$91.10
Foosball	4	\$17.85	0.00%	\$71.40
Football	2	\$5.65	0.00%	\$11.30
Tether ball	5	\$9.65	0.00%	\$48.25

Summary for 'OrderDate' = 2/2/95 (5 detail records)

Sum	15			\$231.95
Avg	3	\$16.73	0.00%	\$46.39
Min	2	\$4.95	0.00%	\$9.90
Max	5	\$45.55	0.00%	\$91.10
Percent	19.48%			14.09%

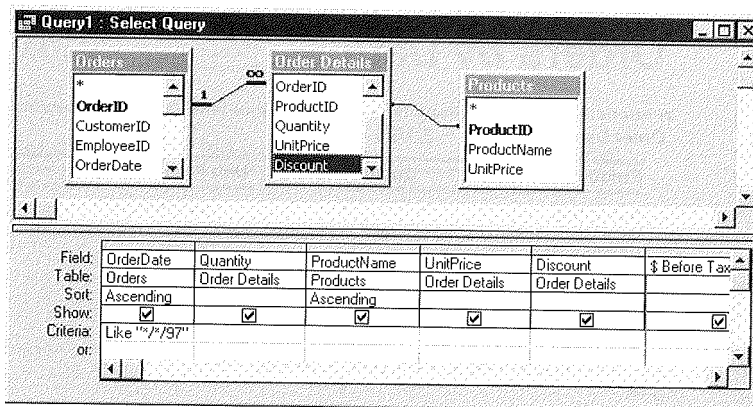
Order Date 2/11/95

Product Name	Quantity	Unit Price	Discount	\$ Before Tax
Baseball	2	\$8.75	0.00%	\$17.50
Basketball	1	\$4.95	0.00%	\$4.95
Basketball	2	\$4.95	0.00%	\$9.90
Football	1	\$5.65	0.00%	\$5.65



**FIGURE 12.4**

This multiple-table query supplies data for the report in Figure 12.3, showing orders placed in 1997. (See Chapter 10 for more about creating queries like this one.)



## When the Report Wizard Needs Your Help

Sometimes you'll need to add your own formatting refinements in report design view, especially for reports that present summary calculations and are based on queries that also involve calculations. Fortunately, making such refinements takes only a few minutes and is much faster than building a complicated report from scratch.

For example, after the Report Wizard created the first version of the report shown in Figure 12.3, the Quantity column heading was a bit too narrow, and formats for the Sum, Avg, Min, Max, and grand total calculations weren't quite right. To fix these problems, we switched to report design view, opened the property sheet (View ► Properties), and clicked on the property sheet's Format tab. Then we did the following:

- Widened the bold labels for Quantity and Unit Price near the top of the report design.

- Selected all the controls that present summary calculations and changed their Text Align property to Right.
- Selected controls that display summary calculations and grand totals for money amounts and changed their Format property to Currency.
- Selected the control that displays average quantity (Avg in the Quantity column) and changed its Format property to Fixed.
- Opened the Sorting And Grouping dialog box (View ► Sorting And Grouping), selected OrderDate in the Field/Expression column, and changed the Keep Together group property to Whole Group.

We also made similar changes to the first version of the report shown in Figure 12.5. See Chapter 13 for more about changing report formats.

**FIGURE 12.5**

A summary report looks like a group/totals report, but without the detail records between each group. For variety, we've shown this report in the Corporate style, in Outline2 format. We tailored the appearance of this report after the Report Wizard created it.

## Orders By Date (Summary)

Order Date		2/1/95			
	Quantity	Unit Price	Discount	\$ Before Tax	
Summary for 'OrderDate' = 2/1/95 (9 detail records)					
Sum	20			\$503.10	
Avg	2.22	\$25.26	0.00%	\$55.90	
Min	1	\$4.95	0.00%	\$4.95	
Max	5	\$127.45	0.00%	\$254.90	
Percent	25.97%			30.57%	

Order Date		2/11/95			
	Quantity	Unit Price	Discount	\$ Before Tax	
Summary for 'OrderDate' = 2/11/95 (4 detail records)					
Sum	6			\$38.00	
Avg	1.50	\$6.08	0.00%	\$9.50	
Min	1	\$4.95	0.00%	\$4.95	
Max	2	\$8.75	0.00%	\$17.50	
Percent	7.79%			2.31%	

Order Date		2/18/95			
	Quantity	Unit Price	Discount	\$ Before Tax	
Summary for 'OrderDate' = 2/18/95 (2 detail records)					
Sum	2			\$52.29	
Avg	1.00	\$26.15	0.05%	\$26.15	
Min	1	\$6.75	0.00%	\$6.74	
Max	1	\$45.55	0.10%	\$45.55	
Percent	2.60%			3.18%	

Order Date		2/25/95			
	Quantity	Unit Price	Discount	\$ Before Tax	
Summary for 'OrderDate' = 2/25/95 (1 detail record)					
Sum	2			\$11.30	
Avg	2.00	\$5.65	0.00%	\$11.30	
Min	2	\$5.65	0.00%	\$11.30	
Max	2	\$5.65	0.00%	\$11.30	
Percent	2.60%			0.69%	

## Charts

Charts convert the numbers in your data to meaningful graphs. The chart in Figure 12.6 shows the contribution of each customer's orders to the company's total sales. We used a Select query as the data source for the sample chart (see Figure 10.17 in Chapter 10).

Charting is basically the same, whether you display the chart on a form or a report. So once you know how to create a form-based chart, you also know how to create a report-based chart. Chapter 14 explains how to create charts.



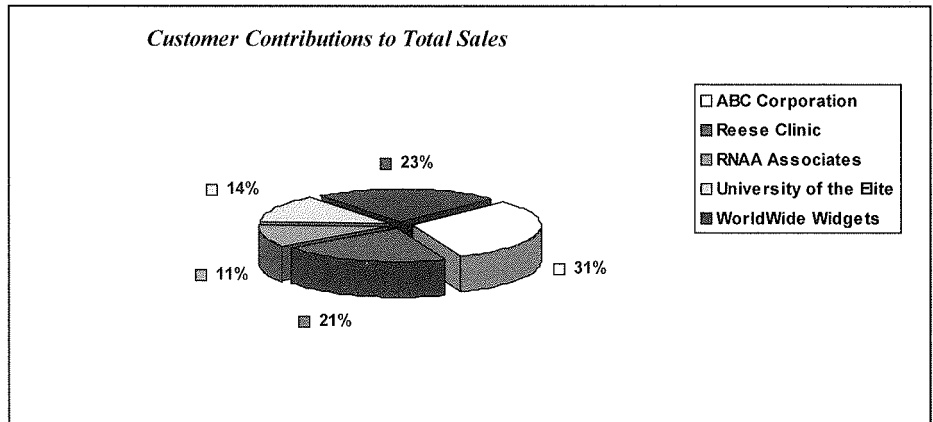
**TIP** If you've already saved a chart as a form, you can quickly convert it to a report. To do so, click on the Forms tab in the database window, right-click on the chart you want to save as a report, choose Save As Report, type a name for the new report, and then click on OK. The newly saved report will appear when you click on the Reports tab in the database window.

## Mailing Labels

You can design mailing labels that will print on standard Avery mailing label stock. Figure 12.7 shows some garden-variety mailing labels formatted for Avery 5196 (3.5" diskette) labels. See "Creating Mailing Labels," later in this chapter to find out how to produce mailing labels from your Access data.

**FIGURE 12.6**

*A pie chart showing the contribution of each customer's orders to total sales. We tailored the appearance of this chart after the Wizard created it.*



**FIGURE 12.7**

*Mailing labels sorted in postal code, last name, and first name order. This example is formatted for Avery 5196 (3.5" diskette) labels. We used a Format function to display the postal codes with hyphens (for example, 92575-4747).*

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## Using Wizards to Create a Report

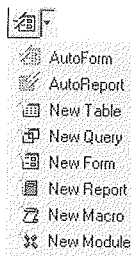
The procedures for creating a report with Wizards depend on the type of report you choose, but these are the basic steps:

1. Start from any of these places:
  - **To base your report on a specific table**, start from the database window, click on the Tables tab, and highlight the table name. Or open the table in datasheet view. If the table has a filter and sort order associated with it, the new report will inherit the filter and sort order automatically (see Chapter 9 and "Removing a Filter and Sort Order" later in this chapter for more details).

**NOTE**

You also can start from table design view. If you do, however, the report can be displayed in design view only, and you'll get an error message that your table is exclusively locked (click on OK to clear the message). To view the report in print preview, pull down the Window menu and switch to the table design window. Then close the table design window (Ctrl+W), switch back to the report design window, and click on the Report View toolbar button.

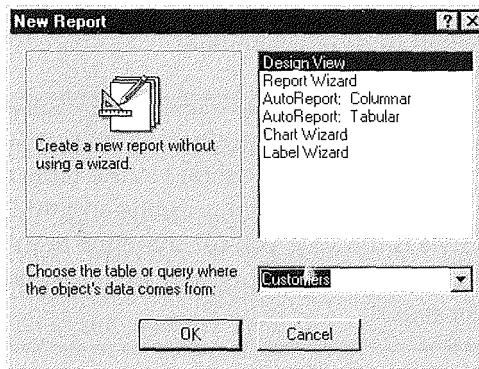
- **To base your report on a specific query (or saved filter),** start from the database window, click on the Queries tab, and highlight the query name. Or open the query in datasheet or design view.
  - **If you're not sure which table or query you want to base the report on,** start anywhere in Access (of course, a database must be open), or click on the Reports tab in the database window.
2. Click on the drop-down arrow next to the New Object toolbar button. You'll see this menu:



3. Choose one of these options:

**AutoReport** Creates a one-column report using the template named in the Report Template box on the Forms/Reports tab of the Options dialog box (Tools ► Options ► Forms/Reports; see Chapter 15). Typically, this template is named Normal, and it is completely plain. After choosing this option, skip to step 11—you're done! Using the AutoReport option makes sense only if you selected a table or query in step 1.

**Report** Opens the New Report dialog box, shown here:

**TIP**

To open the New Report dialog box in fewer steps, click on the Reports tab in step 1 and then click on the New button in the database window. Or start from any tab on the database window and choose Insert ► Report. To create an AutoReport quickly, highlight a table or query name on the Tables or Queries tab in the database window and then choose Insert ► AutoReport.

4. Choose the table or query you want to base the report on from the drop-down list near the bottom of the New Report dialog box. (This text box may be filled in for you already.)

**NOTE**

You must select a table or query before choosing any of the AutoReport Wizards, the Chart Wizard, or the Label Wizard in step 5. If you plan to use the Report Wizard in step 5, you'll have another chance to choose tables and queries.

5. Click on one of the following options in the list near the top of the New Report dialog box and then click on OK (or just double-click on the appropriate option). When you click on an option, the area in the left side of the dialog box will show an example and describe the report the selected option will create. Your options are:

**Report Wizard** Opens the Report Wizard. From here, you can select which tables, queries, and fields to include on the report, choose how to group, total, and summarize your report, choose a style for the report, and specify a title and name for your report.

**AutoReport: Columnar** Without asking any more questions, creates a columnar report from all the fields in the selected table or query (refer to Figure 12.1).

**AutoReport: Tabular** Without asking any more questions, creates a tabular report (refer to Figure 12.2).

**NOTE**

When you choose AutoReport: Columnar or AutoReport: Tabular, Access places fields in the order they're defined in the table design or query, puts the name of the table or query on the report's title and title bar, and uses the default style. The default style is the style you (or someone else) chose most recently when using the Report Wizard. After choosing an AutoReport option, skip to step 11 and then save your report.

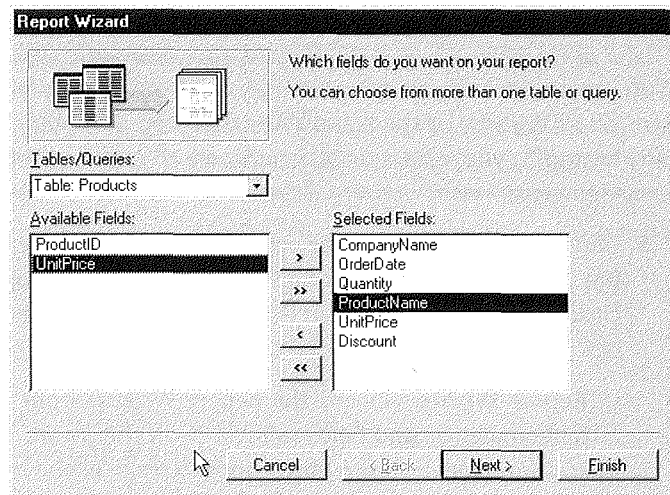
**Chart Wizard** Creates a report that displays a free-standing chart of your table or query data (see Figure 12.6 and Chapter 14).

**Label Wizard** Creates mailing labels from your table or query (see Figure 12.7 and "Creating Mailing Labels," later in this chapter).

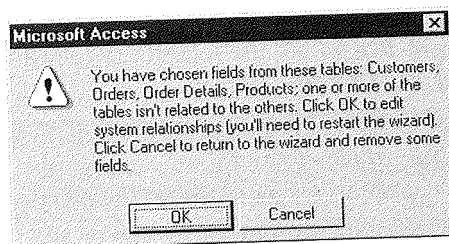
- Assuming you chose Report Wizard in step 5, you'll see the first Report Wizard dialog box, shown in Figure 12.8. Use any of the following techniques to add as many fields from as many tables or queries as you need, and then click on Next.
  - To select a table or query**, click on the drop-down arrow button below Tables/Queries and then choose the table or query to use.

**FIGURE 12.8**

Use this Report Wizard dialog box to specify which field should appear on your report. You can select fields from as many tables and queries as you wish. Access will use your selections to decide how to lay out the report.



- **To add one field to the report**, click in the Selected Fields list where the new field should appear (optional). Then double-click on the field in the Available Fields list, or click on the field in the Available Fields list and then click on the > button. The field you select will move to the Selected Fields list and appear on the report in the order shown.
  - **To copy all the Available Fields to the Selected Fields list**, click in the Selected Fields list where the new fields should appear (optional); then click on the >> button.
  - **To remove a field from the Selected Fields list**, double-click on that field, or click on the field and then click on the < button.
  - **To remove all fields from the Selected Fields list**, click on the << button. The fields will reappear in the Available Fields list.
7. If you chose fields from multiple tables but haven't defined relationships between the tables yet, the Wizard will display the dialog box shown below. Click on OK if you want to exit the Wizard and define relationships (see Chapter 6); or click on Cancel to return to step 6 and remove some fields from your report. In the next few dialog boxes, you'll have a chance to customize your report. Your options will depend on which tables and fields you selected in step 6 and whether you choose to group your data.



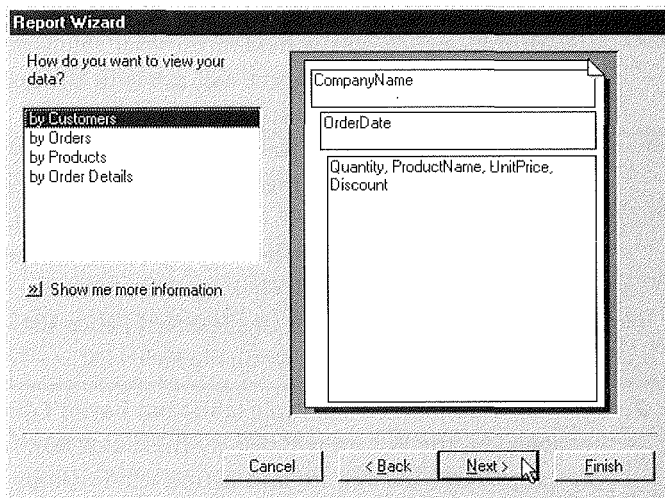
8. Pick the options you want in each dialog box and then click on Next to continue to the next dialog box. Here's a summary of the dialog boxes you'll see:

**How to view your data** The dialog box shown in Figure 12.9 appears if the report can be grouped in various ways. Choose the grouping option you want to use and then click on Next.



**FIGURE 12.9**

Use this Report Wizard dialog box to choose how to view a report that can be grouped in more than one way. This dialog box appears only if it's needed.



As you make choices in the dialog boxes described in steps 8 and 9, the Report Wizard will give you detailed instructions and show previews of your report as it takes shape. Just watch the screen carefully and you shouldn't have any trouble figuring out what to do.

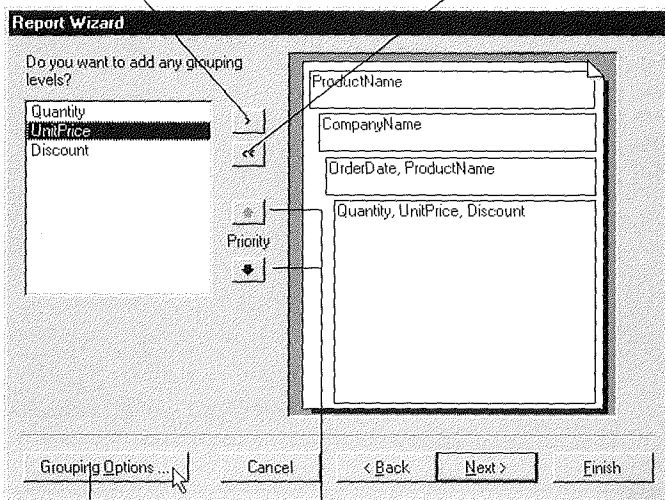
**Grouping levels and grouping options** The dialog box shown in Figure 12.10 appears if your report can be grouped by additional levels. To choose a grouping field, double-click on it; or click on the field name and then click on the > button. To move it up a level, click on the ↑ button in the dialog box; to move it down a level, click on the ↓ button. To remove the bottom-most grouping field, click on the < button (repeat as needed). If you want to control the grouping interval for your additional fields, click on the Grouping Options button in the dialog box, choose the interval you want from the appropriate Grouping Intervals drop-down lists, and then click on OK. Click on Next to continue.

**Sort order for detail records and summary options** The dialog box shown in Figure 12.11 appears if your report is grouped. From here, you can sort detail records by up to four fields, in ascending or descending order. To control various groups/totals and summary options, click on the Summary Options button (if it's available); then select the options you want to use (see Figure 12.12) and click on OK. Click on Next to continue.

**FIGURE 12.10**

This Report Wizard dialog box lets you choose additional grouping fields and pick grouping intervals for those fields. This dialog box appears only if it's needed.

Click to group by the selected field.      Click to clear a grouping field.



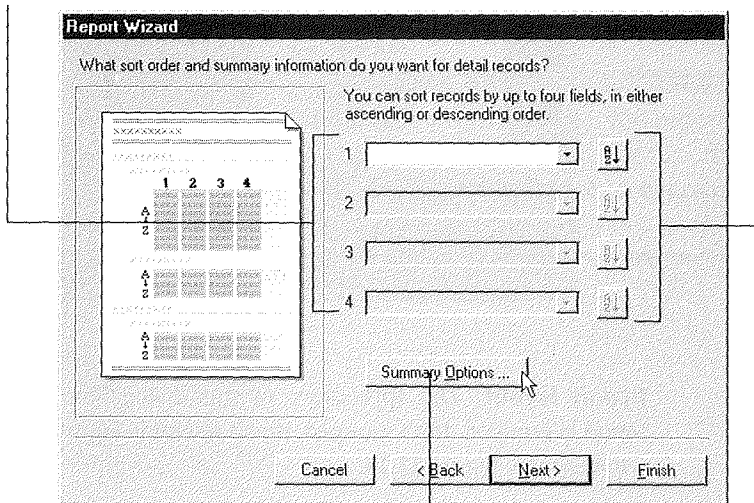
Click to group fields by intervals.      Click to change grouping priority.

**FIGURE 12.11**

Use this Report Wizard dialog box to choose the sort order for up to four detail fields, and to choose various summary options. This dialog box appears only if it's needed, and the Summary Options button appears only if your report includes numeric fields.

Choose up to four detail fields to sort by.

Click to choose ascending or descending sort.

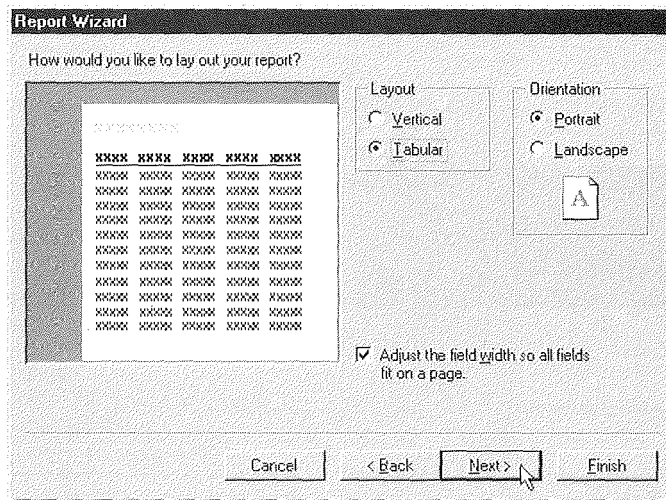


Click to choose summary options (see Figure 12.12).



**FIGURE 12.14**

Use this dialog box to choose a layout for a report that isn't grouped. The term "Vertical" in the Layout group of this dialog box means the same as "Columnar."



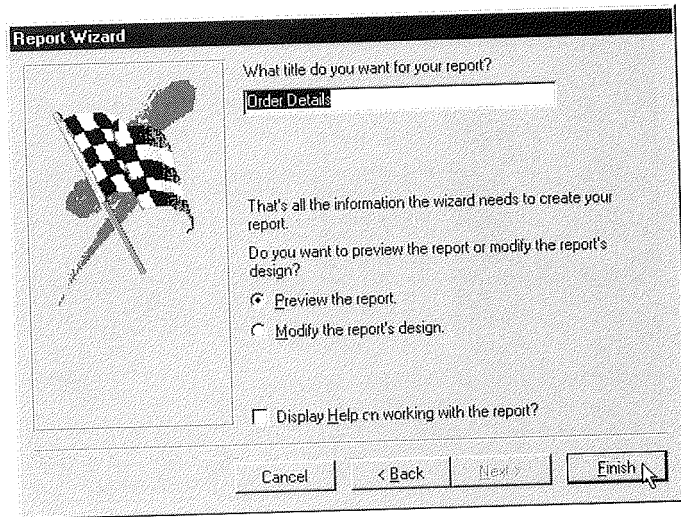
9. Click on one of the available styles when asked to choose a style and then click on Next. (As Chapter 13 explains, you can customize the styles and create new ones of your own. Later in this chapter we'll show you how to change a report's style instantly.)
10. Accept the suggested title or change it if you wish in the last Report Wizard dialog box (see Figure 12.15). Make sure you've selected Preview The Report (because this option usually is most convenient) and then click on Finish.

**WARNING**

The title you select in step 10 is used for the report name, the report's Caption property (which displays text on the report title bar), and the report title. If the report already exists in the database, you'll have a chance to overwrite the existing report or choose a different title.

**FIGURE 12.15**

The last Report Wizard dialog box asks what title you want for the report, what you want to do next, and whether you want to display Help on working with the report. It's often easiest to accept the default settings and click on Finish.

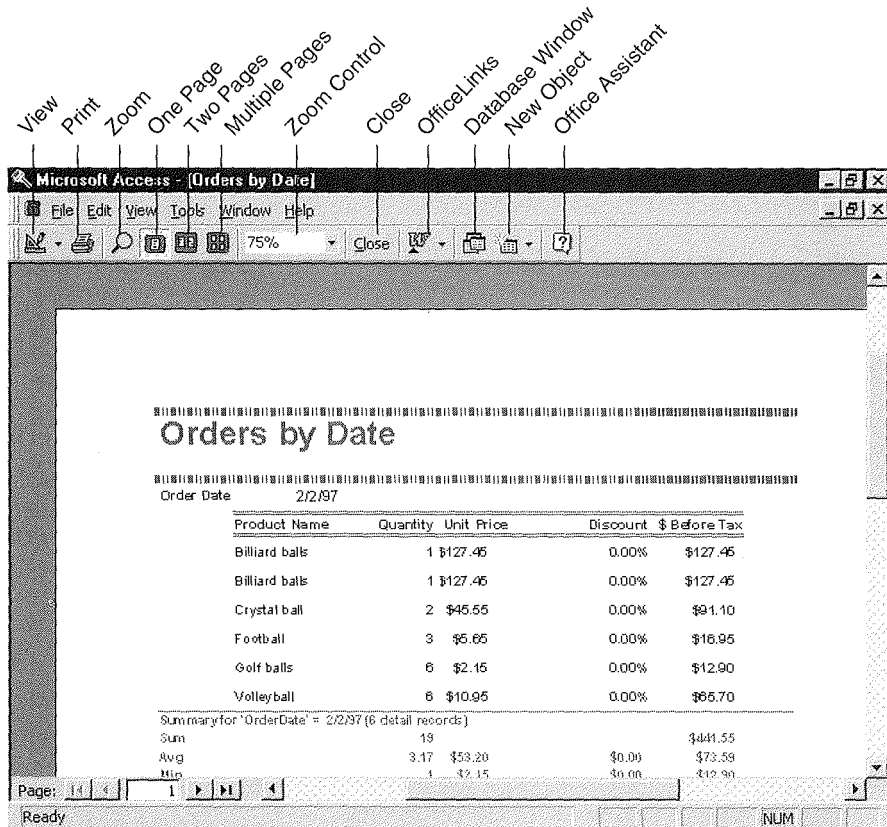


Access will create your report and display it in the print preview window. Figure 12.16 shows a sample report in the print preview window. Anytime your report appears in this window, you can

- **Print the report.** To print without opening the Print dialog box, click on the Print toolbar button (see Figure 12.16). To print from the Print dialog box, press Ctrl+P or choose File ► Print, choose your printing options, and then click on OK (see Chapter 9 for more about printing).
- **Zoom out or in on the report.** Click on the Zoom toolbar button or click the magnifying glass mouse pointer on a spot in the report. You also can use the toolbar's Two Pages button and Zoom Control drop-down list, or right-click and choose Zoom or Pages options as needed (see Chapter 9).
- **Send the report to a Microsoft Word file** and open it in Word. Click on the drop-down arrow next to the OfficeLinks toolbar button and then choose Publish It With MS Word.
- **Send the report to a Microsoft Excel spreadsheet** and open it in Excel. Click on the drop-down arrow next to the OfficeLinks toolbar button and then choose Analyze It With MS Excel.
- **Send the report to your network mail program.** Choose File f Send, select the format you want for the message file, and click on OK. When prompted, sign on to your mail system; then send the message as you would any network mail.

**FIGURE 12.16**

A sample report shown in the print preview window.

**NOTE**

Graphics and some complex formatting may not transfer to Microsoft Word or Microsoft Excel.

- Close the print preview window and go to design view, where you can change the report's design. Click on the Close toolbar button or press Ctrl+W. Often you'll just need to rearrange or widen the fields and labels as described in Chapter 13.
- Save and close the report (see "Saving a Report" later in this chapter).

**TIP**

You can use the File ► Save As/Export commands described in Chapter 7 to create a Microsoft Word mail merge document from a table or query. Chapter 7 also explains how to save reports as HTML files, text files, Excel files, and Rich Text Format files.

### How the Wizards Build Your Report

The Report Wizards go through the same steps that the Form Wizards do as they conjure up your automatic reports. That is, they make sure data from multiple tables is synchronized properly, and they size and place fields on the report so that everything fits on the page.

If the report is based on fields from multiple tables and/or queries, the Wizard creates an SQL statement behind the report that specifies which tables, queries, and fields to use and sets up the necessary table relationships. Because the Wizard can do all this automatically, you'll rarely

need to set up multitable queries just to display fields from several tables at once.

When sizing each control, the Wizard lays out all the necessary fields, regardless of the current page size. If the resulting report is too big for the page, it calculates the ratio of the total size of the too-big report to the desired page size; then it shrinks every control by that ratio to create a report of the maximum allowable size. Because the Wizard uses a simple ratio method for sizing controls on reports, you may need to switch to design view and tweak the size, position, or font for controls that appear squashed.

For more help with designing a new report with Wizards, look up *Wizards, Report Wizard* in the Access Help Index.

## Creating Mailing Labels

You can design mailing labels that will print on standard Avery mailing label stock. Figure 12.7, earlier in this chapter, shows some standard mailing labels.

To create mailing labels using Report Wizards:

1. Start from the database window or from the datasheet view of a table or query as explained earlier.
2. Click on the drop-down arrow next to the New Object toolbar button and choose Report.

## Preparing for Dot-Matrix or Tractor-Fed Labels

If you want to print labels on a dot-matrix or tractor-feed printer, you may need to adjust the page size before you start the Mailing Label Wizard. To do so, click on the Start button on the Windows Taskbar and then choose Settings ► Printers. Right-click on the icon for your dot matrix printer and choose Set As Default. Right-click on the dot matrix printer icon again,

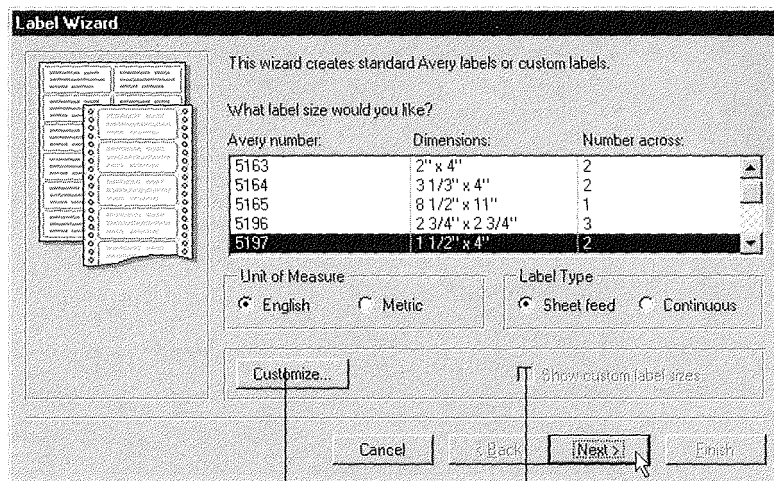
choose Properties, and then click on the Paper tab. Set the Paper Size to Custom; specify the unit of measurement and the appropriate width and length. Click on OK and then return to Access.

To learn more about creating labels for dot-matrix or tractor-feed printers, search for *Wizards, Label Wizard* in the Access Help Index, and then double-click on the topic *Create Mailing And Other Types Of Labels For A Dot-Matrix Printer*.

3. Click on Label Wizard in the New Report dialog box. Next use the drop-down list at the bottom of the dialog box to select the table or query you want to base the report on (if it's not selected for you already). Click on OK.
4. Choose a label size, unit of measure, and label type as needed from the dialog box shown in Figure 12.17. If necessary, click on the Customize button in the dialog box, create a custom label size, and then click on Close. Or select (check) Show Custom Label Sizes and select a custom label. Click on Next to continue.

**FIGURE 12.17**

This Label Wizard dialog box lets you choose a standard label or a custom size.



Click to manage custom label sizes.

Select or deselect to toggle between showing built-in and custom label sizes.



5. Choose font name, font size, font weight, and text color options when prompted. You also can select or deselect italics or underlining. Click on Next to continue.
6. Choose the fields you want on the label from the dialog box shown in Figure 12.18. To add a field, position the cursor in the Prototype Label box and then double-click on a field in the Available Fields list. You also can type text or press Enter at the cursor position. To delete fields or text from the Prototype Label box, select the text with your mouse and press the Delete key. Click on Next to continue.

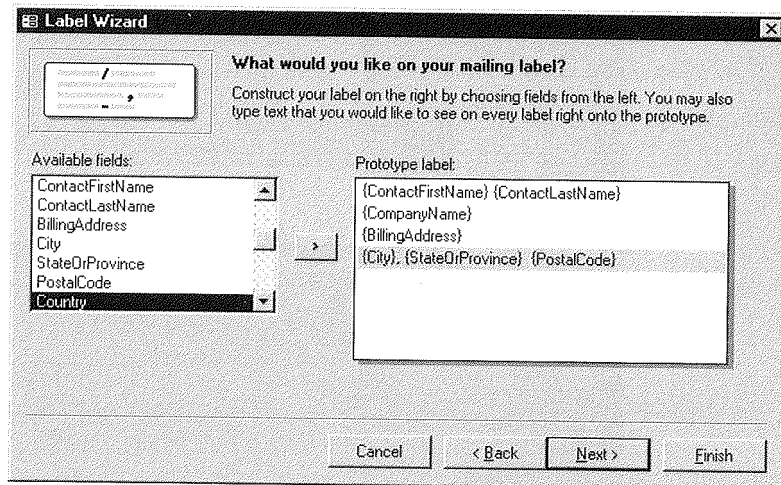
**NOTE**

If the mailing label isn't large enough to hold all the lines and fields you specified, Access will explain the problem and let you know that some fields will be lost. You can return to the previous Label Wizard screens (by clicking on the Back button as needed) and adjust your selections.

7. Select the fields in the order in which you want them sorted. For example, to sort customer labels for bulk mailing by zip/postal code and then by last and first name within zip/postal code, double-click on PostalCode, double-click on ContactLastName, and then double-click on ContactFirstName. Click on Next to continue.
8. Specify a name for your report or accept the selected name from the final dialog box. The name must be unique because the Label Wizard won't let you overwrite an existing mailing label report. Choose other options as needed (though the defaults usually are just fine) and then click on Finish.

**FIGURE 12.18**

Use this dialog box to design your mailing labels. The Prototype Label box will reflect your latest changes, as shown in this example.



**WARNING**

The title you select in step 8 is used for the report name and Caption property (which displays text on the report title bar).

Access will create the mailing label report and display it on the screen.

**NOTE**

If you don't have enough horizontal space to display the entire label format, Access will let you know. You can go to design view and tweak the report design as needed (see Chapter 13). Or choose File ► Page Setup, click on the Layout tab, and then reduce the number of columns or the size of the columns.

## Formatting Postal Codes and Phone Numbers

If you use the Access Wizards to create fields such as postal codes and phone numbers, the *input masks* cause values in those fields to be stored as text without punctuation characters. The same input masks cause the appropriate punctuation marks to appear for those fields in forms and datasheets. For example, Access uses this input mask for PostalCode fields:

```
00000\~9999
```

And this input mask for PhoneNumber fields:

```
!\(999) "000\~0000
```

Although most reports created by the Wizards do take advantage of these input masks, the mailing labels don't. For example, a postal code might appear as either

five numbers (85711) or nine numbers (857114747). A phone number might appear as 6195551234. To report those values in more readable formats, such as 85711-4747 for a postal code and (619)555-1234, you'll need to use the Format function in your reports.

For example, in design view for the mailing labels shown in Figure 12.7, we changed simple references to the postal code from [PostalCode] to:

```
Format ([PostalCode], "!@@@@~@@@@")
```

To format a phone number field, such as [PhoneNumber], you could use this Format function:

```
Format ([PhoneNumber], "!(@@@) @@@~@@@@")
```

See Chapter 10 and look up *Format Function* in the Access Help index for more about formatting text (string) values.

## Saving a Report

If the Wizard didn't save your report automatically, you should save the report if you want to use it later. Here's how:

- **To save and close the report**, return to design view by clicking on the Close button on the print preview toolbar. Then choose File ► Close or press Ctrl+W and click on Yes.
- **To save only your latest changes**, press Ctrl+S or choose File ► Save or click on the Save toolbar button (shown at left).



### NOTE

The first time you save a report that hasn't been saved before, you'll be prompted to enter a name for it. Type a name (up to 64 characters, including blanks) and then click on OK.

## Opening a Report

If you've closed a report, you can reopen it with these steps:

1. Start in the database window and click on the Reports tab.
2. Do one of the following:
  - **To open the report in print preview** (with data displayed), double-click on the report name you want to open, or click on it and then click on the Preview button.
  - **To open the report in design view** (where you can change the report's design), click on the report name and then click on the Design button.



### TIP

*Copying* is a quick way to create a new report that's based on an existing report. To copy a report, click on the Reports tab in the database window, highlight the report to copy, and press Ctrl+C. Next press Ctrl+V, type a name for the new report, and click on OK.

## Removing a Filter and Sort Order

If your report is based on a table or query that you've filtered or sorted in datasheet view, the report will inherit the filter and sort order automatically and will be filtered

or sorted anytime you preview or print it. You can remove the filter or sort from the report by following these steps:

1. Open the report in design view.
2. Choose View ► Properties if the property sheet isn't open. Click on the Data tab on the property sheet.
3. Choose Edit ► Select Report to make sure you've selected the entire report.
4. Double-click on the Filter On property in the property sheet to change that property from Yes to No. If necessary, double-click on the Order On property to change it from Yes to No.
5. Save the report design (Ctrl+S).

The next time you preview or print the report, the records will not be filtered or sorted. If you later want to use the report with the filter and/or sorting, repeat the five steps above, except change the Filter On and/or Order On property from No to Yes in step 4.

## Changing the Style for a Report

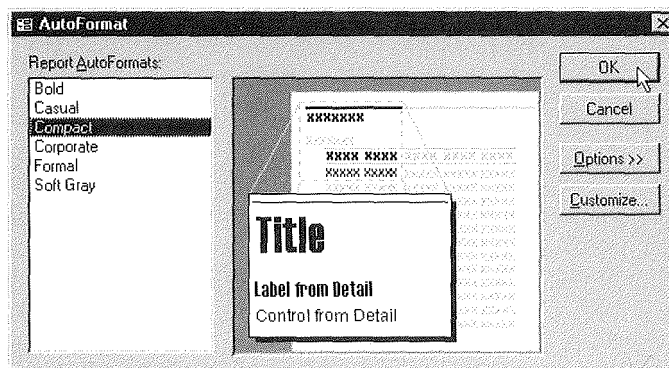
Just as you can change the overall style for forms, you also can change a report's style without re-creating the report from scratch. It's easy:

1. Open the report in design view. If you're starting from the database window, click on the Reports tab, click on the report you want to change, and then click on the Design button. Or if you've switched to print preview from design view, click on the Close toolbar button (shown at left) or choose View ► Design View.
2. Choose Format ► AutoFormat or click on the AutoFormat button (shown at left) on the Report Design toolbar. You'll see the AutoFormat dialog box, shown in Figure 12.19.




**FIGURE 12.19**

Use the AutoFormat dialog box to instantly change the style for your report or to customize an existing style. Switch to report design view and choose Format ► Autoformat to open this dialog box.



3. Choose the format you want to use from the AutoFormat dialog box and then click on OK.
4. Save your changes (Ctrl+S) and click on the Report View toolbar button; or choose View ► Print Preview to switch back to the print preview window.

## Where to Go from Here

This chapter introduced the many types of instant reports you can create with the Report Wizards. From here, you can continue with Chapter 13 to learn how to design new reports and forms from scratch and how to customize existing reports and forms.

### What's New in the Access Zoo?

The Report design window in Access 97 has been improved. The menus and

toolbars have been simplified to help you perform tasks (e.g., zooming in print preview) more quickly than before.



3. Choose the format you want to use from the AutoFormat dialog box and then click on OK.
4. Save your changes (Ctrl+S) and click on the Report View toolbar button; or choose View ► Print Preview to switch back to the print preview window.

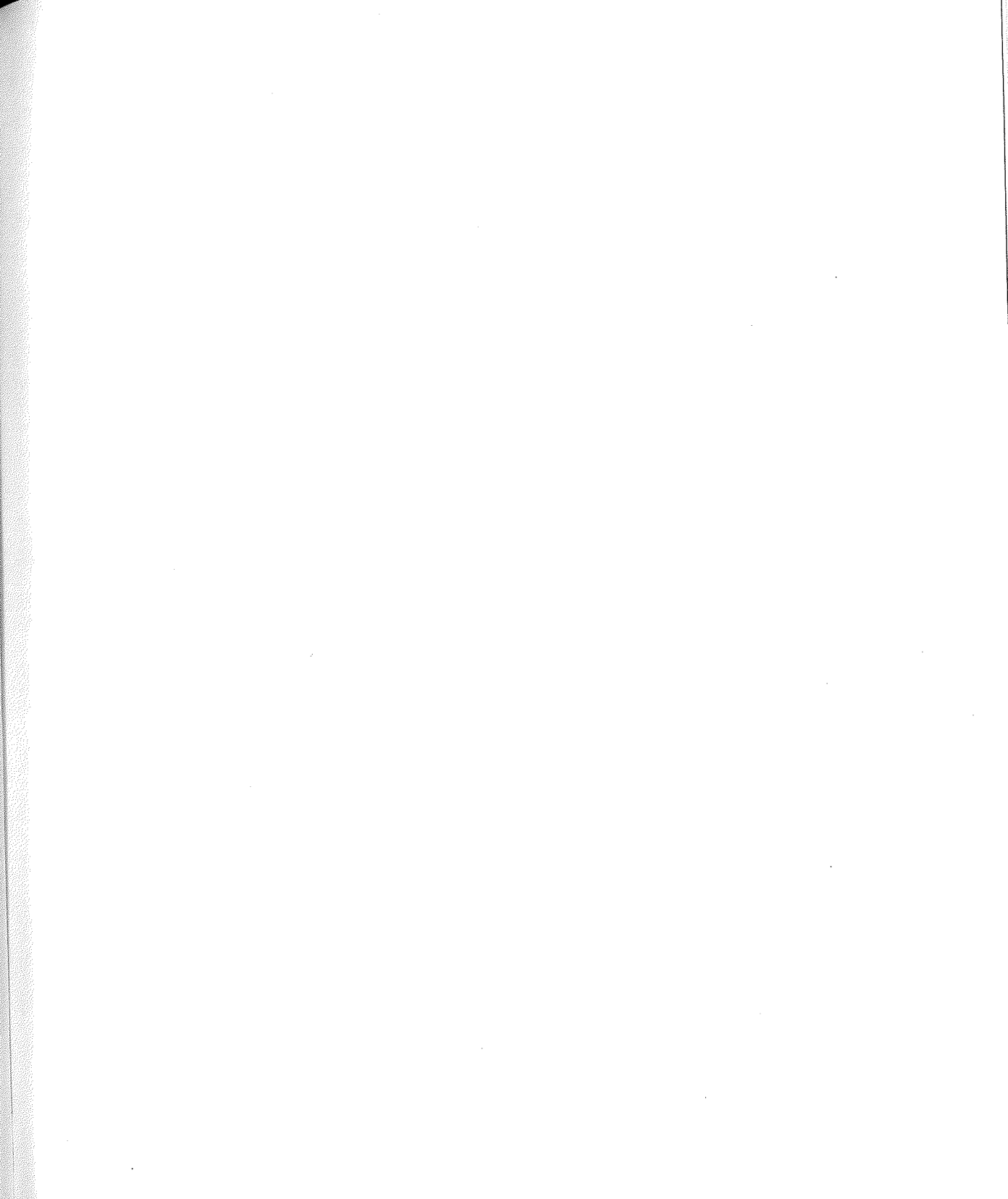
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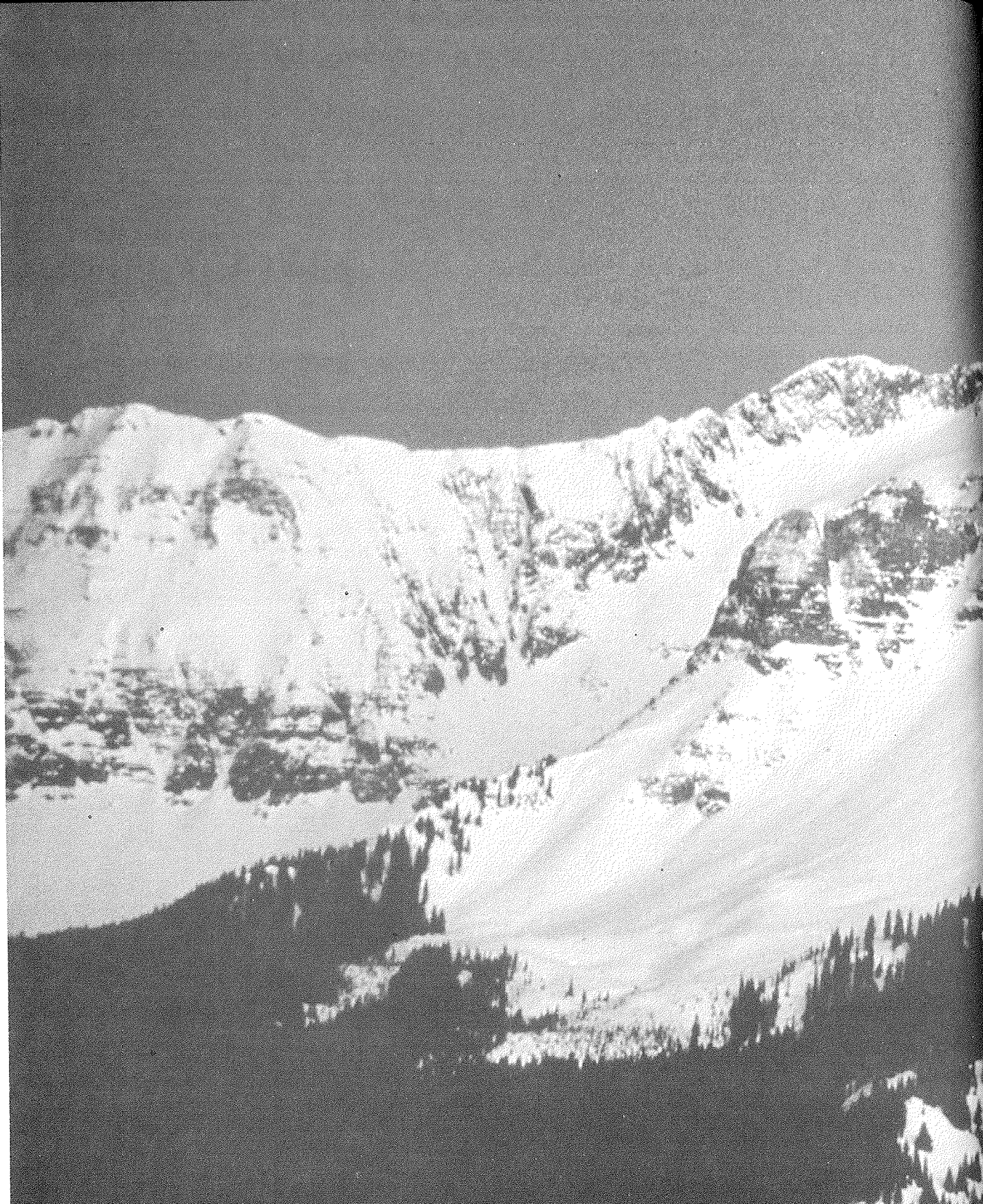
### What's New in the Access Zoo?

The Report design window in Access 97 has been improved. The menus and

toolbars have been simplified to help you perform tasks (e.g., zooming in print preview) more quickly than before.









Chapter

13

Creating Custom  
Forms and Reports



## FEATURING

<i>Creating a form or report from scratch</i>	479
<i>Using the design tools</i>	480
<i>Changing the record source for a form or report</i>	503
<i>Adding headers and footers</i>	503
<i>Adding combo boxes, command buttons, pictures, and other controls</i>	515
<i>Adding hyperlinks</i>	532
<i>Adding tab controls</i>	535
<i>Putting a preprinted form on the screen</i>	553

# Creating Custom Forms and Reports

**A**ccess has some truly awesome tools for creating high-powered, good-looking forms and reports. If you've ever used a Windows drawing or painting package, you probably won't have any trouble learning to use the design tools. (If you've never used one of those programs, the mouse skills involved may take a little practice, but the overall process is still fairly simple.)

As you read this chapter, remember that you can customize the basic designs created by Form Wizards and Report Wizards (see Chapters 11 and 12), or you can create your own designs from scratch. If you're new to form and report design, you'll definitely want to start with a Wizard-created design so you can experiment with the design tools right away.



If you're planning to experiment extensively with Access form and report design tools, set up a new table—perhaps named All Field Types—that has one field for each data type that Access offers and enter some records into it. Then use the Form Wizards and Report Wizards described in Chapters 11 and 12 to create a form or report that's based on fields in your All Field Types table.

## Switching to Design View

To change the appearance of an existing form or report, you must switch to design view using any of these techniques:

- **To change a form or report that's not open**, go to the database window and click on the Forms or Reports tab (as appropriate) in the database window. Click on the name of the form or report you want to change and then click on the Design button in the database window, or right-click on the form or report name and choose Design.
- **To change a form or report that's open** on your screen, click on the Form View button (top left) on the Form Design toolbar, or choose View ► Design View if you're editing a form. Or click on the Close Window (Close) button (bottom left) on the Print Preview toolbar or choose View ► Design View if you're editing a report. Note that if you opened the report in print preview, clicking on the Close Window button will close the report; you'll need to open it as described above.



**TIP** The lessons in Chapter 3 gave you some hands-on practice with changing a form in form design view.

Remember that the tools for changing your form or report design are available in design view *only*. Therefore, except where the instructions specifically say to start from another view, be sure you're in design view before using any procedures described below.



**TIP** When working with forms and reports, it's a good idea to hide the Taskbar temporarily. To do this, right-click on an empty area on the Taskbar, choose Properties, and select (check) Always On Top and Auto Hide. Then click on OK. See the sidebar titled "Maximizing Your On-Screen Real Estate" in Chapter 1 for more details.

## Previewing and Saving Your Changes



As you work in design view, you'll want to preview your handiwork from time to time. To do so, click on the Form View toolbar button (if you're designing a form) or the Report View button (if you're designing a report). Those buttons are the first ones on the Form Design and Report Design toolbars.

You also can preview your form or report by choosing options on the View menu:

- To preview a form in form view, choose View ► Form View.
- To preview a form in datasheet view, choose View ► Datasheet View.
- To preview a report in print preview, choose View ► Print Preview.
- To preview a report in layout preview (which presents just enough sample data to show you what the report will look like), choose View ► Layout Preview. You also can switch to Layout Preview by clicking on the drop-down arrow on the Report View toolbar button and then choosing Layout Preview.

When you're ready to make more changes, go back to design view, as described in the previous section.

Another good idea is to save your changes whenever you're happy with them. Simply click on the Save toolbar button or press Ctrl+S.

## Creating a Form or Report from Scratch

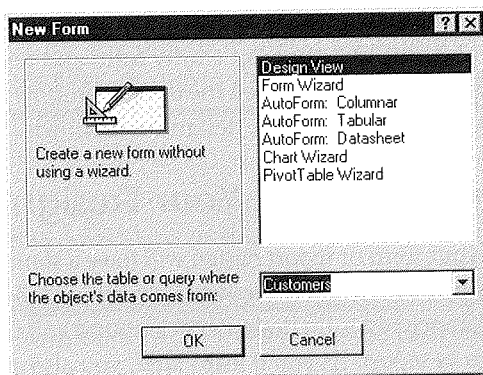
Here's how to create an entirely new form or report without using the Wizards.

1. Start from the database window and use one of these techniques:

- Click on the Forms or Reports tab in the database window and then click on the New button in the database window.
- Click on the Tables or Queries tab, click on the table or query you want to attach to your form or report, and then click on the drop-down arrow next to the New Object toolbar button. Now choose either Form or Report, as appropriate. The New Form or New Report dialog box will open (see Figure 13.1 for an example of the New Form dialog box).

**FIGURE 13.1**

The New Form dialog box is similar to the New Report dialog box.



2. Choose form or report from the drop-down list in the dialog box to attach the form or report to a table or query. You don't need to choose a table or query if you're creating an unbound form, such as a dialog box or a switchboard (see Chapter 21).
3. Click on the Design View option in the dialog box and then click on OK (or double-click on Design View).

**NOTE**

If the datasheet for the table or query has a filter or sort associated with it, the new form or report will inherit the filter and sort order automatically. Chapter 9 explains how to add and apply filters and sorting in forms. "Removing a Filter and Sort Order" in Chapter 12 explains how to deactivate or activate the filter and sort for a report.

You'll be taken to a blank form or report window in design view. Think of this window as an empty canvas on which you're free to create anything you want. Of course, you do need to understand the available tools and techniques before you start creating anything. That's what the rest of this chapter is all about.

**TIP**

To undo a mistake you've made in design view, press Ctrl+Z or click on the Undo toolbar button or choose Edit ► Undo immediately.

For online details about the design process, go to the Access Help Contents, open the *Working With Forms*, *Working With Controls On Forms Or Reports*, or *Working With Reports* book; then open additional books and topics as needed.

## Design Tools

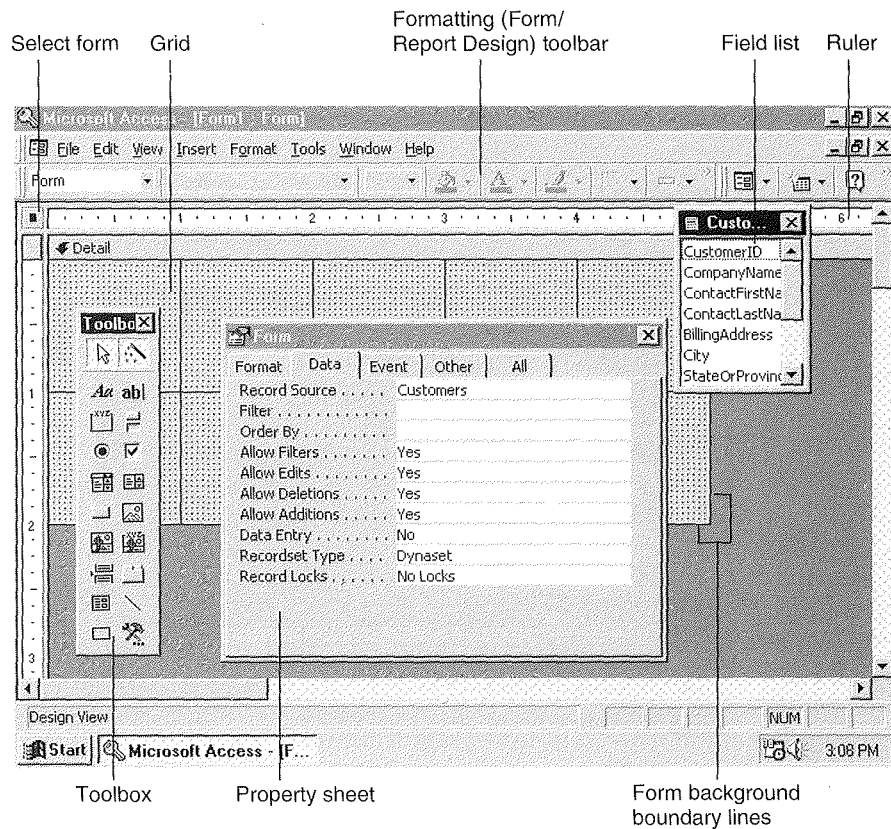
Figures 13.2 and 13.3 show an empty form and report, respectively, in design view. In both figures, we've maximized the design window to increase the available work space. Let's take a quick look at the design tools shown in the figures.

## Choosing a Style for Your Design

Initially your form or report design will have a standard look, which works well for most people. However, Access comes with several predefined styles that you can use to change the appearance of a form design's background and the font, color, and border of controls on a form or report. As you'll learn later, you also can create your own custom styles.

**FIGURE 13.2**

An empty form (maximized) in design view.



### NOTE

**Control** is Access lingo for any graphical object on a form or report that displays data, performs some action, or makes the form or report easier to read.

To choose a style for your design:

1. Select the controls you want your changes to apply to (see “Selecting Controls, Sections, Forms, and Reports” later in this chapter).

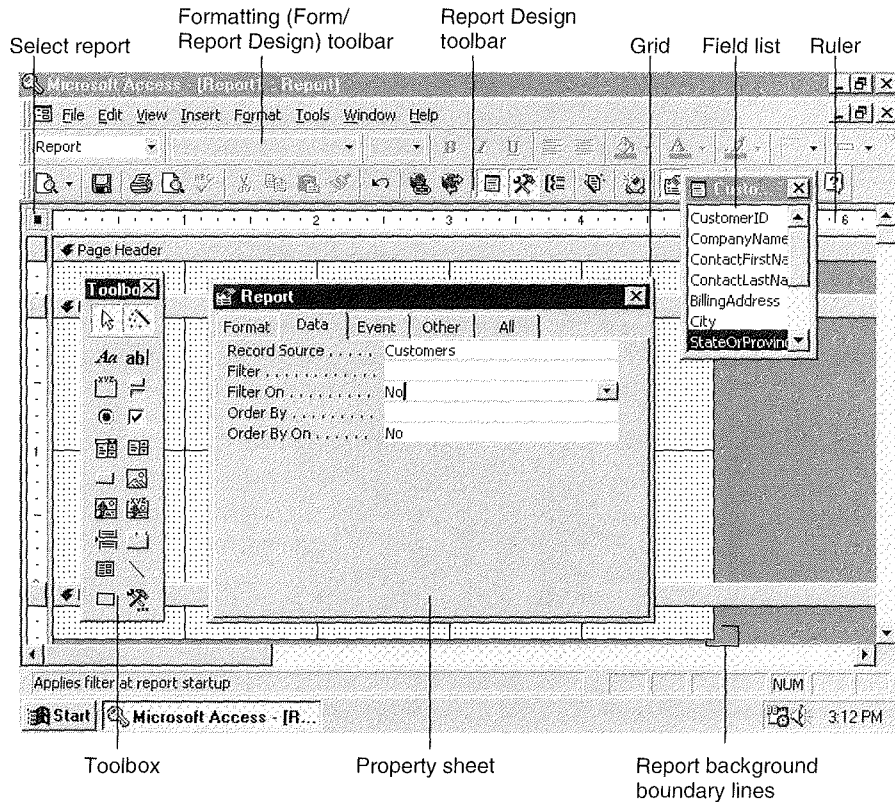
### NOTE

If you don't select controls first, Access will apply the new style to the entire design.



**FIGURE 13.3**

An empty report (maximized) in design view.



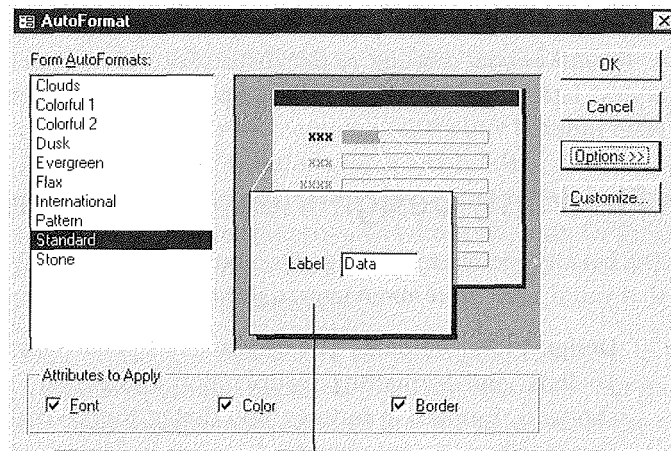
2. Choose **Format** ► **AutoFormat** or click on the **AutoFormat** button (shown at left) on the **Form Design** or **Report Design** toolbar. The **AutoFormat** dialog box will open (see Figure 13.4).
3. Select a style in the **Form AutoFormats** or **Report AutoFormats** list. The sample picture will change accordingly. The new style usually affects the design's background and the **Font**, **Color**, and **Border** of controls.
4. Click on the **Options** button to change this behavior. Then select (check) the styles you want to apply or deselect (clear) styles you want to leave unchanged (see Figure 13.4). Again, the sample picture will reflect your changes.
5. Click on **OK**.

Access will apply the new style to the background of a form, to existing or selected controls, and to new controls. (Of course, you can change the style anytime you want

**FIGURE 13.4**

The AutoFormat dialog box for a form after we clicked on the Options button. The AutoFormat dialog box for reports is similar.

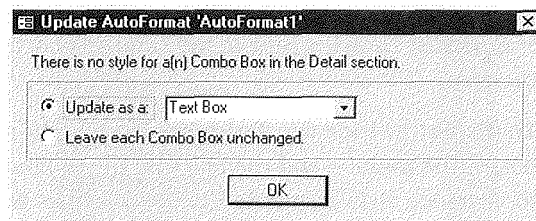
To preview a style in the AutoFormats list, click on it and look at the sample picture.



Sample picture in the Standard AutoFormat style

a different look by repeating steps 1 to 5.) If you don't see a change, make sure the form or report is selected (and not some other object in the design window) before you click on AutoFormat.

If your design contains a control whose appearance isn't defined for the AutoFormat style you chose, an Update AutoFormat dialog box similar to this one will appear:



Choose one of these options and then click on OK:

- To update the current control with the style for another type of control in the AutoFormat style, click on the drop-down arrow next to Update As A and then choose the control that has the style you want to use.

- **To leave the current control's appearance unchanged**, choose Leave Each *xxx* Unchanged (where *xxx* is the type of control that doesn't have a predefined style).

For more about creating your own AutoFormat styles, see "Customizing AutoFormat Styles" later in this chapter. Or look up *AutoFormat* and its subtopics in the Access Help Index.

## The Field List, Design View Toolbars, and Toolbox

The field list, design toolbars, and toolbox (see Figures 13.2 and 13.3) are optional tools that you'll learn more about later in this chapter. Here's a crash course on what they do:

**Design View Toolbars** The design view toolbars—Form Design or Report Design, Toolbox, and Formatting (Form/Report Design)—offer a treasure trove of menu shortcuts, formatting features, and design tools. You'll probably want to keep all these toolbars handy as you work.

**Field List** Lists all the fields in the underlying table or query. To place a field, simply drag it from the field list to your design.

**Toolbox** Provides tools for adding controls to your design.



The Formatting (Form/Report Design) toolbar lets you choose color, special effects, borders, and line thickness for a control. Many buttons on this toolbar work the same way as those on the Formatting (Datasheet) toolbar, described in "Customizing the Datasheet View" in Chapter 8.

For now, just knowing how to hide and display those tools (and the property sheet) is sufficient.

- **To display or hide the design toolbars**, right-click on any visible menu bar, toolbar, or the toolbox and then choose the toolbar you want to display or hide. If no toolbars are visible, choose View ► Toolbars and select (check) or deselect (clear) the toolbars you want to show or hide.
- **To display or hide the toolbox**, choose View ► Toolbox or click on the Toolbox button (shown at left) on the Form Design or Report Design toolbar.
- **To display or hide the field list**, choose View ► Field List. Or click on the Field List button (shown at left) on the Form Design or Report Design toolbar.



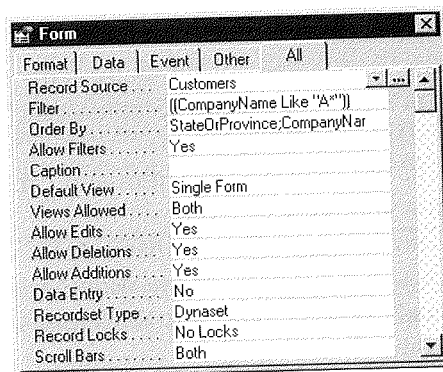
You can size and move the tools using these techniques:

- **To change a toolbar or toolbox to a floating palette of buttons**, double-click on an empty area within the tool. Or drag an *empty* area within the tool away from the edge of the screen and release the mouse button.
- **To move a floating toolbar or toolbox**, drag its title bar.
- **To size a floating toolbar or toolbox**, drag any border.
- **To display a floating toolbar or toolbox as a single row or column** of buttons, double-click on an *empty* (nonbutton) area within the tool. Or drag the tool to an edge of the screen and, when the outline expands to the length of the edge you've dragged to, release the mouse button.

For details about working with toolbars, see "Using the Toolbars" in Chapter 1. To find out what a toolbar or toolbox button is for, point to it with your mouse and then look at the ScreenTip below the mouse pointer and the status bar at the bottom of the screen. For online Help with toolbars, search for *Toolbars*, *Positioning* and *Toolbars, Showing And Hiding* in the Access Help Index.

## The Property Sheet

You can use the *property sheet* (shown below) to view or change the properties of a selected control or controls or of the entire report or form. The properties that appear on the property sheet depend on what part of the design you've selected.



Like many tools in design view, the property sheet can be *toggled* on or off, displayed or hidden. To display or hide the property sheet, use any method below:



- Click on the Properties button (shown at left) on the Form Design or Report Design toolbar.
- Choose View ► Properties from the menu bar.
- Right-click on any object and choose Properties.



If the property sheet isn't visible, you can open it by double-clicking on an empty place on the design or by double-clicking on any control.

## Changing a Property

To change a property:

1. Select the object or objects you want to change. (See “Selecting Controls, Sections, Forms, and Reports” later in this chapter.)
2. Open the property sheet as described above (View ► Properties).
3. Click on the tab for the type of properties you want to change. (Properties that don't make sense for all selected objects won't appear on the property sheet.) From left to right, the property tabs are as follows:

**Format** Lets you specify appearance properties. Format properties are changed automatically when you move or resize a control and when you use the Formatting (Form/ Report Design) toolbar buttons to customize a control.

**Data** Lets you specify the source of the data and the data's display format.

On forms, Data properties control such things as default values and allowable values.

On reports, Data properties also control whether a text box shows a running sum.

**Event** Lets you control what happens when certain events occur. For example, an On Click event property defines what happens when you click on a command button in form view. You'll learn more about event properties in Part Four of this book.

**Other** This category is a catchall for things such as the name of a control when it's used in expressions, macros, and procedures; the text that appears on the status bar when you select the control in form view; how the Enter key behaves during data entry (see Chapter 8); whether the AutoCorrect feature is enabled (see Chapter 9); the custom shortcut menu that appears when you right-click on a form or control; and the ControlTip text that pops up when you point to the control in form view.

**All** Displays all available properties for the control. When you're not sure which tab contains the property you're looking for, click on the All tab.

4. Click in the text box next to the property you want to change. A drop-down list button and/or Build button (...) may appear.

**TIP**

When you select multiple controls and then change properties, your changes will affect all the selected controls. Thus you can change the background color or font for an entire group of objects in one fell swoop. For another way to copy properties from one object to another, see "Copying Properties to Other Controls," later in this chapter.

5. Do one of the following:

- Type the property value you want. If you're entering lots of text into the box, you can press Shift+F2 (Zoom) to expand the box.
- Click on the drop-down button if one is provided and choose the property from the list.
- Click on the Build button (if one is provided) and build an expression with help from a "builder" dialog box.
- Double-click in the text box to choose the next available property from the drop-down list. Double-clicking is especially handy for quickly flipping Yes/No values.

**TIP**

Take some time to explore the properties of controls on a form or report that you generate with a Wizard. To avoid becoming overwhelmed by the sheer number of properties available, looking at the properties on the Format, Data, Event, and Other properties tabs separately is easier than trying to wade through all properties on the All tab.

To learn more about what a property does, click in the appropriate property text box and look at the status bar at the bottom of the screen for a brief description. If you still need more details about the property, press F1.

## The Ruler

The ruler is most helpful when you're sizing or moving objects by dragging. As you drag, a shadow on the ruler indicates the object's size and location. To hide or display the ruler choose View ► Ruler.

## The Grid

You can use the grid to align objects on the design. To hide or display the grid choose View ► Grid.



### NOTE

If you've turned on the grid but can't see the grid dots, set the grid density to 24 or less (as described in a moment).

## Snapping to the Grid

As you move and size objects on the screen, they'll usually snap (align) to points on the grid, making it easier for you to keep objects aligned. This alignment will happen even if the grid isn't visible at the moment.

- To activate or deactivate grid snap, choose Format ► Snap To Grid.
- To disable grid snap temporarily, hold down the Ctrl key while moving or sizing an object.

## Changing the Grid Density

The grid dots are visible only when the grid density is set to 24 or fewer dots per inch (and when Grid on the View menu is selected). To change the grid density:

1. Open the property sheet (View ► Properties) and click on the Format tab.
2. Select the form or report. To do so, choose Edit ► Select Form (if you're designing a form) or choose Edit ► Select Report (if you're designing a report). The property sheet shows properties for the form or report as a whole.
3. Scroll down to the Grid X and Grid Y properties and set each to 24 or smaller. (The default setting is 24 for both properties.)
4. Close the property sheet if you wish.

## Sizing Controls and Aligning Them to the Grid

To tidy up your design, you can size all the controls on the design and you can align them to the current grid. Here's how:

1. To select all the controls, choose Edit ► Select All (or press Ctrl+A).
2. Do either (or both) of the following:
  - To size all the controls so they touch the nearest gridpoints, choose Format ► Size ► To Grid.
  - To align all controls to the grid, choose Format ► Align ► To Grid.

All the controls will size or align to their nearest grid mark. You can make additional changes using techniques described later under "Moving Controls" and "Resizing Controls."

## Changing the Size of the Form or Report

If the grid is on, the form or report background shows crosshair lines at 1-inch intervals. It also shows grid dots (if the grid density is 24 or less). Most important, the background shows the actual boundaries of the form or report (refer to Figures 13.2 and 13.3). If the form or report is too large or too small, you can change the size anytime you wish:

- To change the width, drag the right boundary line of the background to the left or right.
- To change the height, drag the bottom boundary line of the background up or down.
- To change both the width and the height, drag the lower-right boundary line diagonally.

## Sizing the Background to Prevent Spillover Pages

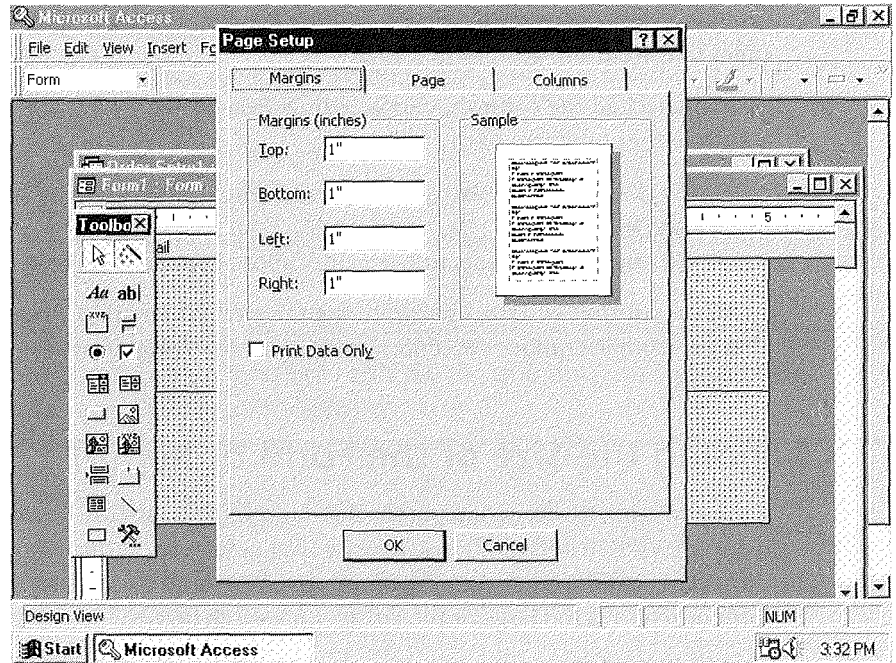
If you want all your data to fit across a single page in a printed report, the background width *plus* the report margins must be less than (or equal to) the paper width.

To adjust the margins, choose File ► Page Setup from the design window's menu bar. Click on the Margins tab, use the Margins options in the dialog box to set margin widths (see Figure 13.5), and then click on OK.



**FIGURE 13.5**

The Page Setup dialog box.

**NOTE**

If you try to change the margins to some small number and Access increases the width you specify, it's not a malfunction. Access is adjusting your entry to compensate for the printer's *dead zone*. The *dead zone* is the area at the outer edge of the page where the small wheels that pull the paper through the printer are located. The printer can't print in the dead zone.

## Designer Skills

Becoming an Access designer is a three-step process. First you must learn what tools are available in design view, then you must learn how to use them, and finally you must play with them until you can create any form or report your imagination can conjure up. The rest of this chapter should help you achieve the first two steps; the last step you'll have to do on your own.

## Adding Bound Controls (Fields)

When you want to show data from the underlying table or query in your form or report, you should add a *bound control* to your design. The most commonly used bound controls are text boxes. (Bound controls are created automatically when you use a Form Wizard or Report Wizard.)



### NOTE

*Unbound* controls can include results of calculations and objects such as informational text, graphics, lines, and boxes that aren't connected to underlying data. Some Wizards also add unbound controls to the designs they create.

To add a bound control to your design:

1. Display the field list if it's not visible (choose View ► Field List).
2. Use any of these techniques:
  - **To add one field to the form or report**, drag the field from the field list to the place where it should appear in the design.
  - **To copy all fields to your form or report at once**, double-click on the title bar in the field list and then drag the selected fields to the design.
  - **To copy several fields**, use standard Windows techniques (for example, Shift-click or Ctrl-click) to select multiple fields in the field list and then drag the selected fields to the design.

Access will create a text box, list box, checkbox, combo box, or bound OLE object control, depending on the data type and the Display Control property defined for the field in the underlying table design or query design. (The Display Control property is on the Lookup tab of the table design view property sheet; see Chapter 6.)

The control will include a label that displays either the field's name or whatever text you assigned to the field's Caption property in table design view. If you want to change the label text, click inside the label until the insertion point appears and then edit the text (or select the label text and type new text to replace it).

Of course, you also can use other tools in the toolbox to create a bound control, but doing so is not as easy as dragging fields from the field list.

### About Inherited Properties

The bound controls will inherit all the Lookup properties from the underlying table fields, along with these General properties: Format, Input Mask, Caption, Default Value, Validation Rule, Validation Text, and Decimal Places.

Even though the Default Value, Validation Rule, and Validation Text properties are inherited, you won't see their settings on the Data tab of a new control's property sheet. You can add a Validation Rule, Validation Text, and Default Value property to the control on the form if you wish. If you do so, Access uses the form's Validation Rule and Validation Text *in addition* to the underlying table's validation rule for the associated field. The Default Value property assigned on the form will override the table's Default Value property.

## Selecting Controls, Sections, Forms, and Reports



Before you can change, move, or delete objects in the design, you must select them. The first step is to click on the Select Objects toolbox button (shown at left) so that it appears "pushed in." Then use any of these techniques:

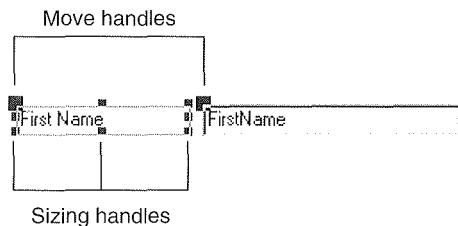
- **To select one control**, click on the control. Sizing and move handles will appear as shown in Figure 13.6.
- **To select adjacent controls**, start at any point outside a control and drag a rectangle over the controls you want to select.



To control how precise you must be when dragging the selection rectangle over adjacent controls, choose Tools ► Options and then click on the Forms/Reports tab in the Options dialog box. Next choose either Partially Enclosed (lets you drag the rectangle through only part of a control or group of controls) or Fully Enclosed (requires you to drag the rectangle completely around the control or group of controls). Click on OK to save your changes.

**FIGURE 13.6**

*A selected control. This example shows the parts of a text box, which is a compound control that has both a label and a field.*



- **To select nonadjacent controls**, parts of compound controls (such as a field and its label), or overlapping controls, hold down the Shift key and click on each control you want to select. This standard Windows technique is called *Shift-clicking*.
- **To use the ruler to select controls**, move the mouse pointer to the horizontal or vertical ruler. (The pointer changes to a ↓ or ↑, respectively.) Then click on the line that goes through all the controls you want to select. Or drag the mouse along the ruler until shading encloses the controls you want to select and then release the mouse button.
- **To select a section in a form or report**, click on the gray bar that shows the section name. (You'll learn more about sections shortly.)
- **To select all controls on a form or report**, choose Edit ► Select All or press Ctrl+A.
- **To select the entire form or report**, choose Edit ► Select Form or Edit ► Select Report. Or, if the rulers are visible, click on the box where the rulers intersect (below the File menu). Or click on the Select Objects drop-down list (shown at left) on the Formatting (Form/Report Design) toolbar, and then choose Form or Report from the top of the list.



**TIP** If the property sheet “blanks out” suddenly when you click on a control that’s already selected, you can restore the property display in either of two ways: press Enter if you want to keep any changes you’ve typed into the control; or press Escape if you don’t mind discarding any changes you’ve typed in.

Here’s how to deselect controls:

- **To deselect all selected controls**, click in an empty area of the design.
- **To deselect certain controls in a group of selected controls**, Shift-click on the controls you want to deselect.

## Working with Selected Controls

Once you’ve selected a control (or a group of controls), you can delete, move, resize, or align your selection and change spacing between selected controls.

## Deleting Controls

To delete controls select the controls you want to delete and press Delete. If you change your mind, immediately choose Edit ► Undo, press Ctrl+Z, or click on the Undo button on the Form Design or Report Design toolbar.

To delete just the label portion of a compound control, click on the label and press Delete.

**TIP**

To hide the label temporarily without deleting it, change the label's Visible property to No on the Format tab of the property sheet.

## Moving Controls

You can position controls anywhere on the design. First select the control or controls you want to move.

- **To move entire selected controls**, pass the mouse pointer over the controls until the pointer changes to an open hand and then drag the selection to a new position. (To move controls to a different *section* of the report or form, make sure all selected controls are in the same section and then drag them to the new location.)
- **To move part of a selected compound control**, pass the mouse pointer over the *move handle* in the upper-left corner of the control until it changes to an upward-pointing hand, and then drag the control to a new position.

**TIP**

You can hold down the Shift key while dragging to move the control vertically or horizontally only.

- **To move a selected control by a very small amount**, press Ctrl+→, Ctrl+←, Ctrl+↑, or Ctrl+↓. The control will move in the direction of the arrow key you pressed while holding down the Ctrl key.

## Resizing Controls

If a control is too large or too small, you can resize it in various ways. As always, you begin by selecting the control or controls you want to change.

- **To resize selected controls**, move the mouse pointer to a sizing handle (the pointer changes to a two-headed arrow), drag the sizing handle until the controls are the proper size, and then release the mouse button. If you've selected multiple controls, all controls will be resized by the same amount.
- **To size selected controls so that their data will fit the contents**, choose Format ► Size ► To Fit.
- **To size selected controls to the nearest grid mark**, choose Format ► Size ► To Grid.

- To **resize a label control to fit snugly around the label text**, double-click on one of the label's sizing handles.
- To **make selected controls the same size**, choose Format ► Size and then pick To Tallest, To Shortest, To Widest, or To Narrowest. Access will resize all selected controls according to the option you chose (for example, all selected controls will be as tall as the tallest control in the selection).
- To **size selected controls by a very small amount**, press Shift+→, Shift+←, Shift+↑, or Shift+↓.

## Aligning Controls

Your forms and reports will look much nicer if text and data are neatly aligned. Here's how to align controls:

1. Select the controls you want to line up.
2. Choose Format ► Align from the menus, or right-click on a selected control and choose Align.
3. Choose Left, Right, Top, Bottom, or To Grid, as appropriate. For example, if you choose Format ► Align ► Left, all selected controls will align with the leftmost control in the selection.



### NOTE

If selected controls are overlapping when you align them, Access will place the controls in a staggered arrangement, which probably isn't what you want. It's best to make sure the controls don't overlap *before* you try to align them.

## Adjusting the Horizontal and Vertical Spacing

You can further fine-tune your design by adjusting the horizontal and vertical spacing between two or more selected controls:

1. Select the controls you want to adjust. If you want to space the controls an equal distance apart, select three or more controls.
2. Choose Format ► Horizontal Spacing to adjust horizontal spacing between selected controls. Choose Format ► Vertical Spacing to adjust vertical spacing.
3. Choose one of these spacing options:

**Make Equal** Makes the horizontal or vertical distance between three or more selected controls equal. Access will space the selected controls evenly within the space that's available between the highest (or leftmost) and the lowest (or rightmost) selected control.

**Increase** Increases the horizontal or vertical space between selected controls by one grid point.

**Decrease** Decreases the horizontal or vertical space between selected controls by one grid point.

## Duplicating Controls

The Duplicate feature offers a quick and easy way to create an evenly spaced and aligned copy of one or more selected controls. Simply select the control(s) you want to duplicate and choose **Edit ► Duplicate** (or right-click on the selection and choose Duplicate). You can then resize or move the copied control, or change its properties, as desired.



### TIP

To create multiple copies of one or more controls with the same relative spacing and position for each copy, duplicate the control(s) once, adjust the spacing and position as needed (without making any other changes), and then make as many duplicates of the still-selected controls as you need.

## Changing the Font, Color, Border, Appearance, and More

The Formatting (Form/Report) toolbar (see Figure 13.7) provides many great ways to beautify a control. You can change the text font and alignment; add foreground, background, and border colors; add special effects such as a raised, sunken, or etched border; and choose border width.

Follow these steps to work with this toolbar:

**1.** Do one of the following:

If the toolbar isn't visible, right-click on any toolbar that is visible and choose **Formatting (Form/Report Design)**.

*Or*

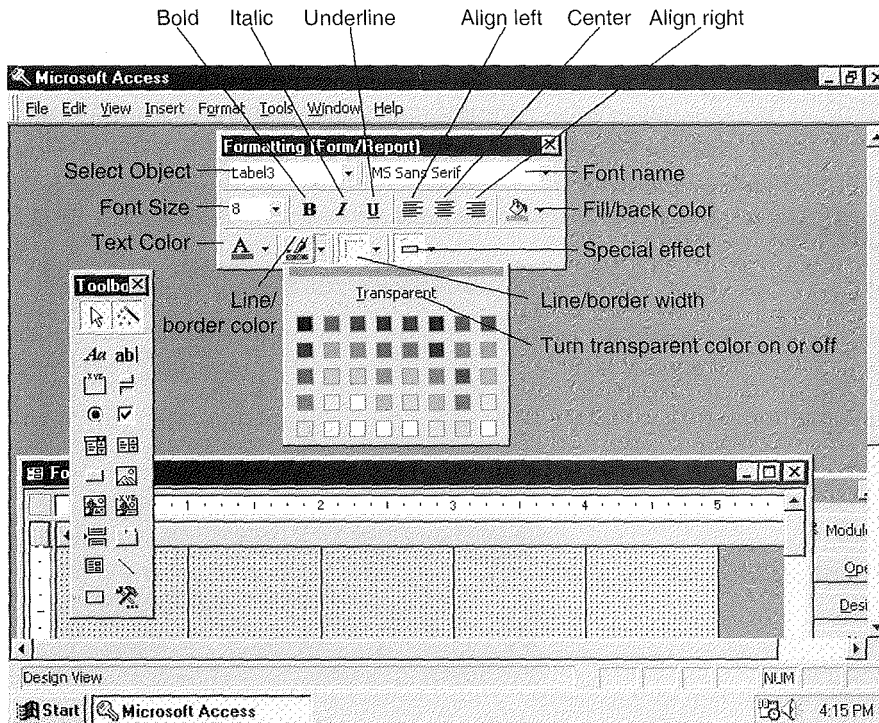
If no toolbar is visible, choose **View ► Toolbars**, select (check) **Formatting (Form/Report Design)**, and then click on **Close**.

**2.** Select the control or controls you want to customize.

**3.** Click on a button in the Formatting (Form/Report) toolbar or click on the drop-down arrow next to a button; then choose an option to apply the effect you want. (In the Fill/Back Color and Line/Border Color drop-down palettes, clicking on the

**FIGURE 13.7**

Use the Formatting (Form/Report) to choose fonts, text alignment, colors, borders, and special effects for a control. In this example, we've clicked on the drop-down arrow next to the Line/Border Color button.



Transparent button makes the selected control transparent, so that the color shown in the control is the same as the color of the control, section, or form behind it.) As usual, you can find out what a button is for by moving the mouse pointer to the button and waiting a moment for a ScreenTip to appear.



After pulling down the Fill/Back Color, Font/Fore Color, Line/Border Color, Line/Border Width, or Special Effect palettes on the toolbar, you can drag them off the toolbar to leave them open as you work. To return any palette to the toolbar, click on the drop-down arrow for its toolbar button, or click on the palette's Close button.

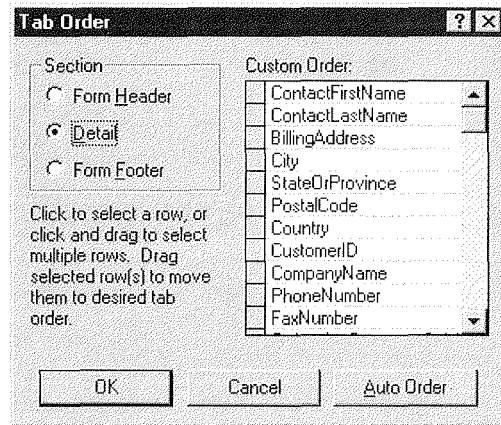


**NOTE**

Instead of using the toolbar, you can select the control(s) and change format properties in the property sheet; but that's doing it the hard way (unless the property sheet offers additional features that aren't available on the toolbar). For example, you can select from 16 million different colors by using the property sheet, instead of only the 56 different colors shown in the color palettes.

**FIGURE 13.8**

The Tab Order dialog box.



## Controlling the Tab Order

The *tab order* controls the order in which the cursor moves through fields on a form when you press the Tab and Shift+Tab keys. After you've rearranged fields in a form, the current tab order may seem jumbled when you use the form in form view. To fix the tab order, follow these steps:

1. Choose View ► Tab Order in form design view. You'll see a Tab Order dialog box similar to the example shown in Figure 13.8.
2. Select the section in the Section group you want to redefine (for example, choose Detail).
3. Click on the Auto Order button to have Access quickly set the tab order from left to right and top to bottom.
4. Click on or drag through the row selector(s) for the rows you want to reposition to assign the tab order manually. Then move the mouse pointer to one of the selected row selectors and drag the row or rows to a new position in the Custom Order list.
5. Repeat steps 3 and 4 as needed and then click on OK.

In form view, pressing Tab will now move the cursor forward in the new tab order. Pressing Shift+Tab will move the cursor backward in the new tab order.



**TIP** To prevent the cursor from landing on a control when you press Tab or Shift+Tab in form view, return to form design view and set the Tab Stop property for that control to No. You'll find this property on the Other tab of the property sheet.

## Copying Properties to Other Controls

Suppose you've formatted a control just the way you want it and now want other controls to have the same look. Making this happen is quick and easy:

1. Select the control that has the formatting you want to copy to another control.
2. Do one of the following:
  - **To copy the format to one other control**, click on the Format Painter button on the Form Design or Report Design toolbar.
  - **To copy the format to several other controls**, double-click on the Format Painter button.
3. Click on the control that should have the new format.  
If you double-clicked on the Format Painter button in step 2, continue clicking on other controls that should have the new format.
4. Press Esc or click on the Format Painter button again when you're done copying the format.

The format painter will copy any formatting properties that you can set via the Formatting (Form/Report) Toolbar, and almost every property that you can set via the Format tab on the property sheet. Pretty nifty!

## Adding Help, Menus, and Prompts to Controls

By now, you've probably taken advantage of status bar prompts, shortcut menus, and ScreenTips to help you figure out what to do next or to do something more quickly. Guess what? You can add these conveniences to any control on your form by updating properties on the Other tab of the property sheet.

**NOTE**

When you drag names from the field list to your design, Access automatically fills in the Status Bar Text property with any text that appears in the Description column for that field in table design view. If the Description is blank, the Status Bar Text also will be blank.

To set up custom help text and shortcut menus that will appear in form view, select the control you want to customize (in form design view), open the property sheet (View ► Properties), and then click on the property sheet's Other tab. Now assign values to any of these properties. Figure 13.9 shows a completed example:

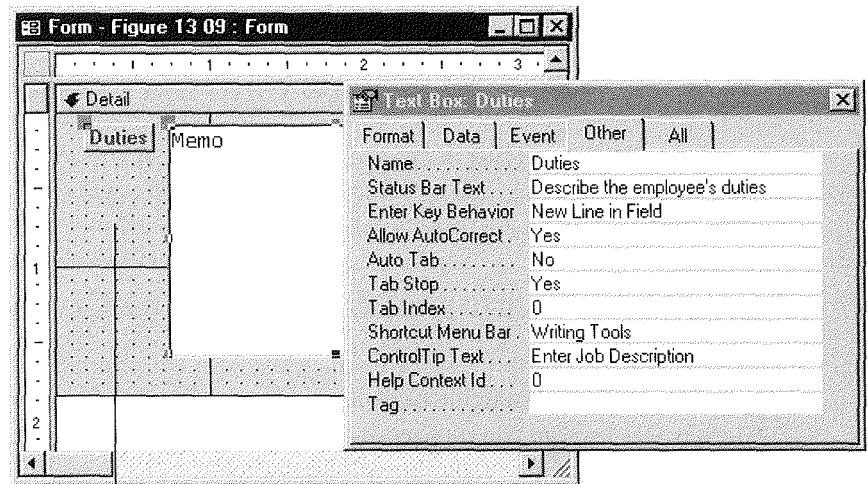
**Status Bar Text** Displays a message on the status bar when the cursor lands in the control.

**Shortcut Menu Bar** Displays a custom shortcut menu when you right-click on the control. Chapter 24 explains how to create custom shortcut menus.

**ControlTip Text** Displays a pop-up message when you point to the control with the mouse. ControlTips are similar to the ScreenTips that appear when you point to toolbar buttons.

**FIGURE 13.9**

A memo field to which we've assigned Status Bar Text, Shortcut Menu Bar, and ControlTip Text properties.



Form design view

**Help Context ID** Displays information from a custom Help file that's named in the Help File property (the Help File property appears on the Other tab when you select the entire form). The custom Help will appear if you move the focus to (click on) the control in form view and then press F1. You can create a custom Help file using Microsoft's Windows Help Compiler and a rich-text format text editor, such as Microsoft Word for Windows or the Windows WordPad. Many third-party companies also offer Help authoring tools.

**NOTE**

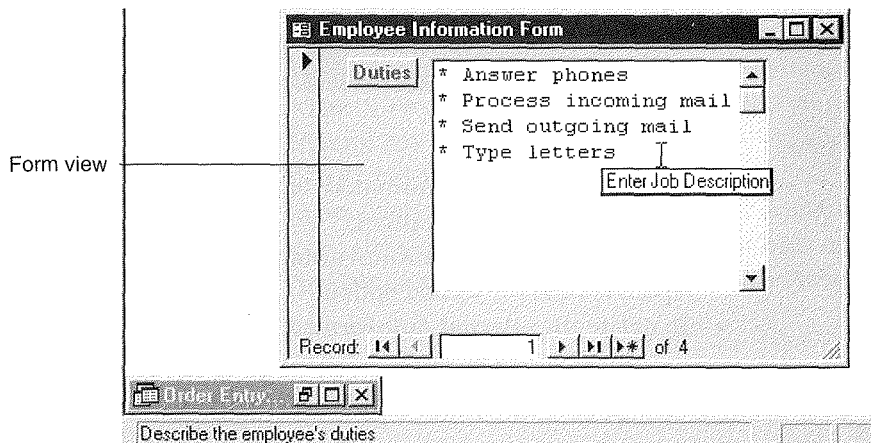
The Windows Help Compiler and the *Help Compiler Guide* come with the Microsoft Access Developer's Toolkit, Microsoft Visual Basic, Microsoft Visual C++, and the Microsoft Software Development Kit (SDK). Please contact Microsoft for more information about these tools.

Figure 13.10 shows the form from Figure 13.9 after we switched to form view, clicked in the field, and let the mouse pointer rest in the field for a moment. Right-clicking on the field would display a menu of options from our Writing Tools shortcut menu (not shown).

For more about any of these "helpful" properties, open the property sheet (View ► Properties), click on the Other tab, click in the appropriate property box, and then press F1.

**FIGURE 13.10**

The field from Figure 13.9 in form view. Notice the status bar text at the bottom of the screen and the ControlTip text near the mouse pointer.



**NOTE**

When you drag names from the field list to your design, Access automatically fills in the Status Bar Text property with any text that appears in the Description column for that field in table design view. If the Description is blank, the Status Bar Text also will be blank.

To set up custom help text and shortcut menus that will appear in form view, select the control you want to customize (in form design view), open the property sheet (View ► Properties), and then click on the property sheet's Other tab. Now assign values to any of these properties. Figure 13.9 shows a completed example:

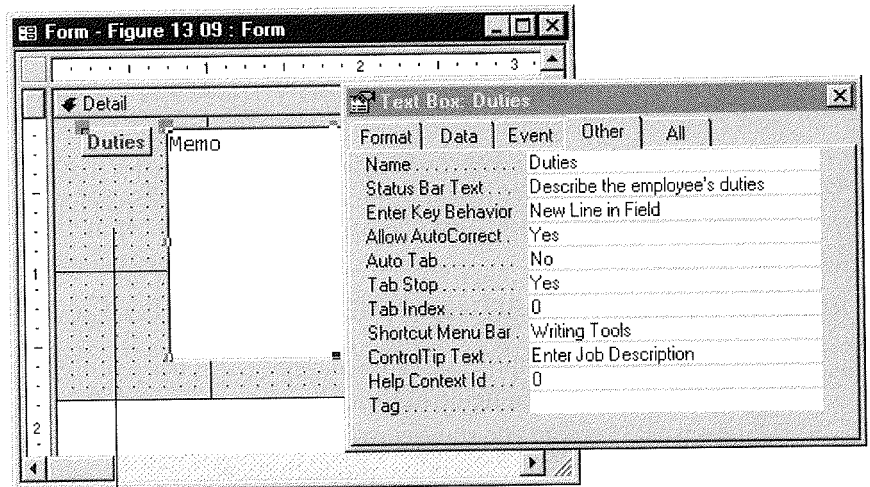
**Status Bar Text** Displays a message on the status bar when the cursor lands in the control.

**Shortcut Menu Bar** Displays a custom shortcut menu when you right-click on the control. Chapter 24 explains how to create custom shortcut menus.

**ControlTip Text** Displays a pop-up message when you point to the control with the mouse. ControlTips are similar to the ScreenTips that appear when you point to toolbar buttons.

**FIGURE 13.9**

A memo field to which we've assigned Status Bar Text, Shortcut Menu Bar, and ControlTip Text properties.



Form design view

**Help Context ID** Displays information from a custom Help file that's named in the Help File property (the Help File property appears on the Other tab when you select the entire form). The custom Help will appear if you move the focus to (click on) the control in form view and then press F1. You can create a custom Help file using Microsoft's Windows Help Compiler and a rich-text format text editor, such as Microsoft Word for Windows or the Windows WordPad. Many third-party companies also offer Help authoring tools.

**NOTE**

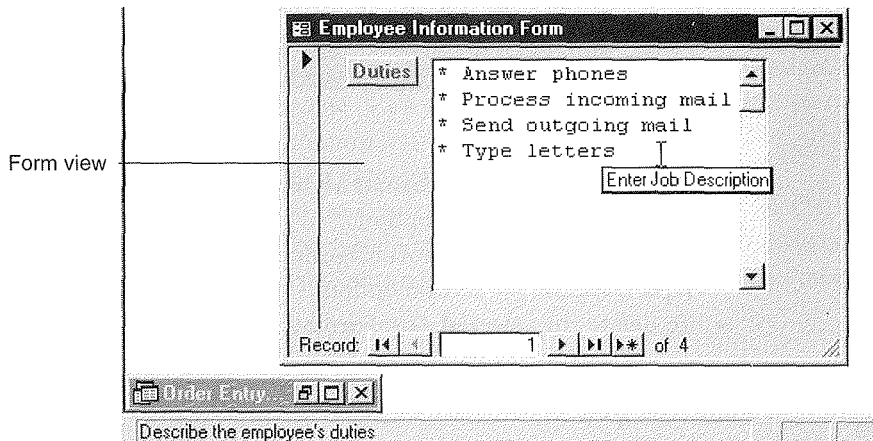
The Windows Help Compiler and the *Help Compiler Guide* come with the Microsoft Access Developer's Toolkit, Microsoft Visual Basic, Microsoft Visual C++, and the Microsoft Software Development Kit (SDK). Please contact Microsoft for more information about these tools.

Figure 13.10 shows the form from Figure 13.9 after we switched to form view, clicked in the field, and let the mouse pointer rest in the field for a moment. Right-clicking on the field would display a menu of options from our Writing Tools shortcut menu (not shown).

For more about any of these "helpful" properties, open the property sheet (View ► Properties), click on the Other tab, click in the appropriate property box, and then press F1.

**FIGURE 13.10**

The field from Figure 13.9 in form view. Notice the status bar text at the bottom of the screen and the ControlTip text near the mouse pointer.

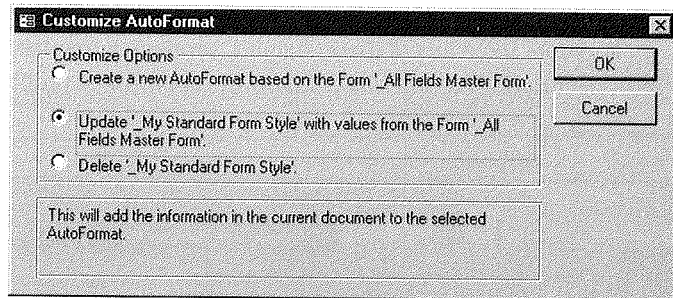


## Customizing AutoFormat Styles

You can customize existing AutoFormat styles, add new styles, and delete unwanted styles in a flash. You can customize the font, color, and border controls in each section as needed. You also can set background colors for each section and choose a Picture for the form background. (For more about displaying background pictures, see “Adding a Background Picture” later in this chapter.) Any new styles you add will be available to the Form Wizards and Report Wizards and in the AutoFormat dialog box shown earlier in Figure 13.4.

To open the AutoFormat dialog box, click on the AutoFormat button on the Form Design or Report Design toolbar or choose Format ► AutoFormat. If you want to update or delete an existing AutoFormat, click on that format in the Form AutoFormats or Report AutoFormats list.

When you click on the Customize button in the dialog box, you’ll see a Customize AutoFormat dialog box similar to this one:



- To create a new AutoFormat style based on formats in your current form or report, choose the first option.
- To update the selected AutoFormat with formats from your current form or report, choose the second option.
- To delete the selected AutoFormat, choose the third option.

Click on OK and then click on Close when you are finished working in the AutoFormat dialog box.

## Specifying the Record Source On the Fly

If you've accidentally chosen the wrong source for data in your report or form, or you wish to change it, here's what to do:

1. Open the property sheet (View ► Properties), and click on the Data tab.
2. Select the entire form or report (Edit ► Select Form or Edit ► Select Report).
3. Click on the Record Source property box on the property sheet's Data tab. A drop-down list button and a Build button will appear.
4. Do one of the following:
  - Type the table name or query name of the record source into the property box or choose a table or query from the drop-down list.
  - Build a query on-the-fly by clicking on the Build button and on Yes if a message appears. Define a query that selects and displays the records you want, using techniques discussed in Chapter 10. Test and save the query if you wish. When you're done defining the query, choose File ► Close (or press Ctrl+W, or click on the Close button in the SQL Statement dialog box) and answer Yes if prompted to save your changes. Press Enter to move the cursor to the next property box. An SQL statement will appear in the Record Source property box; this SQL code is just an equivalent way to express the query.
5. Preview the report or switch to form view.

If you see **#Name?** or **#Error?** in a control, that control has become undefined as a result of your efforts in step 4. Return to design view, delete the incorrect or extraneous control(s), and drag the appropriate field(s) from the field list to your design. Or open the property sheet in design view (View ► Properties), select the control you want to change, click on the Control Source box on the property sheet's Data tab, and type in or select the appropriate field or expression.

For more information about troubleshooting **#Name?** and **#Error?** problems, look up *Troubleshooting Forms* in the Access Help Index or Answer Wizard, double-click on *Troubleshoot Forms*, and then click on the button next to *I Need Help Troubleshooting Problems With Controls On My Form*.

## Sections, Headers, and Footers

All reports and forms are divided into the sections described below to help you control what appears where on the finished form or report. We'll show some examples in a moment.



## Form Sections

Forms are divided into as many as five sections:

**Form Header** Always visible at the top of a form; printed only on the first page.

**Page Header** Printed at the top of each page when you print forms (never visible in form view).

**Detail** Generally used to show fields (data) from an underlying table or query.

**Page Footer** Printed at the bottom of printed forms only. Never visible in form view.

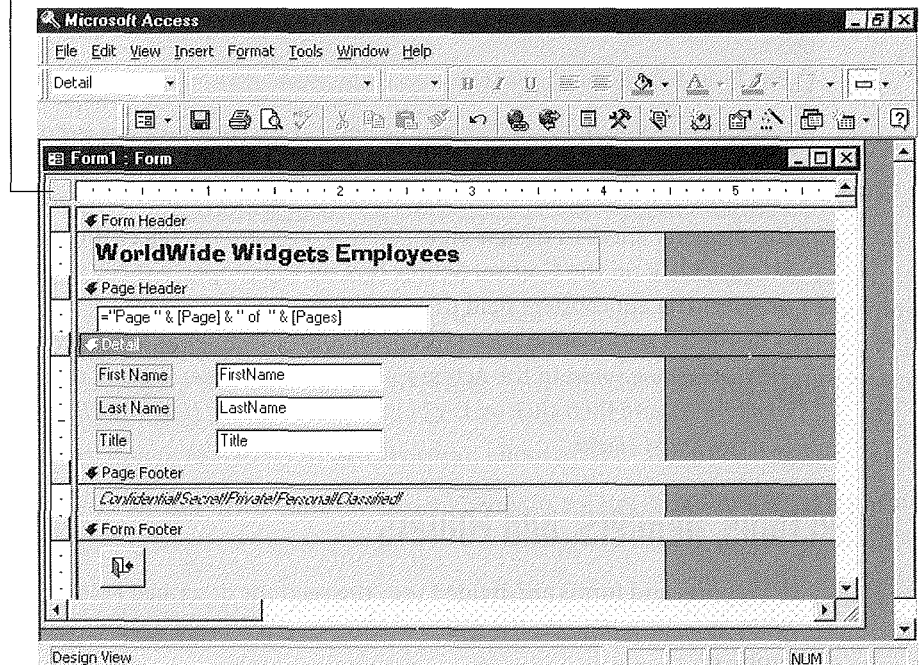
**Form Footer** Always visible on the bottom of the form window; printed only on the last page.

Figure 13.11 shows the design view for a completed form with a form header and footer, page header and footer, and detail section. Figure 13.12 shows the same form in form view. Remember that page headers and footers appear only on printed copies of

**FIGURE 13.11**

*A sample form in design view, illustrating the various sections.*

Form design view



**FIGURE 13.12**

The design shown in Figure 13.11 looks like this in form view.

the form and in print preview, so you'll never see them in form view. In Figure 13.13 you see the same form in print preview with its page header clearly visible. (To see the *Confidential! Secret! Private! Personal! Classified!* page footer in print preview, click on the form to make it fit on the page or use the vertical scroll bar to scroll to the bottom of the form.)

**FIGURE 13.13**

In print preview (and in printed copies of the form), the design shown in Figure 13.11 looks like this. Although it's cut off on this figure, the *Confidential! Secret! Private! Personal! Classified!* page footer also will appear at the bottom of each page in print preview and on the printed copies.

## Report Sections

Reports can have sections similar to those in forms. But reports also can have grouping sections, which allow you to break data into separate groups. Each group can have its own header and footer. Here's a summary of the sections:

**Report Header** Printed once at the beginning of the report (*Example:* a cover page).

**Page Header** Printed at the top of each page.

**Group Header** Printed at the top of each group.

**Detail** Printed once for each record in the underlying table or query.

**Group Footer** Printed at the bottom of each group (often used to place subtotals at the end of each printed group).

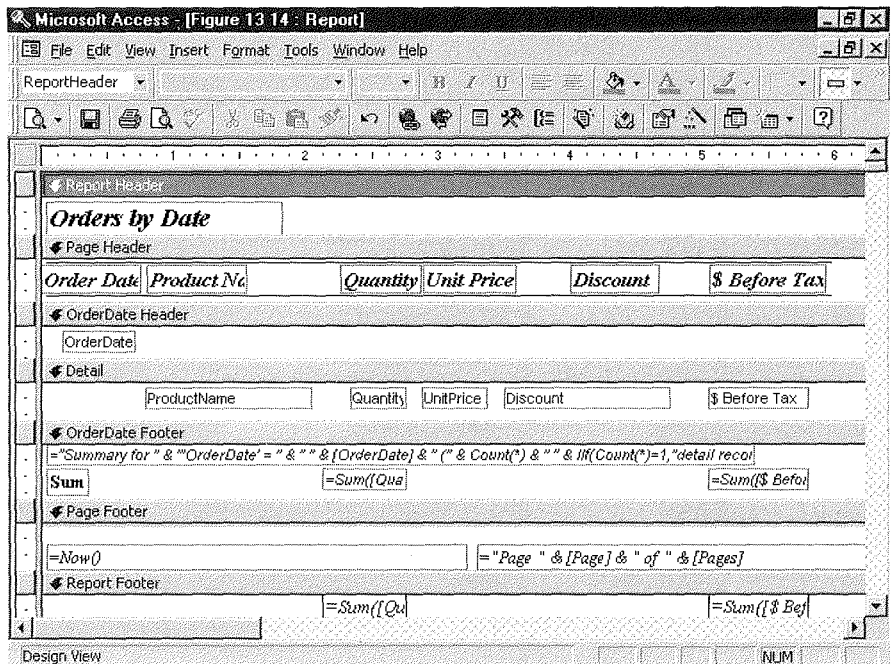
**Page Footer** Printed at the bottom of each page.

**Report Footer** Printed once at the end of the report. Often used to display grand totals at the end of a report that includes subtotals.

Figure 13.14 shows a report with multiple sections in design view, and Figure 13.15 shows the printed report.

**FIGURE 13.14**

A sample report showing sections of a report design.



**FIGURE 13.15**

The report produced by the design in Figure 13.14. This report is sorted and grouped on the OrderDate and ProductName fields (although the Product-Name group header and footer are empty).

**Orders By Date**

Report header

OrderDate ProductName Quantity UnitPrice Discount \$ Before Tax

Page header

**2/1/95**

Group header

Basketball	1	\$4.95	0.00%	\$4.95
Basketball	2	\$4.95	0.00%	\$9.90
Billiard balls	2	\$127.45	0.00%	\$254.90
Crystal ball	2	\$45.55	0.00%	\$91.10
Foosball	4	\$17.85	0.00%	\$71.40
Football	1	\$5.65	0.00%	\$5.65
Football	1	\$5.65	0.00%	\$5.65
Football	2	\$5.65	0.00%	\$11.30
Tether ball	5	\$9.65	0.00%	\$48.25

Detail

Summary for 'OrderDate' = 2/1/95 (9 detail records)

Group footer

Sum 20 \$503.10

**2/11/95**

Baseball	2	\$8.75	0.00%	\$17.50
Basketball	1	\$4.95	0.00%	\$4.95
Basketball	2	\$4.95	0.00%	\$9.90
Football	1	\$5.65	0.00%	\$5.65

Summary for 'OrderDate' = 2/11/95 (4 detail records)

Sum 6 \$38.00

**2/18/95**

Crystal ball	1	\$45.55	0.00%	\$45.55
Golf balls	1	\$6.75	0.10%	\$6.74

Summary for 'OrderDate' = 2/18/95 (2 detail records)

Sum 2 \$52.29

## Report Sections

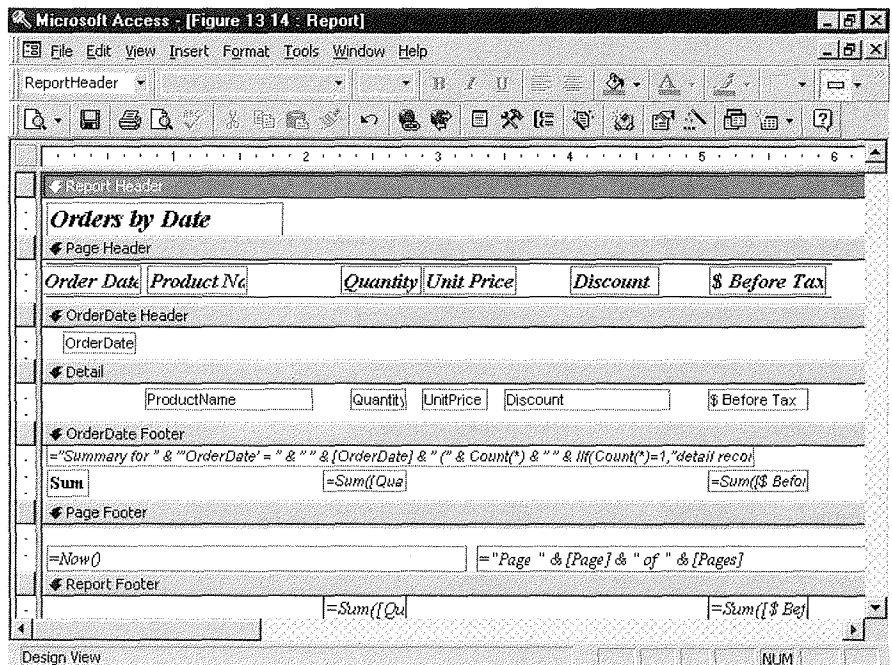
Reports can have sections similar to those in forms. But reports also can have grouping sections, which allow you to break data into separate groups. Each group can have its own header and footer. Here's a summary of the sections:

- Report Header** Printed once at the beginning of the report (*Example:* a cover page).
- Page Header** Printed at the top of each page.
- Group Header** Printed at the top of each group.
- Detail** Printed once for each record in the underlying table or query.
- Group Footer** Printed at the bottom of each group (often used to place subtotals at the end of each printed group).
- Page Footer** Printed at the bottom of each page.
- Report Footer** Printed once at the end of the report. Often used to display grand totals at the end of a report that includes subtotals.

Figure 13.14 shows a report with multiple sections in design view, and Figure 13.15 shows the printed report.

**FIGURE 13.14**

A sample report showing sections of a report design.



**FIGURE 13.15**

The report produced by the design in Figure 13.14. This report is sorted and grouped on the OrderDate and ProductName fields (although the Product-Name group header and footer are empty).

**Orders By Date**

Report header

OrderDate	ProductName	Quantity	UnitPrice	Discount	\$ Before Tax
-----------	-------------	----------	-----------	----------	---------------

Page header

**2/1/95**

Group header

	Basketball	1	\$4.95	0.00%	\$4.95
	Basketball	2	\$4.95	0.00%	\$9.90
	Billiard balls	2	\$127.45	0.00%	\$254.90
	Crystal ball	2	\$45.55	0.00%	\$91.10
	Foosball	4	\$17.85	0.00%	\$71.40
	Football	1	\$5.65	0.00%	\$5.65
	Football	1	\$5.65	0.00%	\$5.65
	Football	2	\$5.65	0.00%	\$11.30
	Tether ball	5	\$9.65	0.00%	\$48.25

Detail

Summary for 'OrderDate' = 2/1/95 (9 detail records)

Group footer

Sum		20			\$503.10
-----	--	----	--	--	----------

**2/11/95**

	Baseball	2	\$8.75	0.00%	\$17.50
	Basketball	1	\$4.95	0.00%	\$4.95
	Basketball	2	\$4.95	0.00%	\$9.90
	Football	1	\$5.65	0.00%	\$5.65

Summary for 'OrderDate' = 2/11/95 (4 detail records)

Sum		6			\$38.00
-----	--	---	--	--	---------

**2/18/95**

	Crystal ball	1	\$45.55	0.00%	\$45.55
	Golf balls	1	\$6.75	0.10%	\$6.74

Summary for 'OrderDate' = 2/18/95 (2 detail records)

Sum		2			\$52.29
-----	--	---	--	--	---------

## Adding or Removing Headers and Footers

The View menu provides commands to add and remove report page headers and footers, and form page headers and footers. Adding a header or footer section is easy:

1. Choose View.
2. Choose the *unchecked command* for the section you want to add (Page Header/Footer, Form Header/Footer, or Report Header/Footer).

Deleting a section is just as easy, but you should think carefully before deleting. If you delete a section that already contains controls, you'll lose all the controls in that section. Fortunately, Access will warn you if you're about to lose controls and will give you a chance to change your mind. (This operation has no "undo.")

**TIP**

It's a good idea to save your design (File ► Save or Ctrl+S) before you delete a section. That way, if you accidentally delete the wrong section, you can close your design without saving it (File ► Close ► No) and then reopen the previous copy in design view.

To delete a section, choose View and then choose the *checked command* for the section you want to delete. If Access asks for confirmation, click on Yes only if you're sure you want to delete all the controls in that section.

**TIP**

You can move controls to another section of the form or report before deleting the section (see "Moving Controls" above for details). You also can resize a section, as explained later in this chapter under "Sizing a Section."

## Grouping Data in Reports

You can group data in reports (but not in forms) by creating Sorting And Grouping sections. These sections are handy for sorting data and printing subtotals, as shown earlier in Figure 13.15.

Sorting And Grouping sections differ from the other sections described above in that:

- You can use Sorting And Grouping sections only in reports (not forms).
- You don't use the View menu to add or remove Sorting And Grouping headers or footers.
- A Sorting And Grouping header or footer is often based on some field from the underlying table or query or on some expression that involves a field.

## The Easy Way to Create Groups/Subtotals

The easiest way to create a report with sorting and grouping sections is to start from the database window and use the Report Wizards to create the report (see Chapter 12). When the Wizard is done, your report design will include the sorting and grouping sections and controls needed to print subtotals, grand totals, and percentage totals. You can then switch to design view and tweak the report groupings to perfection.

### Grouping without a Wizard

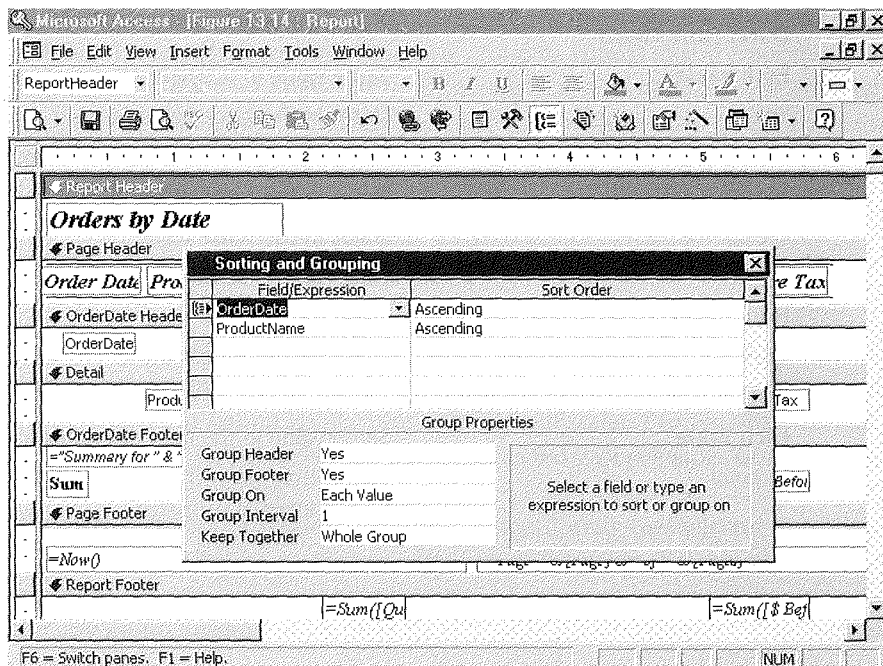
If you prefer to set up sorting and grouping sections without any help from a Wizard, start in report design view and follow these steps:

1. Click on the Sorting And Grouping button (shown at left) on the Report Design toolbar or choose View ► Sorting And Grouping from the menus. You'll see the Sorting And Grouping dialog box. A completed example is shown in Figure 13.16.
2. Use the drop-down list under Field/Expression to select the field to group by, or type a custom expression of your own.



**FIGURE 13.16**

The report from Figure 13.15, shown in design view, with the Sorting and Grouping dialog box open on the screen





3. Change the Sort Order from Ascending to Descending to arrange groups from largest-to-smallest order (for example, from Z to A or from December to January).
4. Change these properties in the lower pane of the dialog box, as needed:

**Group Header** To create a header section for the group, change the Group Header property from No to Yes.

**Group Footer** To create a footer section for the group, change the Group Footer property from No to Yes.

**Group On** To choose how you want to form the groups, select options from the Group On drop-down list. The available options depend on the type of field you're grouping on, as summarized in Table 13.1.

**TABLE 13.1: GROUP ON PROPERTIES FOR VARIOUS FIELD TYPES**

CHOOSE THIS GROUP ON PROPERTY	TO GROUP RECORDS ON
<b>Text Fields</b>	
Each Value	Same value in the field or expression
Prefix Characters	Same first <i>n</i> number of characters in the field or expression (set <i>n</i> with the Group Interval property)
<b>Date/Time Fields</b>	
Each Value	Same value in the field or expression
Year	Dates in the same calendar year
Qtr	Dates in the same calendar quarter
Month	Dates in the same month
Week	Dates in the same week
Day	Dates on the same day
Hour	Dates in the same hour
Minute	Dates in the same minute
<b>AutoNumber, Currency, or Number Fields</b>	
Each Value	Same value in the field or expression
Interval	Values that fall in the interval you specify in the Group Interval property

**Group Interval** To change the interval or number of characters to group on, type a number into the Group Interval box. For instance, to group records by the first three letters of a customer's last name, change Group On to Prefix Characters and set the Group Interval to 3.

**Keep Together** To prevent a group that's less than a page in length from being split across two pages, change this property from No to Whole Group (keep the entire group together) or With First Detail (keep just the group header and first detail record together).

5. (Optional) Add any of the following to the header or footer section: fields from the field list, calculated controls (for subtotals and totals), horizontal lines, rectangles, and page breaks.

See "Creating Calculated Controls" and "Adding Page Breaks" later in this chapter for more about those topics.

## Creating More Than One Group

You can add more than one level of grouping. For instance, you might want to group orders first by OrderDate and then by ProductName within OrderDate, and then by Quantity within ProductName, as shown in Figure 13.16.

To add another level, open the Sorting And Grouping dialog box. Click in the Field/Expression column where you want the new group to appear in the grouping hierarchy. If you need to open up a new row in the dialog box, click on the row selector where the blank row should appear and then press Insert. Now fill in the Field/Expression, Sort Order, and Group Properties as described above.

## Deleting, Moving, or Changing a Group Header/Footer

You can hide, delete, or move a grouping section, and you can change the field or expression used for grouping as follows:

- **To hide a group header or footer section (but keep the grouping)**, click in the appropriate row in the Sorting And Grouping dialog box. Then change the row's Group Header or Group Footer property (as appropriate) to No. Records will still be grouped and sorted as before, but the selected group header or footer for this section won't be printed.
- **To delete a grouping section**, click on the appropriate row selector in the Sorting And Grouping window, press the Delete key, and click on Yes when asked for confirmation. Records will no longer be grouped or sorted by the field or expression, and any group headers and footers for this section will disappear from the report.

- **To move a grouping section**, click on the appropriate row selector in the Sorting And Grouping window and then drag the selected row up or down to a new position in the grouping hierarchy. Access will rearrange the group header and footer sections in the report design immediately.
- **To change the field or expression used for grouping**, click in the appropriate Field/Expression box in the Sorting And Grouping dialog box. Then select another field name from the Field/Expression drop-down list or type in a different expression. To change the field displayed in the group header or footer section, delete the old field from the appropriate section in the report design and then drag a new one from the field list. Or select the control and change its Control Source data property.

## Hiding Duplicate Data in a Report

The sample report in Figure 13.15 and the corresponding report design in Figure 13.16 illustrate how the Sorting And Grouping feature can hide duplicate data. In those examples we placed the OrderDate control in the OrderDate Header section (*not* in the Detail section). That way, the order date information appears only when the order date changes, not on every detail line.

Another way to hide duplicate data in a report doesn't require the Sorting And Grouping feature. Here are the steps:

1. Base the report on a query or table datasheet that's sorted by the field you want to group on or create the query on the fly, as discussed earlier in "Specifying the Record Source on the Fly."
2. Put the bound control for the group header in the detail section of the report. In Figure 13.17, for example, we put CompanyName in the detail section and used it as a sort field.
3. Open the property sheet (View ► Properties), click on the control whose duplicate values you want to hide, and change the Hide Duplicates property on the Format tab to Yes. You also might want to change the Can Shrink property to Yes (to eliminate blank lines during printing) and the Can Grow property to Yes (to allow text such as the company name to expand as needed).

**FIGURE 13.17**

A report that's sorted by Company-Name, Order-Date, and OrderID and suppresses duplicate values in all three fields. We used the Report Wizard to create an ungrouped Tabular report on the Customers and Orders tables, and then changed the report's Record Source on the fly to sort each field in Ascending order.

## Orders by Customer

Company Name	Order Date	Order ID
<b>ABC Corporation</b>	2/1/95	1
	3/14/95	2
	4/18/95	3
	5/21/95	4
	6/25/95	5
<b>Reese Clinic</b>	2/18/95	11
	2/25/95	12
	3/26/95	13
	4/15/95	14
	5/1/95	15
<b>RNAA Associates</b>	2/1/95	6
	4/1/95	7
	4/9/95	8
	5/11/95	9
	6/12/95	10
<b>University of the Elite</b>	2/1/95	21
	4/1/95	22
	5/7/95	23
	6/28/95	24

## Sizing a Section

Keep in mind that blank space in a form or report design *always* shows up as blank space in the final form or report. Suppose you leave a blank, 2"-high page footer section at the bottom of a report design. Later, when you print the report, every page will have 2 extra inches of blank space at the bottom!

To fix the problem, change the height of the section as follows: Move the mouse pointer to the divider at the bottom of the section. When the pointer changes to a crosshair (shown below), drag the divider up or down and then release the mouse button.



A section can't be made smaller than the space required by the controls within that section. If you can't make a section as narrow as you'd like, first size and/or move the controls in the section so that they take up less height. Then resize the section again.

## Summarizing Your Data by Hiding a Section

Suppose you've set up a report with detail lines, subtotals, and totals. Now you want to show *only* those subtotals and totals, without the detail lines. This type of report is called a *summary report* because it summarizes your data without providing unwanted details. That is, summary reports let you focus on the forest (your bottom line), while conserving the trees (paper).

In Chapter 12 you learned how to use the Report Wizards, which can produce summary reports quite easily. But you also can set up summary reports (or hide any section in a form or report) without using a Wizard. The secret is simply to hide or delete information in the appropriate section, using either of these methods:

- Click on the band at the top of the section you want to hide. (For example, click on the Detail band to hide detail lines in a summary report.) Now open the property sheet (View ► Properties), click on the Format tab, and change the section's Visible property to No. This method leaves all the controls in the section, but doesn't show the contents of the section in the finished form or report. If you change your mind about hiding the information in the section, just click on the section's band again, open the property sheet, click on the Format tab, and change the section's Visible property back to Yes.

- Delete all controls from the section; then size the section so that it has no height at all. Of course, this method is more drastic than the one above, and it doesn't allow you to redisplay the section later.

## Adding Your Own Controls

You've already learned how to add controls to a report or form by dragging field names from the field list. But bound controls are only the tip of the object iceberg. In the sections that follow, you'll learn how to use the *toolbox* to create more than a dozen different types of controls.

### Using the Toolbox

The toolbox (shown in Figure 13.18 and briefly described in Table 13.2) provides all the tools you'll need to create your own controls.

Figure 13.19 shows a hodgepodge form, in form view, with many of the controls that Access offers. Figure 13.20 shows the same form in design view. Of course you'll probably never create a form as weird as this one, but it does illustrate the possibilities.

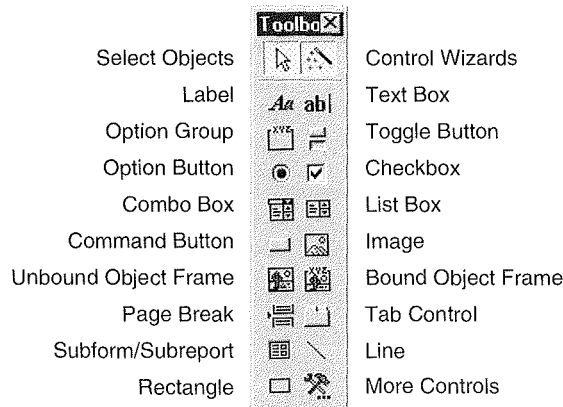
To open the toolbox if it isn't visible, click on the Form Design or Report Design toolbar's Toolbox button (shown at left) or choose View ► Toolbox.

Once you've opened the toolbox, using it is easy. The Select Objects and Control Wizards buttons are *toggle buttons* that you can click on to activate or deactivate.



**FIGURE 13.18**

The Toolbox provides all the buttons you need to design controls of your own.



**TABLE 13.2: THE TOOLBOX BUTTONS SHOWN IN FIGURE 13.18**

<b>BUTTON NAME</b>	<b>WHAT IT DOES</b>
Select Objects	Lets you select controls in the design window.
Label	Creates a control that displays descriptive text (e.g., title, caption, instructions).
Option Group*	Creates a control that frames a set of checkboxes, option buttons, or toggle buttons. In form view, only one option in the group can be selected at a time.
Option Button	Creates a control that you can select or clear. (Sometimes called a radio button.)
Combo Box*	Creates a control that's like a list box and text box combined. In form view, you can either type the text into the combo box or select an item from the drop-down list.
Command Button*	Creates a control that opens a linked form, runs a macro, calls a Visual Basic function, or runs a Visual Basic procedure.
Unbound Object Frame*	Creates a control that displays a picture, graph, or OLE object that isn't stored in the underlying table or query.
Page Break	Creates a control that starts a new page in a report or form or a new screen in a multiscreen form.
Subform/Subreport	Inserts a form or report within the form or report you're designing now.
Rectangle	Creates a control that appears as a rectangle or square. Used for decoration.
Control Wizards	Turns the Control Wizards on or off. In this chapter, we assume that the Control Wizards button is selected (pushed in), so that Wizards are available to help you create option boxes, combo boxes, list boxes, charts, and command buttons.
Text Box	Creates a control that gives you a place to enter or view text in a form or report. Also used to display calculation results.

*Continued* ►

**TABLE 13.2: THE TOOLBOX BUTTONS SHOWN IN FIGURE 13.18 (CONTINUED)**

BUTTON NAME	WHAT IT DOES
Toggle Button	Creates a control that acts as an on/off button. Toggle buttons can display text or a picture.
Checkbox	Creates a control that you can select (check) or clear.
List Box*	Creates a control that gives you a list of choices.
Image	Creates a control that displays a picture. Image controls display faster and offer more image formats than Unbound Object controls, and they're recommended when you don't need to edit the object directly from the form or report.
Bound Object Frame	Creates a control that displays an OLE object (such as a picture) that is stored in the underlying table or query. (It's easiest to create bound controls by dragging fields from the field list.)
Tab Control	Creates a control with tabbed pages (like the ones you see in a Properties menu).
Line	Creates a control that appears as a straight line. Used for decoration.
More Controls	Displays a menu of ActiveX and other special purpose controls.

\* A Wizard will take you through the setup steps if the Control Wizards button is selected.

The Chart button, which creates a control that displays a chart, doesn't appear in the toolbox initially. Chapter 14 explains how to add this button and produce charts.

To create custom controls (such as the Calendar control provided with Access), choose Insert ► Custom Control.

The steps for using the other buttons appear below:

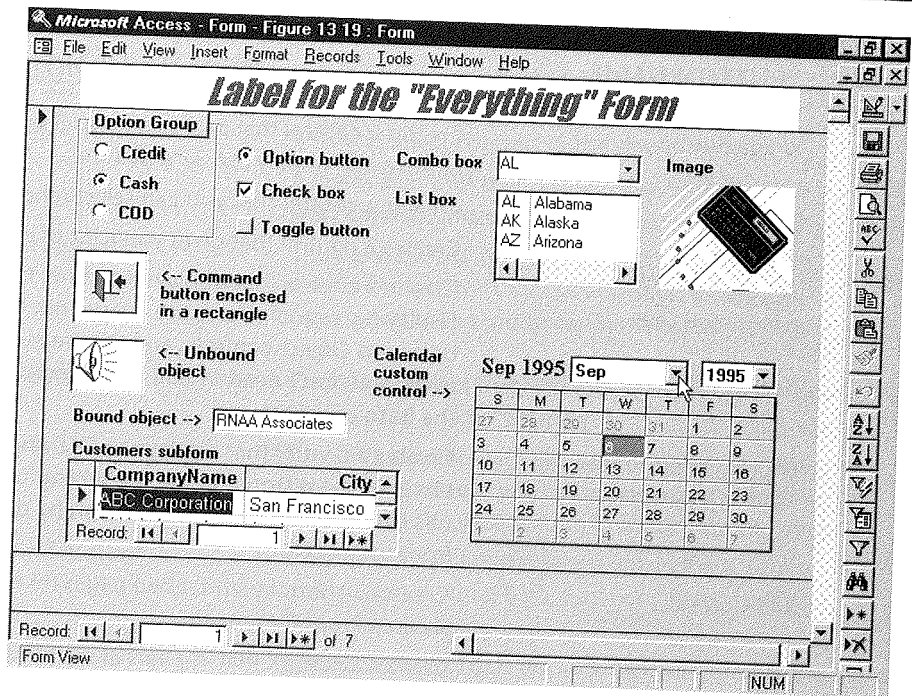
1. Click on the toolbox button you want to use. (If you want this button to remain selected until you choose another one, double-click on the toolbox button.)
2. Click where you want the upper-left corner of the control to appear or drag an outline to define the size and location of the control you're creating.
3. Respond to any prompts that appear (as described in the following sections).





**FIGURE 13.19**

A hodgepodge form in form view. This form includes most types of Access controls.



4. Click on the Select Objects toolbox button (if it's not selected already). Then select the control and adjust its size, position, colors, borders, lines, and other properties as needed.

To quickly learn how to use one of the toolbox buttons, click on the button you're interested in and press F1. Or click on the Help button on the Form Design or Report Design toolbar and then click on the toolbox button you want to know more about.

## Changing Default Properties for Toolbox Tools

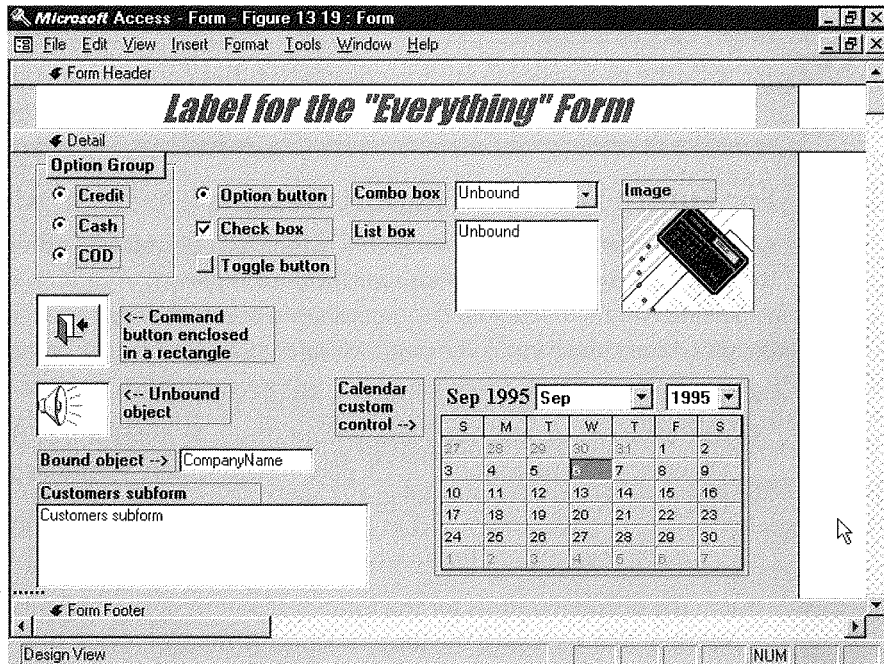
If you find yourself repeatedly changing the same old properties for a certain type of control, you can alter that control's *default* properties.

### For the Current Form or Report Only

You can use either of two methods to change the default properties for newly created controls in the current form or report.

**FIGURE 13.20**

The hodge-podge form from Figure 13.19 in design view. We've hidden the toolbar, grid, and ruler so you can see the controls more easily.



Page break (not visible in form view)

Here's one method:

1. Open the property sheet (View ► Properties) and click on the All tab (or the tab for whichever group of properties you want to change).
2. Click on the toolbox button for the object whose default properties you want to change. The title bar of the property sheet will reflect the name of the control you selected in step 1.
3. Change the properties as needed.

Here's the other method:

1. Set the properties for the controls that should serve as the model for other controls of the same type. For example, draw a rectangle and assign it properties that should be used for other rectangles in the design.
2. Select the control or controls that have the properties you want to copy.
3. Choose Format ► Set Control Defaults.

New controls placed in the design will have the new default properties you set.

**TIP**

To copy the properties from one control to other controls on your design, use the Format Painter. See “Copying Properties to Other Controls” earlier in this chapter.

## For Future Form and Report Designs

Access also offers two ways to use your customized controls and other characteristics of the current design as defaults for new forms or reports.

The first way is to use your customized form or report design as a template for future designs. Access uses form and report templates to set up the initial appearance of a design:

- Any time you create a new design without a Wizard.
- Any time you use the AutoForm Wizard (Insert ► AutoForm or the equivalent New Object toolbar button) or AutoReport Wizard (Insert ► AutoReport or the equivalent New Object toolbar button) to create a new design.

To specify your current form or report as a template:

1. Set the default controls for the form or report design, as described in the previous section, and then save the form or report (Ctrl+S).
2. Choose Tools ► Options and click on the Forms/Reports tab in the Options dialog box.
3. Change the Form Template or Report Template option from Normal (the default template that comes with Access) to the name of the customized form or report you want to use for setting default characteristics in new designs.
4. Click on OK.

Access will use the template named in the Forms/Reports tab of the Options dialog box for new designs that you create without Wizards and for new designs created with the AutoForm and AutoReport Wizards.

**NOTE**

The Form Template and Report Template settings apply to any database you open or create. If the specified template isn't in the currently open database, Access will use the Normal template instead. To use your templates in other databases, import or export the templates as needed (see Chapter 7).

The second method is to create a new AutoFormat style or update an existing AutoFormat style with properties from the current design. You can then use the new or updated style to restyle the current form or report design or to set the initial appearance for any new ones you create. See “Customizing AutoFormat Styles” and “Choosing a Style for Your Design” earlier in this chapter.

## Adding Labels

Labels display descriptive information such as titles, captions, or instructions on your form or report. The text in a label stays the same from record to record.



To create a label, click on the Label toolbox button (shown at left), click where the upper-left corner of the label should appear or drag an outline to define the label's location and size, and then type the text for the label. Text will wrap automatically within the label. If you want to force text to a new line as you're typing, press Ctrl+Enter. Press Enter when you're finished typing the label text.

To customize the label, select the label and then use the property sheet or the Formatting (Form/Report) toolbar (refer to Figure 13.7) to change the text appearance, colors, borders, and so forth.

## Adding Text Boxes



Text boxes provide a place for you to enter or view text. To create a text box, click on the Text Box tool (shown at left). Then click where the upper-left corner of the text box should appear or drag an outline to define the text box location and size. A field label and unbound text box will appear in your design.



If you want your design to include a field from the underlying table or query, it's easiest to drag that field name from the field list.

- **To change the contents of the text box**, open the property sheet (View ► Properties), select the text box *control* (not the label), and then change the Control Source data property to a field name or expression.
- **To change the label text**, click in the label and edit the text normally. Or change the label's Caption property on the property sheet's Format tab.

- To **hide the label**, select the label and then change the Visible property on the property sheet's Format tab to No.



To prevent Access from creating labels when you add text boxes to the current form or report design, click on the Text Box tool in the toolbox, and then change the Auto Label property on the property sheet's Format tab to No.

## Adding Option Groups

An option group (shown below) contains a set of related buttons or checkboxes from which you can select one button or checkbox in form view (option groups are rarely used on reports). This control is especially useful when only one in a small list of options is valid and you don't need to let the user type in a value.

The selected option can be “remembered” so that the form can later decide what to do next (for example, print labels). Or the selection can be stored in a table field (for instance, the options could store 1 in the PaymentMethod field if you choose *Master Card* in form view).

To create an option group:



1. Make sure the Control Wizards toolbox button (shown at left) is selected (pushed in).



2. Click on the Option Group toolbox button (shown at left); then click in the design or drag an outline where the control should appear. The Option Group Wizard will take over.
3. Type the labels you want for each option when prompted, pressing Tab or ↓ after each entry. Each label must be unique. When you're done typing labels, click on Next (or press Enter) to continue. You can choose whether to assign an option as the default selection in new records that you create.
4. Choose No, I Don't Want A Default or select an option from the drop-down list next to Yes, The Default Choice Is. Click on Next to continue.
5. Assign a numeric value to each option. Usually you can accept the suggested values. Each value must be unique. These values can either be stored in a table field or used in a macro or Visual Basic code to make decisions about what to do next (for example, a value of 1 can mean "pay via Master Card"). Click on Next.
6. Choose either of the options described just below when asked what you want Access to do when you select a value in your option group in form view.

**Save The Value For Later Use** Uses the value to make decisions in a macro or other procedure. The value is saved only as long as the form is open in form view.

**Store The Value In This Field** Stores the value in the table field you choose from the drop-down list.

7. Click on Next.
8. Choose the options you want when asked what style and type of buttons you want for the group. The example in the Option Group Wizard dialog box will reflect your current choices. When you're done, click on Next.

**NOTE**

It's customary in Windows programs to use the default style, Option Buttons, for buttons within an option group. This style makes it clear that only one option button in the group can be selected at a time. However, you also can display the option group buttons as checkboxes (only one button can be checked at a time) or toggle buttons (only one button can be pushed in at a time).

9. Type a label when asked what label you want for the group and then click on Finish.

The option group and its label will appear on the design. You can select the option group or its label and change their appearance with the usual techniques. If you'd like

to change how an option group behaves, open the property sheet (View ► Properties), click on the Data tab, and then do any of the following:

- **To control which field is updated** when you make a selection in form view, click on the frame around the option group and change the field name listed in the Control Source property. To simply have Access remember the selected value (updating no fields), delete the field name in the Control Source property.
- **To change the option group's default selection**, click on the frame around the option group and change the Default Value property.
- **To change the value assigned to a selection**, click on the appropriate option button, checkbox button, or toggle button in the group; then change the Option Value property. Make sure all the values assigned to buttons in your option group are unique.

**NOTE**

Chapter 20 discusses how to create macros, and Chapter 25 introduces Visual Basic programming. In Chapter 22 you'll learn about using checkboxes to make decisions.

## Adding Toggle Buttons, Option Buttons, and Checkboxes

Toggle buttons, option buttons, and checkboxes are simply different spots on the same leopard. That is, each control provides a button or checkbox that you can either select or deselect in form view.

Remember from the previous section that option groups are used to select just one item in a related group of items. By contrast, the individual controls discussed in this section typically are used to set any number of independent fields to Yes or No. For example, you can use a checkbox named Tax Exempt to indicate the tax exempt status of an order, another named Paid to indicate whether an order is paid, and still another named Filled to indicate whether an order has been filled. Most Windows programs use checkboxes for these purposes; but Access also lets you use option buttons or toggle buttons.

**NOTE**

You can use the Toggle Button, Option Button, or Checkbox tools in the toolbox to add more options to an existing option group. Access automatically assigns an Option Value data property to new controls that you add, but you should check the value to make sure it's what you want.

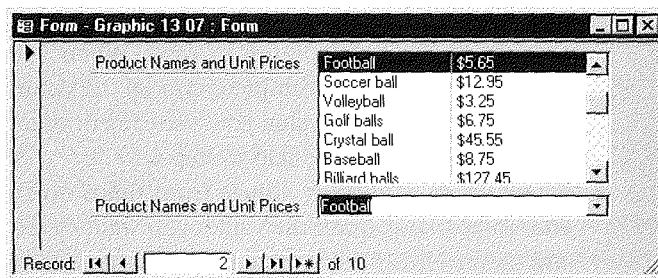
To create one of these controls, click on the appropriate tool in the toolbox and then click in the design or drag an outline where the control should appear. The Option Button, Checkbox, and Toggle Button tools are shown here:



You can change the Data properties for the button or checkbox as described above for option group buttons.

## Adding Combo Boxes and List Boxes

Combo boxes and list boxes (shown below) let you choose a field's value from a list.



Combo boxes (above, at bottom), combine a text box with a drop-down list. The list stays hidden in form view until you click on the drop-down button next to it. You can either type a value into the text box or select it from the list. In list boxes (above, at top), the list is always visible, and the selected option is highlighted.

To create a combo box or list box:

1. Make sure the Control Wizards toolbox button (shown at left) is selected (pushed in).
2. Click on the Combo Box button (left, top) or List Box button (left, bottom) in the toolbox, as appropriate, and then click in the design or drag an outline where the control should appear. The Combo Box Wizard or List Box Wizard will take over.





3. Choose one of these options when asked how you want your box to get its values and then click on Next:

**I Want The Box To Look Up The Values In A Table Or Query** Access displays the list from a table or query you select.

**I Will Type In The Values That I Want** Access displays the list from values that you type.

**Find A Record On My Form Based On The Value I Selected In My Box** Access displays the values from fields that are in the form's underlying table or query records.

4. Do one of the following, depending on your choice in step 3:
  - **If you chose to look up the values in a table or query**, select the table or query and click on Next. Then select the fields you want to see in the combo box or list box and click on Next. Continue with step 5.
  - **If you chose to type in the values**, type the number of columns to display and press Tab. Now type in values for each column and row (pressing Tab to advance to the next column or row). When you're finished entering values, click on Next. When prompted, choose the column in your combo box or list box that contains the value you want to either remember or store in the table, and then click on Next. Skip to step 6.
  - **If you chose to display values from fields on the form**, choose the fields on your form that contain the values you want to see in the combo box or list box and then click on Next (these fields will become columns in your combo box or list box). Continue with step 5.
5. Adjust each column in your combo box or list box as instructed on the screen. If you chose to display values from fields on your form, you can select (check) Hide Key Column (Recommended) to hide the primary key field in the combo box or list box; or deselect (clear) this checkbox to show the primary key field. You also can rearrange columns as you would in datasheet view (see Chapter 8). Click on Next.
6. If asked what you want Access to do when you select a value in your combo box or list box in form view, choose either of these options:
  - **Remember The Value For Later Use** Uses the value to make decisions in a macro or other procedure. The value is saved only as long as the form remains open in form view.
  - **Store That Value In This Field** Stores the value in the table field you select from the drop-down list.

7. Click on Next.

8. (Optional) Type a label when asked what label you want for the combo box or list box.
9. Click on Finish.

The combo box or list box (and its label) will appear. If you'd like to change the properties of a combo box or list box, open the property sheet (View ► Properties) and click on the box portion of the control (not the label). Then customize the properties as explained next.



**TIP** You can easily change a combo box to a list box, and vice versa, as explained later in the section "Presto Change Type."

The most important properties on the *Data* tab of the property sheet for a combo box or list box are

**Control Source** Specifies which field is updated when you select an item in the box. To simply have Access remember the selected value, delete the field name in the Control Source property box.

**Row Source Type** Specifies where the row data comes from (table or query, list of values, or list of field names).

**Row Source** Tells Access how to get data for each row. If you've selected Table/Query as the Row Source Type and have no idea about how to enter SQL statements for the Row Source, don't despair. Simply click in the Row Source box and then click on the Build button that appears. Now design (or modify) a query that will select and display the row data you want. When you're done, choose File ► Close ► Yes, or press Ctrl+W and then click on Yes.

**Bound Column** Specifies which column number supplies data for the Control Source.

**Limit To List** Specifies whether to let the user enter values that aren't shown in the combo box drop-down list.

**Default Value** Specifies the default value assigned to the Control Source when you create a new record in form view.

The most important properties on the *Format* tab are

**Column Count** Specifies the number of columns to display in a combo box or list box.

**Column Heads** Specifies whether column headings appear in a combo box or list box.

**Column Widths** Specifies the width of each column shown in the box. Column widths are listed in column order from left to right and separated with a semicolon (;). Set the column width to 0 if you don't want to display the column.

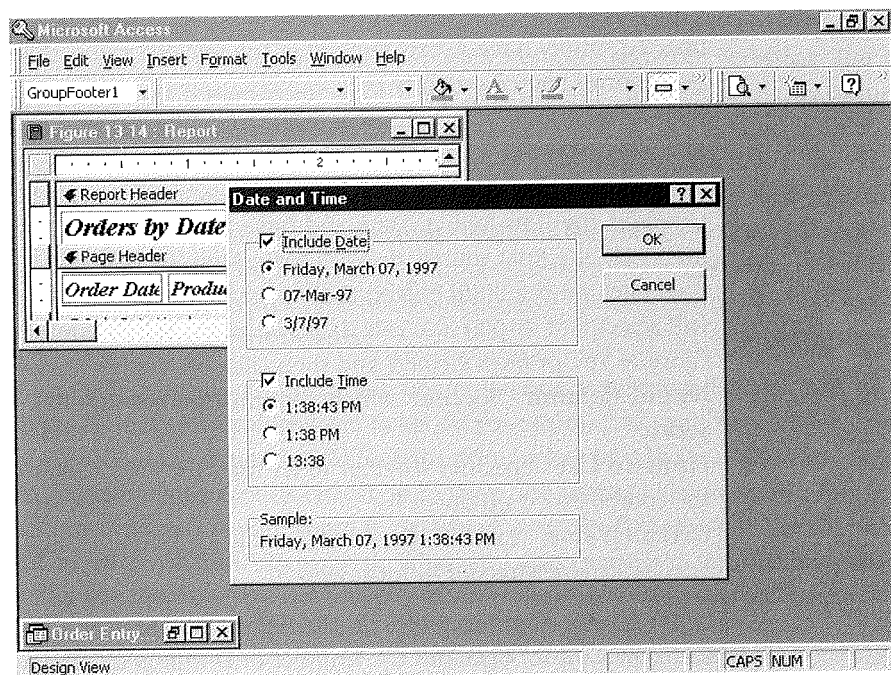
**List Rows** Specifies the number of rows to show in a combo box's drop-down list.

**List Width** Specifies the width of the drop-down list in a combo box. For example, type 2 for a 2"-wide drop-down list. Or type **Auto** to make the drop-down list as wide as the text box.

## Adding the Current Date and Time

It's easy to display the current date and time anywhere on a form or report. To do so:

1. Choose **Insert** ► **Date And Time**.
2. Fill in the Date And Time dialog box that appears (see below).



3. Click on OK. A new text box will appear in the form header or report header (if one is visible), or in the detail section. It looks something like this:

```
=Format(Date(),"Long Date") & " " &
```

4. Drag the new text box to wherever it should appear in your design.
5. Switch to form view or print preview to see the results.

## Presto Change Type

Access offers a time-saving *morphing* feature that lets you instantly convert one type of control into any other compatible type. For example, you can convert a list box to a combo box, or change a checkbox to a toggle button with just a couple of mouse clicks. Here's how:

1. Select the control you want to convert to another type.
2. Choose Format ► Change To, or right-click on the control and choose Change To.
3. Choose any control type that's available in the menu that appears.
4. Change the control's properties as needed.

## Adding Lines



You can draw a line anywhere within a section on a form or report design. Click on the Line toolbox button (shown at left); then click in the design or drag an outline where the line should appear. To create a perfectly vertical or horizontal line, hold down the Shift key while you drag.

After creating a line, you can select it and move or resize it as needed. You also can use the Formatting (Form/Report) toolbar to change the line's color, thickness, or special effects.

## Drawing Frames around Controls



The rectangle tool is especially nice for drawing neat frames around any control. To use it, click on the Rectangle toolbox button (shown at left) and then click in the design or drag an outline where the rectangle should appear.

If the frame contains a background color, the frame may cover the controls behind it. That's easy to fix. Select the frame and then choose Format ► Send To Back. If you'd like to add a background color or other special effect to the frame, select the rectangle and choose the effects you want from the buttons and colors in the Formatting (Form/Report) toolbar. Raised, sunken, and etched effects and colored backgrounds look especially nice.

## Adding Page Breaks



You can add a page break to force a new page on a printed form or report. To do so, click on the Page Break toolbox button (shown at left) and then click in the design where you want the page to break. (If you no longer want the page to break, select the page break control and press Delete. You also can drag the page break to a new place on the design.)

Here are some points to remember about page breaks:

- To avoid splitting data across pages, place the page break above or below other controls (not in the middle of a control).
- In a form the page break will appear in the printed copy only, not on the screen. (The next section explains how to break forms into multiple screens.)
- To print page breaks before or after a section in the printed form or report, click in the section where you want the page break, open the property sheet (View > Properties), click on the Format tab, and then change the Force New Page property from None to Before Section, After Section, or Before & After.

## Creating a Multiscreen Form

If you want to create a form in which each page is the same size and each window shows only one page at a time, follow these steps:

1. Design your form normally.
2. Add a page break wherever you want the form to break, with each page break equidistant from the previous one. For example, if each detail area should be two inches high, put the first page break at 2", the next one at 4", and so on. You can use the vertical ruler's guidelines to help you adjust the page break position; click on the page break control, open the property sheet (View > Properties), click on the Format tab, and set the Top property for each page break to the measurement you want. (Access will move the page break automatically when you change the Top property.)
3. Size the Form Footer so that the top of the form footer section is at a multiple of the screen size you've chosen. Continuing with our 2" screen example, if you've placed page breaks at 2" and 4" and the last field is at 5.25", place the form footer at the 6" mark on the ruler.
4. Select the form (Edit > Select Form), open the property sheet (View > Properties), and then click on the Format tab. Now set Default View to Single Form; set Auto Resize to Yes; and set Auto Center to Yes.
5. Save and close the form.

To see the results, go to the database window and open the form. If the form is maximized, click on the window's Restore button. Then choose Window > Size To Fit Form.

Now, to view each screen of your form, press the Page Up and Page Down keys or click above or below the scroll box in the vertical scroll bar. Pressing Page Up at the top of the form will take you to the previous record; pressing Page Down at the bottom of the form will take you to the next record.



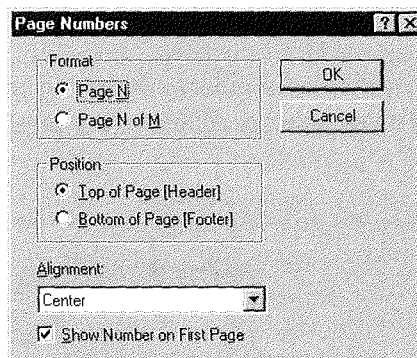
Navigating through a multiscreen form may feel somewhat clumsy if you are used to using Page Up and Page Down to move between records (instead of pages). You may prefer to use a Tab control instead and place each screen of information on a separate tabbed page. See “Adding Tab Controls” in this chapter for more information on this new Access 97 feature.

## Adding Page Numbers to a Printed Form or Report

Access makes it easy to add page numbers to a printed form or report. Here’s how:

1. Choose Insert ► Page Number. You’ll see the Page Numbers dialog box shown below.
2. Select the format, position, and alignment, and choose whether to show the page number on the first page.
3. Click on OK.

A text box control similar to the one shown below will appear at the top or bottom of the page (depending on your choice in step 2).



## Adding Hyperlinks

In Chapter 8 we explained how to use hyperlink fields in a table to jump to other database objects or documents from a datasheet view or a form. With a hyperlink field in a table, you can jump to a different address from each record. For example, in the Employee table of the Order Entry database, you could store the address of each person's resume in a hyperlink field.

When you don't need to jump to a unique information source for each record in a table, you can use a hyperlink that's not tied to a hyperlink field. This type of hyperlink is placed on a form or a report in design view using the same basic techniques described in Chapter 8 for entering an address in a hyperlink field. In brief, you can

- **Use the Hyperlink toolbar button** to open the Insert Hyperlink dialog box.
- **Copy and paste a hyperlink address** from a document or browser window onto a form or report design.
- **Copy and paste selected text** to jump to a specific spot in a Microsoft Office file.
- **Drag and drop a hyperlink address or text** in a Microsoft Office document.

Figure 13.21 shows the Employee form from the Orders Entry database with a hyperlink address that jumps to the Switchboard form in the same database. The hyperlink on the form was placed using the Hyperlink toolbar button. For details on using the Hyperlink tool or the other techniques listed above, check Chapter 8. The only difference is that you end up placing a label object on the form with a hyperlink address attached, instead of inserting an address into a field. If this process isn't clear, don't worry. We'll step through an example of using the Hyperlink toolbar button to place a hyperlink on a form a little later.

You can also use a few other techniques to include hyperlinks on a form or report. You can use an image object or command button with a hyperlink address attached. (Hyper-

**FIGURE 13.21**

*This Employee form from the Orders Entry database has a hyperlink that jumps to the Switchboard form in the same database when it is clicked.*

First Name	Steven
Last Name	Buchanan
Title	Sales Representative
Work Phone	(706) 555-1189
Extension	
Switchboard	

Record: 1 of 5

link Address and Hyperlink SubAddress properties are available.) When the image or button is clicked, it jumps to the address specified by the hyperlink address properties.

If you're using a command button for a hyperlink, you don't have to set the hyperlink address properties yourself. The Command Button Wizard has a new option in Access 97 that helps you create a hyperlink button. See the sidebar "Creating a Command Button Hyperlink" in "Adding Command Buttons" later in this chapter.

**NOTE**

If you place a hyperlink in a report, it will not be "hot." That is, nothing will happen when you click the hyperlink on the screen. But when you export the report to a spreadsheet or a document, the hyperlink will be active, enabling you to jump to the address the hyperlink points to.

## Using the Hyperlink Toolbar Button

To add a hyperlink that's not attached to a field, follow these steps:

1. Open the form or report you want to add a hyperlink to in design view.
2. Click on the Insert Hyperlink toolbar button to open the Insert Hyperlink dialog box.
3. Enter a URL or file name under *Link to file or URL*:. Use the Browse button, if you like, to get help from the Link to File dialog box. If you are jumping to an object in the open database, enter the object's name in the box under *Named location in file (Optional)*:. If you have more than one object with the same name, use the Browse button to make your choice, or precede the object name with the object type as in Table Employees or Form Employees. Click on OK to return to the design window. (See Chapter 8 for more information on valid hyperlink addresses and allowable shortcuts for addresses.)
4. The new hyperlink will appear in the upper-left corner of the form or report design. Drag it to the desired location.

A hyperlink object placed with the Insert Hyperlink tool is really just a glorified label object that has its Hyperlink Address property and/or Hyperlink SubAddress property defined. To check this for yourself (if you're interested!), right-click a selected hyperlink in the design window and choose Properties from the shortcut menu. Click on the Format tab and look for the Hyperlink Address and Hyperlink SubAddress properties. The hyperlink shown in Figure 13.21 has *Form Switchboard* as its Hyperlink SubAddress property and nothing for the Hyperlink Address property. (If the hyperlink pointed to a file other than the open database, that file name would appear as the Hyperlink Address property.)





## Using an Image for a Hyperlink

Instead of using text such as `http://www.microsoft.com` or *Form Switchboard* to show a hyperlink on a form or report, you can use a picture:

1. Open the form or report to include the hyperlink in design view.
2. Place an image object on a form using the Image button in the Toolbox. (See “Adding a Picture or Image” later in this chapter for more detailed instructions on using this tool.)
3. Right-click the selected image, choose Properties from the shortcut menu, and click on the Format tab.
4. Enter a URL address or file name for the Hyperlink Address property or the SubAddress property of an object in the current database for the Hyperlink SubAddress property. You can use the ... at the end of either property line to open the Edit Hyperlink dialog box. (Chapter 8 explains the use of this dialog box.)
5. Test the image hyperlink by going into form view and clicking the picture. The picture should jump to the hyperlink address you entered in the Properties menu.

## Adding Command Buttons

Command buttons perform some action when you click on them in form view. For example, you can add buttons that navigate through records, save or print records, open and close forms, print reports, run other programs, and so on. To create a command button:



1. Make sure the Control Wizards toolbox button (shown at left) is selected (pushed in).
2. Click on the Command Button toolbox button (shown at left); then click in design or drag an outline where the button should appear. The Command Button Wizard will take over.
3. When asked what the button should do, click on an action category (for example, Record Navigation) in the Categories list, and then click on an action (for example, To Next Record) in the Actions list. Click on Next to continue. If prompted for confirmation about the action you chose, complete the dialog box, and then click on Next.
4. When asked what the button should look like, either choose Text and enter the text that should appear on the button, or choose Picture and then select a picture. (To see all available pictures, select the Show All Pictures checkbox. To select a custom bitmap picture or icon from your hard drive, click on the Browse button and then double-click on the file you want to use.) Click on Next to continue.
5. When asked what you want to name the button, type a meaningful name and click on Finish.

The command button will appear in your design. To test the button's action, switch to form view and click on the button.



**TIP** On command buttons that show pictures instead of text, it's a good idea to set the Status Bar Text and ControlTip Text properties on the Other tab of the command button's property sheet. Initially, the ControlTip Text will be set to the name of the action you chose. See "Adding Help, Menus, and Prompts to Controls" earlier in the chapter for details.

### Creating a Command Button Hyperlink

At times you may prefer to use a command button, instead of the standard label-type hyperlink, to jump to a location in an Access database, somewhere else on your computer, or even on the World Wide Web. Create a command button

without using the Command Button wizard. Then:

1. Right-click the new command button and select Properties.
2. Click the Format tab.
3. Enter values in the Hypertext Address and/or the Hyperlink SubAddress lines for the spot you want to jump to.



## Adding Tab Controls

Access 97 has a new feature that lets you add your own tab controls to a form. A tab control is simply an object with multiple tabbed pages like the Properties menu you are now familiar with. This control makes it easy to organize a form with many objects into a less cluttered view of related information. For example, we could use a tab control to show review and salary data for an employee on its own page of the Employee form, instead of crowding it in with the basic details like name and address.

Here's one way to create the tab control shown in Figure 13.22:

1. Add fields for Last Review Date and Salary to the Employees table in the Order Entry database called Resume.
2. Select the Forms tab and click on New from the Database window.
3. Leave Design View highlighted and select Employees as the table for the new form. Click on OK.

**FIGURE 13.22**

This Employee form uses a tab control to show an employee's review and salary details on a separate page.

This example shows the first page of the tab control.



4. Choose View ► Toolbox to show the toolbox, if it's not visible. Click on the Tab Control button in the toolbox. Then click and drag on the form to place a tab control. It will look like this:

5. Change the caption for the first page of the tab control by right-clicking the page and choosing Properties from the shortcut menu. Enter Basic Info for the Caption property.
6. Place fields on the page by choosing View ► Field List. Then drag each field you want to show on the first page of the form from the field list box to the tab control. For Figure 13.22, the Employee ID, First Name, Last Name, Title, and Work Phone

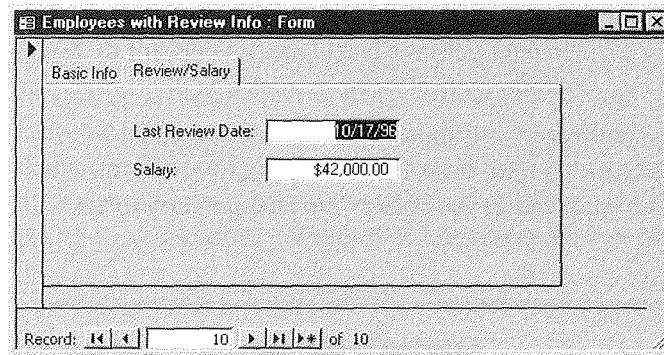
fields were dragged onto the Basic Info page of the tab control. The fields were then aligned and spaced using the Format menu commands. The Left properties of the text objects (the areas that show the field values) were also adjusted to make more room for the field labels.

7. Right-click on Page 2 of the tab control and choose Properties from the shortcut menu. Enter Review/Salary for the Caption property.
8. Drag the Last Review Date and Salary fields from the field list to the second page of the tab control. Change the Left properties for the text objects to a larger number to make more room for the labels. Align the field with the Format menu command if you need to.

Switch to Form View to test the action of the new tab control. Just click on a tab to switch form pages. Figure 13.23 shows the finished form with the second tab control page visible.

**FIGURE 13.23**

*The Employee with Review Info form with the second page of the tab control visible.*



The screenshot shows a Microsoft Access form window titled "Employees with Review Info : Form". The form has two tabs: "Basic Info" and "Review/Salary". The "Review/Salary" tab is currently selected and visible. It contains two text boxes: "Last Review Date:" with the value "10/17/98" and "Salary:" with the value "\$42,000.00". At the bottom of the form, there is a record navigation bar showing "Record: 10 of 10".

## Adding Pictures, Sounds, and Other Objects

Your forms and reports can include pictures, sounds, and other objects. These can be standalone *unbound* objects, such as a company logo, or they can be *bound* objects, stored in the underlying table or query.

### Adding an Unbound Picture or Object

Unbound objects stay the same from record to record. Use them to display such things as a company logo on a report or form header or to attach a sound file, containing instructions, to the form header.

To create an unbound object:

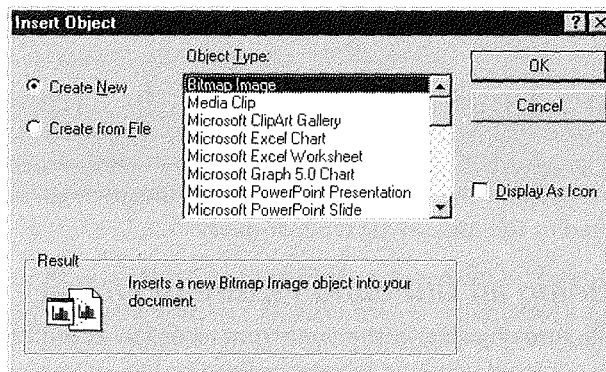


1. Click on the Unbound Object Frame toolbox button (shown at left), and then click in the design or drag an outline where the control should appear. Or click in the section where you want to insert the object and choose Insert ► Object. You'll see an Insert Object dialog box similar to the one shown in Figure 13.24.
2. (Optional) If you want to display the object as an icon, select (check) Display As Icon.
3. Do one of the following:
  - **To create the object from scratch**, choose Create New, select an object type from the Object Type list, and then click on OK. Create the object in its source program, and then exit the program as appropriate. (For most programs, you can choose File ► Exit & Return or click on the program window's Close button or press Alt+F4. Click on Yes if asked whether you want to update the object.)
  - **To create the object from an existing file**, choose Create From File. The Insert Object dialog box will change to include a Browse button and a Link checkbox. Type the file name in the File text box or use the Browse button to locate the file. If you want to link the object so that it changes whenever the original file changes, select (check) Link. If you want to display the object as an icon, select (check) Display As Icon. Click on OK.

The object will appear in design view. If you want to be able to edit a picture or play a sound in form view, open the property sheet (View ► Properties), click on the Data tab, and change the object's Enabled property to Yes.

**FIGURE 13.24**

*The Insert Object dialog box.*





Your form may scroll faster from record to record if you put the unbound object in the form header or footer section (*not* in the detail section).

If you want to edit the object while you're in design view, you can double-click on the object; or right-click on the object and choose (Object ► Edit from the shortcut menu that appears. Or select the object and choose Edit ► ...Object ► Edit from the design view menus.

Here's an even quicker way to put an unbound OLE object into your design. Open the program you used to create the object (or use the program to create a new object). Select the object using the program's usual tools and then copy the data to the Windows Clipboard (choose Edit ► Copy or press Ctrl+C to place fields on the page). Close the program if you wish and switch back to your form or report design. Now click in the section where the object should appear and paste the object into your design (choose Edit ► Paste or press Ctrl+V).



If the source program you're copying from supports OLE 2, try the drag-and-drop method. Right-click on an empty part of the Windows Taskbar and choose Tile Vertically so you can see both the Access window and the window that contains the object you want to copy. Then Ctrl-drag the selected object from the source program to your form or report design. The programs in the Microsoft Office and Novell PerfectOffice suites support OLE 2, and so does the WordPad word processor (which comes with Windows 95).

## Adding a Picture or Image

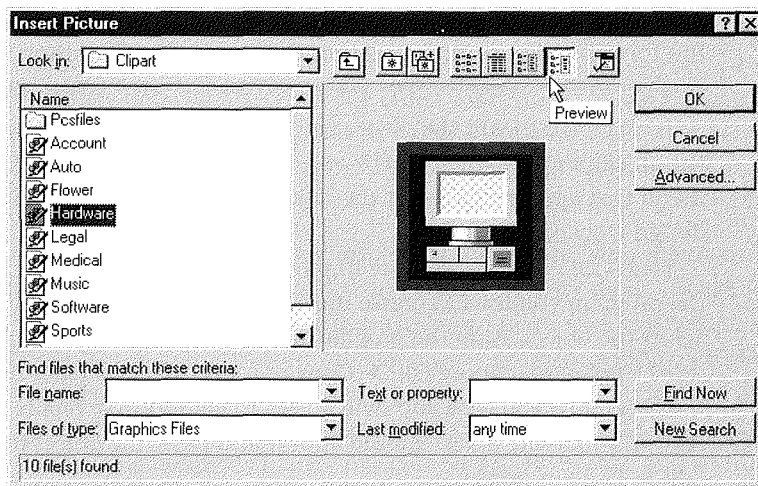
You also can use an Image control to display unbound pictures and logos on your forms or reports. Image controls are faster than unbound object controls and are recommended if you don't need to change the picture after adding it to the design. To add an image to your design:



1. Click on the Image toolbox button (shown at left); then click in the design or drag an outline where the control should appear. Or click in the section where you want to insert the object and choose Insert ► Picture. You'll see an Insert Picture dialog box similar to the one shown in Figure 13.25.

**FIGURE 13.25**

The Insert Picture dialog box after we clicked on the Preview button in the dialog box.



2. Locate and double-click on the picture you want to insert. The image will appear on your design.



**TIP** If you want to display a different picture in an Image control, right-click on the control, choose Properties, click on the Format tab in the property sheet, and then click in the Picture property box. Next click on the Build button; then locate and double-click on a file name in the Insert Picture dialog box.

## Adding a Background Picture

Suppose you want to add a background to your form or report, such as a picture of clouds, or a scanned image of a preprinted form or photograph. It's easy to do if you follow these steps:

1. Select the entire form or report (choose Edit ► Select Form or Edit ► Select Report).
2. Open the property sheet (View ► Properties) and click on the Format tab.
3. Scroll down to and click in the box for the Picture property, and then click on the Build (...) button that appears.
4. Locate and double-click on the picture you want to use for the background design when the Insert Picture dialog box appears (refer to Figure 13.25).
5. (Optional) Change the Picture Size Mode, Picture Alignment, and Picture Tiling properties as needed.

The picture you selected will appear as a background for the form or report design. To see the full effect of your new background, switch to form view or print preview. Later in this chapter, we'll give you some pointers on sizing pictures and setting up Access forms that look like the preprinted paper forms you may be using now.

To remove the picture background, repeat steps 1 and 2 above, scroll down to and click in the Picture property box, select and delete the file name text, and then press Enter. When prompted, click on Yes to delete the picture from the background.

## Using Non-Bitmap Pictures

Pictures come in many formats—bitmap (.bmp), Windows Metafile Format (.wmf), and Tagged Image File Format (.tif)—to name just a few. If you use the Image tool to place a graphic on a form or report, Access usually can display that image perfectly because the Image tool can interpret many different picture formats.

However, if you use the Unbound Object Frame tool to put a non-bitmap image into a form or report design (or you store the image in an OLE Object table field), you may get an object package, rather than the original artwork, when you try to view that image.



### TIP

Use the Image tool or Picture property to place an image if you won't need to change the image later. Use the Unbound Object Frame tool if you will need to change the image. The Image tool and Picture property offer the widest variety of displayable image formats to choose from.

For example, suppose you use the Unbound Object Frame tool in form design view to place a Windows Metafile object in the Form Header of a form. Instead of seeing the picture that was contained in the object you placed, you'll see a package icon that looks like this in form design view (its appearance in form view is similar):



### NOTE

In design view or datasheet view, you can double-click on the package to view its contents if an association exists between the package type and a program on your computer.



If you prefer to see the actual picture (rather than the object package icon) on your form or report, you'll need to convert the image to a bitmap (.bmp) file or to some other graphics format that Access can display.

**NOTE**

To make that conversion, you can use a graphics conversion program, such as Hijaak for Windows (published by Quarterdeck Office Systems).

Once you've converted the object to a bitmap file, you can insert it via the Unbound Object Frame tool (or the Picture property or Image tool), as explained earlier in this chapter.

After placing the picture, open the property sheet (View ► Properties), click on the Format tab, and then experiment with the Size Mode or Picture Size Mode property settings—Clip, Stretch, and Zoom—to see which option offers the best fit. See “Controlling the Size of Pictures,” later in this chapter for more details on customizing the picture size.

If you don't have a fancy graphics conversion program, try this trick to convert the graphic to a .bmp file:

1. Place the graphic into a word processing program (such as WordPerfect for Windows) using that program's tools.
2. Select the object in the word processing document (usually by clicking on it), and copy it to the Windows Clipboard (press Ctrl+C).
3. Exit your word processing program (if you wish).
4. Open Paint. Paste the graphic into Paint (press Ctrl+V) and save the file as usual. Voilà! You've saved the graphic as a bitmap file.

Here are some other things you can do after copying a graphic to the Clipboard in your word processing program:

- Switch back to your Access form or report design. Click in the section where the image should appear and then paste the image (press Ctrl+V or choose Edit ► Paste). Again, the image will appear as a picture in your form or report (though it will be embedded as a word processing document, rather than a Paint picture). Double-clicking on the image in design view will take you back to the word processing program.
- Store the picture in a table as a bound OLE object. Open the table in datasheet view or form view, click in the appropriate record and OLE Object field, and press Ctrl+V or choose Edit ► Paste to store the embedded picture.

## Coloring the Picture Background

In some cases, the picture background will be white (or some other color). Setting the Back Color to Transparent won't help if the white background color is actually a part of the bitmap image. If you want the background color of the bitmap to match the background color of your form or report, you'll need to use the Windows Paint applet or some other graphics program to change the bitmap image's background color.

If the image is mostly white background, you'll need to crop the image. Use Paint, or a better graphics program if you have one. In Paint, select the area you want to crop, and choose Edit ► Copy To to copy just the selected area to a file. For more information on Microsoft Paint, start Paint (Start ► Programs ► Accessories ► Paint) and choose Help ► Help Topics or press F1.

## Adding an OLE Object Field

Bound object controls are used to display a picture, chart, or any OLE object that's stored in the underlying table or query. Unlike unbound objects, bound objects will change from record to record. In form view, you can change the bound object by double-clicking on it (see Chapter 8 for more information on entering data into OLE objects fields).

The easiest way to add an OLE object to your report or form is to drag it from the field list to your design. The field must be defined in the table as an OLE Object data type. (You also can use the Bound Object Frame tool to create the object, but it's not as easy.)

When you first add an OLE object to a form or report design, Access displays its actual size, clipping it to fit within the object frame if necessary.

## Adding ActiveX Controls

Access 97 comes with some special purpose tools called ActiveX controls. (In previous versions of Access, they were called custom controls or OLE controls.) These controls are typically used by programmers to add functionality to a form that's not available through Access itself. For example, the Microsoft WebBrowser control can be programmed to open a Web page in the control's own window. Some ActiveX controls also come with the Microsoft Access Developer's Toolkit and are documented there; others are available from third-party companies or in other Microsoft products such as Visual Basic 4.0.

To insert an ActiveX control into your design:

1. Click in the section where the new control should appear.
2. Click on More Tools in the Toolbox or choose Insert ► ActiveX Control to show a menu of the ActiveX controls that come with Access.
3. Select a control from the menu.
4. Right-click the control, choose Properties, and set any properties you may need to adjust for the control.



For more information about ActiveX controls, look up *ActiveXControls* and its sub-topics in the Access Help Index. You can also check Chapter 16, “Using ActiveX Controls” in *Building Applications with Microsoft Access 97*.

## Controlling the Size of Pictures

If you’re not happy with the way Access sizes a picture or custom control, you can change the control’s Size Mode (or Picture Size Mode) property:

1. Open the property sheet (View ► Properties) and then click on the Format tab.
2. Select the object you want to change or select the entire form (Edit ► Select Form) or report (Edit ► Select Report) if you want to change the background picture.
3. Choose one of these options from the Size Mode or Picture Size Mode property’s drop-down list:

**Clip** Displays the object at actual size. If the object is larger than the control frame, Access will clip the image at the borders. Clip is the fastest display method.

**Stretch** Sizes the object to fill the control. Stretch may change the object’s original proportions, especially in circles and photos (bar charts and line charts should look just fine).

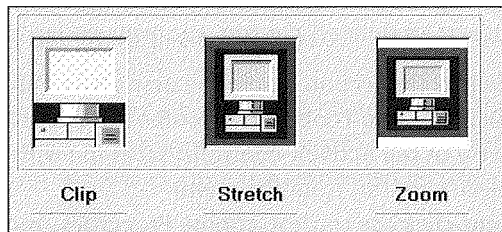
**Zoom** Sizes the object’s height or width to fill the frame without distortion, then shows the entire object without clipping.



### TIP

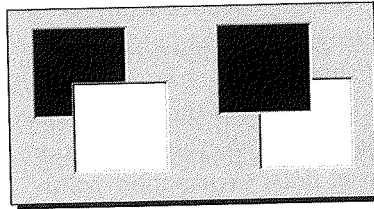
Remember that if you’re working with a picture stored in a table field, the size mode affects the display of every picture in the table. For example, you can’t assign the Clip size mode to one record, and the Zoom size mode to another. This is why it’s so important to size and crop equally all the photos you’ll be putting into a table.

The example below shows the same picture with different Size Mode properties assigned.



## Changing the Front-to-Back Order of Controls

You can create some interesting effects by changing the front-to-back order of controls. That's how we added the drop-shadow gray rectangle around the computer example above and the squares below. We also used the technique to place the white box first in front of the black one and then behind it in the example shown below.



To change the front-to-back order of controls:

1. Select the control or controls you want to move in front of or behind another control.
2. Choose **Format** ► **Bring To Front** or **Format** ► **Send To Back**, as appropriate.

To use this feature to uncover objects hidden by a newly drawn rectangle, select the rectangle and choose **Format** ► **Send To Back**.

## Creating Calculated Controls

A *calculated control* uses an expression as its control source. Calculated controls let you display values calculated from data in one or more fields, or from other controls. For example, you can calculate the extended price of an item by multiplying the value in the quantity field by the value in the unit price field, like this:

`= [Quantity] * [UnitPrice]`

Access doesn't store the result of a calculated control in a table; instead, it recomputes the value each time the record is displayed. (In form view, calculated controls are read-only.)

To create a calculated control:

1. Create a control of any type that has a Control Source property on the Data tab of the property sheet. Typically, you'll use text boxes for this purpose, but combo boxes, list boxes, unbound and bound object frames, toggle buttons, option buttons, and checkboxes also work.

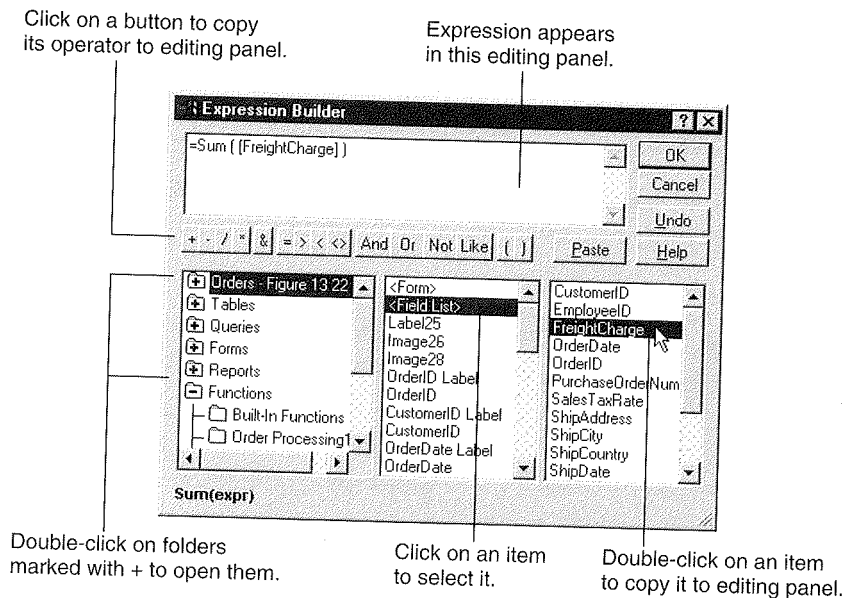
2. Select the control and use one of these methods to enter the expression:
  - Type an equal sign (=), followed by the calculation expression, directly into the box. *Example:* In a text box, type =[Quantity]\*[UnitPrice] to multiply the value in the Quantity field by the value in the UnitPrice field.
  - In the Control Source data property box, type the expression (preceded by an equal sign).
  - In the Control Source data property box, click on the Build (...) button to open the Expression Builder. Expression Builder handles the messy details of Access expression syntax while you focus on what you want to do. Choose items in the dialog box by clicking and double-clicking on entries in the three panels near the bottom of the dialog box and clicking on operator buttons above the panels. As you do this, Expression Builder automatically puts in the square brackets, dots, exclamation points, and other details required. When you're done using Expression Builder, click on OK.

The top panel in Figure 13.26 shows a finished expression in Expression Builder. Here are the steps we followed in the Expression Builder dialog box to create that expression:

1. In the bottom-left panel, we double-clicked on the *Functions* folder (which is marked with a plus sign) and then clicked on *Built-In Functions*.

**FIGURE 13.26**

A completed expression in Expression Builder.



2. In the bottom-center panel, we clicked on <All>.
3. In the bottom-right panel, we scrolled down to the *Sum* function and double-clicked on it to copy the function *Sum* (<expr>) to the editing panel at the top.
4. In the top panel, we clicked on <expr> to select it.
5. In the bottom-left panel, we clicked on *Orders Freight - Figure 13 22* (the name of the form we were designing).
6. In the bottom-center panel, we clicked on <Field List>.
7. In the bottom-right panel, we double-clicked on *FreightCharge* to copy that field name to the editing panel.
8. We clicked on OK to close the Expression Builder dialog box and copy the expression into the Control Source property box. (If you don't type the initial = sign in the expression, Access will add it automatically when you click in another property box.)
9. We pressed Enter to complete the entry and move the cursor down to the next property box.



Instead of double-clicking on an item in the bottom-right panel, you can highlight the item and then click on the Paste button in the dialog box. Either way, Access will copy the item into the editing panel.

Keep the following points in mind as you enter calculated controls:

- For checkboxes, option buttons, and option groups, you must change the Control Source data property. You can't simply type the expression into the control.
- Chapters 9 and 10 show examples of calculation expressions for filters and queries. To use those examples in a control, simply precede the example with an equal sign. Table 13.3 offers a few more examples.
- The Expression Builder provides the easiest way to enter functions and to reference fields in tables, queries, forms, and reports. You also can use it to display page numbers and dates.
- You can use the Format property on the Format tab of the property sheet (or the Format function) to display calculated expressions in any format you wish.

For more information about entering expressions into calculated controls, search for *Expressions* subtopics in the Access Help Index, or click on the Help button in Expression Builder.

**TABLE 13.3: SAMPLE EXPRESSIONS FOR CALCULATED CONTROLS**

EXPRESSION	SAMPLE RESULT
=[ShippingMethodID] & " : " & [ShippingMethod]	<i>1 : Federal Express</i> if ShippingMethodID is 1 and ShippingMethod is FederalExpress.
=[Quantity]*[UnitPrice]	<i>350</i> if Quantity value is 10 and UnitPrice value is 35.
=[Products Subform].Form![UnitPrice] * 1.15	<i>46</i> if UnitPrice on a subform named Products Subform is 40.
="Page " & [Page] & " of " & [Pages]	<i>Page 3 of 5</i> on page 3 of a five-page printed report or form.
=Now( )	System date and time.
=DatePart("yyyy",Now( ))	<i>1995</i> (year portion of system date and time).
=UCase([LastName] & " , "& [FirstName])	<i>STRAPPMAN, HANLEY</i> if LastName is <i>Strappman</i> (or <i>strappman</i> or <i>STRAPPMAN</i> ) and FirstName is <i>Hanley</i> (or <i>hanley</i> or <i>HANLEY</i> ).

Note: All expressions must be entered on a single line.

## Adding a Subform or Subreport

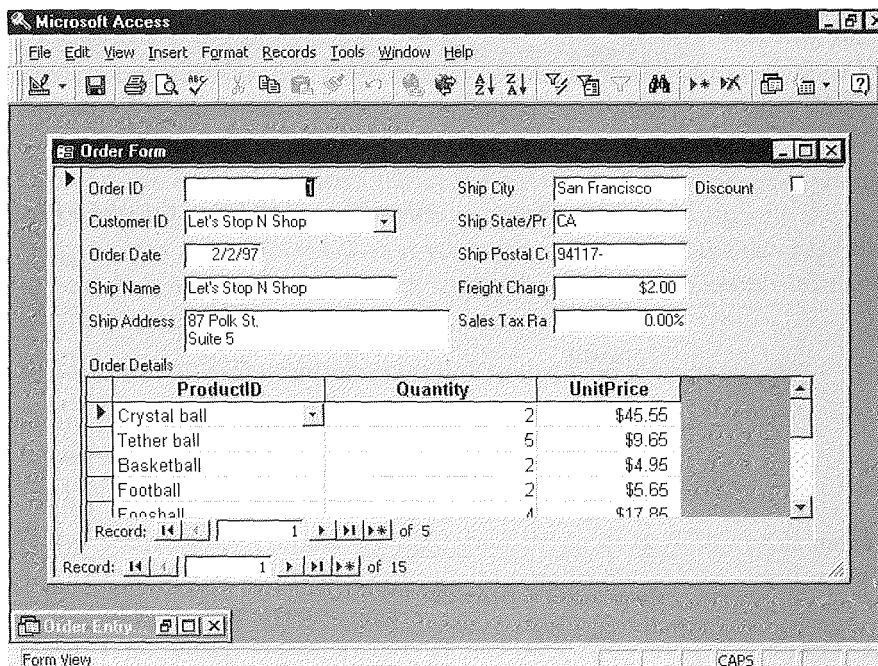
A subform or subreport is simply a form within a form or a report within a report. Figures 13.27 and 13.28 show a main form with a subform and a main report with a subreport, respectively.

In Chapters 11 and 12, you learned how the Form Wizards and Report Wizards can create main/subforms and main/subreports for you automatically. The same concepts described in those chapters also apply when you're creating a main/subform or main/subreport without a Wizard. Here are the essential facts you need to know:

- Generally you use a subform or subreport when there's a one-to-many relationship between the data in the main form or report and the data in the subform or subreport. The main form or report is on the "one" side of the relationship, and the subform or subreport is on the "many" side. *Example:* A main form based on the Orders table and a subform based on the Order Details table will show each order and its related order details.

**FIGURE 13.27**

A main Orders form with an Order Details subform in form view.



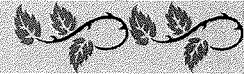
- You must create and save the subform or subreport before you can use it in a main form or report.
- Each main form or report can contain more than one subform or subreport, and you can have up to two nested subforms/subreports in a main form or report. (A nested subform/subreport is one that contains a subform/subreport of its own.)
- To display the subform as a datasheet, change the subform's Default View property on the Format tab to Datasheet. It's usually best to display a subform as a datasheet.
- In the main form or report, you can use expressions to refer to values in the subform or subreport. See "Creating Calculated Controls" above.
- Chapter 11 explains how to navigate through main forms and their subforms.



**FIGURE 13.28**

A main Orders report with an Order Details subreport.

## Orders and Order Details



<i>Order Date</i>	<i>Order ID</i>			
2/1/95	1			
<i>Product Name</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Extended Price</i>	
Basketball	2	\$4.95	\$9.90	
Crystal ball	2	\$45.55	\$91.10	
Foosball	4	\$17.85	\$71.40	
Football	2	\$5.65	\$11.30	
Tether ball	5	\$9.65	\$48.25	
 <i>Totals</i>	15		\$231.95	

<i>Order Date</i>	<i>Order ID</i>			
3/14/95	2			
<i>Product Name</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Extended Price</i>	
Crystal ball	1	\$45.55	\$45.55	
Football	1	\$5.65	\$5.65	
Golf balls	2	\$6.75	\$13.50	
Soccer ball	1	\$12.95	\$12.95	
Tether ball	1	\$9.65	\$9.65	
 <i>Totals</i>	6		\$87.30	

## ...Without a Wizard

To add a subform/subreport to a main form or report, without using Wizards:

1. Open your main form or report in design view, and then press F11.
2. Choose Window ► Tile Vertically so that you can see both the database window and the form or report design.
3. Click on the Reports or Forms tab in the database window, as appropriate. (For example, click on the Forms tab if you're designing a main form.)
4. Drag the icon for the form or report you want to insert from the database window to your design. Usually, you'll want to put the subform/subreport into the detail section of your design.

To check or fix the subform/subreport link to the main form or report:

1. Open the property sheet (View ► Properties).
2. Click on the Data tab.
3. Click on the Subform/Subreport's border (not the label).
  - The **Source Object** property should show the subform or subreport name.
  - The **Link Child Fields** property should refer to the linking field (or fields) in the subform or subreport.
  - The **Link Master Fields** property should refer to the linking field (or fields) in the main form or report.

## ...With a Wizard

You also can use the Subform/Subreport Wizard to add the subform or subreport. This often is the easiest way to combine a subform or subreport with the main form or report. Here's how:

1. Start in the design view for the main form or report and make sure the Control Wizards toolbox button is selected (pushed in).
2. Click on the Subform/Subreport toolbox button (shown at left) and then click in the design, or drag an outline where the subform or subreport should appear. The Subform/Subreport Wizard will take over.
3. Do one of the following when asked how you want to create your subform or subreport:
  - **To create a subform or subreport from existing tables and queries and specify how to link them**, choose Table/ Query and then click on Next. In the next dialog box, choose fields from as many tables and queries as you wish and then click on Next.



- To create the subform or subreport from an existing report or form, choose Forms (or Reports), choose the appropriate form or report from the drop-down list, and then click on Next.

**TIP**

As a shortcut, you can press F11 (if necessary) and choose Window ► Tile Vertically to show the form or report design and the database window side by side. Then click on the Tables or Queries tab in the database window, and drag the table or query to the place on the design where you want the subform or subreport to appear. Continue with step 4 below.

4. When asked whether you want to choose fields from a list or to define which fields link your main form or report to the subform or report, fill in the dialog box according to the instructions shown and then click on Next.
5. When asked what name you want for your subform or subreport, type a name (or use the suggested name) and then click on Finish.
6. Use the Data tab on the property sheet to check or fix the link between the main form/subform or main report/subreport if necessary, as described in step 5 of the earlier procedure for creating subforms and subreports without Wizards.

**TIP**

You might want to select the subform or subreport in the main form or main report and then change its Format properties. For example, change the Can Grow and Can Shrink properties to Yes and change the Border Style property to Transparent.

## Showing Fields from Another Table or Query

It's usually easiest to produce a form or report if the underlying query or table includes all the fields you want to display. However, you can still show data from other tables or queries even if they're not part of the underlying data. Here are some techniques to use:

- Add a subform or subreport, as described just above.
- In forms, base the form on a query that uses dynamic lookup (AutoLookup). See Chapter 10 for an AutoLookup query example.
- In forms and reports, create a combo box or list box as explained earlier in "Adding Combo Boxes and List Boxes." (If the field you place on a design is defined as a lookup field in the underlying table, a combo box or list box will appear automatically.)

- Use the DLookup function to display the value of a field that's not in the record source for your form or report. For details on this technique, look up *DLookup Function* in the Access Help Index. Note that using Dlookup usually isn't as efficient as creating a query that contains the records you want to use and then basing your form or report on the query.

## Putting a Preprinted Form on the Screen

If data to be entered into your tables will come from a preprinted form, such as a magazine subscription card, you can simplify the transcription process by scanning the printed form and using it as the background for your Access form so that the two will look exactly alike.

The whole trick to putting a preprinted form on your screen is to first scan the preprinted form to get an electronic bitmap image of it. Next use that bitmap image as the background picture for the form. Finally, align controls from the underlying table or query with prompts on the preprinted forms. The following sections explain each step in detail.

### NOTE

See "Special Techniques for Sizing Photographs" in Chapter 8 for tips on sizing and storing photographs in OLE Object fields.

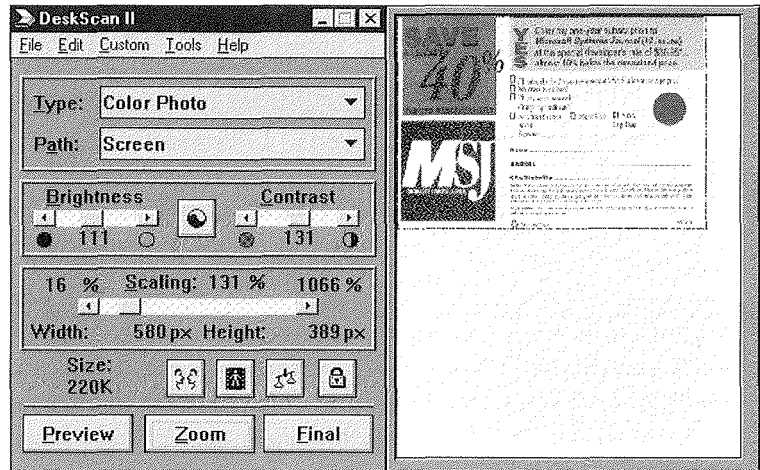
## Step 1: Scan the Pre-Printed Form

You can scan the preprinted form into a file. If you don't have a scanner, contact a local print shop, desktop publishing, or electronic prepress service bureau to see if they can scan the form for you. Be sure to size and crop the form to ensure that it will fit nicely on the screen. Figure 13.29 shows an example in which we've scanned a subscription form from a magazine, using the scanning software that came with an HP ScanJet IIc scanner.

Save the scanned image to a bitmap file with a name that will be easy to remember later. We named ours *MSJ.bmp*. (Be sure to remember which folder contains the file so you'll know where to look for it later.)

**FIGURE 13.29**

A sample subscription form scanned and cropped in the scanning software for the HP ScanJet IIc scanner.



## Step 2: Create the Table

If you haven't already done so, create a table that will store data from the form. When creating the table, include at least one field per "blank" on the fill-in-the-blank form. Figure 13.30 shows the table we created to hold data from a preprinted subscription form. After creating the table structure, close and save the table normally.



### TIP

If you plan to query the data from the forms, or use the data to create form letters and other reports, be sure to break the name and address data into several fields (see Chapter 6).

## Step 3: Create a Simple Form

Create an instant form as the starting point for your custom form. Here's how:

1. Click on the name of the table that will hold the data (MSJ in our example) in the Access database window.
2. Click on the drop-down button next to the New Object toolbar button and then choose AutoForm, or choose Insert ► AutoForm. Access will create the form.
3. Choose File ► Close ► Yes and save the form in the usual manner. (We named our form *MSJ Form*.)

**FIGURE 13.30**

The structure of a sample table named MSJ to hold data from a subscription form. This table structure reflects the structure of the original scanned form.

Field Name	Data Type	Description
ID	AutoNumber	Unique ID automatically assigned to each record
OneYear	Yes/No	Subscribed for one year
TwoYears	Yes/No	Subscribed for two years
CheckEnclosed	Yes/No	Check was enclosed with order
Invoice	Yes/No	Send the subscriber an invoice
AmericanExpress	Yes/No	YES if subscriber paying with American Express
MasterCard	Yes/No	YES if subscriber paying with Master Card
Visa	Yes/No	YES if subscriber paying with Visa card
AccountNumber	Text	Account number on credit card
ExpirationDate	Date/Time	Expiration date on credit card
Name	Text	Subscriber's name
Address	Text	Subscriber's address
CityStateZip	Text	Subscriber's city, state, and zip code

Field Properties	
General	Lookup
Field Size	50
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	No
Indexed	No

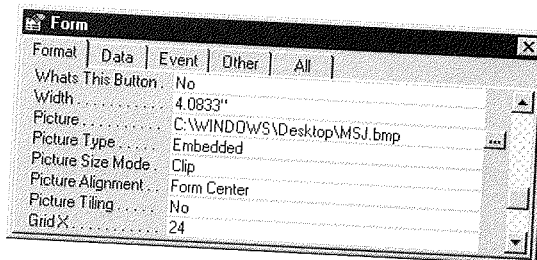
The field description is optional. It helps you describe the field and is also displayed in the status bar when you select this field on a form. Press F1 for help on descriptions.

## Step 4: Put the Printed Form on the Screen

Next, put the scanned image of the printed form onto the AutoForm you created. You can use the form's various Picture properties to do so. Starting in design view, here are the steps to follow:

1. Open the AutoForm you created earlier (for example, MSJ Form).
2. Open the property sheet (View ► Properties) and then click on the Format tab.
3. Choose Edit ► Select Form to select the entire form.
4. Scroll down to and click on the Picture property in the property sheet; then click on the Build button for that property.
5. Locate and double-click on the name of your scanned image. In our example we chose MSJ.bmp as the picture.

6. Set the Picture Size Mode, Picture Type, Picture Alignment, and Picture Tiling properties in the property sheet as shown below:



The original controls are still on your form, covering the background picture. To make the controls easier to see, choose **Edit ► Select All** from the menu bar to select all the controls, and then use the **Back Color** button on the Formatting (Form/Report Design) toolbar to make the control backgrounds opaque white or some other color that's easy to see. Figure 13.31 shows an example.

**FIGURE 13.31**

The scanned image on a form in design view. Controls from the underlying table float above the background image, though in no particular order yet.

The screenshot shows a form titled 'Form1: Form' in design view. The form contains a scanned image of a subscription form for 'Microsoft Systems Journal'. The controls from the underlying table are visible as semi-transparent boxes floating over the scanned image. The controls include:

- ID
- OneYear
- TwoYears
- CheckEnclosed
- Invoice
- AmericanExpress
- MasterCard
- Visa
- AccountNumber
- ExpirationDate

The scanned form text includes:

**YES** Enter my one-year subscription to  
 Address \_\_\_\_\_  
 Microsoft Systems Journal (12 issues)  
 at the CityStateZip \_\_\_\_\_ CityStateZip \_\_\_\_\_  
 almost 40% below the newsstand price.

I'll subscribe for 2 years (24 issues) at \$59.95 (a lower per copy price)  
 My check is enclosed  
 I'll pay when invoiced

Charge my credit card:  
 American Express  MasterCard  VISA  
 Acct# \_\_\_\_\_ Exp. Date \_\_\_\_\_  
 Signature \_\_\_\_\_

Name \_\_\_\_\_  
 Address \_\_\_\_\_

Note: \*Basic annual subscription rate: \$50. Annual newsstand price: \$95.40. Foreign subscriptions must be prepaid in U.S. dollars drawn on a U.S. bank. Canada and Mexico: \$65/year (includes mail). All other foreign countries: \$70/year (includes mail). Canadian GST (included) 7491347212500.

## Step 5: Size and Position the Controls

The last step is to drag each control into position and delete the labels. Figure 13.32 shows an example in which we've positioned controls and removed their labels (except for the OneYear label). Then we switched to form view and typed some sample data.

**FIGURE 13.32**

*Our sample MSJ Form with data for one record typed in. We need only delete the OneYear label on the form to make it look just like the preprinted form we scanned in originally.*

PART

Creating a Database

## Printing a Report from the Form

If you want to print reports similar to the forms you use for data entry, follow these steps:

1. Open the form in form view or form design view. Or go to the database window, click on the Forms tab, and then click on the form you want to print.
2. (Optional) If you want to view the report before printing it, choose File ► Print Preview and preview to your heart's content.
3. Choose File ► Print, select any options you need from the Print dialog box, and then click on OK. Access will print the form image along with the data from the table.

If you're printing on preprinted blank forms, rather than on blank paper, you may want to hide the image on the report background by printing the data only. To do so, go to the Print dialog box (step 3 above), click on the Setup button, select (check) Print Data Only, and then click on OK. Choose other options in the Print dialog box as needed and then click on OK again.



## Saving the Form as a Report

You also can save the form as a report. To do so, return to the database window, click on the Forms tab, and then right-click on the form you want to save as a report. From the shortcut menu, choose Save As Report, type a name for the report (for example MSJ Report), and then click on OK. You can then print the report or change the design as you would any normal report.

## One Page per Form, Please

Here's an easy way to ensure that each report is printed on a new page:

1. Open the form or report in design view.
2. Click on the band across the top of the Detail section.
3. Open the property sheet (View ► Properties) and then click on the Format tab.
4. Change the Force New Page property to After Section.
5. Close and save the form or report (File ► Close ► Yes).

Then print the report normally, as convenient.

## Form Letters, Mailing Labels, Etc.

Even though you're using a preprinted form to store and retrieve data, those data are stored in a plain old Access table. So feel free to design reports for form letters, envelopes, mailing labels, a customer directory—whatever—from that table. Or if you have Microsoft Word 97 for Windows 95 (either separately or as part of the Microsoft Office suite), you can export data to Word. Start in the database window:

1. Highlight the name of the table or query that will supply the data in the database window (MSJ in our example).
2. Click on the drop-down list next to the OfficeLinks toolbar button, and then click on the Merge It with MS Word button (or choose Tools ► Office-Links ► Merge It with MS Word from the menus). This activates the Microsoft Word Mail Merge Wizard.
3. Choose either Link Your Data To An Existing Microsoft Word Document or Create A New Document And Then Link The Data To It.
4. Click on OK.
5. (Optional) If you chose to link to an existing Word document, select the document in the dialog box that appears and click on Open.
6. Microsoft Word will start automatically and will display either an existing Word document or a new blank document, depending on your choice in step 3.

7. Insert merge fields from the table into your Word document (using the Insert Merge Field toolbar button), edit the document text, and use any other features offered in Word.
8. Prepare to merge the Word document with the data in your Access table by clicking on the Mail Merge Helper toolbar button or choosing Tools ► Mail Merge. Then click on Merge. Fill in the dialog box that appears and click on Merge once more.
9. Choose File ► Exit when you're done using Word. When asked whether to save your documents, save (at least) your mail merge main document. You'll be returned to Access.

After saving your mail merge main document in Word, you can return to Word at any time, open that document, and perform the merge again (starting with step 8 above). Any changes you've made to your Access data will be reflected in the merged output.

For help on using mail merge, search for *Mail Merge* in Word's Help Index. Chapters 4 and 7 of this book also provide information about using other Microsoft Office programs with your Access data.

## First Aid for Designing Forms and Reports

Designing perfect forms and reports usually involves some trial and error. This section describes some common problems and how to solve them.

**Grid dots are invisible** Turn on the grid (View ► Grid). If the dots are still invisible, select the report or form (choose Edit ► Select Form or Edit ► Select Report, or click on the square where the vertical and horizontal rulers intersect), open the property sheet (View ► Properties), click on the Format tab, and change the Grid X and Grid Y properties to 24 or less.

**The property sheet blanks out unexpectedly when you click on a control that's already selected** Press Enter if you want to keep any changes that you've typed into the control, or press Esc if you don't mind losing the changes you've typed.

**You can't size the form/report background properly** Some control or line probably is in the way. Try turning off the grid lines, setting the form or report background to white, and maximizing the window so you can see all the controls more easily. Move or resize controls as needed (be sure to look for controls at the edges of the report or form). Resize the background again.

**The margins are too large** Choose File ► Page Setup, reduce the settings on the Margins tab, and click on OK.

**You need to put more on each page** Reduce the margins, increase the background dimensions, resize controls smaller, and move controls closer together to make room.

**Blank pages appear in printed reports** This will happen if the width of the report plus the left and right margins exceed the width of the page. Try some combination of the following: Reduce the margins in page setup (File ► Page Setup), resize controls smaller and move them closer together, and reduce the report background width.

**You don't want detail records in a subtotals/totals report** Open the property sheet, click on the Format tab, click in the report's Detail section, and change the Visible property to No.

**Report shows duplicate values** Use the Sorting And Grouping feature; or select the control that shouldn't show duplicate values, open the property sheet, click on the Format tab, and change the Hide Duplicates property to Yes. See "Hiding Duplicate Data in a Report" earlier in this chapter.

**Form or report shows duplicate records** Base the form on a query whose Unique Values property is set to Yes (see Chapter 10). Or create a "unique values" query for the Record Source on the fly as described earlier in "Specifying the Record Source on the Fly."

**Your records aren't sorted the way you want them** Base the form or report on a table or query that's sorted the way you want it. Or create a query for the Record Source on the fly as described earlier in "Specifying the Record Source on the Fly." Or if you're designing a report, use the Sorting And Grouping features described earlier under "Grouping Data in Reports."

**Your form or report is using the wrong table or query** Specify a new Record Source as described under "Specifying the Record Source on the Fly."

**#Name? appears in a field in form view, print preview, or the printed report** You've probably changed the Record Source for your form or report, and now some controls are invalid. Either delete the bad controls or change their Control Source data property to a field or expression that reflects the current record source. This problem also can occur if the Control Source is misspelled or if the field in the underlying table or query no longer exists.

**#Num! appears in a field in form view, print preview, or the printed report** This message appears in a control that contains a calculation expression in which the divisor evaluates to zero (computers hate it when you try to divide by zero). For instance, #Num! will appear if [GrandTotal\_Qty] in this expression evaluates to zero:

$$=[Total\_Qty]/[GrandTotal\_Qty]$$

To solve the problem, test for a zero divisor. For instance, change the simple expression above to the more robust expression shown here:

```
=IIf([GrandTotal_Qty]>0,[Total_Qty]/  
[GrandTotal_Qty],0)
```

The above IIF function translates to “If the grand total quantity is greater than zero, display the total quantity divided by the grand total quantity. Otherwise, display zero.”

**#Error appears in a field in form view, print preview, or the printed report** You’ve probably entered an incorrect expression into a calculated field, or you’re using a circular reference to a control (for example, in a control named MyCalc, you’ve entered an expression such as `=[Num1]*[Num2]+[MyCalc]`). Switch to design view and correct the expression.

**You want to create or print a report from a form** This is easy. Right-click on the form in the database window and choose Save As Report. Then type a new name for the report and click on OK. If you just want to print the form as a report, open the form in design view or form view, and then choose File ► Print Preview.

**You want to create a form from a report** This isn’t so easy. Your best bet is to create the form from scratch or to use a Form Wizard that produces a form similar to the original report. You also can select controls from various sections of the report design, copy them to the Windows Clipboard, and then paste them into the form design.

For more troubleshooting advice, look up *Troubleshooting Forms* and *Troubleshooting Reports* in the Access Help Index.

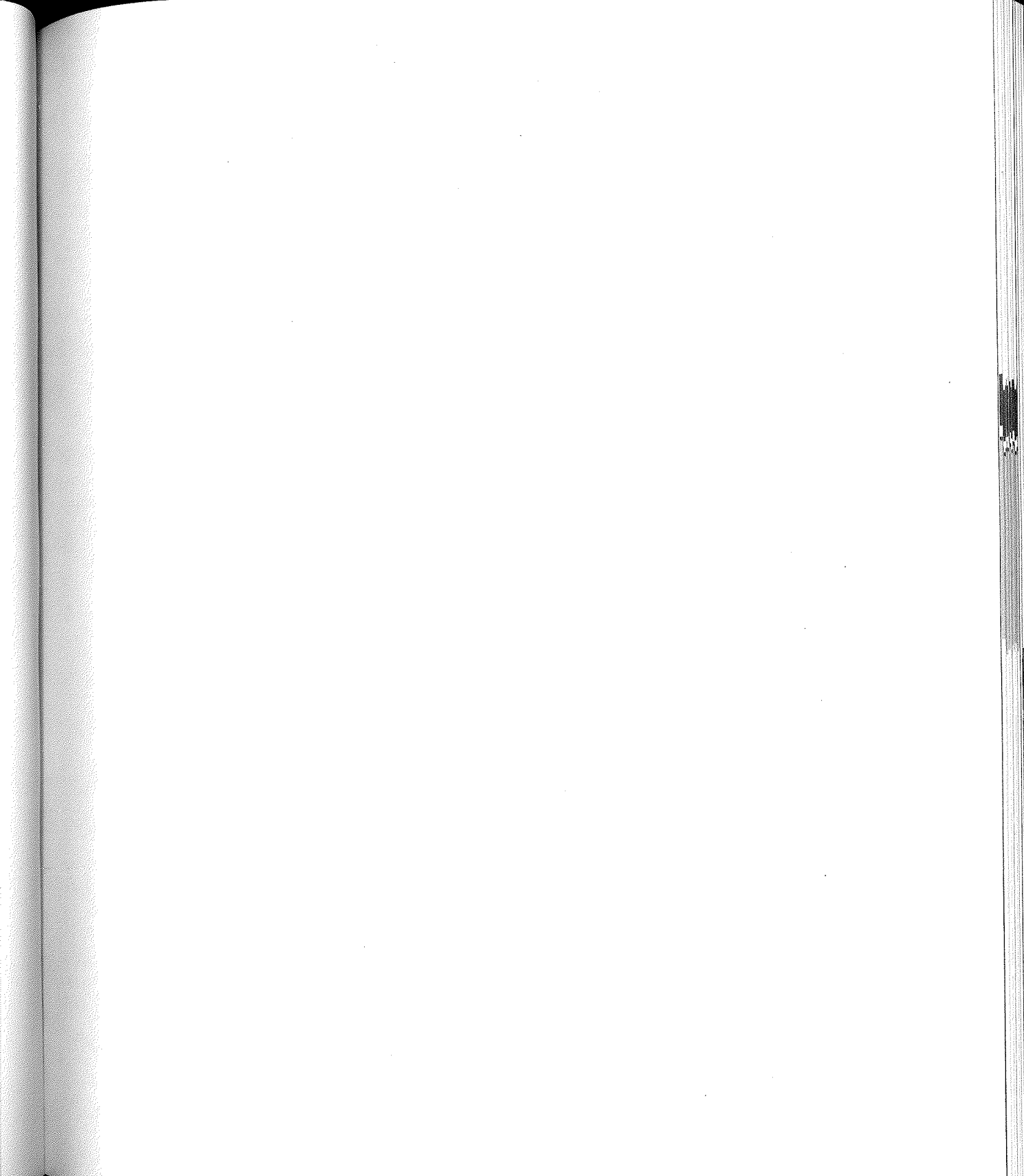
## Where to Go from Here

In this chapter, you’ve learned just about anything anyone could ever need to know about creating and customizing forms and reports. If you’d like to learn how to create charts and PivotTables, continue with Chapter 14 now. Or if charts and PivotTables aren’t your top priority, go ahead and explore topics in Part Three or Part Four.

## What's New in the Access Zoo?

Access 97 for Windows 95 has some interesting new features for designing forms and reports in, including

- An Insert Hyperlink toolbar button for creating hyperlinks on forms and reports.
- Hyperlink address properties for label objects, image objects, and command buttons that let you turn these objects into hyperlinks that can jump to all kinds of information.
- A Tab Control tool for adding tabbed controls to designs. This tool lets you create tabbed, multipage controls like the pages you see on a Properties menu.
- New ActiveX controls like a Microsoft WebBrowser that programmers can use to enhance the functionality of Access applications.
- Changes to the way forms are loaded. You will enjoy faster performance when loading a form that you have not attached code to.





A black and white photograph of a mountain range. The mountains are covered in snow and have jagged peaks. In the foreground, there are dark, silhouetted evergreen trees. In the upper right corner, a full moon is visible in the dark sky. The overall scene is serene and majestic.

Chapter

14

Creating Charts  
and PivotTables





**FEATURING**

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*Charting your data* 568

---

*Creating PivotTables* 599



# Creating Charts and Pivot Tables

**A**ccess offers many ways to analyze and summarize your data graphically with line charts, pie charts, bar charts, and other types of business charts. Charts can display numerical data in a compact, visual format that's easy to understand. They also can uncover trends and relationships that might otherwise go unnoticed.

*PivotTables* offer another way to summarize data. But instead of showing your data as a picture (the way charts do), *PivotTables* present the data in a tabular layout that you can change (pivot) dynamically.

In this chapter, we'll first show you how to create charts in forms and reports. Then we'll show you how to set up *PivotTables*. In no time, you'll be able to set up dazzling business charts and information-packed *PivotTables* with just a few mouse clicks.

Plenty of online help supplements the basic techniques presented in this chapter. For details on charting, look up *Charts* (or *Graphs*) and then explore the related subtopics in the Access Help index. You also can use the extensive online help that's available from the Help menu in Microsoft Graph.

For help with PivotTables, look up the *PivotTables* subtopics in both the Microsoft Access and the Microsoft Excel Help indexes.

**NOTE**

Before reading this chapter, you should know how to create, save, and use expressions in queries (Chapters 9 and 10), and you should know how to create forms and reports (Chapters 11 through 13).

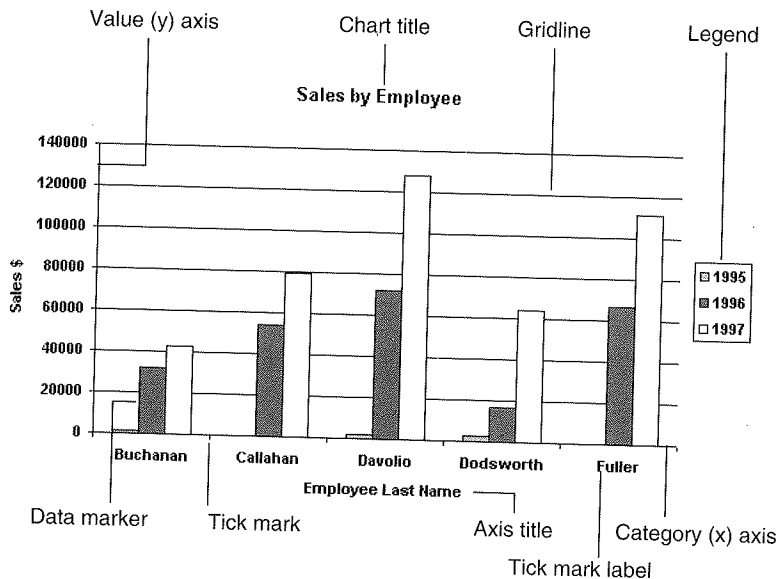
## Charting Your Data

Charting takes a bit of trial and error to bring out the best in your data. But it will be easier if you know some basic charting terminology.

We can divide charts into two general categories of charts: 2-D (two dimensional) and 3-D (three dimensional). To help you get your bearings, Figure 14.1 shows a typical 2-D column chart, and Figure 14.2 shows a sample 3-D column chart of the same data. Both figures are labeled to indicate the chart's many body parts. As you'll discover later in the chapter, you can use Microsoft Graph to customize any of the labeled areas to your heart's content.

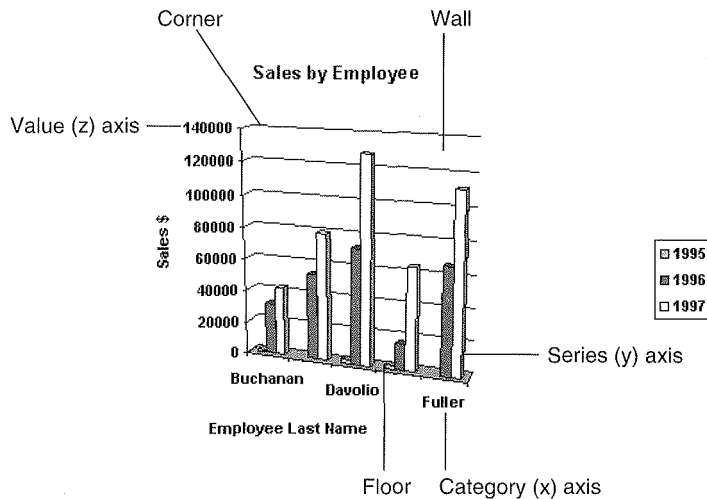
**FIGURE 14.1**

A typical 2-D column chart labeled with the names of areas you can customize.



**FIGURE 14.2**

A typical 3-D chart labeled with the additional parts that won't appear on a 2-D chart.

**NOTE**

Throughout this chapter we've used data from the Northwind sample database that comes with Access. Chapter 1 of this book explains how to open this database.

The most important elements of a chart are described below:

**Axes** The horizontal (x) and vertical (y) lines that establish the range of values plotted on the chart. Normally the x-axis categorizes the data and the y-axis measures the values. This is true for most charts, except pie charts and doughnuts (which have no axes) and bar charts (where the x- and y-axes are reversed). 3-D charts also have an imaginary z-axis (or *value axis*) projecting outward from the chart.

**Series** A group of related data points from a single field that you plot, usually against the vertical axis. In charts, a data series appears as a line or a set of bars, columns, or other markers (depending on the chart type). You can plot several series in a chart.

**Titles** Text that appears at the top of the chart and along the axes.

**Gridlines** Lines that extend across the tick marks on an axis across the area you're plotting.

**Tick marks** Small marks along an axis that divide it into segments of equal length. These make the chart easier to read and indicate the scale.

**Labels** These appear at each tick mark to identify values on the axis. You also can label each data value.

**Scale** The scale defines the range of values on the axes and the increments used to divide the axes by tick marks.

**Slice** In a pie chart, each slice represents a single charted value (glance ahead to Figure 14.4).

## Choosing the Data You Want to Chart

The main trick to charting your data is to decide exactly *which* data to chart. Once you've done that, the Chart Wizard will lead you through the steps necessary to describe *how* to chart that data.

If all the fields to be charted are in a single table, you can just base the chart on that table. However, if you want to chart fields from two or more separate tables, or you want to chart the results of calculations on table fields, you'll need to create a query to join those tables or perform those calculations, and then base the chart on that query.

When designing the query, be sure to include the following fields in the QBE grid:

- **Include at least one field for categorizing the data.** Typically the category fields will appear on the chart's horizontal (x) axis. For instance, if you're charting sales by product category, include the `CategoryName` field. If you're charting salesperson performance, put `EmployeeID` or `LastName` in the QBE grid. You can include more than one category field if necessary. Thus to chart sales by product category *and* by month, you'd include the `CategoryName` field and a date/time field (such as `OrderDate`) in the QBE grid.
- **Include the field, or a calculated field, that you want to total, average, or count.** This field usually appears on the chart's vertical axis. This field should be a numeric or currency value (such as extended price or quantity sold) that Access can total, average, or count and plot on the chart, or another type of field that Access can count. You can chart more than one field.

### NOTE

Charts can be based on a table, Select query, Crosstab query, or Totals query. You can chart up to six fields of any data type *except* Memo or OLE Object. (In fact, the Chart Wizard won't even show Memo and OLE Object fields in dialog boxes that let you choose fields.)

When you've finished creating the query, you should save it (File ► Save) and close it (if you wish). Remember that only the design will be saved. So as the data changes in the table in the future, any charts that you've based on that query will change automatically to

reflect the latest data in the table. (See "Freezing the Data in Your Chart" later in this chapter for two ways to prevent this updating.)

Figure 14.3 shows an example in which we've joined several tables from the Northwind database in a query (note the join lines). Here we've included only two fields in the QBE grid:

**CategoryName** We want to chart total orders by product category, so we've included this column in the QBE grid.

**ExtendedPrice** The second column contains an expression named ExtendedPrice, which calculates the numeric values (Quantity times UnitPrice) to be summed and charted.

Figure 14.4 shows a pie chart that's based on the query shown in Figure 14.3. Each pie slice shows total sales within one product category.

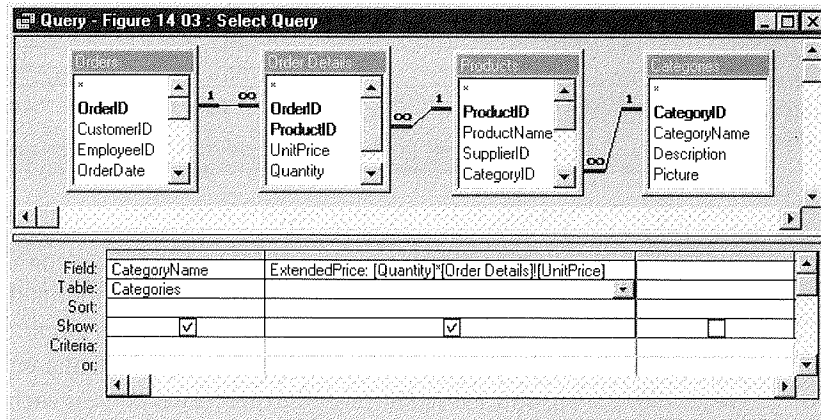
Now suppose you want to chart total sales by employees, and you want to break sales down by the order date. You could start with a QBE grid similar to the one shown in Figure 14.5.



When the query or table being charted includes a date/time field such as OrderDate, the Chart Wizard will let you group the date/time data. Therefore, you often don't need to group the data in the query. However, if your chart will contain too much data along the x-axis or in pie slices, and the Chart Wizard doesn't offer any way to group that data, it's best to specify criteria in your query. In Figure 14.5, for example, we used criteria in the query to limit employee names shown on the x-axis to last names that start with letters in the first part of the alphabet.

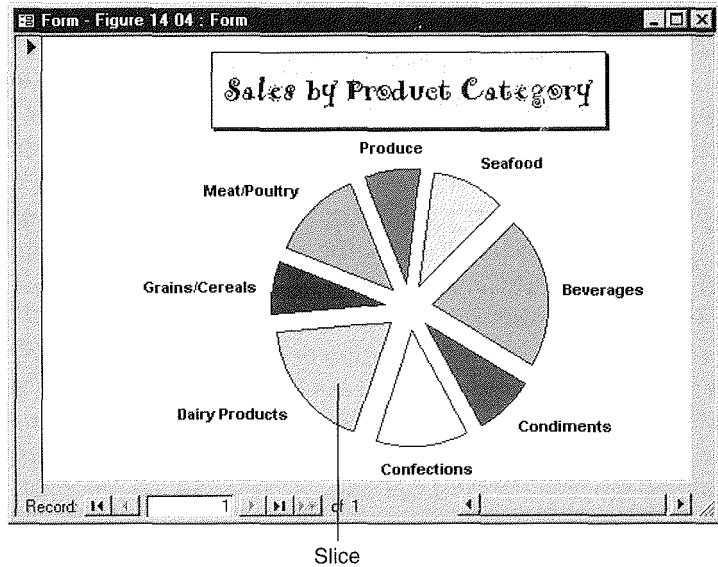
**FIGURE 14.3**

The QBE grid in this query includes two fields, CategoryName and ExtendedPrice (a calculated field).



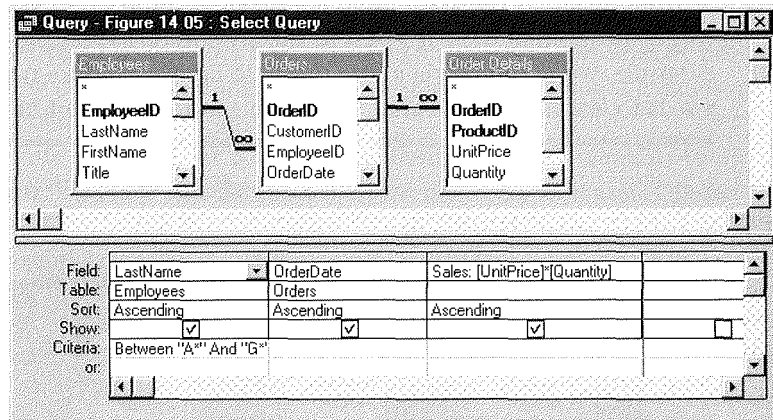
**FIGURE 14.4**

A pie chart based on the query shown in Figure 14.3. Each slice of the pie represents the total sales in one product category. We used Microsoft Graph 5.0, described later, to customize this chart.



**FIGURE 14.5**

The QBE grid contains the columns for the LastName, OrderDate, and the Sale (extended price). It also limits the selected employees to those whose last names start with the letters A through F.



The sample chart back in Figure 14.1 shows one possible chart type and format for this data. In that example, the y-axis shows total sales amounts (labeled in the axis as Sales \$). The x-axis shows employee LastNames (labeled as Employee Last Name). Each column (data marker) represents the total sales for a particular employee and for the years 1995, 1996, and 1997. The legend explains which year each column represents.

To create the example back in Figure 14.2, we used the same query as for Figure 14.1, but we displayed it in a 3-D column chart. Notice how this chart shows the employee's Last-Name on the x-axis and the year (from the OrderDate field) on the y-axis; it uses a third z-axis for the values.

For both charts, we responded to questions from the Chart Wizard in the same way. That is, we chose to chart the OrderDate, LastName, and Sales fields; we grouped the OrderDate values by year; and we summed the Sales field. When the Chart Wizard asked what type of chart we wanted, we chose a 2-D column chart for Figure 14.1 and a 3-D column chart for Figure 14.2. The Chart Wizard figured out how to arrange the data on the chart automatically. Later, we used Microsoft Graph to customize each chart further.

Notice that in both Figures 14.1 and 14.2, we're charting just the extended price ( $[Quantity] * [UnitPrice]$ ). To include discounts, shipping charges, and/or sales tax in the chart, we'd need to create the appropriate expressions and totaling queries (see Chapter 10 for examples).

## About Freestanding and Embedded Charts

Once you've decided which fields to include on the chart and you've created and saved the appropriate query, you must decide how you want to display the chart. You can display charts as either *freestanding charts* or *embedded charts*.

### Freestanding Charts

*Freestanding charts* (refer to Figures 14.1, 14.2, and 14.4) are forms or reports that display only a chart. Like the proverbial cheese, the freestanding chart is meant to stand alone by showing overall results. For example, you can use a freestanding chart to sum total sales by category, to count customers in each state, or to show average sales by employee by month or year. Although a freestanding chart is still considered an "embedded" object, it isn't used as part of a larger report or form. To create a freestanding chart, you start from the database window, rather than from form or report design view. See "Creating a Freestanding Chart" for more details.

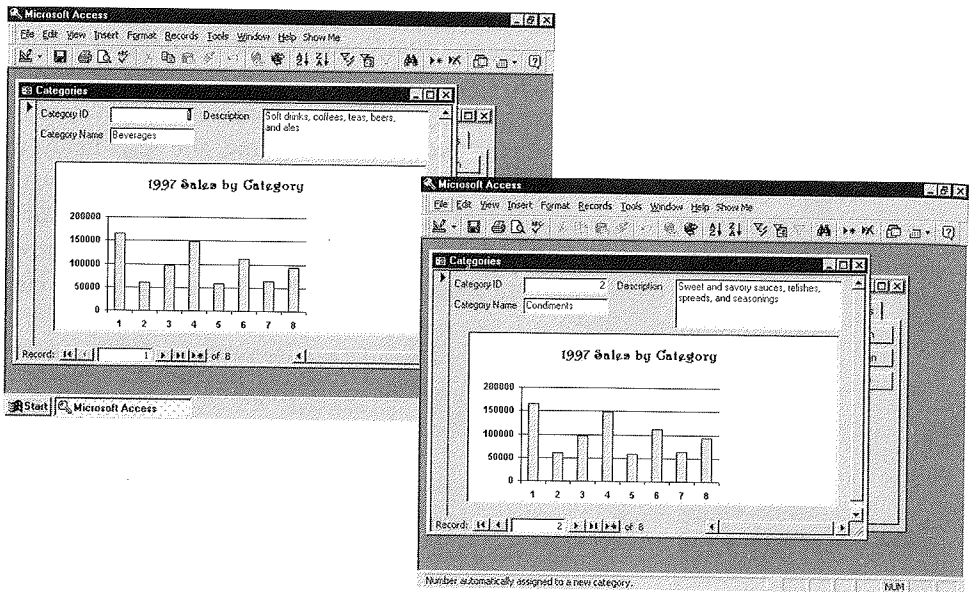
### Embedded Charts

*Embedded charts* are part of a larger form or report. Embedded charts can be linked to the underlying table or query, so they change to reflect values that relate to the currently displayed record (see Figures 14.7 and 14.8 later in the chapter). Or they can be unlinked, so they do not change as you scroll from record to record (see Figure 14.6).



**FIGURE 14.6**

An *unlinked embedded chart* is the same in each record or printed report. Here the chart displays 1997 sales for every product category. As usual, we've customized the chart for dramatic effect.



To embed a chart within a form or report, you start from the form design window or report design window and use the Chart toolbox button or the Insert ► Chart command. When creating an embedded chart, you can embed the chart in either of two ways:

- As an *unlinked chart*, which doesn't change from record to record.
- As a *linked chart*, which does change from record to record.

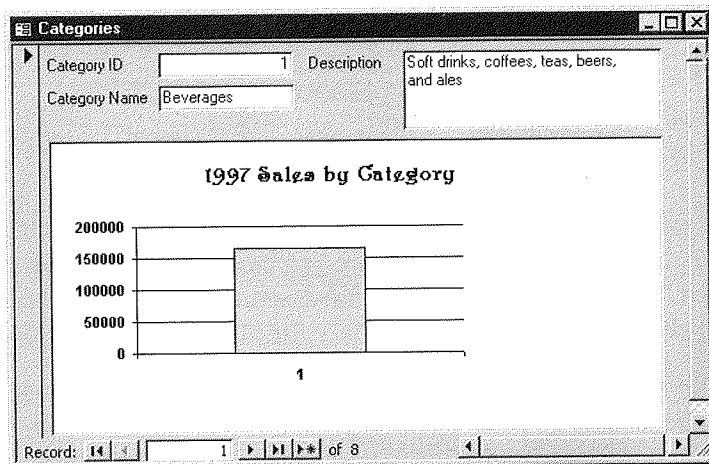
Use an *unlinked* embedded chart when you want to display multiple copies of the same chart. For instance, Figure 14.6 shows two forms, each for a different product category and each showing a copy of the same chart of 1997 sales in all product categories.

Use a *linked* embedded chart when you want the chart to change from record to record. For instance, by linking a chart of 1997 sales figures to a form that shows data from a Categories table, you can display sales results for just the category whose data you're viewing at the moment, as shown in Figure 14.7.

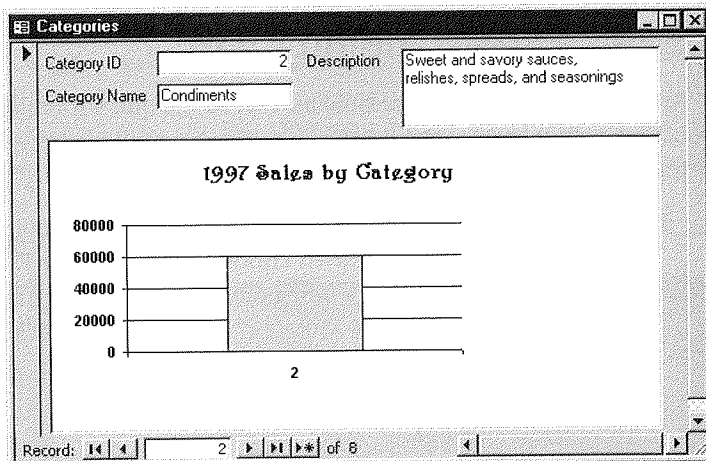
When you scroll to another record, the same chart shows the sales performance of *that* category only, as shown in Figure 14.8.

**FIGURE 14.7**

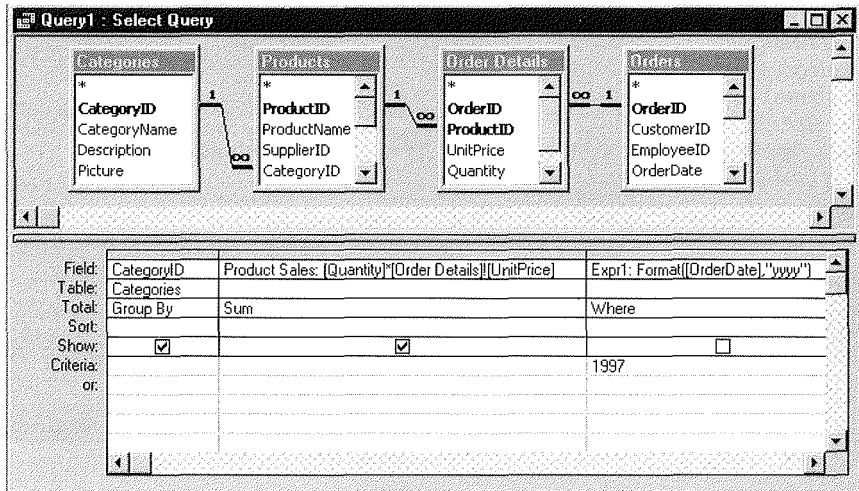
A chart that's linked to the `CategoryID` field of the `Categories` table shows the 1997 sales for one category at a time (Beverages in this example).

**FIGURE 14.8**

Scrolling to another record shows the same chart but only for the `Condiments` category.



For the charts shown in Figures 14.6, 14.7, and 14.8, we used this query:



## Creating a Freestanding Chart

Assuming you've already created and saved the query (or table) on which you want to base the chart, start in the database window and follow these steps to create a freestanding chart:

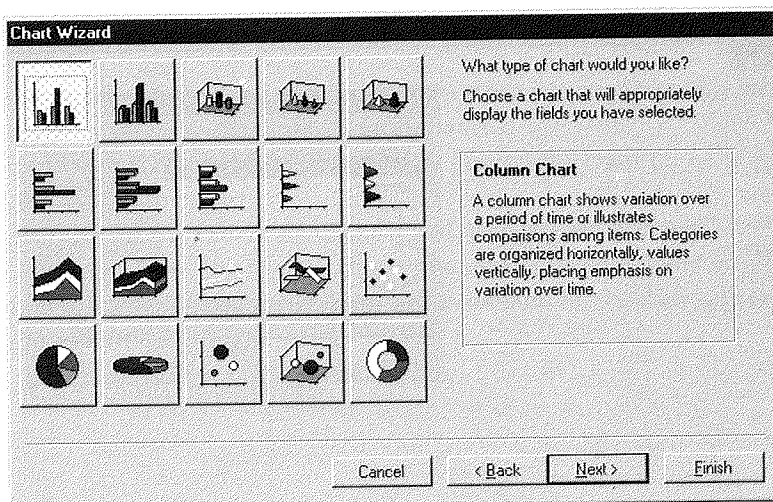
1. Click on the drop-down list next to the New Object toolbar button (second-to-last item on the toolbar) and then choose either Form or Report. Or choose Insert ► Form or Insert ► Report from the database window's menu bar. Or click on the database window's Forms or Reports tab and then click on the New button. The New Form or New Report dialog box appears.
2. Select the table or query on which you want to base the form from the drop-down list in the dialog box.



**TIP** As a shortcut to steps 1 and 2 above, you can start from the database window, click on the Tables or Queries tab, and highlight the table or query you want to chart. Or start from an open table or query. Then use the New Object toolbar button or Insert menu options, as described in step 1.

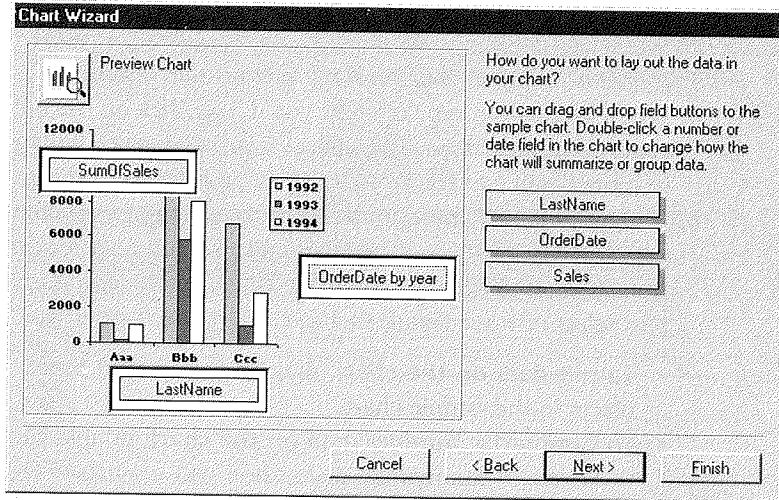
3. Click on the Chart Wizard option in the list and then click on OK; or double-click on Chart Wizard.
4. When asked which fields contain the data you want for your chart, choose up to six fields and then click on Next to continue.
5. When asked what type of chart you'd like, click on the button that represents the appropriate chart type. The Chart Wizard dialog box will describe the selected type in more detail (see Figure 14.9). Click on Next to continue.
6. When asked how you want to lay out the data in your chart, follow the guidelines below to place fields on the chart and to summarize and group number and date/time fields as needed. As you make changes, the sample chart will reflect your current selections (see Figure 14.10). Click on Next when you're ready to continue.
  - **To put data on the chart**, drag and drop field buttons onto the appropriate places in the sample chart.
  - **To summarize number data on the chart**, double-click on a number field in the chart. A Summarize dialog box will open (see Figure 14.11). Click on a Summarize option and then click on OK.
  - **To group date/time data and limit it to a range**, double-click on a date/time field in the chart. A Group dialog box will open (see Figure 14.12). Choose how you want to group the date/time field (by Year, Quarter, Month, Week, Day, Hour, or Minute). If you want to chart a limited range of date/time values, select (check) the Use Data Between option, and fill in the starting and ending values you want to include. Click on OK when you're done choosing options.

**FIGURE 14.9**  
Use this Chart Wizard dialog box to choose a chart type.



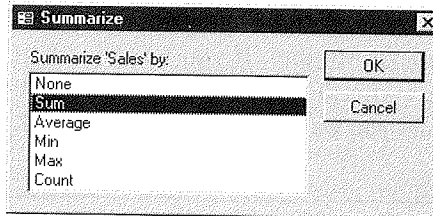
**FIGURE 14.10**

Use this Chart Wizard dialog box to place fields on the chart axes and to group or summarize date/time and number fields.



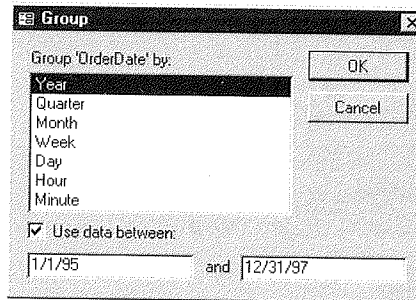
**FIGURE 14.11**

Use the Summarize dialog box to choose how you want to summarize numeric data.



**FIGURE 14.12**

Use the Group dialog box to choose how to group a date/time field and to specify the range of dates to include in the chart.



- **To remove fields from the chart**, drag the appropriate button off the chart. The word *Series*, *Data*, or *Axis* will appear in the empty spot.
  - **To preview the chart in Microsoft Graph**, click on the Preview Chart button near the upper-left corner of the dialog box. When you're done previewing, click on the Close button in the Sample Preview dialog box that appears.
7. When the last Chart Wizard dialog box appears, specify a title for your chart, choose whether to display a legend, and select other options as needed. Then click on Finish and wait for the Wizard to do its job.

The finished chart will appear in form view, print preview, or design view, depending on your choice in step 7.

## Using the Freestanding Chart

Remember that any freestanding chart you create will be stored in a form or report. So when the chart is open in form view or print preview, you can switch back to design view as usual. When you're in form view or print preview, you can print the chart with File ► Print (or Ctrl+P). We'll explain how to customize the chart in design view later in this chapter.

You can close and save the chart with the usual File ► Close ► Yes commands. To reopen the chart, click on the Forms or Reports tab in the database window, and then double-click on the name of the appropriate form or report. The chart will show current data (unless you based it on a "frozen" table or converted it to an image, as described later in this chapter).

## Creating an Embedded Chart

To create an embedded chart of either type, follow this basic procedure:

1. (Optional) Add the Chart button to the form design or report design toolbox, as explained shortly. You need to do this only once.
2. Create and save the form or report you'll be placing the chart in. Be sure to leave enough room for the chart.
3. (Optional) Create a query for the chart if you need to base the chart on a query.
4. Open, in design view, the form or report you created in step 2 and use the Chart button in the toolbox or the Insert ► Chart command on the menus to create and embed the chart.

Let's look at each step more closely.

## Adding the Chart Tool to the Toolbox

There are two ways to create embedded charts:

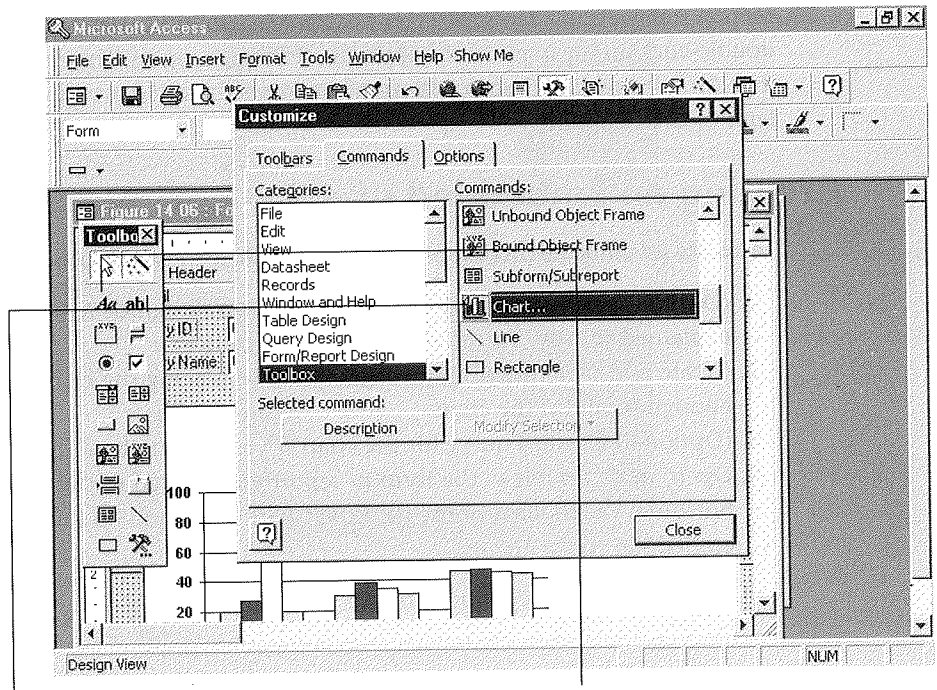
- Use the Insert ► Chart command on the form design or report design menus.
- Use the Chart button in the toolbox.

Although the Insert ► Chart command always appears on the design view menus, the Chart toolbox button isn't available initially. This button is easy enough to add:

1. Open any form or report in design view. For instance, click on the Forms tab in the database window, click on any form name, and then click on the Design button.
2. Make sure the toolbox is visible (View ► Toolbox).
3. Display the toolbox as a floating palette (see Figure 14.13) for maximum flexibility. If the toolbox is docked at an edge of the design window, you can change the toolbox to a palette by moving the mouse pointer to an empty place near one of the toolbox buttons and double-clicking on that empty spot.
4. Right-click on the toolbox and choose Customize from the shortcut menu. The Customize Toolbars dialog box appears.

**FIGURE 14.13**

The form design window after we changed the toolbox to a floating palette, right-clicked on the Toolbox, chose Customize, selected the Commands tab, and then clicked on Toolbox in the Categories list.



Drag from here...

To here.

5. Select the Commands tab and click on Toolbox in the Categories list (see Figure 14.13).
6. Scroll down the list under Commands until the Chart button is visible. Then move your mouse pointer to the Chart button (see Figure 14.13) and drag that button on top of any button in the toolbox or to an empty spot in the toolbox.
7. Reposition the Chart button within the toolbox by dragging it to a new spot if you wish. (If you decide to remove the Chart button, simply drag it off the toolbox.)
8. Click on the Close button in the Customize dialog box when you're finished customizing the toolbox.

The Chart button will be available in the toolbox anytime you design a form or report.

For more information about creating and customizing toolbars (and the toolbox), see Chapter 23. Or look up *Toolbar Buttons, Adding* in the Access Help Index and then double-click on one of the subtopics that appears.

## Creating the Report or Form

You can use standard techniques to create the form or report that will contain the chart, based on whatever table (or query) you wish. Just be sure to leave enough room for the chart that you'll be embedding later.


Figure 14.14 shows a sample form, in form view, that's based on the Employees table in the Northwind sample database. This form includes the EmployeeID, HireDate, FirstName, LastName, and Photo fields from the table. We've left empty space in the form for the embedded chart.

**FIGURE 14.14**

A sample form, in form view, based on the Employees table in the Northwind database that comes with Access. We've left empty space for the chart we'll be embedding later.

The EmployeeID field uniquely identifies each employee.

The screenshot shows a Microsoft Access window titled "Employees" containing a form titled "Employee Summary". The form has two tabs: "Sales Info" and "Personal Info". The "Personal Info" tab is selected, displaying the following information:

ID: 1	Name: Nancy Davolio	
-------	---------------------	--

At the bottom of the form, there is a record navigation bar showing "Record: 1 of 9".



When you've finished designing the initial form or report, you should save it; then close or minimize the form or report to get it out of the way while you create the query for your chart.

## Creating the Query for the Embedded Chart

When creating a query for an embedded chart, you can follow the guidelines described earlier under "Choosing the Data You Want to Chart." However, if you want the chart to change on a record-by-record basis, you also must include the field that links the chart to the report or form, since this field will tell the chart *which* data to display.

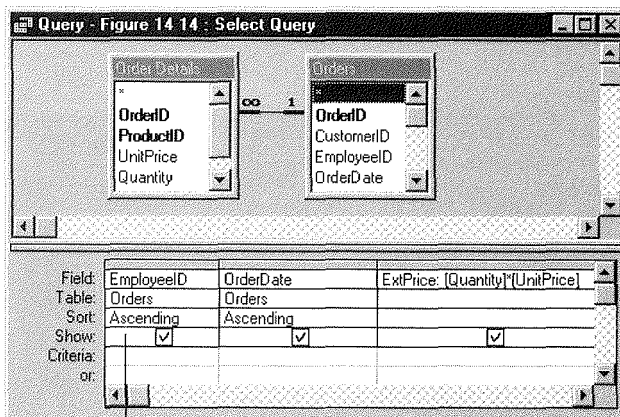
For instance, when creating a chart of total sales to embed on the form shown in Figure 14.14, you must include the field that links the data from that query to the Employees table. In this example, the EmployeeID field in the Orders table identifies which employee sold each order. Therefore, the underlying query must include that EmployeeID field, as shown in Figure 14.15.

If you don't want the chart to change on a record-by-record basis, you won't need to provide a linking field. But you still must set up a query if the chart will plot the results of calculations on table fields or if the chart is based on fields that come from more than one table.

Once you've created the query for the chart, you can close and save it (File ► Close ► Yes).

**FIGURE 14.15**

*When creating a linked chart that changes on a record-by-record basis, you must include the field that links the chart to the report or form.*



The EmployeeID field in the Orders table identifies which employee sold each order.

## Embedding the Chart

Now that you've created a report or form to hold the chart, and a query upon which to base the chart, you can embed a chart into the report or form. The steps for creating an embedded chart are nearly identical to those for setting up a freestanding chart. The main differences are that you use the Chart toolbox button or the Insert ► Chart command to get started and you must decide whether to link the chart to the form or report. Here are the steps:

1. Open the form or report you want to embed the chart into, in design view. If you plan to use the Chart toolbox button and the toolbox is hidden, choose View ► Toolbox or click on the Toolbox toolbar button to display it.
2. Click on the Chart toolbox button (shown at left). Or choose Insert ► Chart from the menu bar.
3. Click on the place on the form or report design where the upper-left corner of the chart should appear or drag to define the size of the chart.

The Chart Wizard takes over.

4. When asked where you want your chart to get its data, select Tables, Queries, or Both from the bottom of the dialog box. Then highlight the table or query that contains the data and click on Next, or just double-click on the table or query you want to use.
5. When asked which fields contain the data you want for the chart, double-click on those fields (or click on the >> button to copy all the available fields). You can choose up to six fields. Click on Next to continue.
6. When asked what type of chart you would like, click on the chart type you want to use, and then click on Next.
7. When asked how you want to lay out the data in your chart, follow the guidelines given in step 6 of "Creating a Freestanding Chart" earlier in this chapter to place fields on the chart and to summarize and group number and date/time fields as needed. As you make changes, the sample chart will reflect your current selections (see Figure 14.10). To produce the finished example shown in Figure 14.17, we chose not to show the EmployeeID, to show the OrderDate along the x-axis, to group orders by year, and to limit the chart to OrderDates between 1/1/95 and 12/31/97. Click on Next when you're ready to continue.

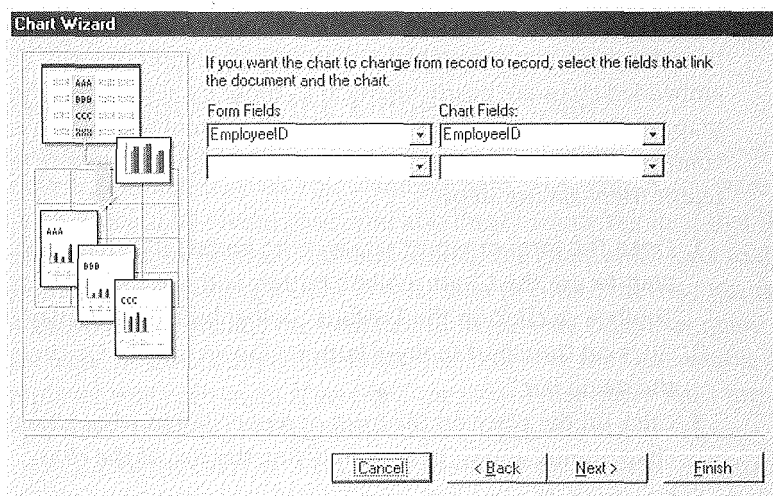
The next Chart Wizard dialog box, shown in Figure 14.16, lets you choose whether the chart should change from record to record.

8. Do one of the following and then click on the Next button to continue.
  - **To link the chart and the form** so that the chart changes from record to record, choose the appropriate linking fields from the Form Fields and Chart Fields drop-down lists, or accept the suggested field names if they're correct. You can link up to three different fields.



**FIGURE 14.16**

This Chart Wizard dialog box lets you choose whether the chart should change from record to record. To produce the example shown later in Figure 14.17, we chose *EmployeeID* for the linking fields, as suggested by the Chart Wizard.



- To have the chart stay the same from record to record, delete the field names or choose <No Field> from the top of the drop-down lists.
9. Specify a title for your chart when the last Chart Wizard dialog box appears, choose whether to display a legend, and select other options as needed. Then click on Finish and let the Wizard to do its job.

An embedded object frame with a sample chart appears on the form or report. You can size and move that frame, or change its properties, using the standard techniques. You also can customize the chart as discussed shortly. To view the finished chart, switch to form view if you're working with a form, or to print preview if you're working with a report.

Figure 14.17 shows (in form view) the finished Employee Summary form after we embedded a chart that's linked to the form's *EmployeeID* field.



If you create a freestanding chart and later decide to convert it to a chart that's embedded in a form or report, you don't have to start again from scratch. Instead, select the entire form or report in design view (Edit ► Select Form or Edit ► Select Report) and change the Record Source property on the Data tab of the property sheet to the name of the chart's underlying table or query. Then use the field list to add new controls to the form or report. If necessary, change the chart control's Link Child Fields and Link Master Fields properties so the chart will change as you scroll from record to record (see the next section).

**FIGURE 14.17**

The finished Employee Summary form (in form view) after embedding a column chart that's linked to the form's EmployeeID field. This chart is based on the query shown in Figure 14.15.

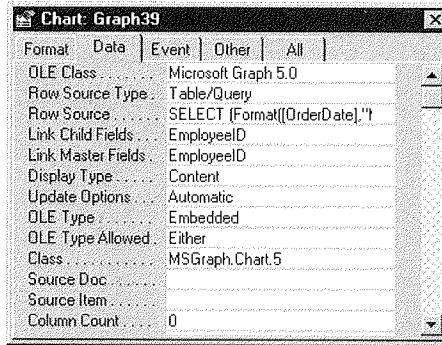
Year	Sales
1995	75,000
1996	75,000
1997	130,000

## Changing the Linking Fields

After creating an embedded chart, you may want to change the linking fields. This might be necessary, for example, if you chose the wrong linking fields while creating the chart, or you decide to link a previously unlinked chart to your form or report. To change the linking fields:

1. Switch to design view and select the control that displays the chart (click on it once, so it has sizing handles).
2. Open the property sheet if it isn't already open (choose View ► Properties or click on the Properties toolbar button).
3. Click on the Data tab in the property sheet.
4. Change the Link Child Fields property to the appropriate linking field(s) in the chart's underlying table or query (for example, EmployeeID).
5. Change the Link Master Fields to the appropriate linking field(s) in the main form or report (for example, EmployeeID).

In the example below, the chart's Link Child Fields and Link Master Fields properties are each set to EmployeeID.

**NOTE**

The field names listed in the Link Master Fields and Link Child Fields do not have to be the same. For example, if the employee identifier field is named EmployeeID in one table and SalesPerson in the other table, that's OK. However, both fields must have the same kind of data and the same (or compatible) data type and size.

## Changing the Chart's Query On the Fly

Let's suppose that after creating a freestanding or embedded chart, you realize that it doesn't present exactly the set of data you want. Perhaps you'd like to limit the data to a different time interval. Or maybe you'd rather present average values or plot the number of records instead of charting sums. Here are two ways to make a change:

- Delete the freestanding form from the database window or delete the embedded chart in form design or report design view. Then if necessary, change and save the query used to isolate the data. Finally, recreate the chart from scratch. This approach is rather drastic, but it might be quicker if you haven't spent any time changing the chart's appearance (as described shortly).
- Go to form design or report design view and customize the chart's data source using on-the-fly techniques discussed below. With these techniques, you change the underlying query that isolates the chart's data, rather than deleting the chart. On-the-fly changes are preferable if you've already spent some time customizing your chart, or you want to make a few quick changes without leaving design view.

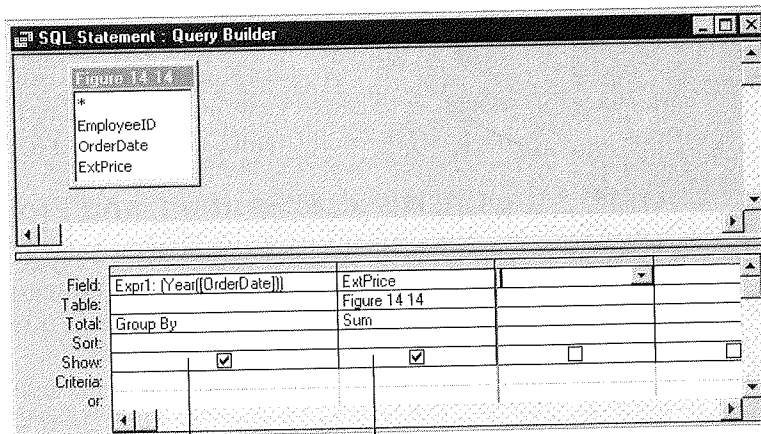
You can easily create another form or report that contains a chart similar to one you've already designed. Just use normal copy and paste techniques in the database window to copy the original form or report, as discussed in Chapter 1. Or open the form or report in design view, form view, or print preview; then choose File ► Save As, type a new name, and click on OK. Finally, open the copied form or report in design view and use the on-the-fly techniques described in this chapter to customize the chart.

If you opt for the on-the-fly method, start in form design or report design view and follow these steps:

1. Click on the chart control to select it.
2. Open the property sheet if it's not already open (View ► Properties) and click on the Data tab in the property sheet.
3. Click in the Row Source property box and then click on the Build button that appears. You'll be taken to a SQL Statement : Query Builder window like the one shown in Figure 14.18.
4. Modify the query using the standard techniques discussed in Chapter 10. In Figure 14.19, for example, we changed the sample query to calculate average sales instead of total sales and to limit the charted data to records in 1996 and 1997.
5. Preview the query results: Click on the Query View or Run toolbar button or choose View ► Datasheet View or Query ► Run. If necessary, return to the query design window (by clicking on the Query View toolbar button or choosing View ► Design View) and make any necessary changes. Repeat this step until the query returns the data you want.

**FIGURE 14.18**

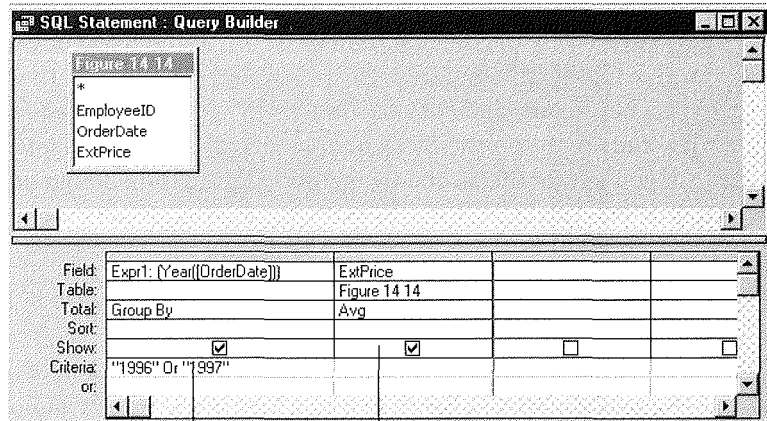
The SQL Statement : Query Builder window appears after you select the chart control, open the property sheet, and click on the Build button in the Row Source data property box.



Group records by month and year; show all months. Sum the extended price.

**FIGURE 14.19**

In this example we revised the query from Figure 14.18 to show average sales and to limit data to records in 1996 and 1997.



Group records by year;  
show 1996 and 1997 data only.

Average the extended price.

6. Click on the query design window's Close button when you're done changing the query, or choose File ► Close, or press Ctrl+W. When asked about saving changes to the SQL statement, click on Yes. You'll be returned to the form design or report design window.
7. Switch to form view or report print preview to see the effects of your on-the-fly changes.

## Customizing a Chart

Your chart may need some final tweaking after you finish creating it. To customize the chart, change its properties in design view, use the design techniques described in Chapter 13, or refine it in Microsoft Graph 5.0 as described in the sections that follow.

### Changing the Chart's Size, Position, and Properties

You can make some changes to the size and appearance of the chart right in the report or form design window. Open the form or report that contains the chart (in design view); then click on the chart or its frame. Once the frame is selected, you can do any of the following:

- Change its background (fill) color, border color, and general appearance using the Formatting (Form/Report) toolbar. If that toolbar isn't visible, right-click on any visible toolbar or the toolbox and choose Formatting (Form/Report); or choose View ► Toolbars, select (check) Formatting (Form/Report), and then click on the Close button.

- Move and size the frame using the standard techniques for moving and sizing controls. (However, to change the size of the chart itself, you'll need to use Microsoft Graph, as described in the next section.)
- Change other frame properties using the property sheet. (If the property sheet isn't visible, click on the Properties toolbar button or choose View ► Properties.)

## Using Microsoft Graph to Customize the Chart

To make changes directly to the chart, you use Microsoft Graph. Getting started is easy:

- Open the form or report that contains the chart (in design view)
- Double-click on the chart.

You'll be taken to Microsoft Graph, and your screen will resemble Figure 14.20.



**TIP** To have the chart shown in Microsoft Graph reflect your actual data, switch to form view or print preview at least once after creating the chart and before changing it.

Microsoft Graph has its own menu bar, five toolbars, and an extensive Help system. Its desktop contains two windows: a Datasheet window (not used with charts based on data from Access tables) and a Chart window.

To customize the chart, first make sure the Chart window is in front (click on it if necessary). To tailor an area of the chart, you can choose options from the menu bar, double-click on an area, or right-click on an area and choose options from the shortcut menu. For example, double-clicking on a data axis on a bar chart opens the Format Axis dialog box shown in Figure 14.21. From here you can click on the appropriate tab in the dialog box and then change the patterns, scale, font, number format, or alignment of data on the axis. (Click on the Help button if you need more information about the dialog box.) When you're done making changes, click on OK.

The best way to learn how to customize a chart is simply to experiment until you get the look you want. Each time you make a change, the Chart window will reflect your latest tweak. If you make a mistake and discover it immediately, you can choose Edit ► Undo or press Ctrl+Z (or click on the Undo button on the Standard toolbar) to restore the chart to its most recent appearance.

The following guidelines will help you experiment more efficiently:

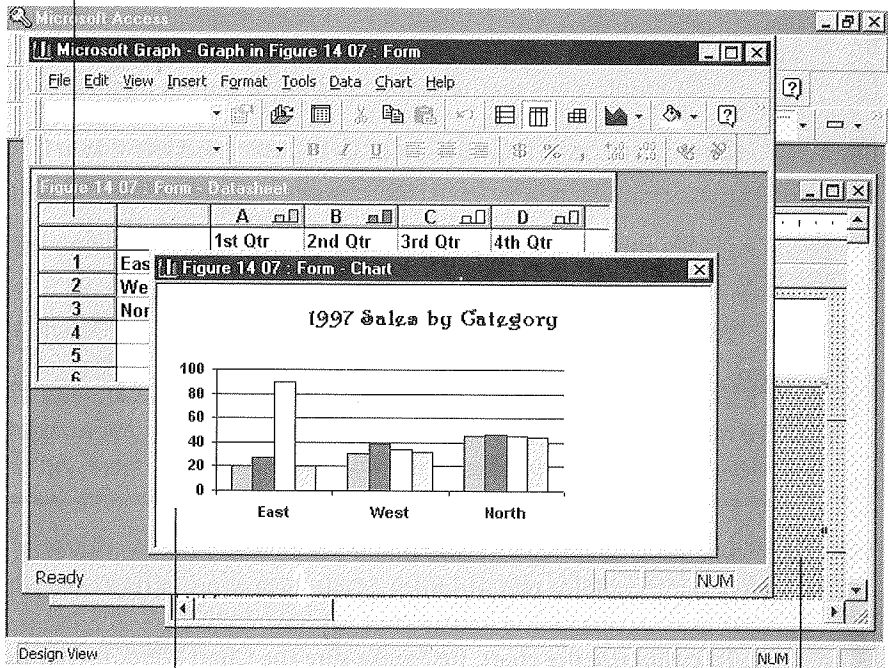
- **To view the Microsoft Access and Microsoft Graph program windows at the same time**, resize the Microsoft Graph and Access windows smaller than full screen (if the windows are currently maximized, you'll need to click on the Restore button before resizing them). You also might want to minimize any programs *other than* Access and Graph. Now right-click on an empty area on the



**FIGURE 14.20**

Double-clicking on a chart in design view takes you to Microsoft Graph, where you can customize the chart.

Microsoft Graph Datasheet window

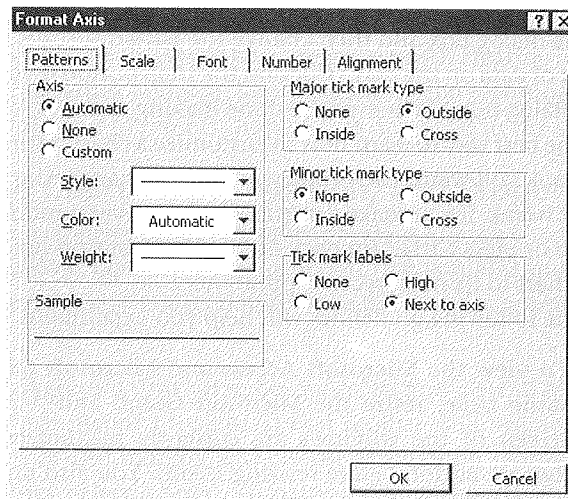


Microsoft Graph Chart window

Microsoft Access design view window

**FIGURE 14.21**

You can double-click on an axis and use the Format Axis dialog box to change the patterns, scale, font, number format, or alignment of data on the axis.



Windows Taskbar and then choose either Tile Vertically or Tile Horizontally. In Access, the chart will be marked with diagonal hash marks as a reminder that Microsoft Graph is active (refer to Figure 14.20). Displaying both windows at once makes it easier to see immediately what effect changes made in Graph will have on your form or report design in Access.

- **If no data appears on a chart that's linked to your form or report**, you're probably looking at a record that does not satisfy the query underlying the chart. Close Microsoft Graph (choose File ► Exit & Return To or click on Graph's Close button). Then switch to form view or report print preview and scroll to a record that does display a chart. Now return to design view and double-click on the chart again.
- **To customize a particular area of the chart**, right-click on that area and choose an option from the shortcut menu. Or double-click on the area you want to change.
- **To change the chart's magnification in the Microsoft Graph window**, choose View ► Zoom from the Microsoft Graph menus, select the magnification you want, and then click on OK. It's often handy to reduce the magnification so that you can see and work with the entire chart at once. Be aware that changing the magnification in Microsoft Graph doesn't resize the chart on your form or report.
- **To resize the chart in your form or report design**, drag the borders of the chart window in Microsoft Graph to reflect the chart size you want in your final design. (To see the chart at full magnification before resizing, choose View ► Zoom ( 100% ► OK.)

**NOTE**

To fit the chart's frame to the resized chart, return to form design or report design view and choose Format ► Size ► To Fit from the menus.

- **To display or hide the Microsoft Graph toolbars**, choose View ► Toolbars, select or deselect the appropriate toolbars, and click on OK. (Or right-click on any visible toolbar and click on the name of the toolbar that you want to show or hide.)
- **To find out what a Microsoft Graph toolbar button is for**, move the mouse pointer to that button and wait for the ScreenTip and status bar message to appear. (If no ScreenTip appears, choose View ► Toolbars ► Customize, click on the Options tab, and select Show ScreenTips on toolbars.) For additional help with a toolbar button, click on the Help button in the Standard toolbar (it's labeled with a large question mark); then click on the toolbar button you're curious about.
- **To change the chart type**, choose Chart ► Chart Type or right-click on the chart and choose Chart Type from the shortcut menu; then select an option in the Chart Type dialog box that appears. For greater control over the chart type, Chart ► Chart Options button. You also can select a chart type from the Chart Type drop-down button on the Standard toolbar.

- **To associate the data series with the horizontal rows shown in the Microsoft Graph Datasheet window**, choose Data ► Series In Rows or click on the By Row button on the Standard toolbar.
- **To associate the data series with the vertical columns shown in the Microsoft Graph Datasheet window**, choose Data ► Series In Columns or click on the By Column button on the Standard toolbar.
- **To change the color of a data series**, double-click on the data series you want to change, click on a color sample, and then click on OK. Or click on the data series and then choose a color from the Color drop-down button on the Standard toolbar.
- **To delete the chart's titles, data labels, legend, axes, grid-lines, or other anatomical parts**, select the object you want to delete and then press Delete (or right-click on the object and choose Clear).
- **To insert titles, data labels, legend, axes, gridlines, or other anatomical parts**, choose Chart ► Chart Options, click the appropriate tab, make your changes, and click on OK.
- **To customize any area of the chart**, double-click on it, or right-click on it and choose the Format option. You also can select certain objects (such as titles or axes) and click on appropriate buttons in the Formatting toolbar.
- **To customize the spacing between tick labels**, double-click on the axis to open the Format Axis dialog box (refer to Figure 14.21). If the tick labels are too crowded or too far apart, click on the Scale tab. Then, if the axis displays numbers, increase or decrease the Major Unit for scaling. For instance, if you double the major unit number, only half as many tick marks will appear on the axis. If the axis displays text, you can increase or decrease the number of categories between tick-mark labels and tick marks. You may need to adjust other options in the Scale dialog box to get the effect you want.
- **To change the alignment and orientation of tick labels**, double-click on the axis, click on the Alignment tab, and click on one of the markers in the larger box.
- **To add arrows, shapes, and text annotations to your chart**, click on an appropriate button in the Drawing toolbar, then drag in the chart area to define the size of the object. If you're not sure how to use a Drawing toolbar button after selecting it, look at the status bar of the Microsoft Graph window for a hint.

When you're done making changes, choose File ► Exit & Return To or click on the Microsoft Graph window's Close button. Remember that if you changed the chart's size in Microsoft Graph, you can return to Access (design view), select the chart control, and choose Format ► Size ► To Fit. This step will resize the frame for a better fit.

## Building a Better Chart

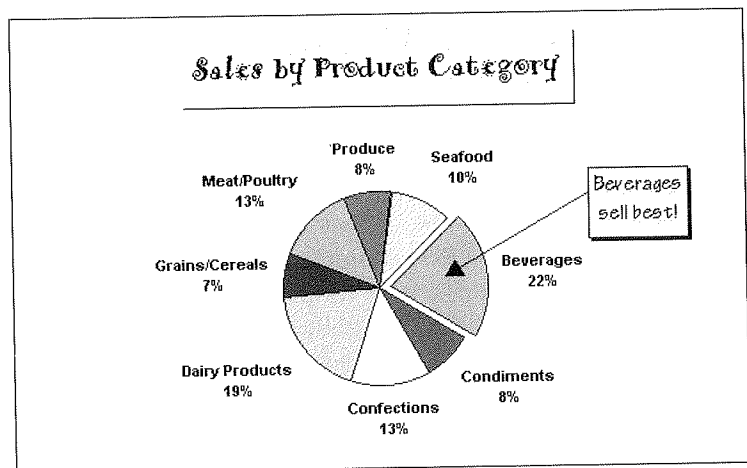
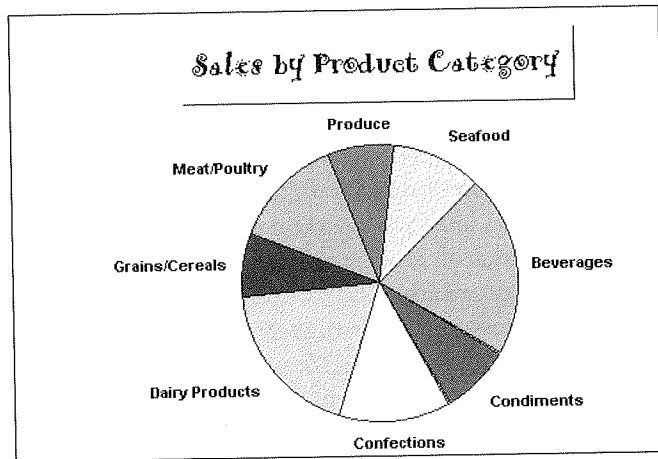
Even after you've mastered the mechanics of creating charts, you still may need to experiment further in order to produce charts that are easy to understand. The tips offered below should help to make your experiments more efficient.

- **Pick the chart type that most clearly represents your data.** For example, line charts are good for illustrating trends. When you want to show how each element contributes to a total, try an area chart or stacked bar chart. If your goal is to compare values, column charts and bar charts are good choices. Pie charts are ideal for showing the relative contributions of different parts to the whole.
- **Experiment until you find the best chart type for your data.** This is easy: In Microsoft Graph, choose Format ► Chart Type and change the chart type.
- **Avoid cluttering your charts with unnecessary data or labels** that obscure the message you're trying to convey. For example, if you want to focus on first-quarter sales (January through March), there's no need to show sales for April through December. If necessary, use a query to filter out unwanted data.
- **Make important information stand out in your charts.** For example, explode the most important slice or slices in a pie chart, use bright colors or more noticeable patterns for key data items, or annotate important data points with Microsoft Graph's drawing tools. See the pie charts in Figure 14.22 for an example.
- **Beware of 3-D charts.** They give a more dramatic appearance, but can sometimes obscure important data points. 2-D charts often provide the clearest view of your data, as shown at the bottom of Figure 14.23. Sometimes, however, you can get a clearer view in a 3-D chart by changing its 3-D viewing angles in Microsoft Graph. To rotate a 3-D chart, choose Format ► 3-D View or right-click on it and choose 3-D View, then use the buttons in the Format 3-D View dialog box to adjust the elevation, rotation, and perspective (click on the Help button in the Format 3-D View dialog box for details). Or click on the edge of a wall of the chart, click on one of the sizing handles, and then drag as needed to rotate the chart and change its perspective.
- **Use a consistent scale** to show charts that contain related data. This will make the data easier to compare.

For more help while you're using Microsoft Graph, click on the Help button that appears in various dialog boxes, press F1, or choose options from the Help menu.

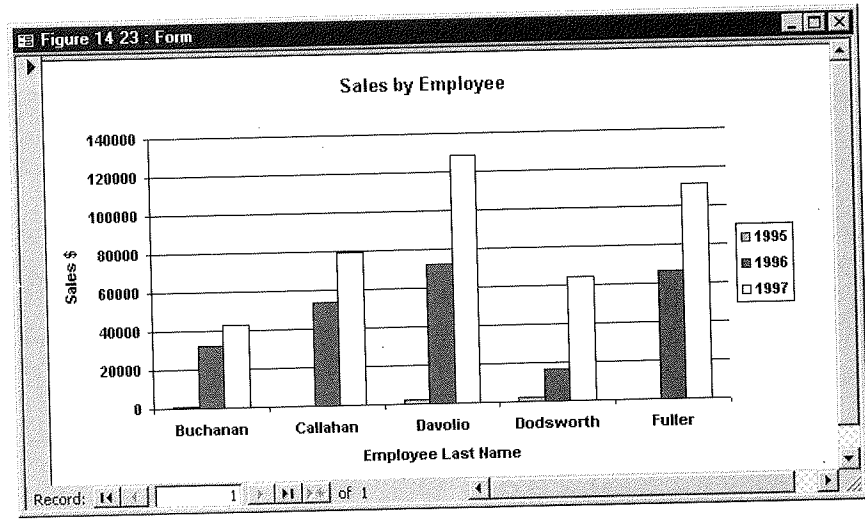
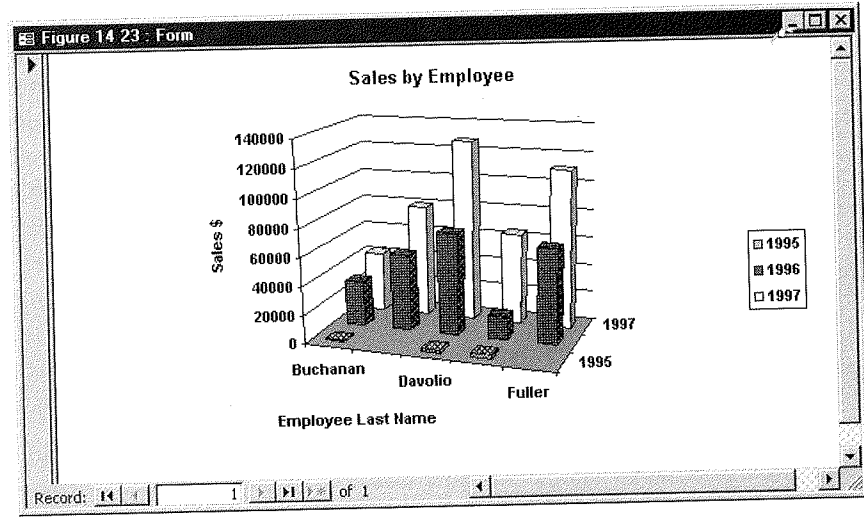
**FIGURE 14.22**

The annotation, percentage labels, and exploded pie slice in the sample chart at the bottom call attention to important details that may be less obvious in the chart at the top.



**FIGURE 14.23**

The 3-D chart in the sample chart at the top may look more dramatic, but the 2-D in the chart at the bottom presents the data more clearly.



## Freezing the Data in Your Chart

Recall that charts based on a query will always show up-to-date information. If you prefer, you can freeze the chart so that it shows data at a particular point in time and never changes. One way to freeze the chart is to convert it to an image, as described just below. Another way is to separate the chart from its underlying table or query by creating and running a Make Table query that places selected data in a separate table that never changes. Then you can base your chart on the frozen table, instead of the live data. (See Chapter 10 for more about Make Table queries.)

### Changing the Chart to an Image

Normally your chart will display up-to-date information from the underlying table or query. If you prefer to freeze that chart's data so it never changes again, you can convert it to an image.

**NOTE**

Only freestanding charts can be converted to images. Once you change the chart to an image, there's no way to undo that change, so use this technique with care!

1. Open the form or report that contains the freestanding chart in design view.
2. Click on the chart to select it and then choose **Format** ► **Change To** ► **Image**. Or right-click on the chart and choose **Change To** ► **Image**. You'll be asked to confirm the change.
3. Click on **Yes** if you're sure you want to freeze the chart into an image that cannot be changed. Or click on **No** to leave the chart alone.

**TIP**

If you're sure the charted data will never change, convert the chart to an image to make your form or report open more quickly.

## Charting Data from Other Programs

So far, we've focused on charts that display data from Microsoft Access tables and queries. However, your reports and forms also can chart data from other programs. Suppose your employee information is stored in an Access table, but your company's sales performance data is in a Microsoft Excel spreadsheet that's maintained by the Accounting department. You can use the embedding techniques described in the next section to send a memo (custom addressed to each employee) that graphically illustrates the company's sales performance.

## Embedding Charts from Other Programs

Follow these steps to create a chart that uses data from another source, such as Microsoft Excel, Lotus 1-2-3, or data that you type directly into Microsoft Graph's Datasheet window.

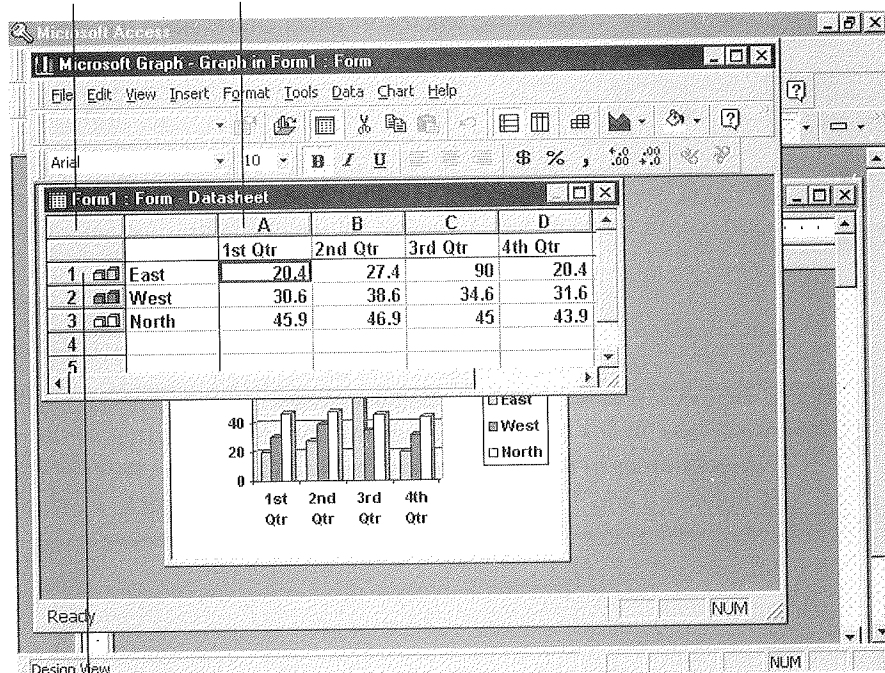
1. Open your form or report in design view.
2. Click on the Unbound Object Frame toolbox tool (shown at left).
3. Click on the place in the form or report design where the upper-left corner of the chart should appear, or click and drag to define the chart's size. The Insert Object dialog box appears, listing all the OLE programs on your computer.
4. Click on Microsoft Graph 97 Chart in the Insert Object dialog box and then click on OK.

As Figure 14.24 shows, Microsoft Graph opens with some sample data in the Datasheet window and a sample chart for that data in the Chart window. You can click in the Datasheet window and change the existing data as needed. The results will be reflected instantly in the Chart window.

**FIGURE 14.24**

Microsoft Graph opens with some sample data and a sample chart. The sample data is for reference only—it's not stored in any Access table. In this example, we clicked on the Datasheet window to bring its data to the front.

Select All button    Column heading button



Row heading button



If you prefer to clear the existing data and type in data or import data from another program, click on the Select All button (shown in Figure 14.24) and then press the Delete key. Now click in the cell where you want to start typing or importing data and use the guidelines below to put data into Microsoft Graph's Datasheet window:

- **To enter data into a cell**, select the cell you want to edit by clicking on it or using the arrow and Tab keys to reach the desired cell, and then begin typing. Anything you type replaces the existing contents of the cell.
- **To import a text or spreadsheet file**, click where you want the first cell to appear. Choose Edit ► Import File, select the type of file you want to import from the List Files of Type drop-down list, and then double-click on the file you want to import. Respond to any additional prompts that appear. For example, if you're importing a text file, a Text Import Wizard will ask you to provide more information about the file's format.
- **To import data from a Microsoft Excel chart**, choose Edit ► Import File, select .xl\* from the List Files of Type drop-down list, and then double-click on the chart you want to import. Respond to any additional prompts that appear.

**NOTE**

Text files generally have extensions of .prn, .csv, or .txt; spreadsheet files have .wk\* and .xl\* extensions; Microsoft Excel charts have .xlc or .xls extensions.

- **To import data that you've copied to the Clipboard**, choose Edit ► Paste or press Ctrl+V.

After importing or typing in your data, you can click on the Chart window to view and customize your chart as desired. When you're finished, choose File ► Exit & Return To or click on the Microsoft Graph window's Close button. The chart will appear in your Access form or report. If necessary, resize the chart in the design window, or return to Microsoft Graph and resize the Chart window.

**NOTE**

You also can *link* charts developed in other programs that support OLE to unbound object frames in forms and reports and to OLE Object fields in tables. Please see Chapters 8 and 13 for more information on using OLE to link and embed objects.

## Creating PivotTables

PivotTables are powerful tools for gleaning management information from large amounts of data. Although they're similar to Crosstab queries (described in Chapter 10), PivotTables are much more powerful because they let you switch row and column headings dynamically and filter data on the fly, so you can focus on just the information you need to know at the moment.



### NOTE

PivotTables aren't really native Microsoft Access objects at all. They're embedded Microsoft Excel objects that you create and modify by starting from an Access form. Of course, you must have Microsoft Excel installed in order to use PivotTables and the PivotTable Wizard that creates them.

Figure 14.25 shows a sample PivotTable after we created it within an Access form (using the PivotTable Wizard) and then clicked on the form's Edit PivotTable button.

**FIGURE 14.25**

*A PivotTable created from a query on the Northwind sample database that comes with Access.*

Page axis

Column axis

Query and pivot toolbar

Sum of ExtPrice	Month						Grand Total
Product Name	1 97	2 97	3 97	4 97	5 97	6 97	
Longlife Tofu					400	150	550
Manjimup Dried Apples	795	2120	1484	1961	7844	2438	16642
Rössle Sauerkraut	456	1596	2736	1140		1094.4	7022.4
Tofu	558	69.75	697.5	372	116.25	348.75	2162.25
Uncle Bob's Organic Drie	2400		2700		1050	690	6840
Grand Total	4209	3785.75	7617.5	3473	9410.3	4721.2	33216.65

Row axis

Data

This PivotTable answers the question: What were the sales (by month) during the first half of 1997 for Produce sold to all companies by all employees?

With just a few simple selections from the drop-down lists in the pages axis, this one PivotTable can answer many more questions:

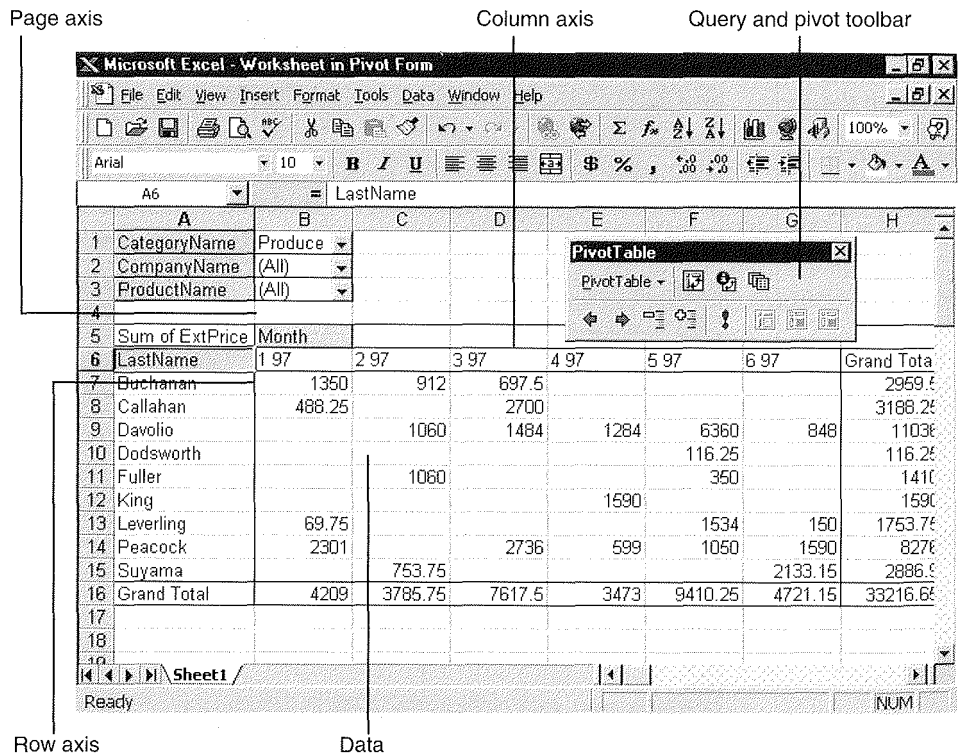
- What were the sales (by month) during the first half of 1997 for Produce sold by the employee named Fuller to all customers?
- What were the sales (by month) during the first half of 1997 for Produce sold by the employee named Fuller to the company named La corne d'abondance?
- What were the sales (by month) during the first half of 1997 for all products sold by all employees to the company named La corne d'abondance?
- What were the sales (by month) during the first half of 1997 for all products sold by all employees to all customers?

You get the idea!

Now suppose you want to focus on employee sales performance rather than product sales performance. No sweat. Just drag the shaded LastName and ProductName controls to new positions on the PivotTable (see Figure 14.26), and the answers become clear instantly.

**FIGURE 14.26**

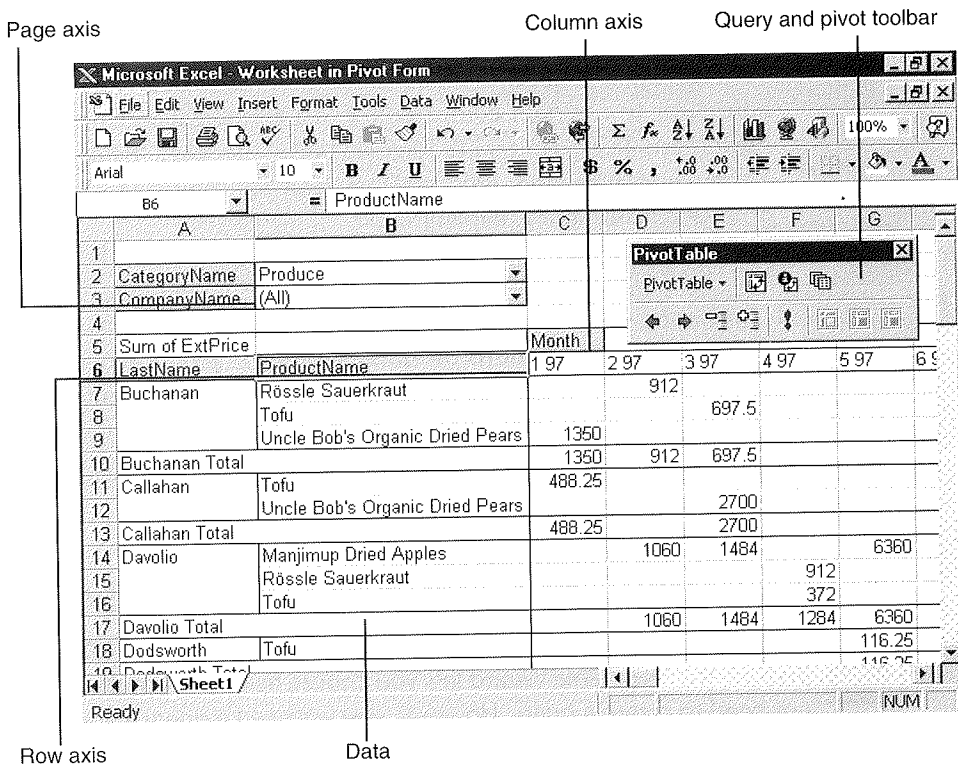
The PivotTable from Figure 14.25, after dragging the ProductName control to the page axis and the LastName control to the row axis.



To summarize the sales by employee and product, move the ProductName control to the row axis (just below the LastName control), and the PivotTable will change once more (see Figure 14.27). As you can see, the possibilities for rearranging the PivotTable are practically endless and easily explored.

**FIGURE 14.27**

The PivotTable from Figure 14.26, after moving the ProductName control from the page axis to the row axis.



## Understanding PivotTable Buzzwords and Procedures

Before you create your first PivotTable, take a moment to understand the PivotTable buzzwords listed below. The labels on Figures 14.25, 14.26, and 14.27 show how each of these terms relates to areas on the sample PivotTables.

**Row** The field or fields that contain values to use for row labels on the PivotTable's row axis. In Figure 14.25, the row field is ProductName; in Figure 14.26, the row field is LastName; and in Figure 14.27, the row fields are LastName and ProductName.

**Column** The field or fields that contain values to use for column labels on the PivotTable's column axis. In Figures 14.25, 14.26, and 14.27, the column field is Month.

**Data** The field or fields that contain values to summarize in the body of the table. In Figures 14.25, 14.26, and 14.27, the data field is ExtPrice (extended price), and we've used the Sum function to summarize that field.

**Page** The field or fields that contain values to use for labels on the PivotTable's page axis. You can use these fields to filter data in the PivotTable. In Figure 14.25 the page fields allow filtering on CategoryName, CompanyName, and LastName. This filter lets us limit summarized values to sales in a specific category (e.g., Produce), or to a certain company (e.g., La corne d'abondance), or by a particular employee (e.g., Fuller). In Figure 14.26 the page fields are CategoryName, CompanyName, and ProductName; and in Figure 14.27 the page fields are CategoryName and CompanyName.

Creating a PivotTable requires just a few main steps:

1. Create and save a query for the PivotTable's underlying data (see Chapter 10) if necessary. Figure 14.28 shows the query we used to produce the PivotTables shown in Figures 14.25, 14.26, and 14.27. We used the following calculations for the ExtPrice (Extended Price), Month, and OrderDate fields, which are partially hidden in the Figure 14.28 QBE grid:
  - **ExtPrice:** [Quantity]\*[Orders]![UnitPrice]
  - **Month:** Format ([OrderDate], "m yy")
  - **OrderDate:** Between #1/1/97# And #6/30/97#

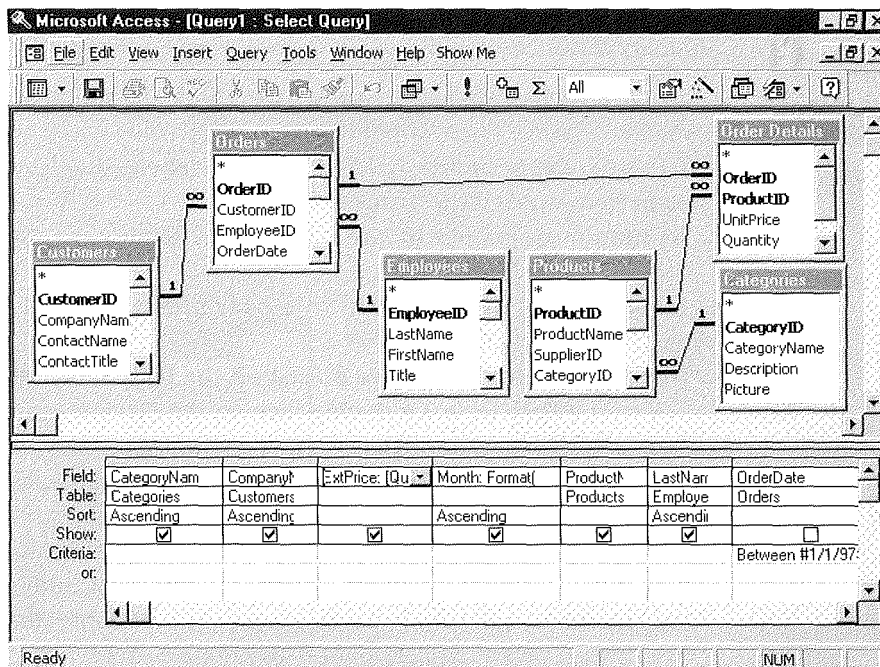
**NOTE**

Because the PivotTable Wizard lets you choose fields from multiple tables, you might not need to create a query. However, you *will* need a query if you want to display calculation results (e.g., extended price, which multiplies quantity times unit price) or you want to limit the results to certain records (e.g., orders placed in 1995).

2. Use the PivotTable Wizard to create a form that contains an embedded PivotTable. See "Creating a PivotTable with the PivotTable Wizard" below for details.
3. Open your form in form view, edit the PivotTable in Microsoft Excel as needed, and print the PivotTable if you wish. When you're finished editing, return to Access. All this is explained in "Editing a PivotTable" later in this chapter.

**FIGURE 14.28**

The query used to produce the data for the PivotTables shown in Figures 14.25, 14.26, and 14.27.

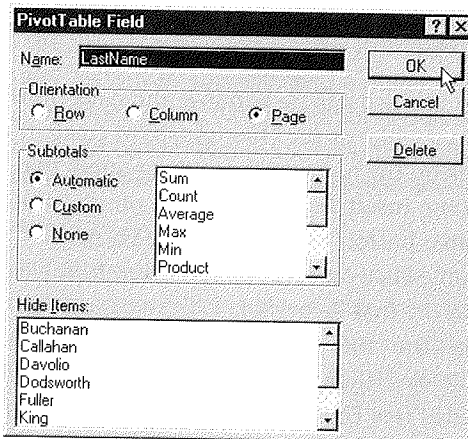


## Creating a PivotTable with the PivotTable Wizard

Creating a PivotTable is easy, thanks to the PivotTable Wizard. Here's the quickest way to do the job:

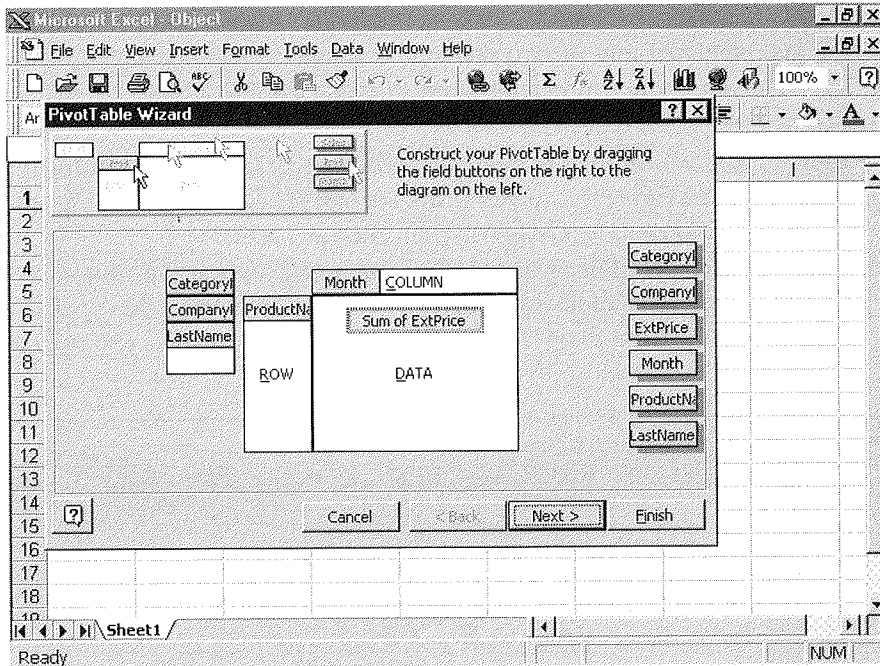
1. Start at the database window and click on the Tables tab (to create the PivotTable from a table) or the Queries tab (to create the PivotTable from a query).
2. Click on the name of the table or query that contains the data for your PivotTable.
3. Choose **Insert** ► **Form**; or click on the drop-down arrow next to the New Object toolbar button and then choose **Form**.
4. Double-click on PivotTable Wizard in the New Form dialog box.
5. Read the first PivotTable Wizard dialog box and then click on **Next**.
6. Select the table or query that contains the fields you want to include in the PivotTable and then select the fields. You can choose multiple fields and tables as needed (see Figure 14.29). Click on **Next** to continue.

7. Follow the instructions in the next PivotTable Wizard dialog box (see Figure 14.30) to place the row, column, data, and page fields and customize the appearance and summary statistics for each field as needed. Here are some guidelines.
- **To show items in the field as row labels**, drag the appropriate field name(s) to the ROW area.
  - **To show items in the field as column labels**, drag the appropriate field name(s) to the COLUMN area.
  - **To summarize values in the body of the table**, drag the appropriate field name(s) to the DATA area.
  - **To show fields that you want to use for filtering**, drag the appropriate field name(s) to the PAGE area.
  - **To delete a field that you've placed on the PivotTable**, drag it off the white part of the PivotTable. Or double-click on the field's button within the PivotTable and then click on Delete.
  - **To customize the field**, double-click on its button in the PivotTable. You'll see a PivotTable Field dialog box (there's an example below). This dialog box lets you assign a new name (label) to the field, choose different summary statistics, hide certain values of the field, specify the format of numbers in the body of the PivotTable, and delete the field from the PivotTable (the options available will depend on which field button you double-clicked on). For help with any option or button in the PivotTable Field dialog box, click on the ? button in the dialog box, and then click on the option or button you're curious about. After choosing options, click on OK to return to the PivotTable Wizard.



**FIGURE 14.29**

Use this PivotTable Wizard dialog box to place row, column, data, and page fields on the PivotTable and to customize the appearance of labels for those fields.



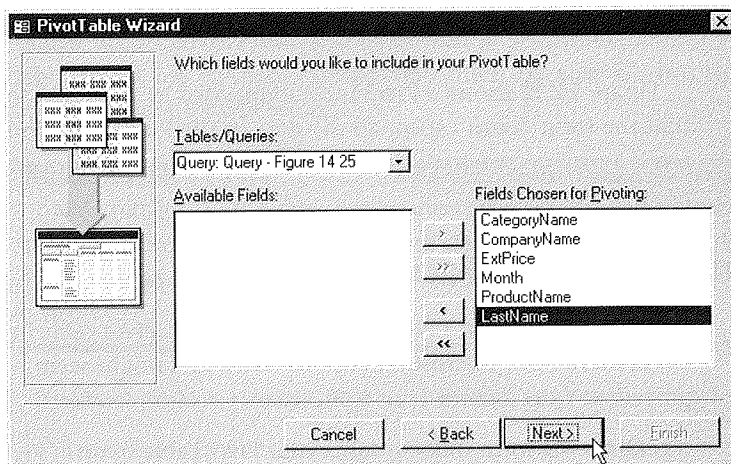
PART



Creating a Database

**FIGURE 14.30**

Use this PivotTable Wizard dialog box to choose tables and fields for your PivotTable.







Don't worry if you fail to select the ideal field positions and appearance options in the PivotTable Wizard dialog box shown in Figure 14.30. You'll have a chance to change your mind later when you edit the PivotTable in Microsoft Excel.

8. Click on Next to move to the final PivotTable Wizard dialog box. Type a name for the PivotTable (if you wish). For best results, leave the other options unchanged, as shown in Figure 14.31. Then click on Finish.
9. Save the form when the PivotTable form appears on your screen. To do so, click on the Save toolbar button or choose File ► Save or press Ctrl+S. Type a valid form name (up to 64 characters, including blank spaces), and then click on OK.

**FIGURE 14.31**

*The final Pivot-  
Table Wizard  
dialog box.*

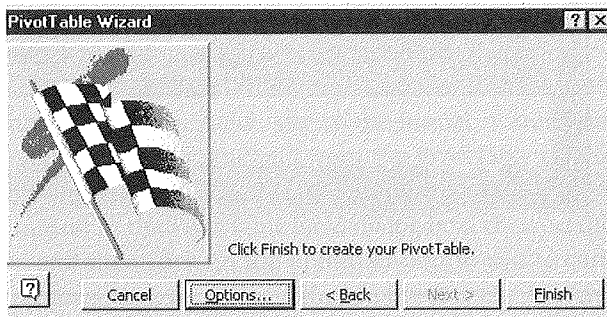


Figure 14.32 shows a PivotTable embedded in an Access form in form view. Notice that the form doesn't show all the data in the PivotTable and that it doesn't offer any scroll bars. To see what's really in the PivotTable, you'll need to edit it, as explained next.

## Editing a PivotTable

To view the details in a PivotTable or change the PivotTable in some way, you must edit the PivotTable in Microsoft Excel. As weird as it might seem, you must start the editing procedure from Access—not from Excel. Fear not, it's easy:

1. Open the form that contains your PivotTable in form view, if it isn't open already. That is, click on the Forms tab in the database window and then double-click on the name of your PivotTable form.

**FIGURE 14.32**

A PivotTable form in the Access form view window after we created it with the PivotTable Wizard and saved the form.

CategoryName	Produce				
CompanyName	(All)				
LastName	(All)				
Sum of ExtPrice	Month				
ProductName	1 97	2 97	3 97	4 97	5 97
Longlife Tofu					400
Manjimup Dried Apples	795	2120	1484	1961	784
Rössle Sauerkraut	456	1596	2736	1140	
Tofu	558	69.75	697.5	372	116.2
Uncle Bob's Organic Dried Pears	2400		2700		1050
Grand Total	4209	3785.75	7617.5	3473	9410.2

Edit PivotTable

Click to edit the PivotTable in Microsoft Excel

2. Open the PivotTable in Microsoft Excel using one of these techniques:

- To open the table in a separate Excel window, click on the Edit PivotTable button below the PivotTable or double-click on the embedded PivotTable.
- To edit the PivotTable in-place (within the Microsoft Access window), right-click on the PivotTable, and then choose Worksheet Object ► Edit. You probably won't use in-place editing very often because it's less flexible than editing in a separate Excel window.

#### NOTE

You cannot make changes to the PivotTable unless the underlying data is current (or already saved with the table). To refresh the data and make it current, click on the Refresh Data button (shown at left) on the PivotTable toolbar or choose Data ► Refresh Data from the menus.

3. Change the PivotTable as needed. The next section offers some tips for changing PivotTables.

4. (Optional) If you want to print the PivotTable in Excel, try this shortcut (we'll assume here that you're editing in a separate Excel window). Choose File ► Page Setup from the Microsoft Excel menu bar. From the Page tab in the Page Setup dialog box, choose an Orientation (Portrait or Landscape), Scaling, and other options, as needed. You also can choose options from the Margins, Header/ Footer, and Sheet tabs. To preview the report, click on the Print Preview button. To print the report, click on the Print button in the print preview window or the Page Setup dialog box, fill in the Print dialog box, and then click on OK.
5. Return to Access when you're finished viewing, changing, and printing your PivotTable, using one of these techniques:
  - If you're editing in a separate Microsoft Excel window, choose File ► Exit from the Microsoft Excel menu bar, or press Alt+F4, or click on the Excel window's Close button.
  - If you're editing in-place within the Microsoft Access window, click outside the PivotTable (for example, on an empty area of the form, below the hash marks that appear at the bottom of the PivotTable).
6. Close the form if you're done working with it (Ctrl+W). Any changes you made to the PivotTable in Microsoft Excel are saved automatically.

## Customizing Your PivotTable in Microsoft Excel

You can customize a PivotTable many ways once you've opened it in Microsoft Excel, and experimentation really is the best teacher when it comes to making PivotTables do what you want. These pointers should get you up and running quickly:

- **To pivot or reorder a field**, drag its shaded control button to a new page axis, row axis, column axis, or body position on the worksheet. We used this technique to rearrange the data in Figures 14.25, 14.26, and 14.27. Watch the status bar for tips about how to drag and drop a control once you've started to drag it.
- **To return to the PivotTable Field dialog box** (shown earlier), double-click on a field control in the page, column, or row axis. Or click on a field control or on a value in the area you want to customize; then click on the PivotTable Field button (shown at left) in the PivotTable toolbar. From here you can change the field label, summarization method, number formats, and other attributes as needed.
- **To return to the PivotTable Wizard dialog box**, click on the PivotTable Wizard button (shown at left) in the PivotTable toolbar or choose Data ► PivotTable Report. See step 7 under "Creating a PivotTable with the PivotTable Wizard" and Figure 14.30 earlier in this chapter for details about using this dialog box.
- **PivotTable**, right-click on the place you want to customize and then choose an option from the shortcut menu.



For more information about customizing PivotTables in Microsoft Excel, look up *PivotTables* and its subtopics in the Excel Help Index.

### But My PivotTable Data Isn't Current!

If you chose the default options in the last PivotTable Wizard dialog box, the underlying data that the PivotTable uses *is not* saved with the PivotTable or form. This is a safety measure to make sure you see the latest data any time you view the PivotTable. To see the most current data, you must open the PivotTable in Microsoft Excel and then refresh the data (Data ► Refresh Data) each time you work with the PivotTable.

If you won't have access to the underlying Access table data and still want to edit the PivotTable later on, you'll need to save a copy of the data with the PivotTable. To do this, click on Options in the final PivotTable Wizard dialog box and select (check) Save Data with Table Layout, either when you first create the PivotTable in Access or after you open it in Excel and start the PivotTable Wizard again (choose Data ► PivotTable Report). Be aware that your PivotTable won't reflect changes to the original underlying data, unless you refresh the data again.

## Creating a Chart from a PivotTable

With just a few more keystrokes, you can create a chart from a PivotTable. Here's how:

1. Open the PivotTable in Microsoft Excel, as explained earlier in this chapter. Then customize the PivotTable fields as needed.
2. Select the PivotTable cells, *including* the column fields and row fields you want to chart, but *excluding* grand totals or page fields. To select cells, drag your mouse through them.
3. Choose Insert ► Chart to open the Chart Wizard.
4. Follow the instructions in the Chart Wizard dialog boxes.
5. View the chart (and print it if you wish). The chart always reflects your current selections in the page axis of the PivotTable. For example, if you select a category from the CategoryName page, the chart will show data for that category only.
6. Exit Microsoft Excel (Alt+F4) when you're finished viewing your chart.

For more details about charting PivotTables, look up *PivotTables, Plotting PivotTable Data* in the Microsoft Excel Help Index.

## Troubleshooting PivotTable Problems

PivotTables are quite easy to use, but if you're having the troubles listed below, you might not agree. Fortunately, the fixes for most PivotTable troubles are straightforward:

**Data field is using the Count function rather than Sum to summarize a numeric field** Your numeric data may contain blank values. To fix the problem, open the PivotTable in Microsoft Excel and click on the cell that says "Count Of" followed by the field name. Next, click on the PivotTable Field button in the PivotTable toolbar and double-click on the Sum option in the PivotTable Field dialog box.

**Data in the PivotTable is cut off and you can't see any scroll bars** You're probably viewing the form in Microsoft Access form view. Starting in Access form view, click on the Edit PivotTable button or double-click on the PivotTable. The PivotTable will open in Microsoft Excel and the scroll bars will appear.

**Excel won't let you change your PivotTable** You've probably forgotten to refresh the data. Click on the Refresh Data button on the PivotTable toolbar or choose Data ► Refresh Data.

**Numbers aren't formatted properly (or at all) in the PivotTable** By default, numbers aren't formatted. To format numbers, click on a cell in the unformatted data and then click on the PivotTable Field button in the PivotTable toolbar. Next click on the Number button in the PivotTable Field dialog box, fill in the Format Cells dialog box that appears, and then click on OK twice.

**PivotTable toolbar is missing in Excel** From the Microsoft Excel menu bar, choose View ► Toolbars, select (check) PivotTable, and then click on OK.

**Starting from Microsoft Excel, you can't find the PivotTable** You can't get to the Access PivotTable from Excel. Start in *Microsoft Access* form view and then click on the Edit PivotTable button or double-click on the PivotTable. The PivotTable will open in Excel and you can view and customize it as needed.

For more information about troubleshooting problems with PivotTables, look up *PivotTables, Troubleshooting* in the Excel Help Index or the Access Help Index.

## Where to Go from Here

In this chapter, you've learned how to summarize data with charts and PivotTables. If you've been following this book in sequence, you now know all the basics for working with Microsoft Access. But don't stop here! The next chapter explains how to personalize Access to your own working style.

## What's New in the Access Zoo?

Access 97 has some new charting and pivot table features that make it simpler to analyze data:

- More chart types are now supported in MS Graph.
- Some of the MS Graph dialog boxes have been reorganized to make it easier to tweak individual chart elements.
- The PivotTable Excel window that you use to edit pivot tables has improved toolbars and menus.