Panorama
Tutorials

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Step-by-Step Tutorials

It's time to jump into the database fast lane! By the time you finish the lessons in this tutorial you'll have a solid foundation in the basic techniques you'll need to use Panorama effectively.

This tutorial is divided into four lessons. Each lesson builds on the previous lessons and introduces more advanced topics. In "Lesson 1: Building Your First Mailing List Database" on page 4 you'll learn how to create and set up a simple mailing list database. In "Lesson 2: Building and Organizing a Checkbook" on page 105 you'll not only build a simple checkbook register file but also learn several techniques for organizing and summarizing the checkbook data. In "Lesson 3: Building an Invoice Database" on page 186 you'll create a simple invoice for creating and tracking orders. Finally, in "Lesson 4: Building a Price List" on page 205 you'll create a price list and link it to the invoice database. Each lesson should take from 30 minutes to an hour to complete. The lessons are designed so you can easily follow along and actually build each database as you read. There are plenty of illustrations to show what the screen will look like at each step, so you don't need to worry about getting lost.

Before you begin, you'll need to install Panorama on your computer. If you haven't done so already, see "Installing the Software" on page 13 of *Welcome to Panorama*. It's not necessary to activate Panorama to complete the operations in this tutorial. If you haven't purchased Panorama yet you can try out the tutorials before you decide that you want to purchase Panorama.

I hear the bell—class is about to begin. It's time to get started with your new Panorama career! I hope you have as much fun learning Panorama as we had creating it for you.

Sincerely,

Jim Rea, President

P.S. This tutorial teaches you how to work with Panorama. It assumes, however, you already are familiar with your computer and operating system. You should be able to point, click, and drag selections, and be able to make selections from menus, use scroll bars, and edit text. If you are not familiar with these skills, you should review the tutorial information supplied with your computer.

Lesson 1: Building Your First Mailing List Database

A mailing list for storing names and addresses is one of the most basic database applications, and is very simple to create with Panorama. Double click the Panorama application to start (or, if you are using **Microsoft Windows**, use the **Start** menu. Panorama will automatically open the **New Database Wizard**, shown below. (If you are already in Panorama you can open this wizard by choosing **New File** from the **File** menu.)

To create a database start by typing in the name of the first field. You can also click on the yellow star to choose from a list of common field names.
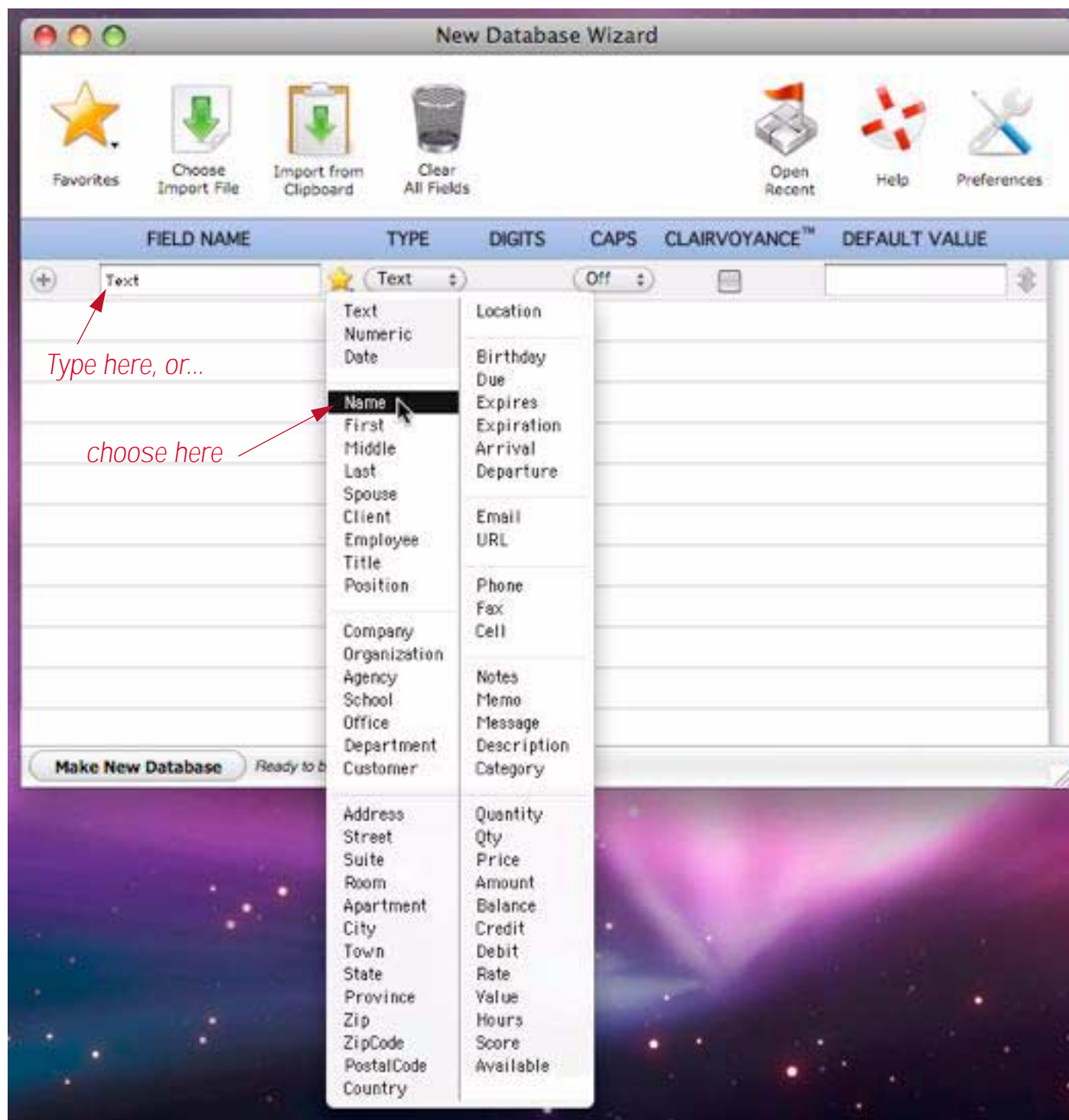
To add a second field, press the + button and fill in the field name, like this:

There's a shortcut if you're creating a field with a common name — right click on the + button (or Control-Click), then choose the field name from the pop-up menu.

For this lesson you will create a new mailing list database with seven fields — First, Last, Address, City, State, Zip and Phone. (See "Fields" on page 193 of the *Panorama Handbook* for a complete explanation of fields.) The wizard has a favorite for a database that has almost exactly these fields, to use this simply click on the yellow star and choose Mailing List.
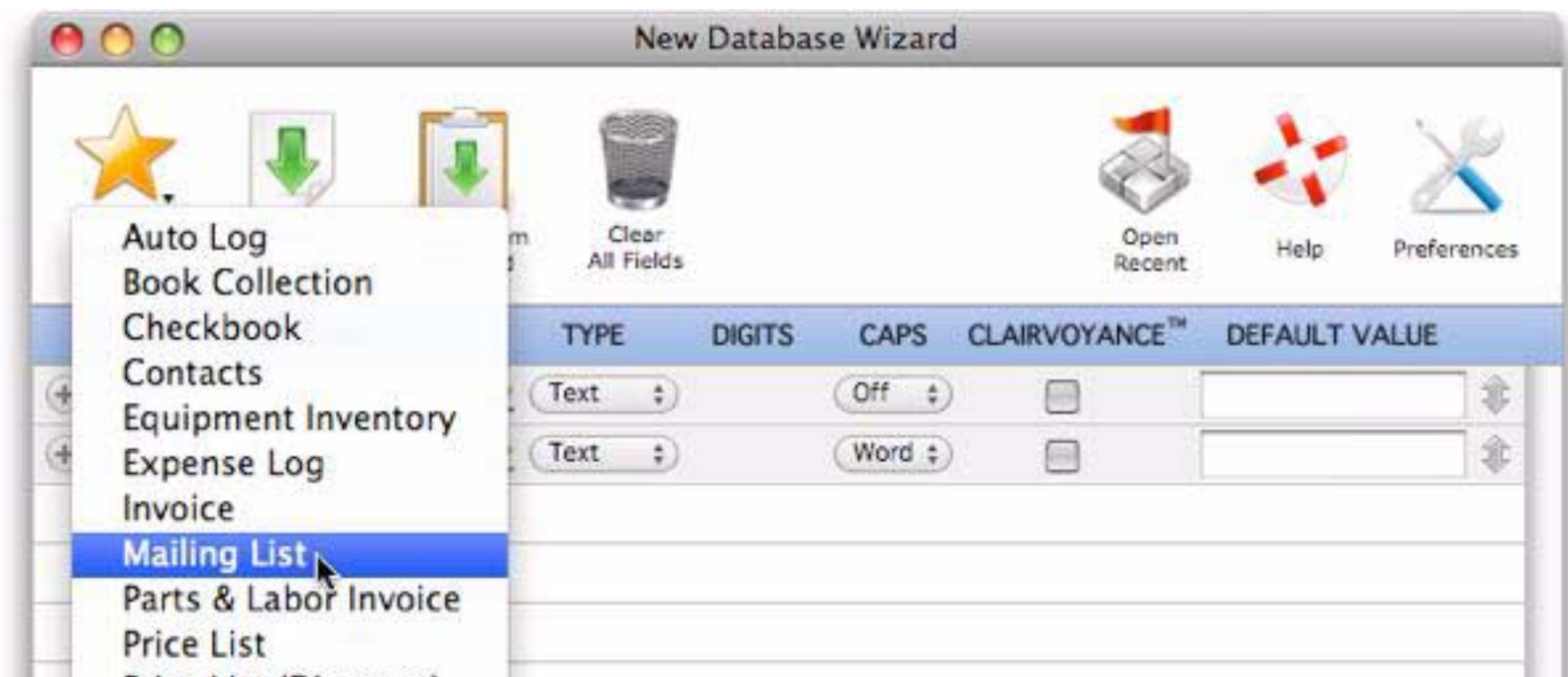
The fields for a mailing list are automatically filled in for you.

This template isn't quite what we wanted for our new database — we don't need a Country field but we do need a Phone field. To fix this simply click on and edit the field name, or click on the yellow star and choose Phone from the pop-up menu.

click here to edit field name …

or choose name from pop-up menu
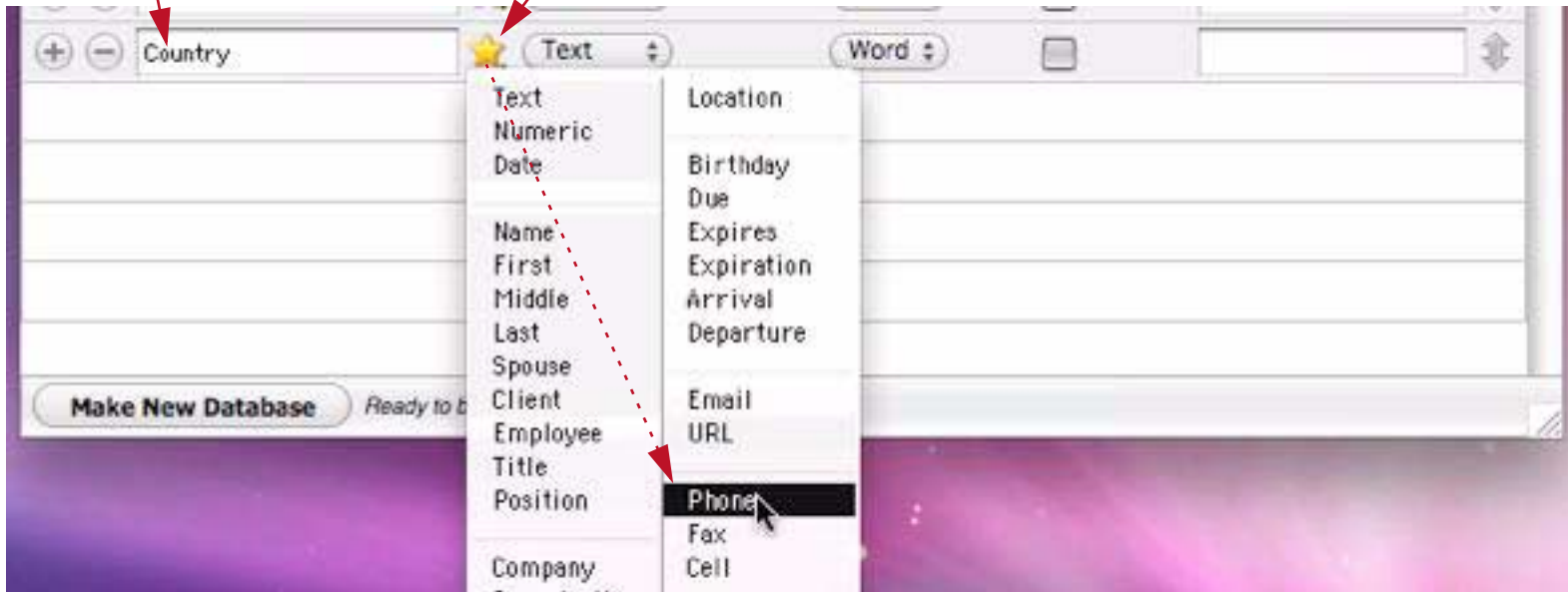
At this point you could add more fields, or edit or re-arrange the existing fields, but for this example we are done and ready to create the new database. To do this simply press the **Make New Database** button at the bottom of the window.
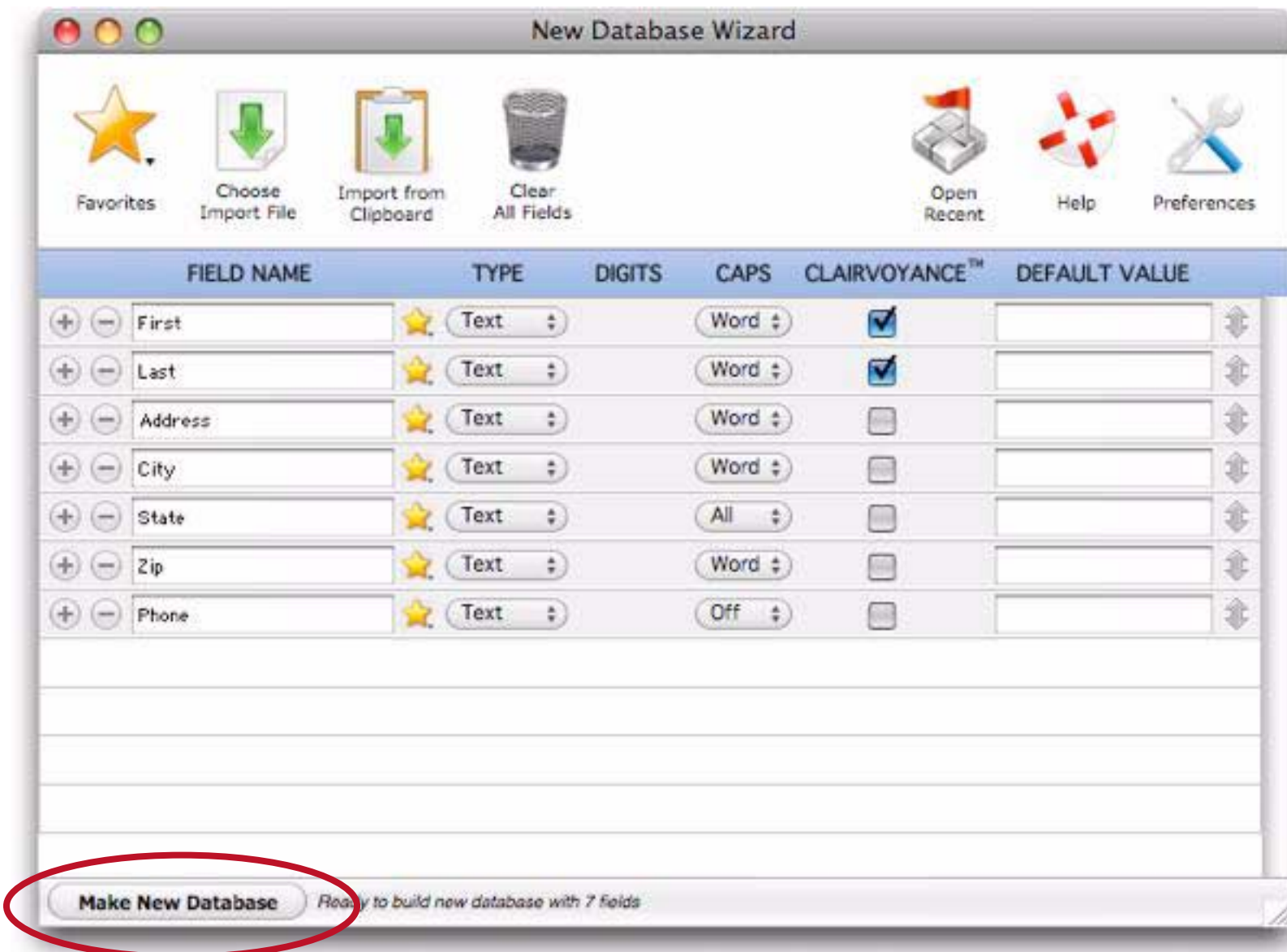
When you press the **Make New Database** tool the wizard will create a new database for you. The database is displayed using a row and column format called the **data sheet**. The new database contains one blank record (line) and seven fields (columns).

Entering Data Into Your New Database

The new database is ready to use immediately — you can just start typing to enter data. For example, to enter the name Bob simply start by pressing the [b] key. A small pop-up window will appear over the current cell. This pop-up window is called the **Input Box** and is used for all data entry in the data sheet (see "The Input Box" on page 272 of the *Panorama Handbook*).

Complete the entry of the name by pressing [o][b]. Notice that Panorama automatically capitalized the first letter of the name. We'll show you how to turn this feature on and off later (see "Automatic Capitalization" on page 281 of the *Panorama Handbook* if you can't wait).

When you've finished with the first name press the **Tab** key to move on to the last name.

Continue typing and pressing the **Tab** key until you get to the phone number. When you tab into the Phone field you'll notice that Panorama automatically types in the (for you.


The **New Database Wizard** has set up an **Input Pattern** to make typing the phone number easier (see "Input Patterns" on page 291 of the *Panorama Handbook* for more information). All you have to type is the numbers, for example ⌷7⌷⌷0⌷⌷2⌷⌷4⌷⌷8⌷⌷7⌷⌷9⌷⌷0⌷⌷2⌷⌷3⌷. Panorama will type in the punctuation for you.

Panorama types in (,), space and - for you

Once you've finished entering the phone number you have a choice to make. Press the **Tab** key if you want to add another line and continue editing data.
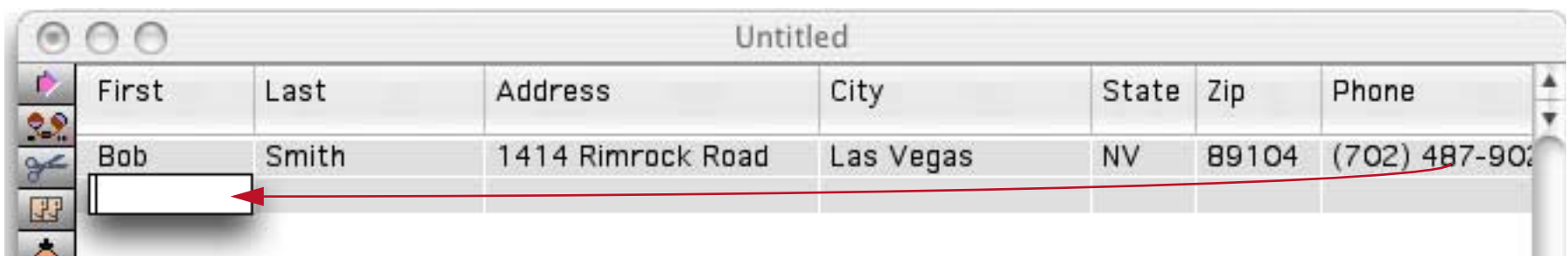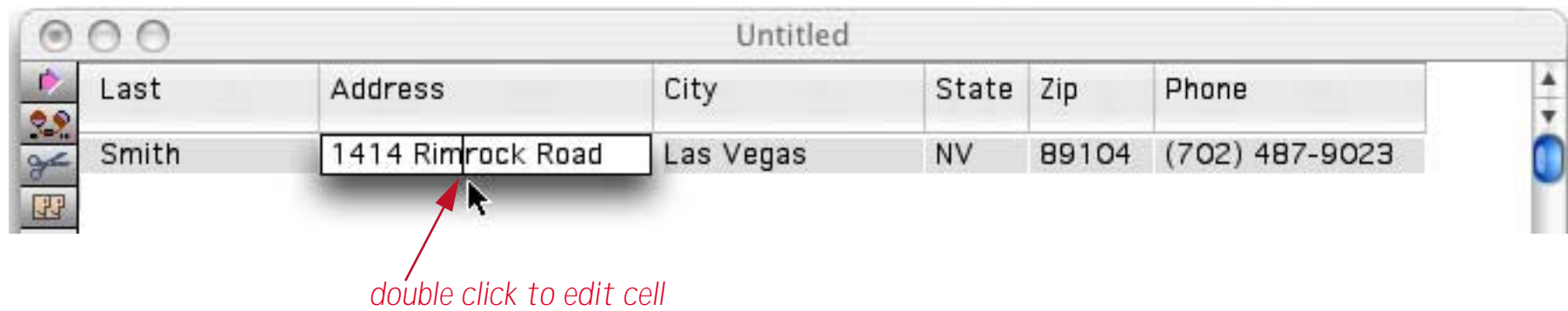

Press **Return** or **Enter** if you are done with data entry for the moment.

Making Corrections

It's easy to change the contents of any cell. Start by double clicking on the cell. This opens the Input Box, allowing you to type in a new value or to make corrections.


double click to edit cell

Press the **Enter** key or click on another cell when you are finished. (You can also press the **Tab** key if you want to skip to next cell and edit it too.)

Editing a Multi-Line Cell

If you need more room to enter your data, you can expand the size of the Input Box. For example, you might need to expand the Input Box to enter an address with more than one line. To expand the Input Box, move the arrow to the lower right hand corner of the box. When the mouse reaches the corner, the arrow will flip over so that it is pointed down instead of up.

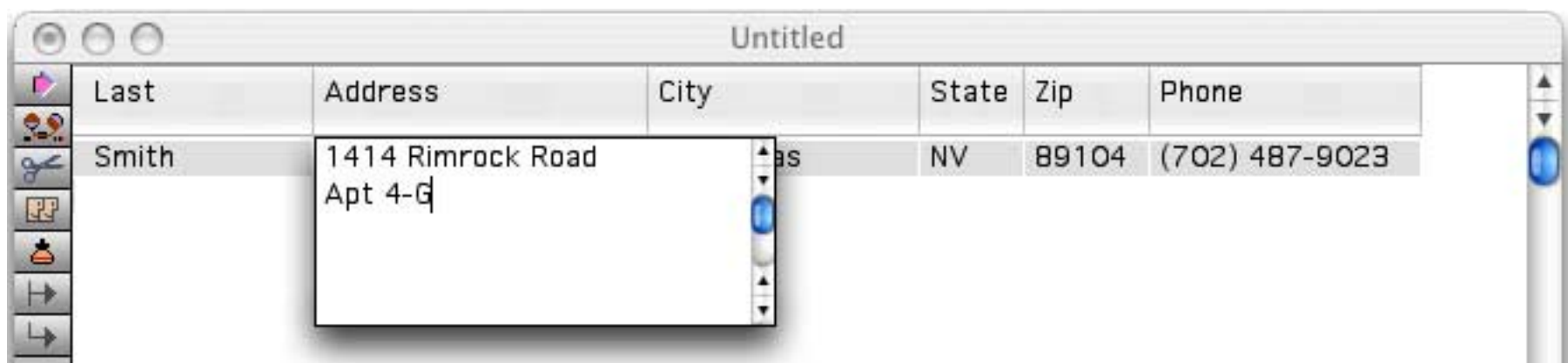*mouse "flips over" in lower right hand corner*
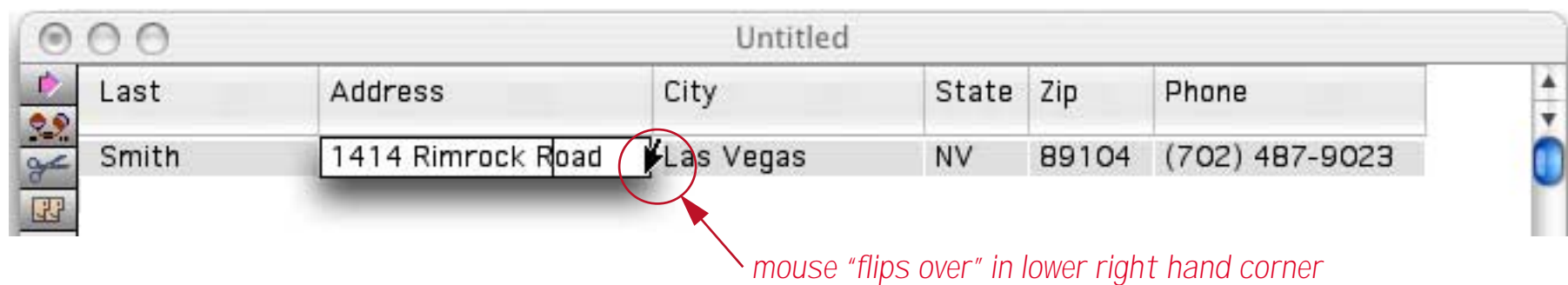
When you see the arrow flip over, press the mouse and drag the corner of the box to the size you want.
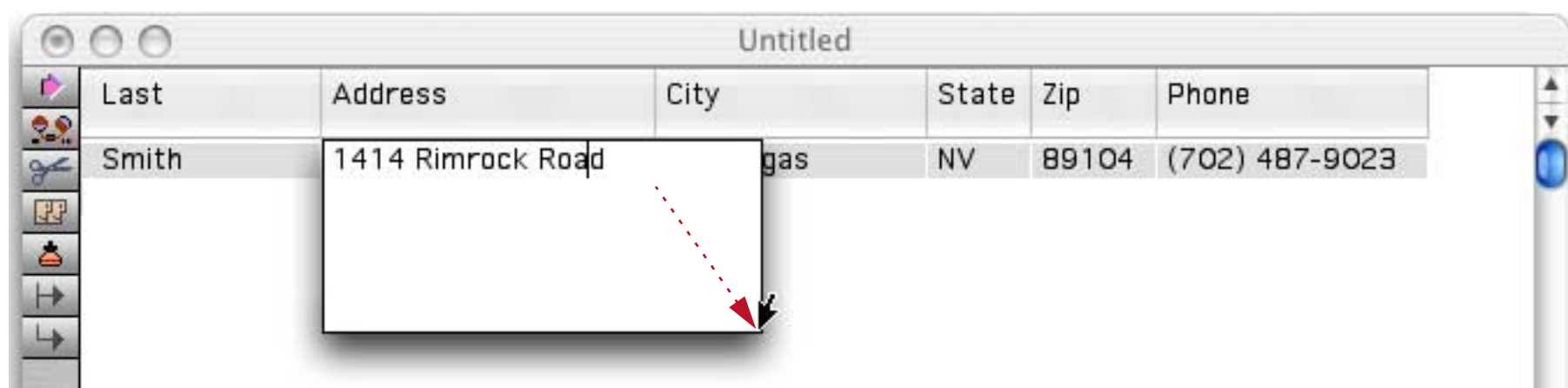
When you release the mouse the Input Box will expand to the new size.
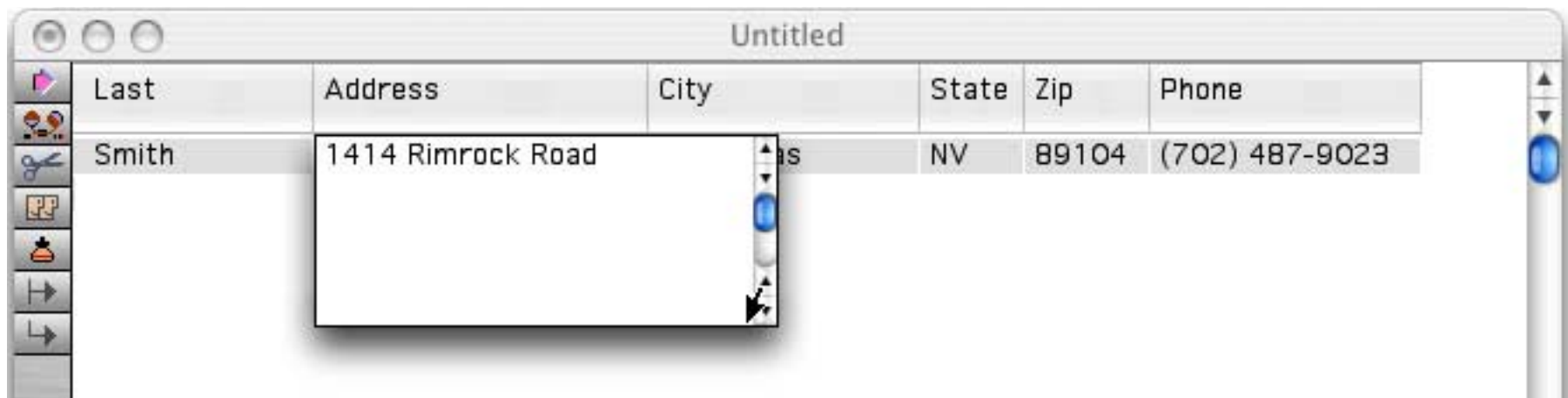
Now that the Input Box has been expanded you can use the **Return** key to add additional lines to the data cell. You can add as many lines as you like.

When you are finished editing the address press the **Enter** key. The Input Box closes and now you can only see the first line of the data. (If you want to see more than one line of data in a cell that is not being edited you must use a form, see "Displaying and Editing Text" on page 587 of the *Panorama Handbook*).
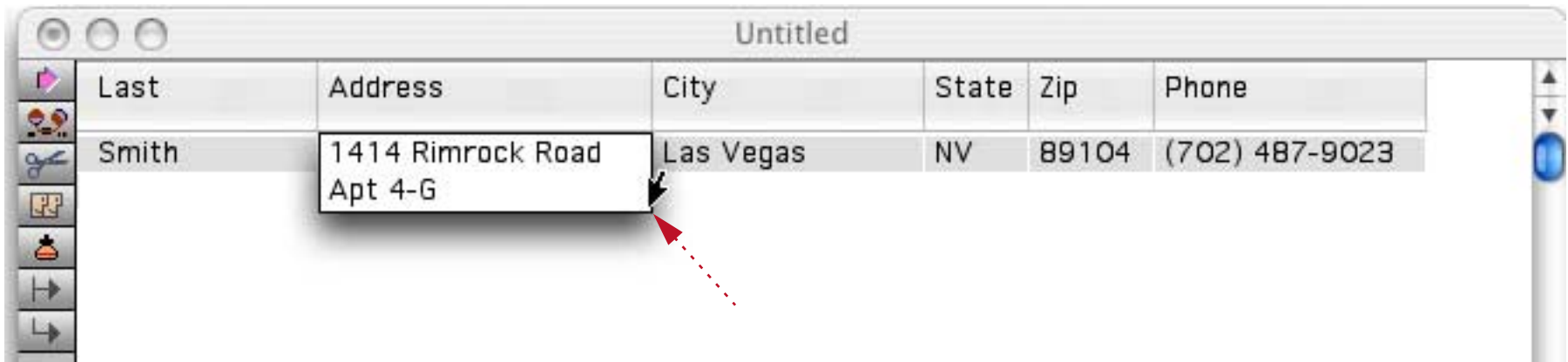
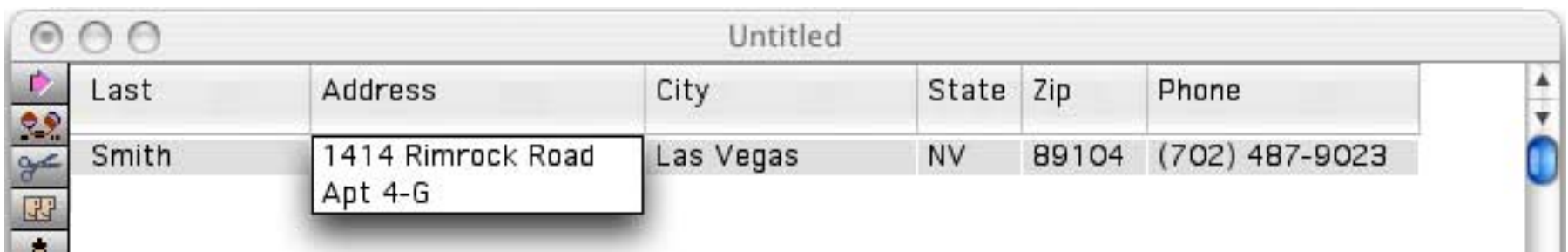*only first line of text is visible in data sheet*

If you double click to edit the data cell again Panorama will remember the new size of the Input Box.
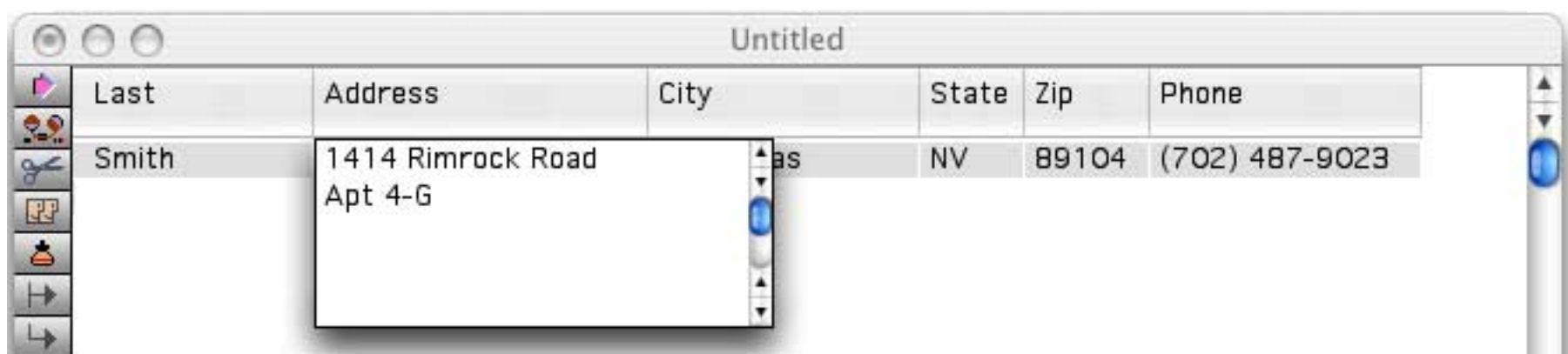
You can adjust the size of the Input Box any time it is open.

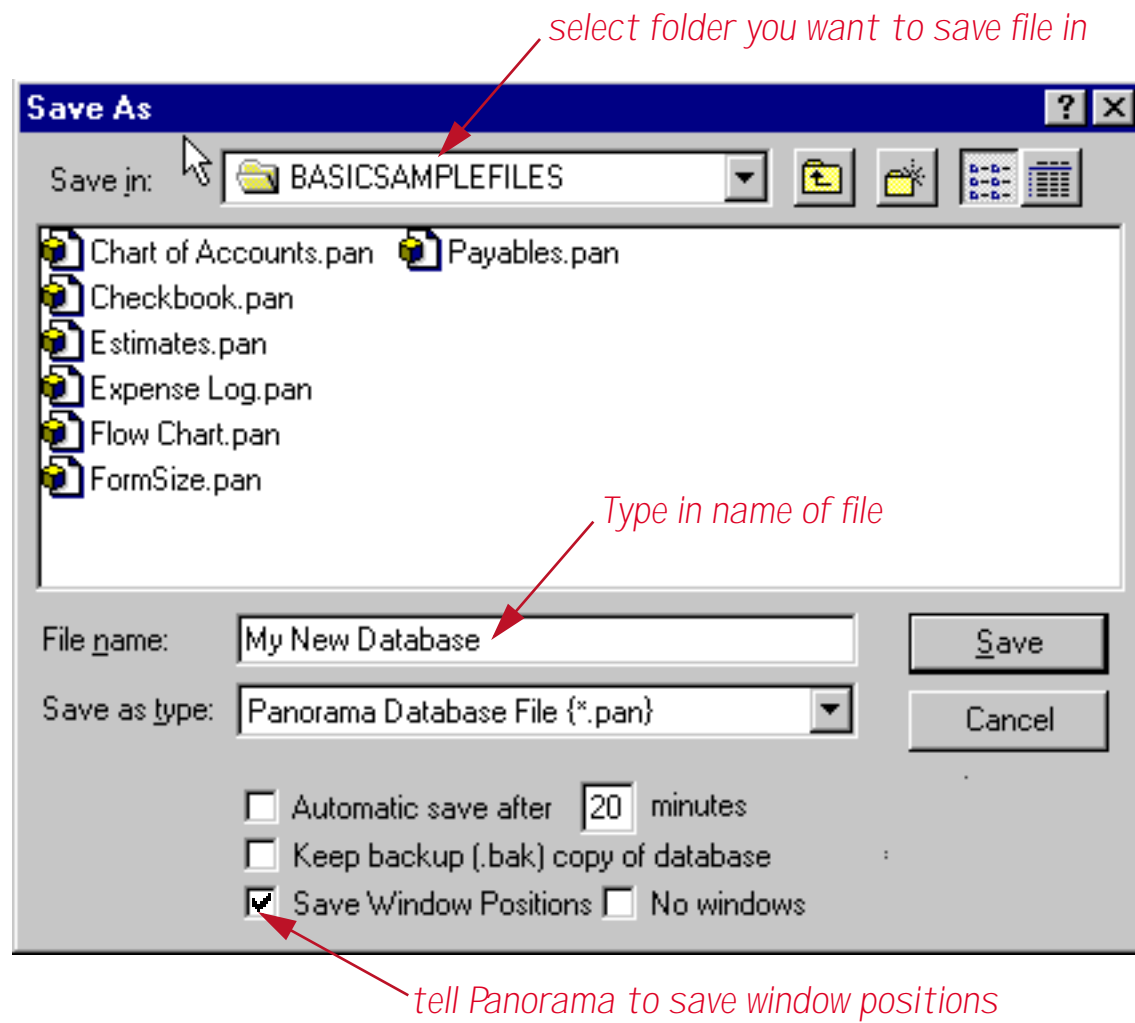If the Input Box is less than one inch high it won't have a scroll bar.

To learn more about expanding the Input Box see "Expanding the Input Box" on page 273 of the *Panorama Handbook*.

Saving Your Work

To permanently store your new database choose the **Save** command from the File menu. Using the dialog, choose the folder you want to save the database in. Type in the name of the file and check the Save Window Positions option if it is not already checked. When everything is set up press the **Save** button.

type in name of file   *select folder you want to save file in*

tell Panorama to save window positions
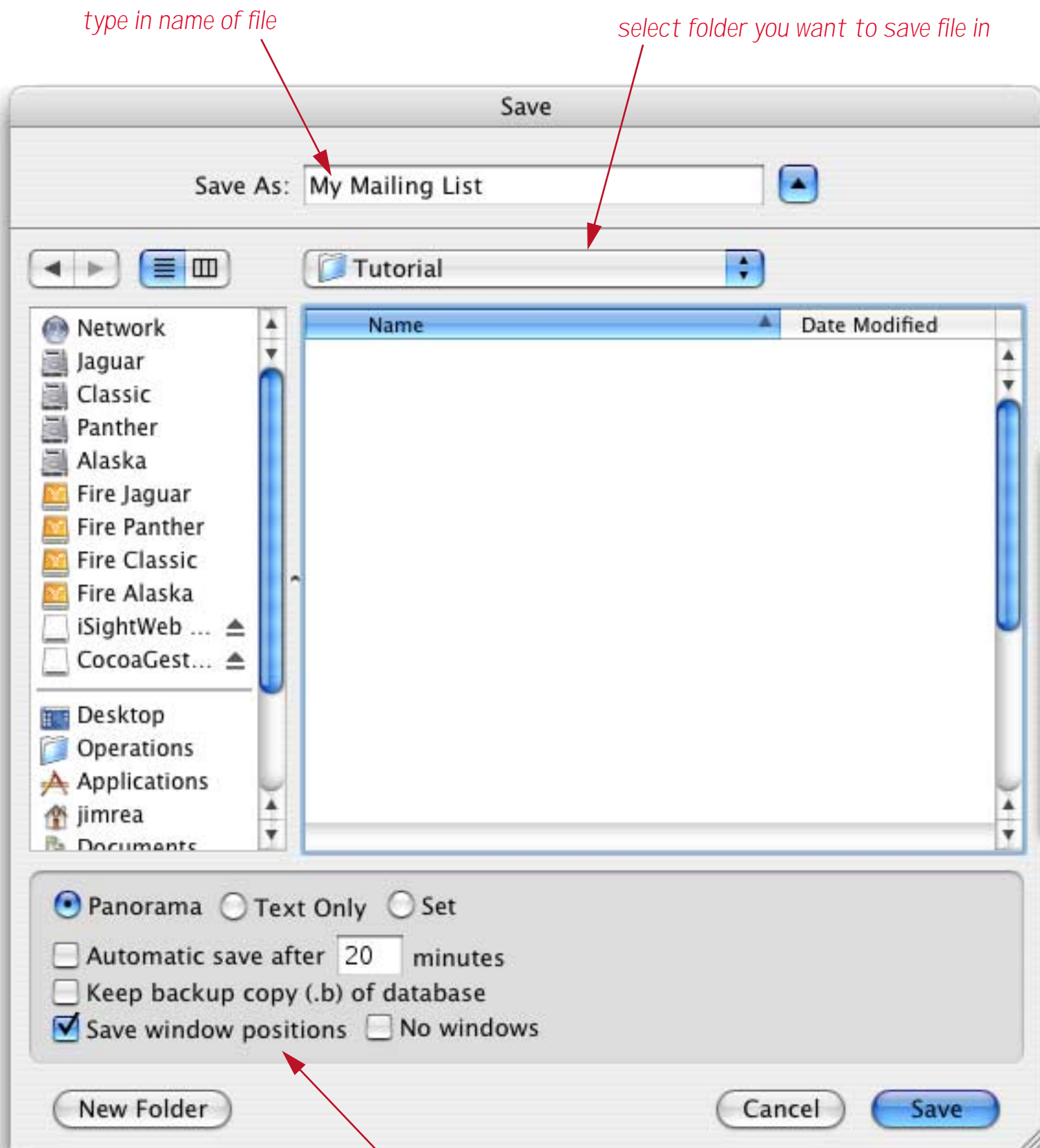
If you are using a Windows PC the dialog looks a little bit different but the procedure is exactly the same.

select folder you want to save file in

Save As

Save in: BASICSAMPLEFILES

Chart of Accounts.pan   Payables.pan
Checkbook.pan
Estimates.pan
Expense Log.pan
Flow Chart.pan
FormSize.pan

Type in name of file

File name: My New Database   Save

Save as type: Panorama Database File {*.pan}   Cancel

☐ Automatic save after 20 minutes
☐ Keep backup (.bak) copy of database
☑ Save Window Positions ☐ No windows

tell Panorama to save window positions

After the file is saved the name of the window will change from Untitled to the name of the file, in this case My Mailing List.

My Mailing List

Last	Address	City	State	Zip	Phone
Smith	1414 Rimrock Road	Las Vegas	NV	89104	(702) 487-9023

1 visible/1 total

Importing Data Into the Mailing List

If you already have data in another program (FileMaker, Access, Excel, etc.) you can transfer that data to Panorama by exporting it into a text file (tab or comma delimited) and then importing it into Panorama. Panorama includes some text files with sample data, so we'll import one of those files now. Start by choosing **Import Text** from the File menu.
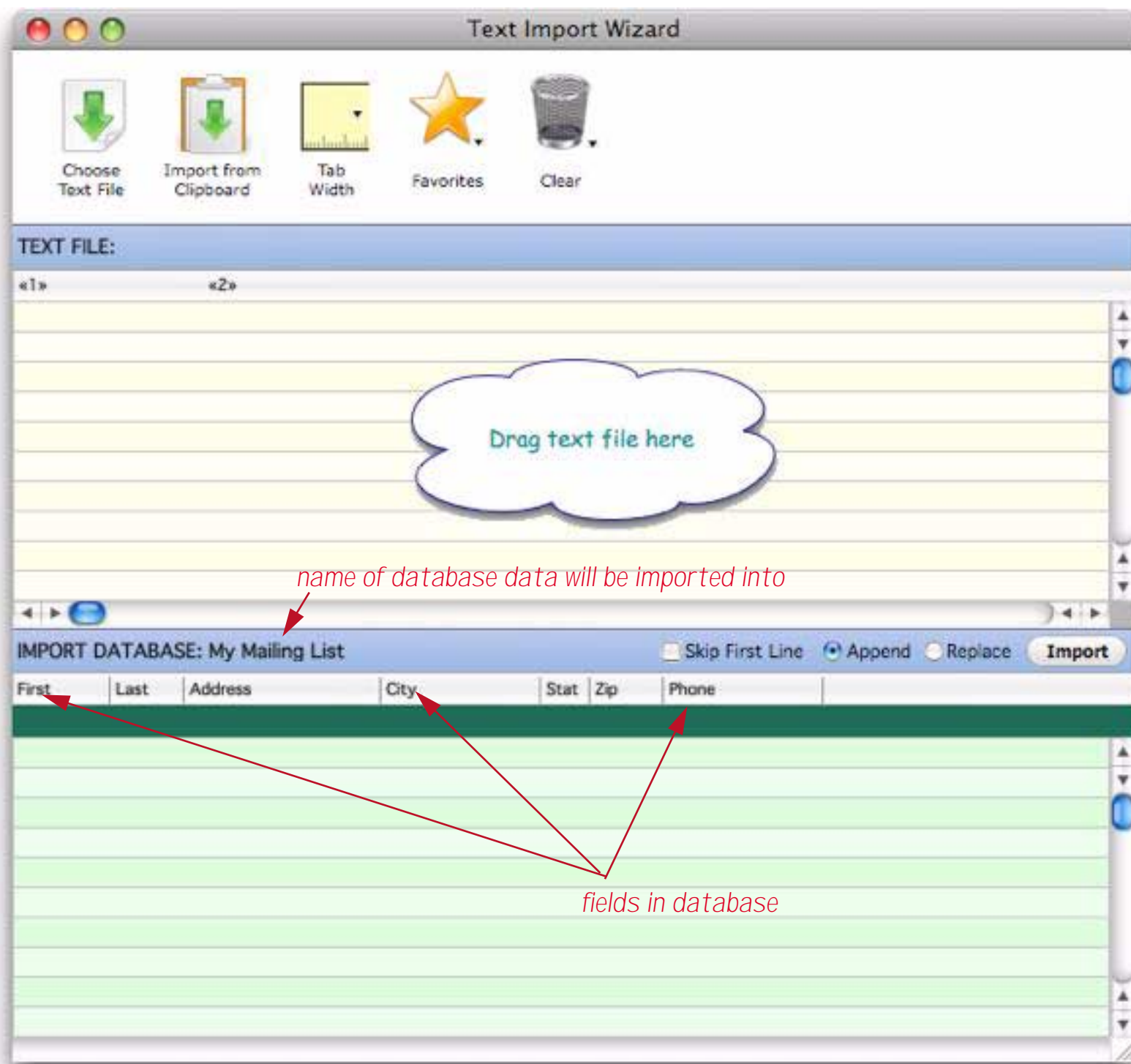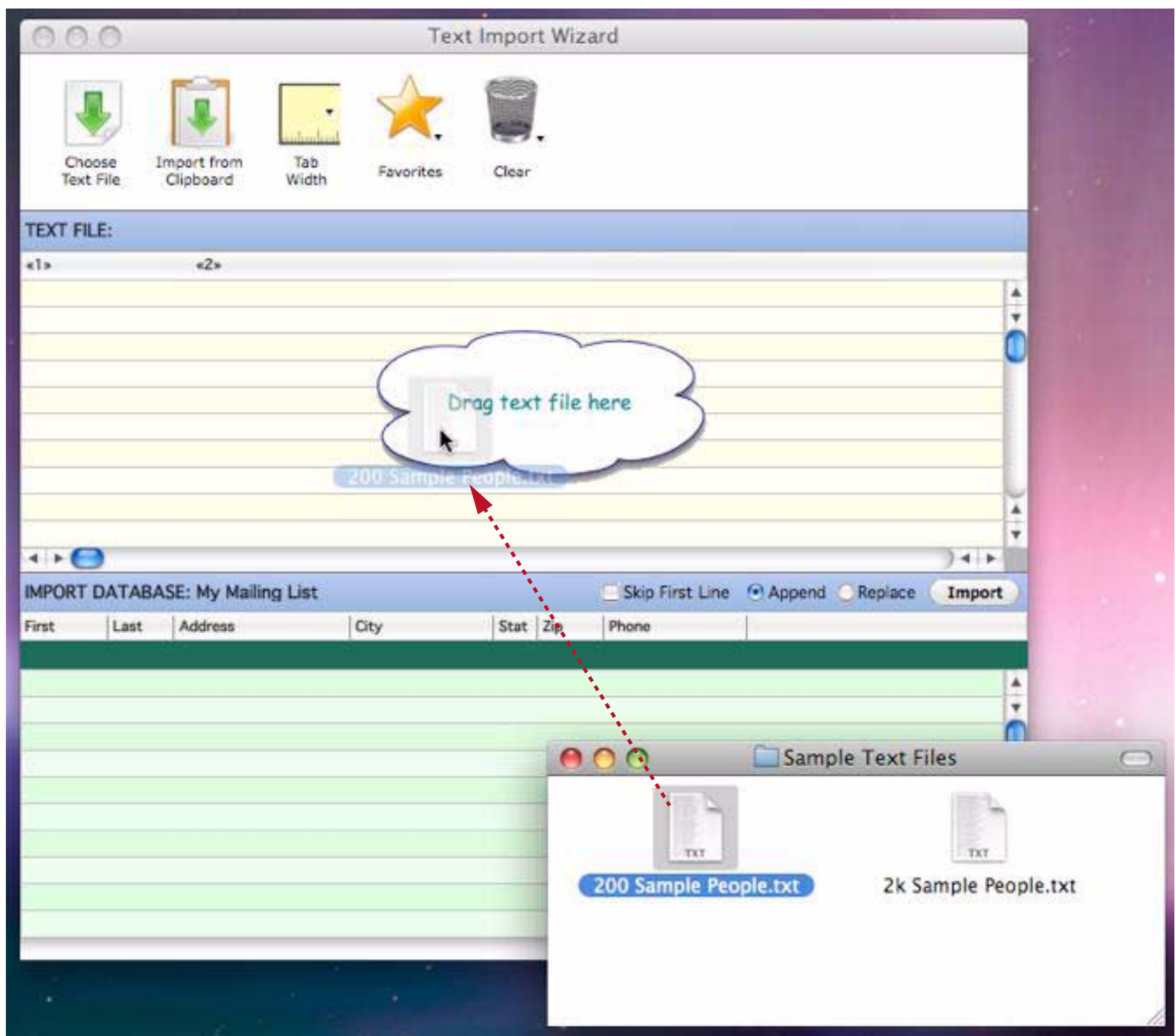
The next step is to select the text file that contains the data to be imported and drag it onto the wizard. For this tutorial we've prepared sample data that is ready to use. To see this file, choose **Show Sample Text Files** from the **Special** menu.

Now drag the file 200 Sample People.txt from the sample text folder onto the **Text Import Wizard** window.

Now the wizard will show the data contained in text file. In this case the imported text has 15 fields, of which six are currently visible.
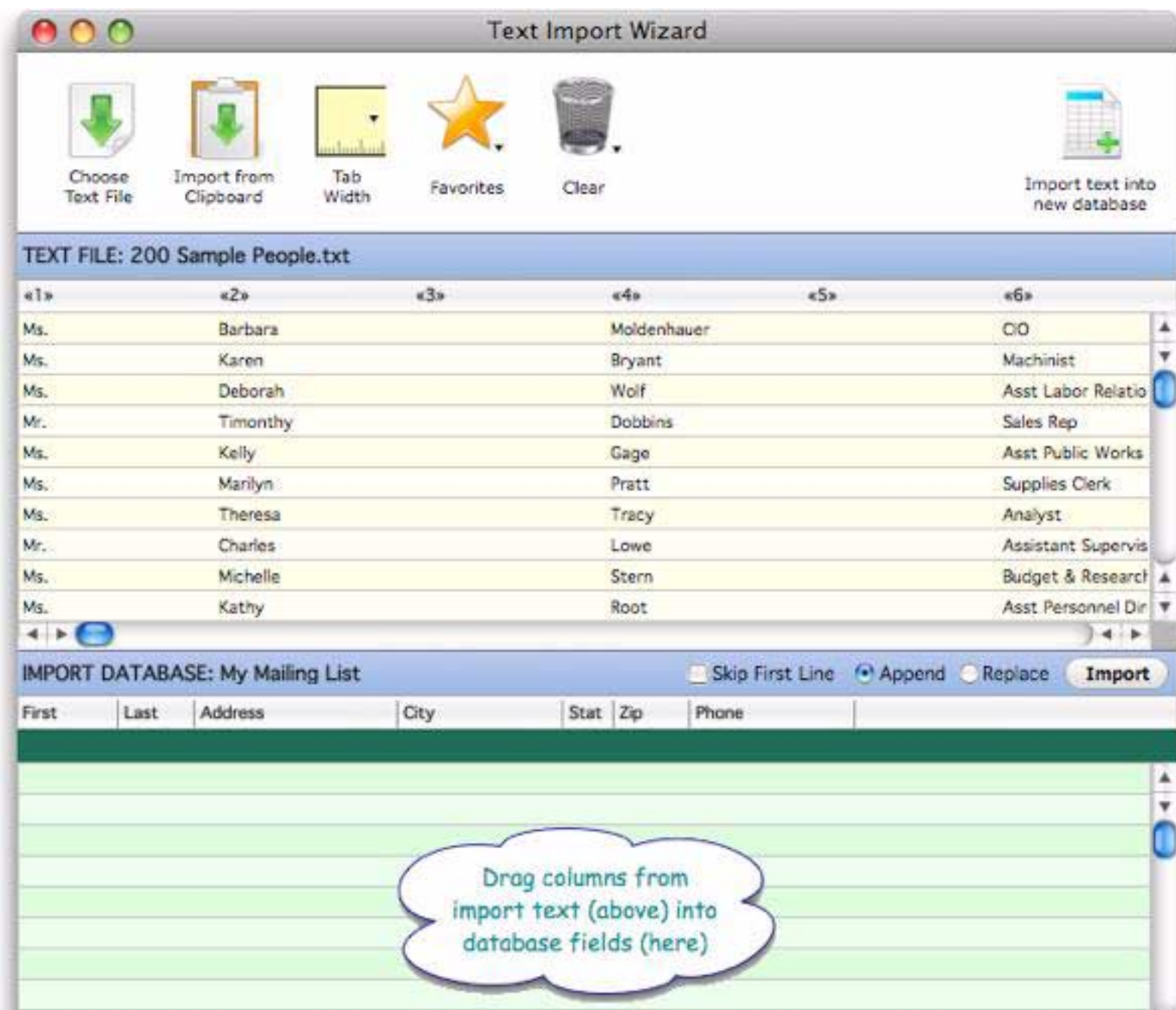
Use the **Tab Width** pop-up menu to make the imported columns wider or narrower.

The next step is to assign data from the imported text to specific fields in the mailing list database. Start by dragging the second column of imported data into the First field.

Then drag the fourth column into the Last field.

Continue to drag each of the text fields you want to import onto the corresponding database fields.
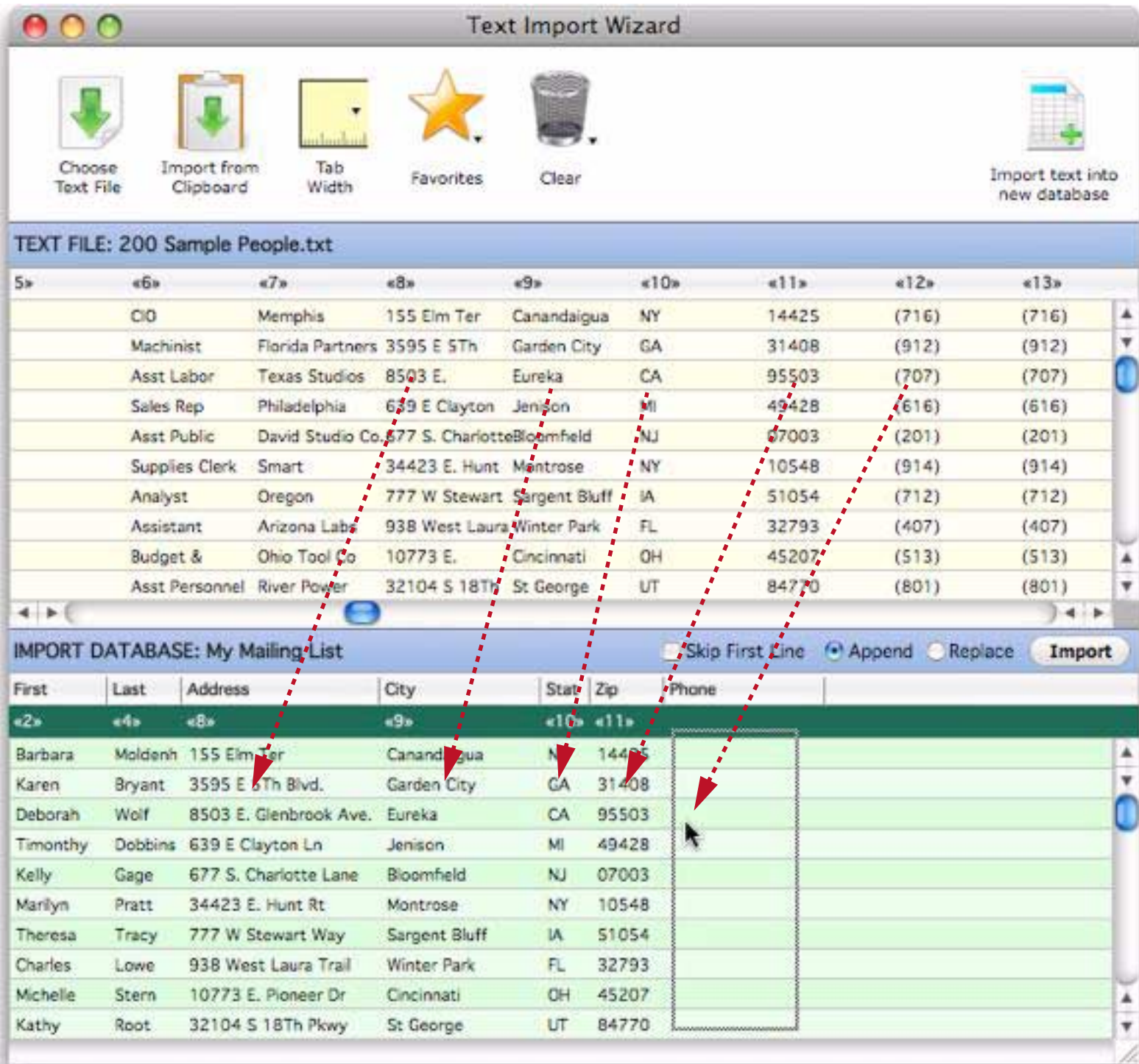
Once all of the fields are set up press the **Import** button.
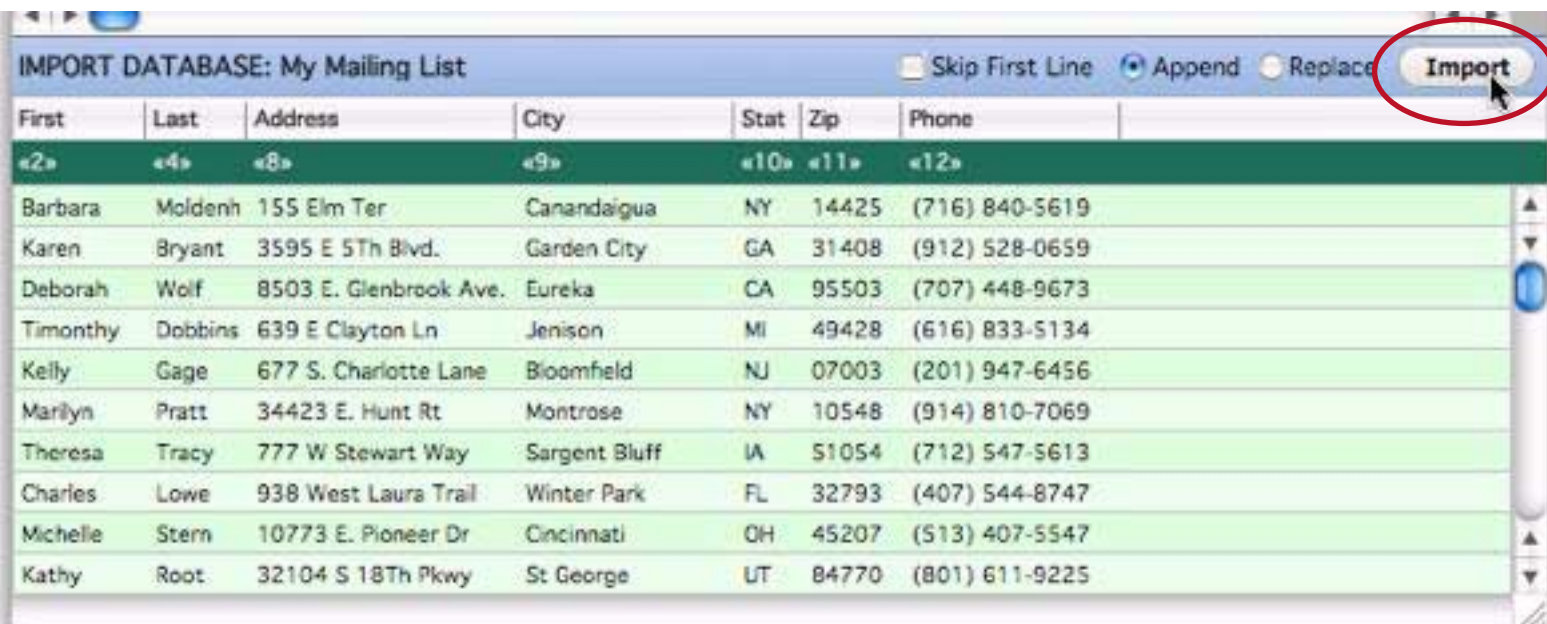
The wizard will import the data from the text file into the database.

Your database now contains 201 records — the single record you typed in plus the 200 records imported by the Text Import Wizard. The total number of records is displayed in the lower left hand corner of the window.

total number of records in the entire database

Before you go any further you should use the **Save** command (in the File menu) to save the new data in the database. Since you have already saved this file once and given it a name, Panorama will quickly save the file without asking you for the name and location again.

To learn more about the **Text Import Wizard** see "Using the Text Import Wizard" on page 94 of the *Panorama Handbook*.

Adjusting Column Widths, Font, Size and Background Color

To adjust the width of a column in the data sheet, move the mouse over the right half of the column name (left half if the column is numeric or right justified). When the mouse is over the right half of the name it will turn into a double left/right arrow.
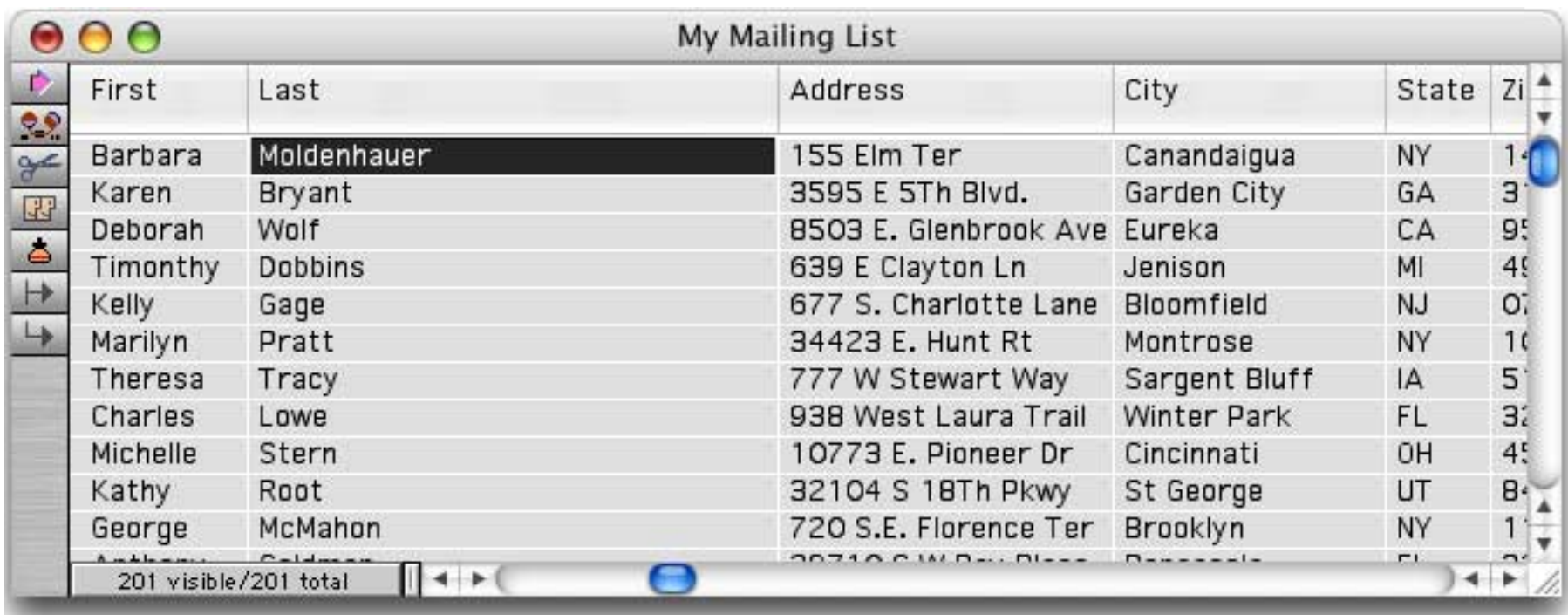
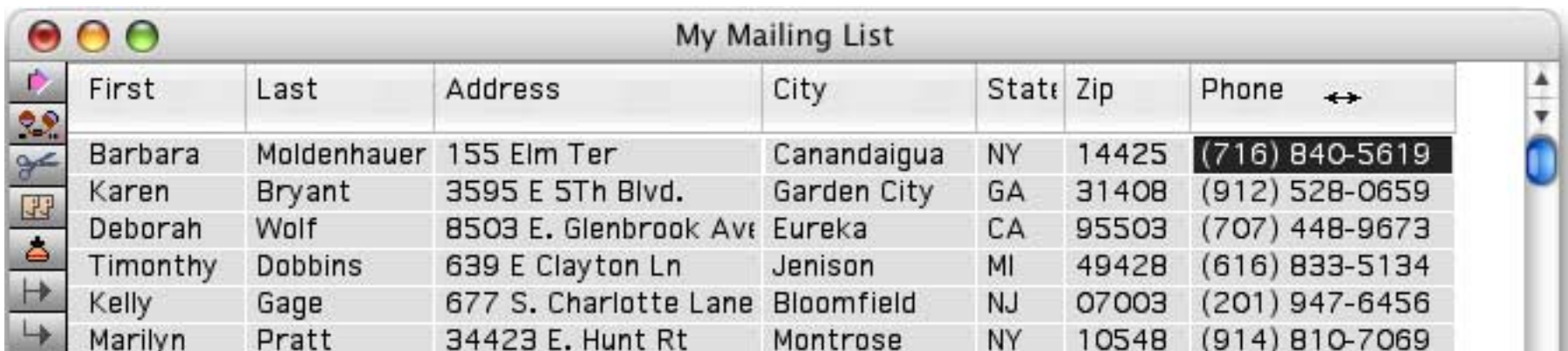*mouse turns into double left/right arrow*

To adjust the column width press and drag to the left or right.

When you release the mouse the column width will be adjusted.

You can use this technique to adjust the widths of as many columns as you like (see "Changing the Width of a Field" on page 199 of the *Panorama Handbook* for more information on changing field widths).

Use the **Font** dialog in the **Special** menu to change the font and size of the text displayed in the data sheet.
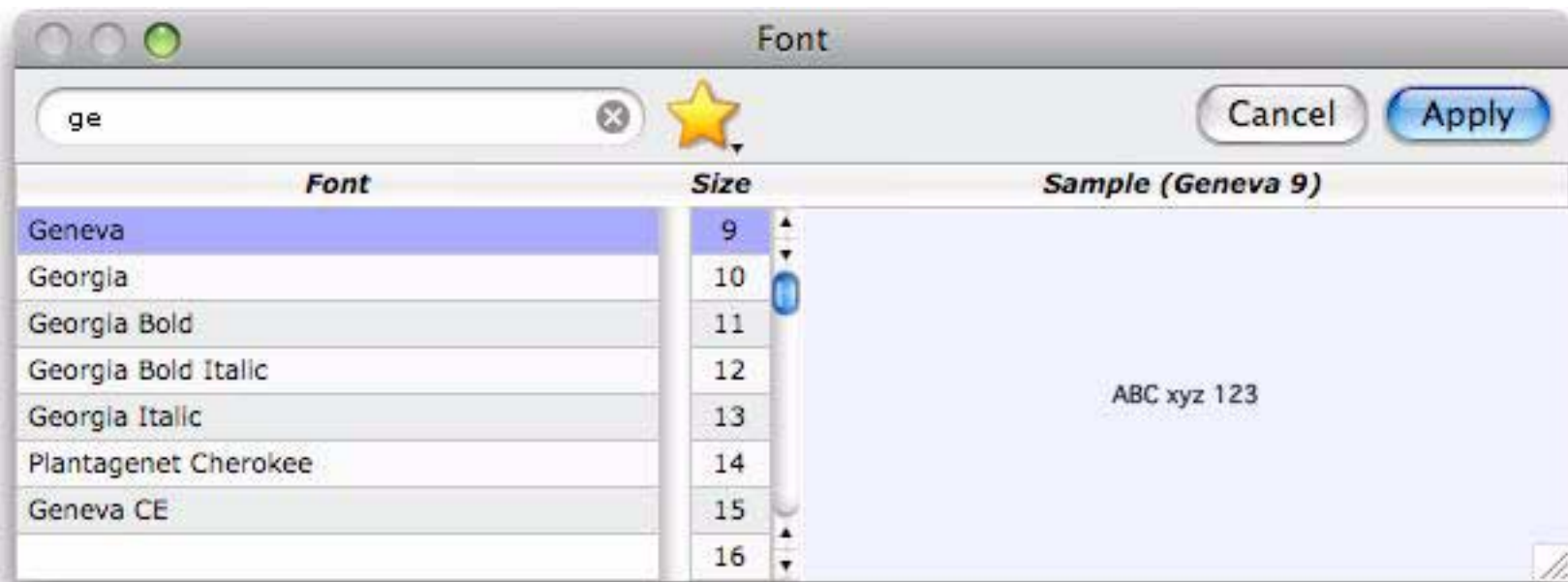

When you change the size of the text Panorama changes with width of each column proportionally, so that you do not need to adjust the widths of the columns.

Use the **Save** command (File menu) to save the new configuration.

To change the background color of the data choose **Preferences** from the **Panorama** menu, then click on **General Preferences**. Then click the **Data Record** option of the **Background colors** section.
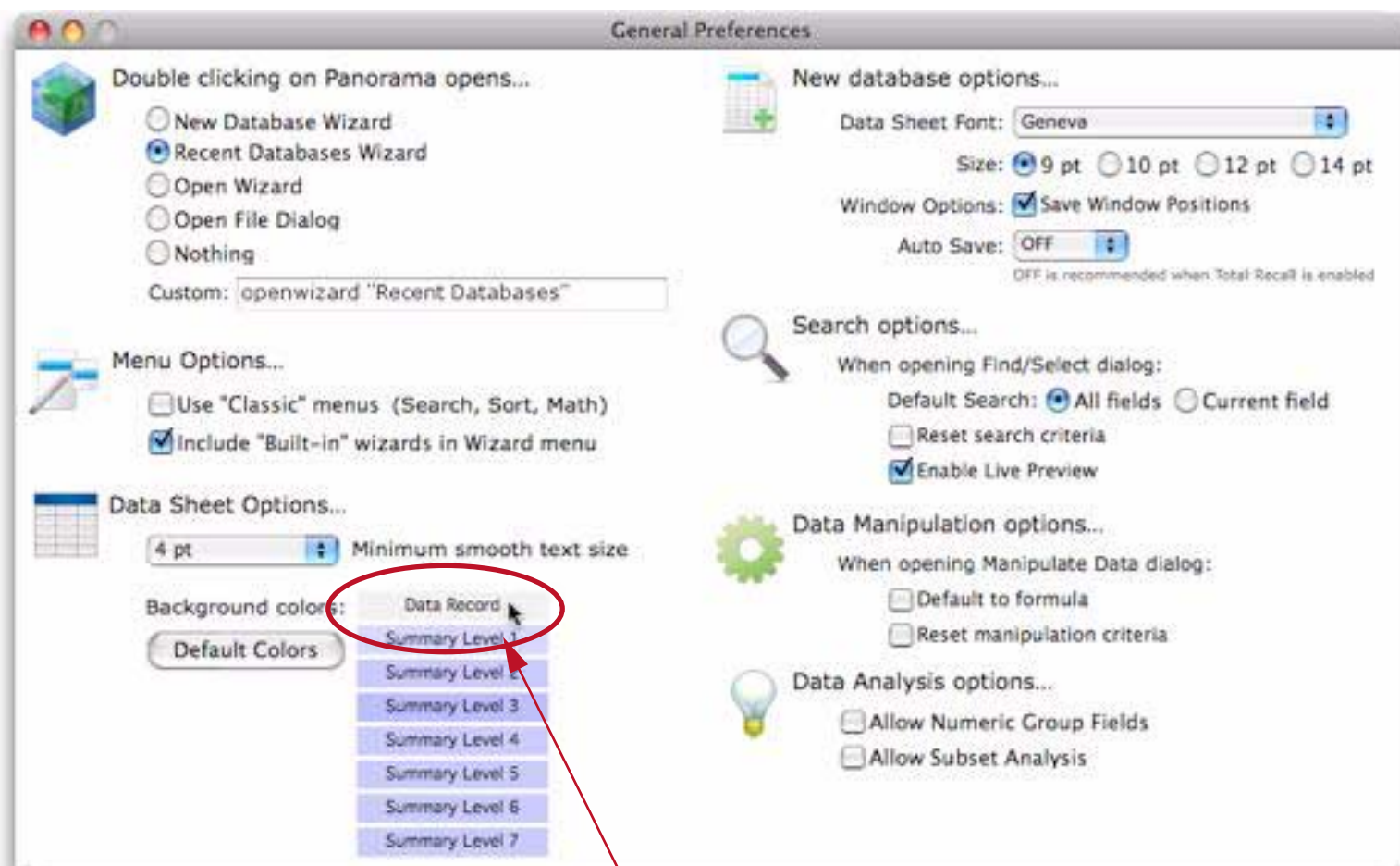
click here to change background color

Use the dialog to choose the background color you want.

When you press Ok all open data sheets will change to the color you selected.

The new color will be used permanently for all data sheets until you change it. (For the remainder of this tutorial this book uses the default gray background color.)

Sorting the Database

Now that the database is filled with sample data you can try out Panorama's commands for organizing data. To sort by zip code start by clicking anywhere in the Zip column.

click anywhere in this column

Now choose **Sort Up** from the **Records>Sort** menu.
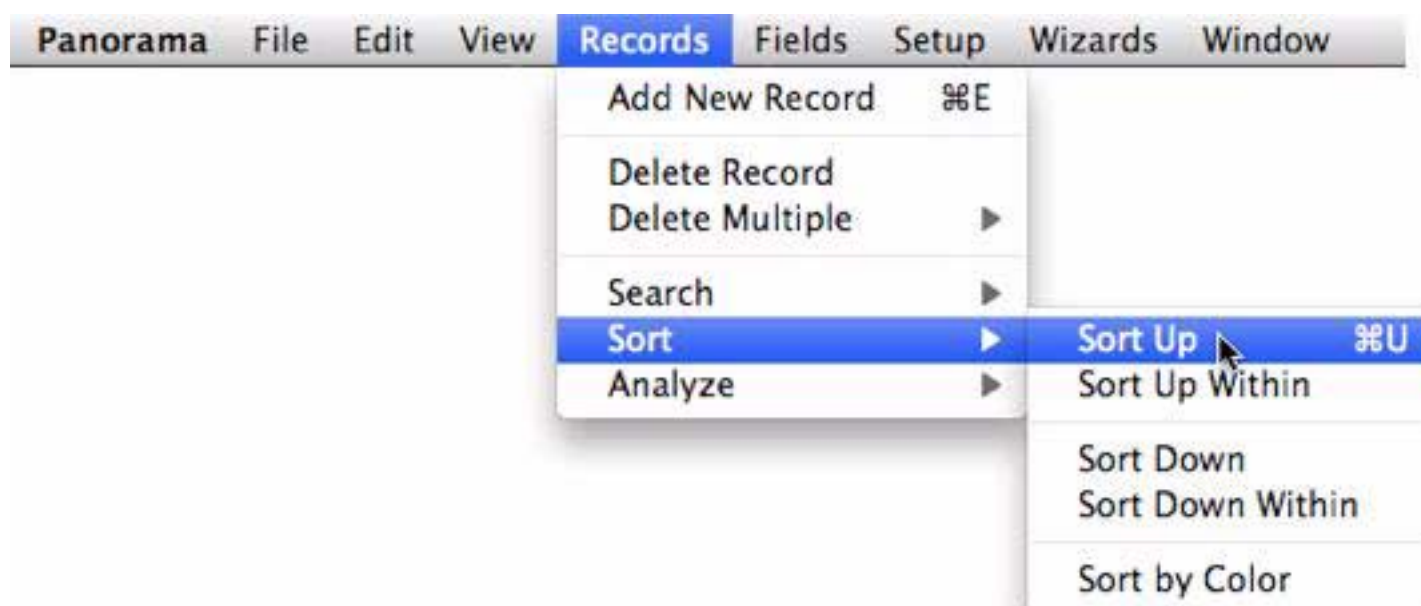
Panorama will sort the database as soon as you release the mouse. Notice that the zip code you originally clicked on is still highlighted. If you want to see the first zip code you'll need to use the vertical scroll bar to move to the top of the database.
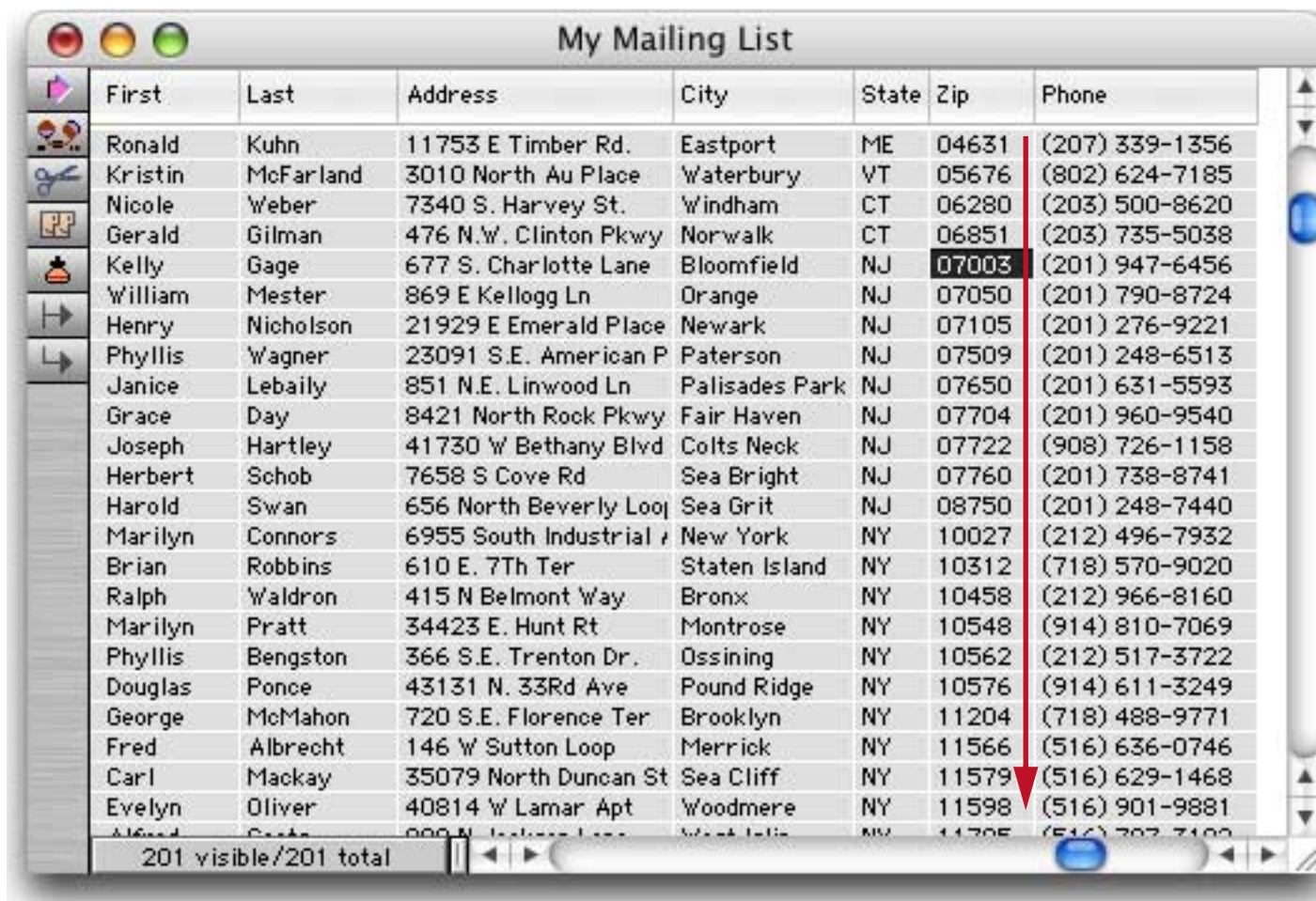
Note: An alternate way to sort is to right-click on the field name and choose **Sort Up** from the pop-up menu.
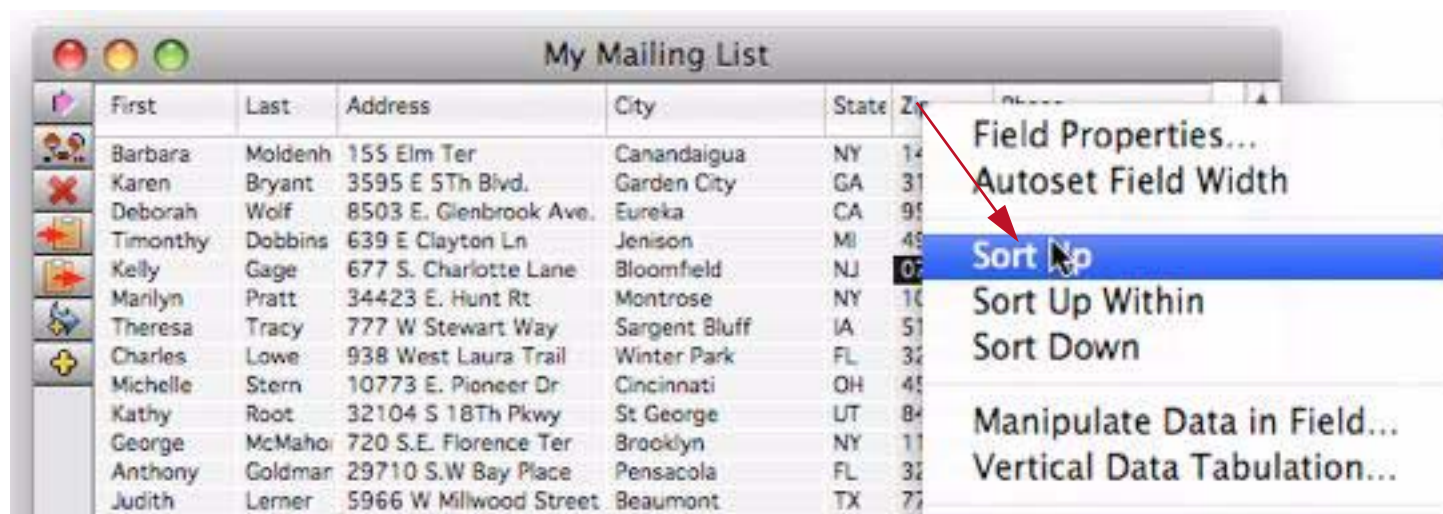
If you don't have a two button mouse you can hold down the **Control** key and click on the field name.

Sorting By Two or More Fields

You can sort by as many fields as you like. In this example you will sort by cities within states. The first step is to sort by states. To do this click anywhere in the **State** field and choose **Sort Up** from the **Records>Sort** menu.

click anywhere in State field…   *then Sort Up*
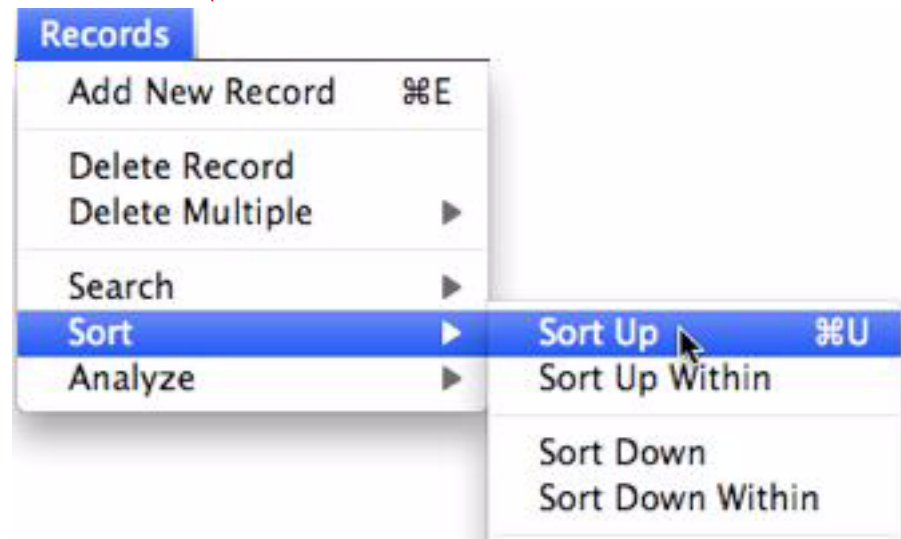
Now the database is sorted by state, but the cities within each state are still out of order. For example, Hialeah should be the first state within Florida (FL) and Atlanta should be the first city within Georgia (GA).

To sort the cities within the states first click anywhere in the City field, then choose **Sort Up Within** from the Sort menu. Be sure to choose **Sort Up Within**, not **Sort Up**.

click anywhere in the City field…   *then Sort Up Within*
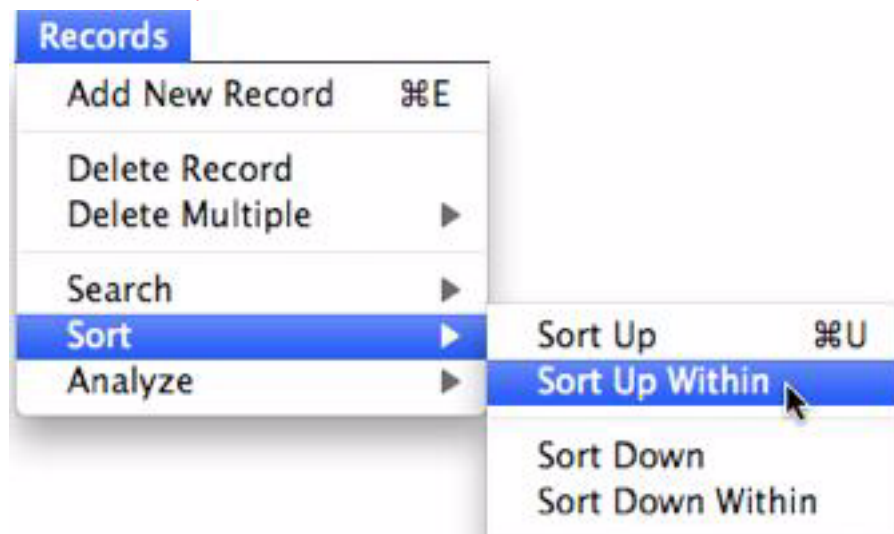
The database is still sorted by state, but now the cities are sorted within each state as well.

You can use **Sort Up Within** as many times as you wish in your database. For example, you could now sort the last names within each city. To learn more about sorting see "Sorting" on page 323 of the *Panorama Hand-book*.

Finding a Person

It's easy to search for anything in a Panorama database — just choose **Find/Select** from the **Records>Search** menu.

Type some or all of the text you wish to find into the dialog. In this case we what to search for a person named Gutierriz so we will enter the first few letters of the name. As each key is pressed Panorama instantly shows the data that matches your search (by default Panorama searches all fields in the database, we'll show you how to customize that in a moment).

(1) enter some or all of name you want to find   *(2) press Find button*

When you press the **Find** button Panorama will locate Ms. Gutierrez.

Finding Multiple People

Suppose you want to look up someone who's first name is Alan, but you're not sure what the last name is. Start by choosing the **Find/Select** command. Clear out the previous search, then type in alan. The dialog instantly updates to show that there are five people named Alan in this database.

click here to clear previous search

When you press the **Find** button Panorama will find the first person named Alan in the database.

If this isn't the Alan you were looking for choose **Find Next** from the **Records>Search** menu. Panorama will skip to the next Alan in the database.

You can continue using the **Find Next** command until you have located every Alan in the database, and you can use **Find Previous** to skip backwards.

You can also use the **Find/Select** dialog to jump directly to any of these five people. Start by re-opening the **Find/Select** dialog, then simply double click on any row in the search results to jump directly to the corresponding record.
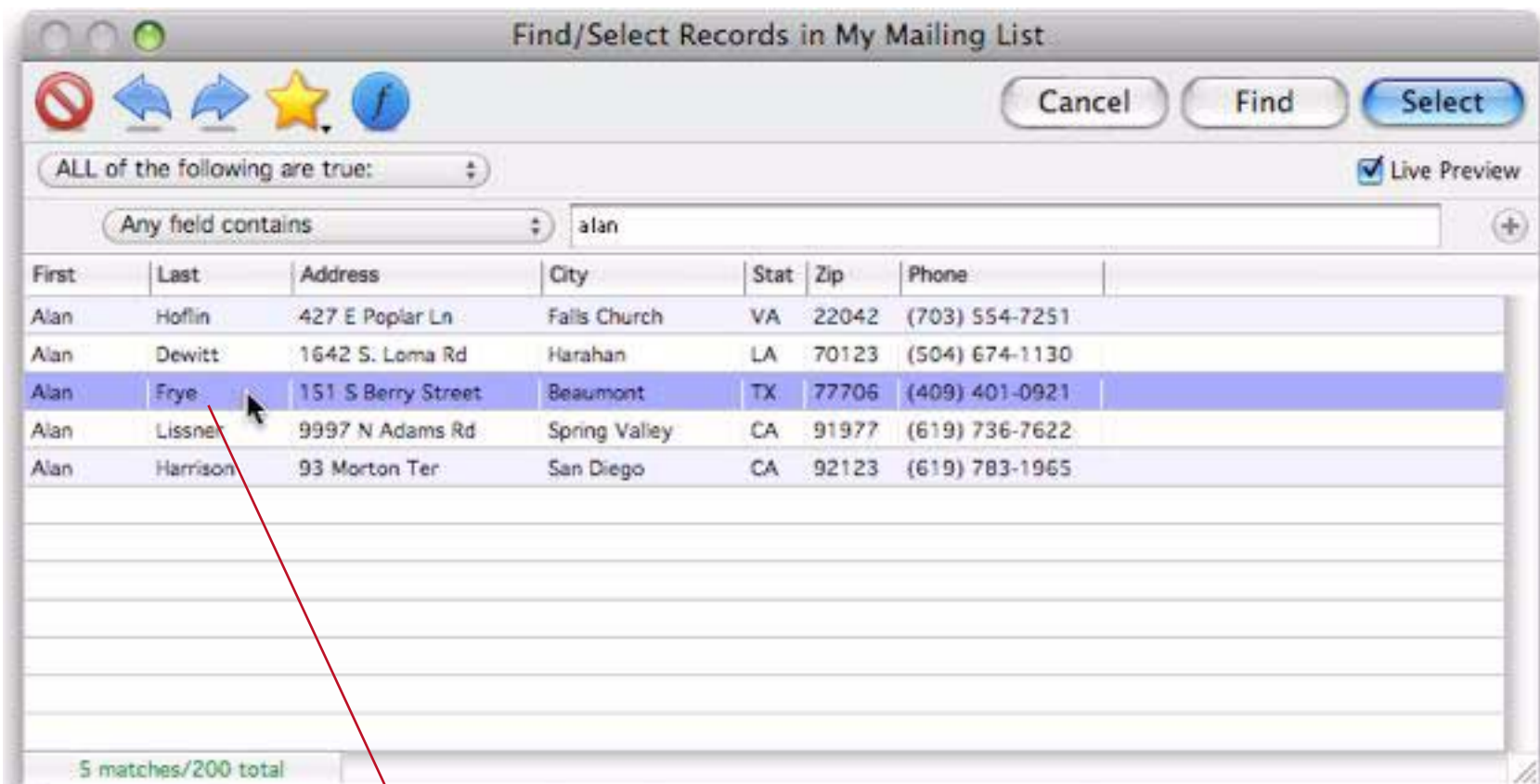
double click to jump directly to a specific record

After jumping to a specific record you can use **Find Next** skip forward and **Find Previous** to skip backwards from that point if you wish.

Selecting Instead Of Finding

A second way to locate every person named **Alan** is to **select** the information (see "Finding vs. Selecting" on page 331 of the *Panorama Handbook* for an extended discussion of this topic). To do this re-open the **Find/Select** command, but press the **Select** button instead of the **Find** button.
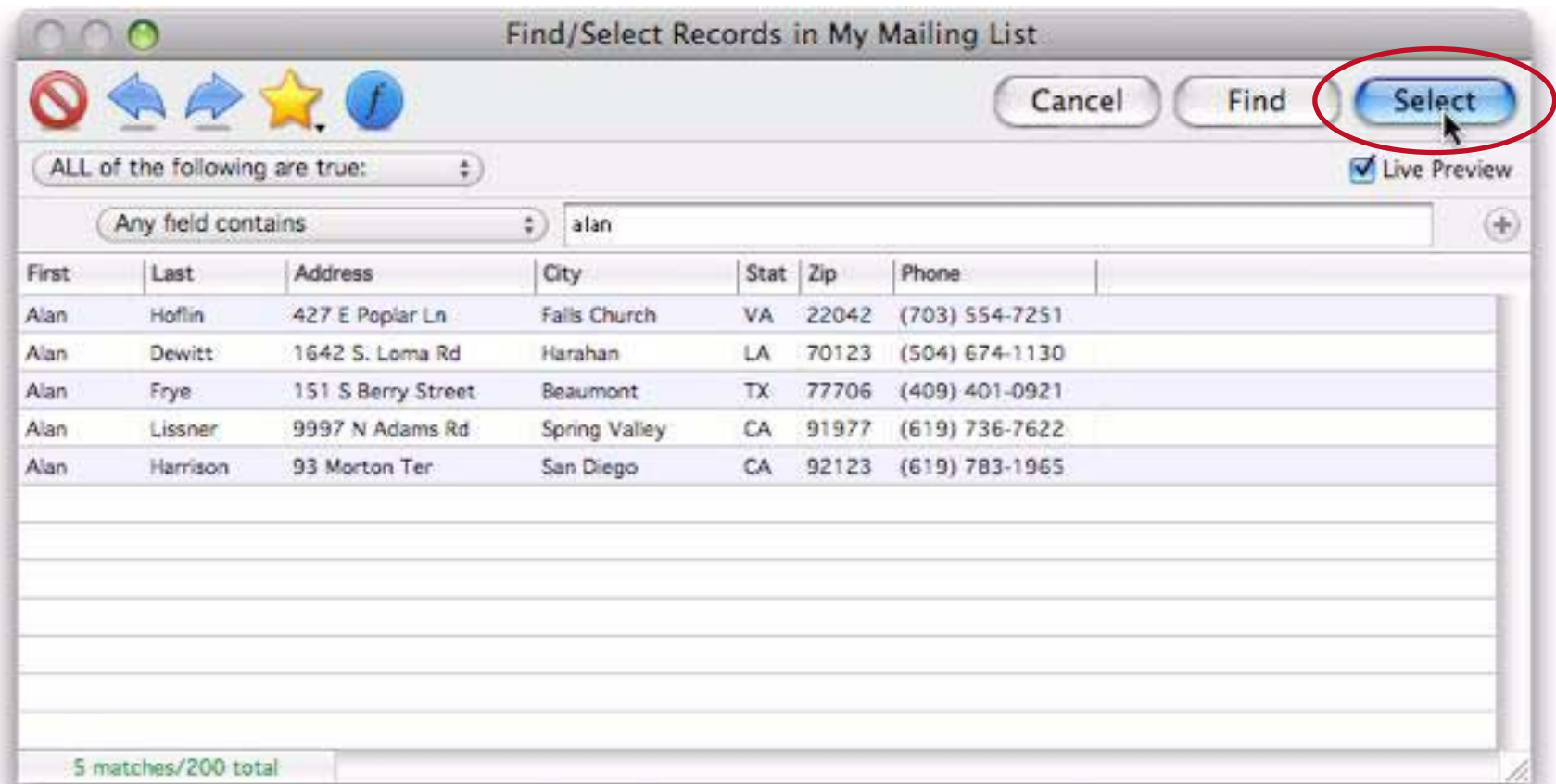
Most of the database will disappear. In fact, only the records containing alan will remain visible (selected). Everything else is temporarily invisible. Panorama displays the number of selected records in the lower left hand corner of the window. In this case five records contain alan. We say that these five records are the **selected** records. The other 196 records are invisible (unselected).
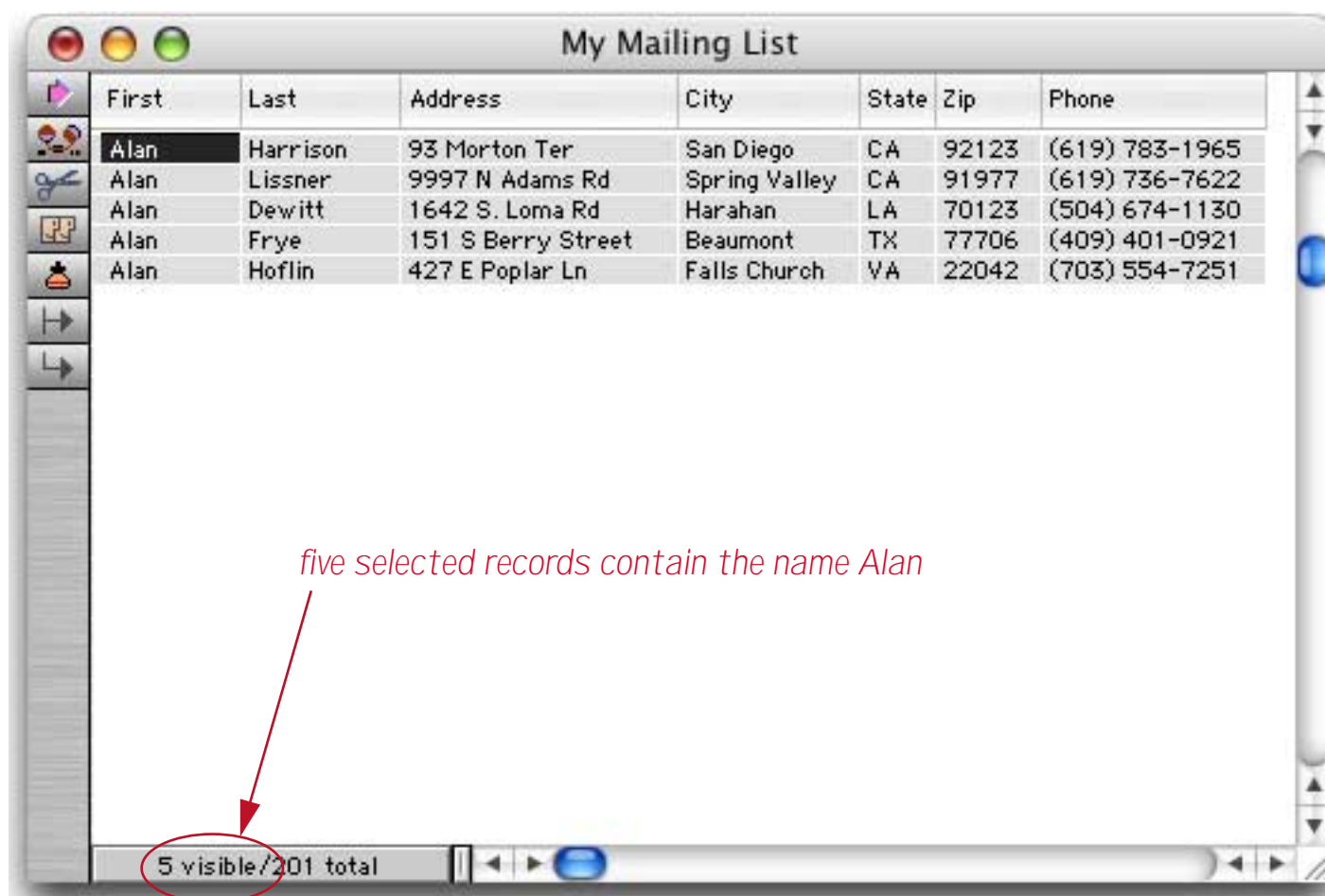
Selecting from a Specific Field

So far we've been searching thru all fields in the database. In some cases, however, that doesn't work out so well. For example, suppose you want to locate all addresses in the state of California. Searching all fields for ca brings up dozens of "false positive" matches like cambridge, carl, and american (if you scroll down you'll see that the California records we are looking for are included also).
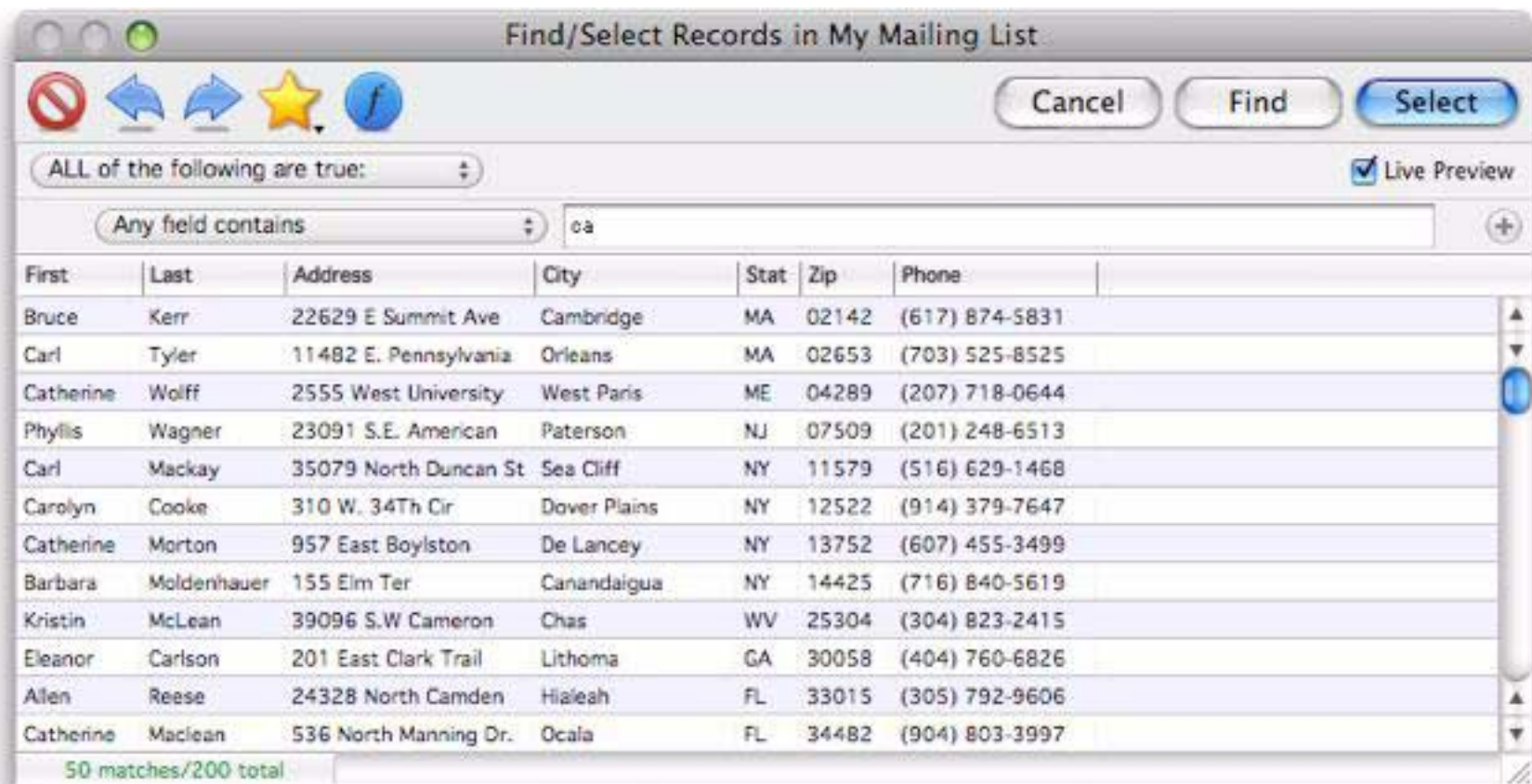
To get rid of the false positives, use the pop-up menu to change **Any field contains** to **State** (the field we want to search).

Not type in ca. This time, only records from California are shown, with no false positives.
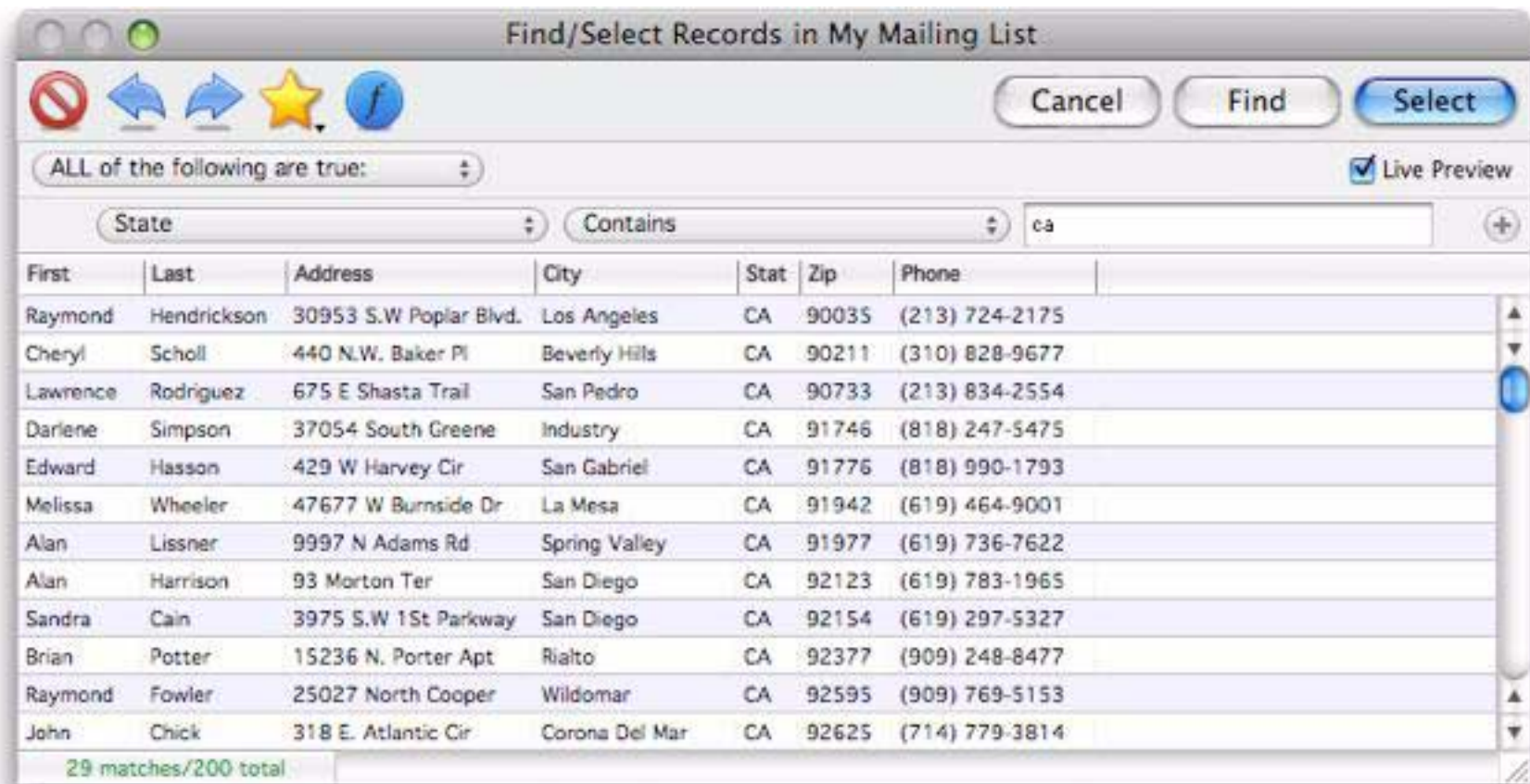
At this point you can press the **Select** button to select the California records in the data sheet, you can press the **Find** button to locate the first record in the California, or you can double click on any of these records to jump directly to it.

Selecting More of the Same

If you see something in your database and want to see more items that are similar, just right-click on the data and choose **Select Same** from the pop-up menu. For example if I see a person named Sandra and want to see if there are any more, I right click on the name and choose **Select Same**.
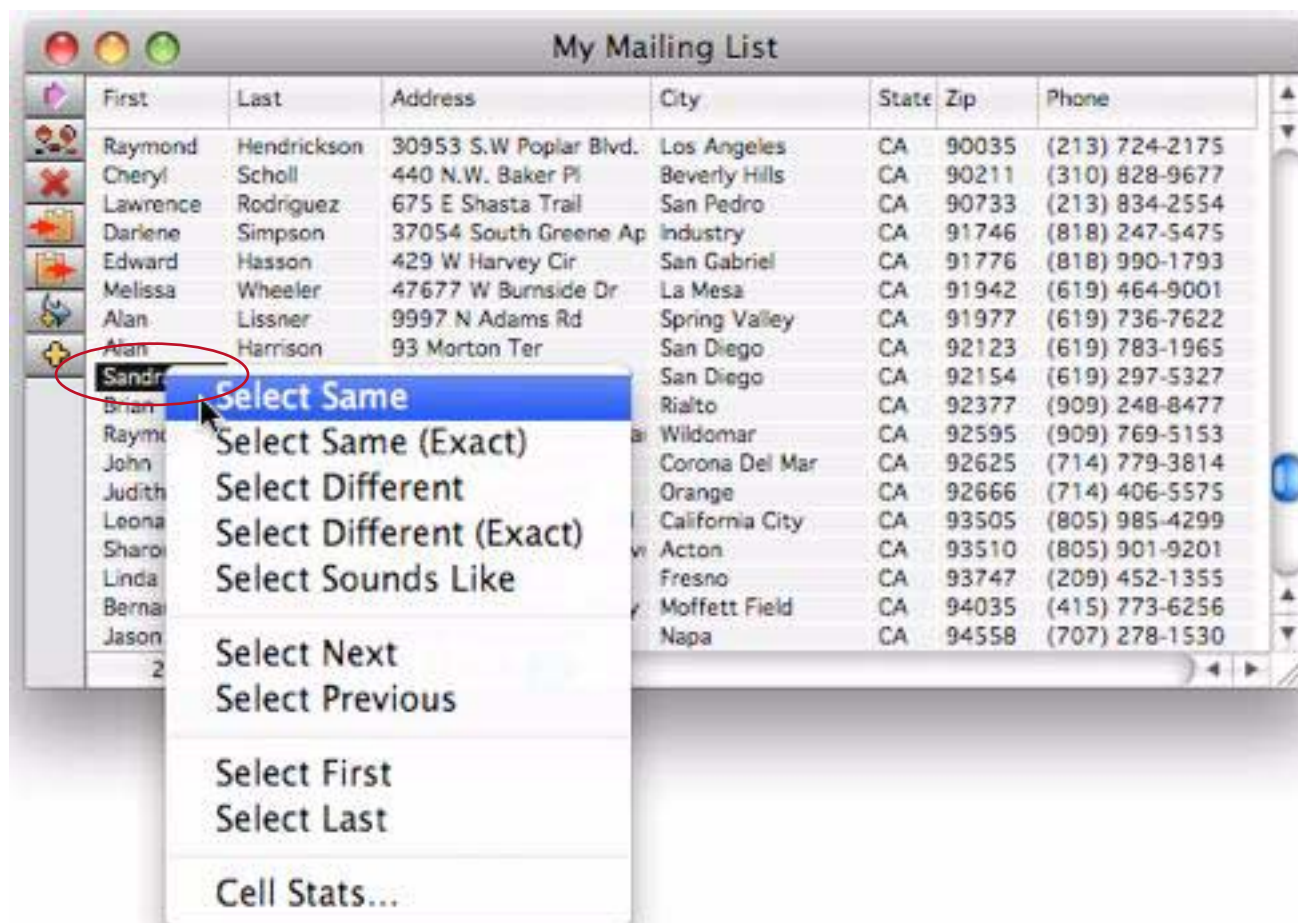
It turns out there are four Sandras in this database.

You can repeat this process over and over, for example to select all records in Ohio.

Here is the selection.

If a database contains dates the pop-up menu allows you to select a range of similar dates — either a day, a week, a month, a quarter or a years (see "Selecting with the Context Menu" on page 333 of the *Panorama Handbook*).

Using the Sounds Like Option

If you don't know exactly how something is spelled you can try using Panorama's **sounds like** option. To use this option open the **Find/Select** dialog, choose the field to search, then choose the **Sounds Like** option.

1) choose field to search　　　　　　　　　　　　　*3) type text to search for*

2) choose sounds like option
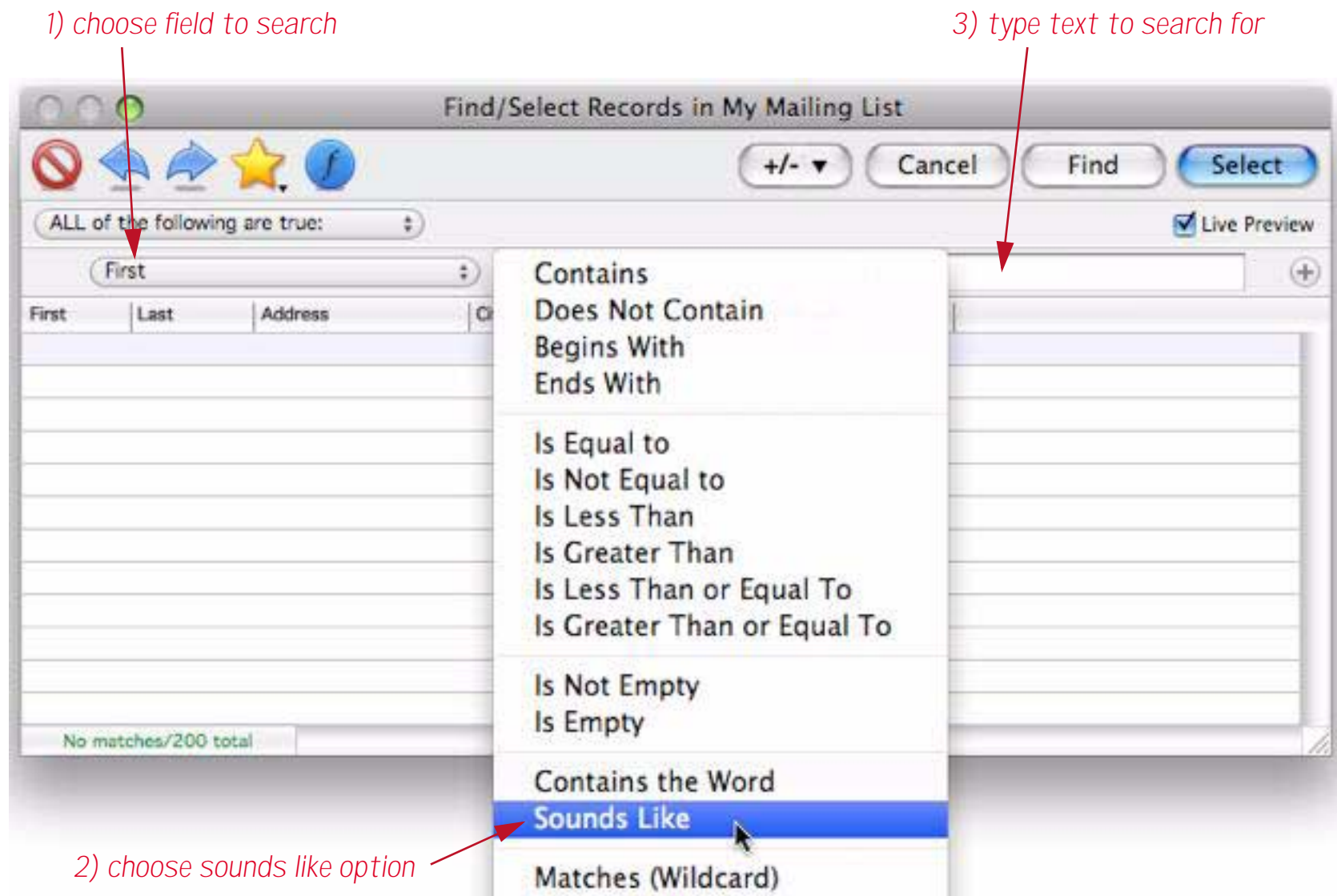
Since the name Allen "sounds like" Alan, it now shows up in the search.

The sounds like option isn't perfect, but it can find most similar sounds and spellings. You must, however, know the first letter of the word or name you are looking for. For example, the sounds like option will never think that the name Ellen sounds like Alan because the two names start with different letters.

Making More Complex Selections

The **Find/Select** dialog can make more complex selections based on multiple criteria. For example, suppose you want to select all people with zip codes from 50000 to 69999. This search can quickly be set up with the pop-up menus.

1) choose field to search   *2) choose type of search*   *2) enter text to search for*
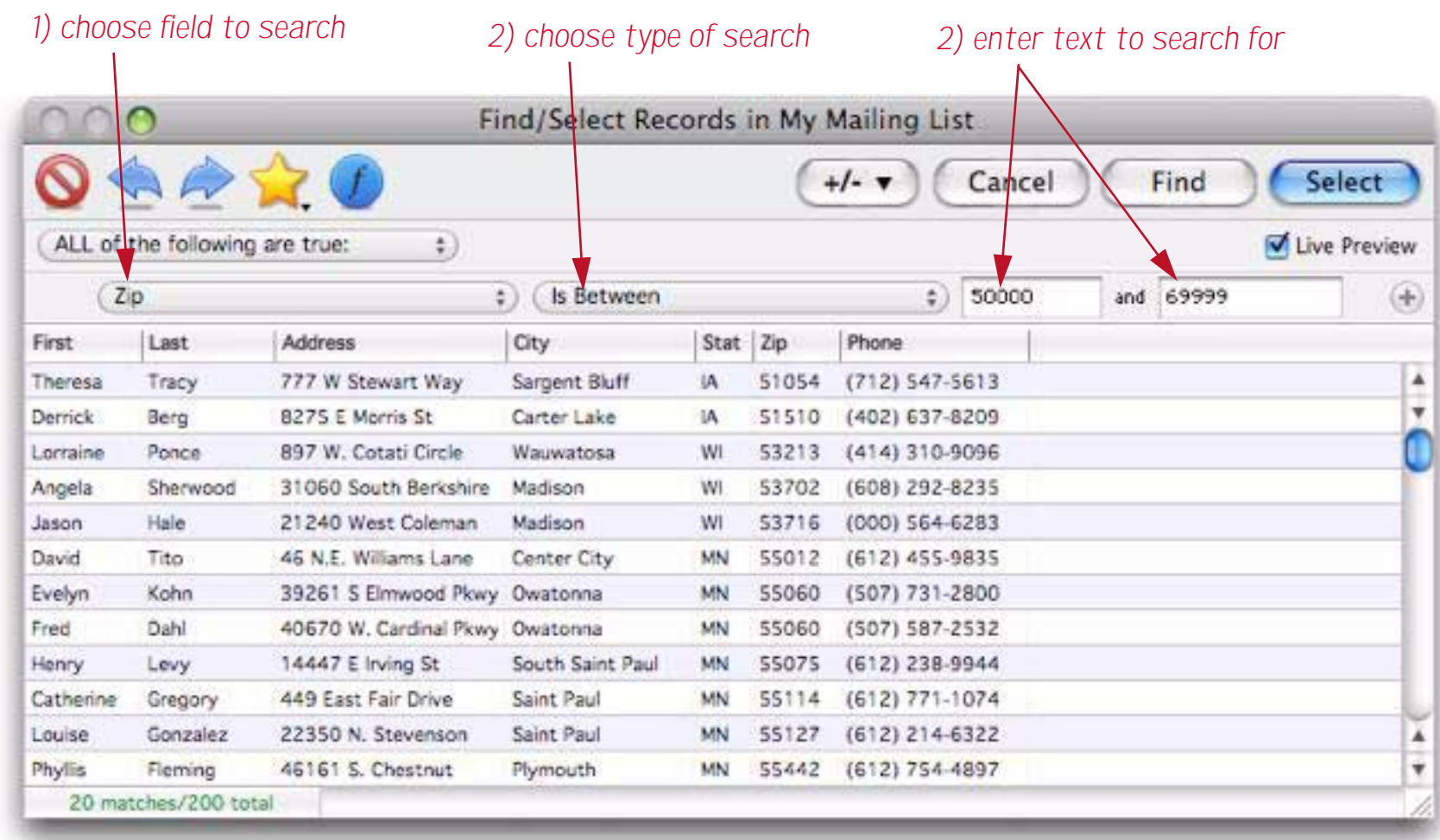
Now suppose that in addition to records in this zip code range, you would also like to select all records in Connecticut. To do this, start by changing the pop-up menu from **All of the following are true** to **Any of the following are true.**

Next, press the + button to add another row to the search criteria.

click here

to add another search criteria row
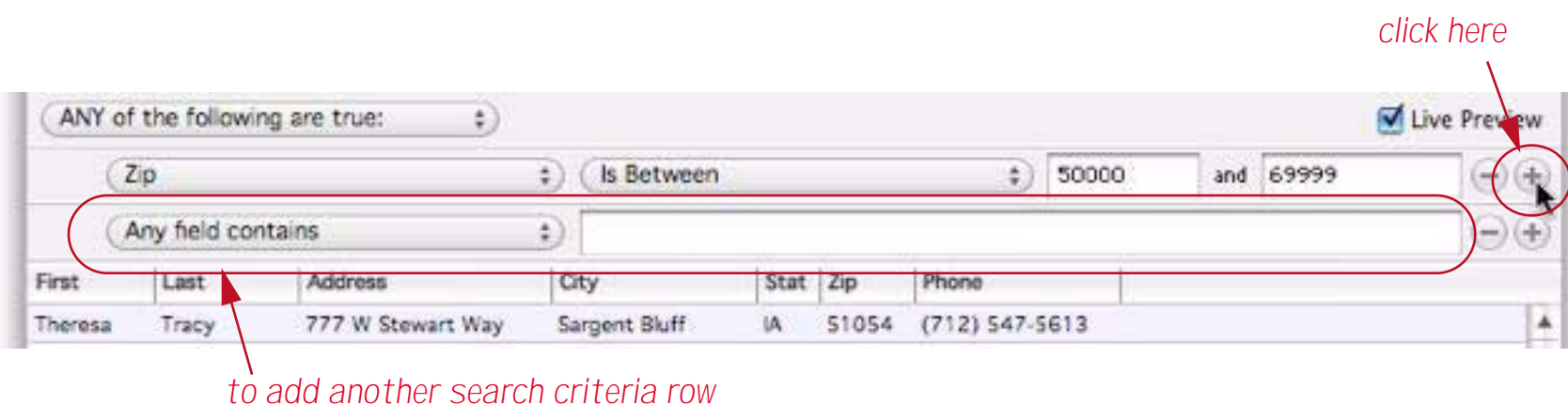
Now fill in this new row to select Connecticut in addition to the original zip code range.
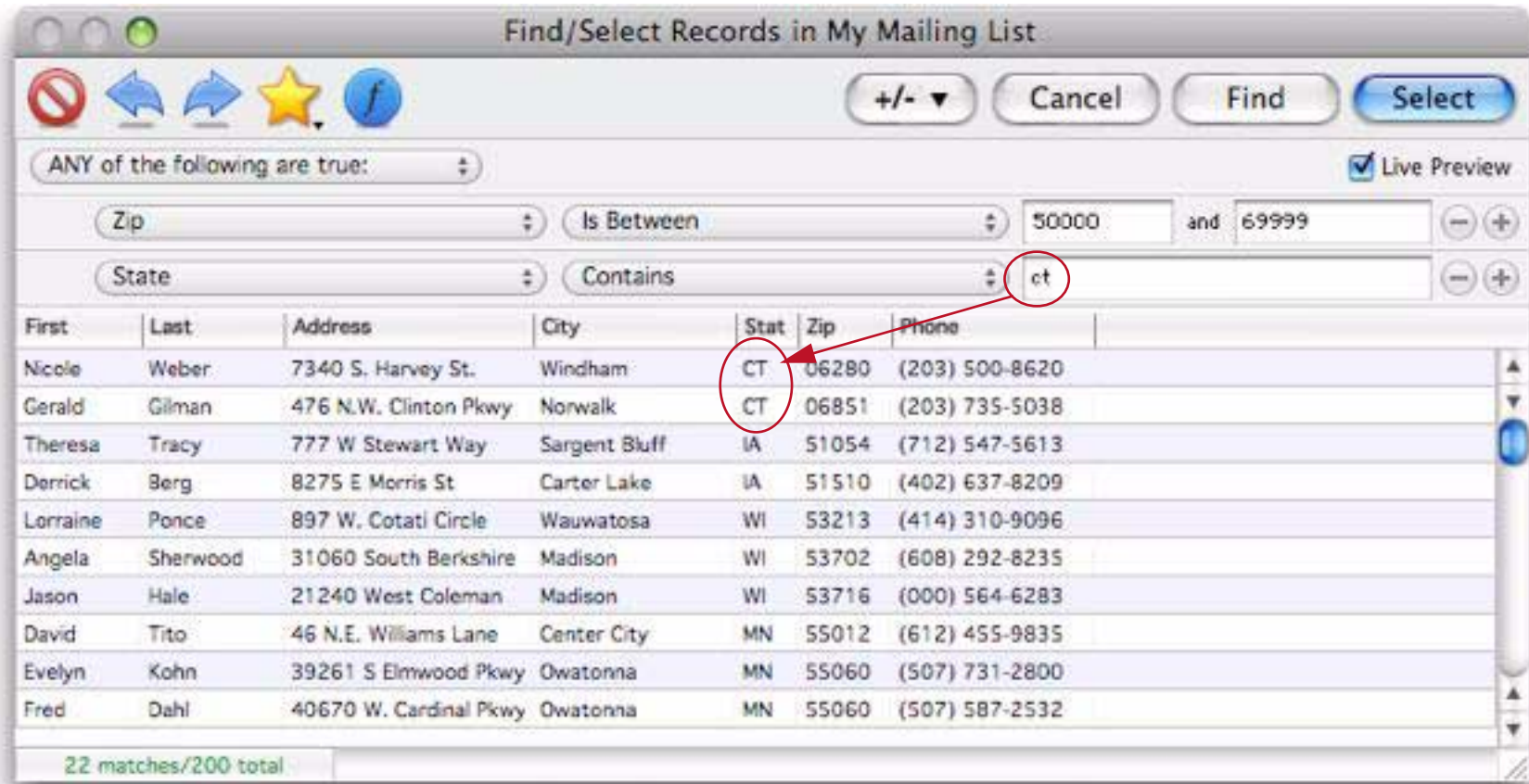
The process can be repeated to add up to eight search criteria rows.

As was described before, at any point you can press the **Select** button to select the specified records, or press **Find** to jump to the first specified record, or double click on any record in the Find/Select dialog to jump to it.

Selecting Data Based on a Formula

The **Find/Select** dialog pop-up menus can be used to set up a wide variety of specific search criteria. However, if you can't find the search you want in the menus you can also use any boolean (true/false) formula. This also allows you to use parentheses to control exactly how search comparisons are combined. To perform a formula search, start by changing the pop-up menu from **Any field contains** to **Formula is true**.

Now type in a true/false formula. The formula shown below selects everyone on the west coast (California, Oregon or Washington) with a phone number in the database.

To learn more about selecting with a formula see "Search Options (Formula)" on page 351 of the *Panorama Handbook* and "True/False Formulas" on page 124 of *Formulas & Programming*.

Selecting All Records

To make all of the invisible data re-appear choose **Select All** from the Search menu.
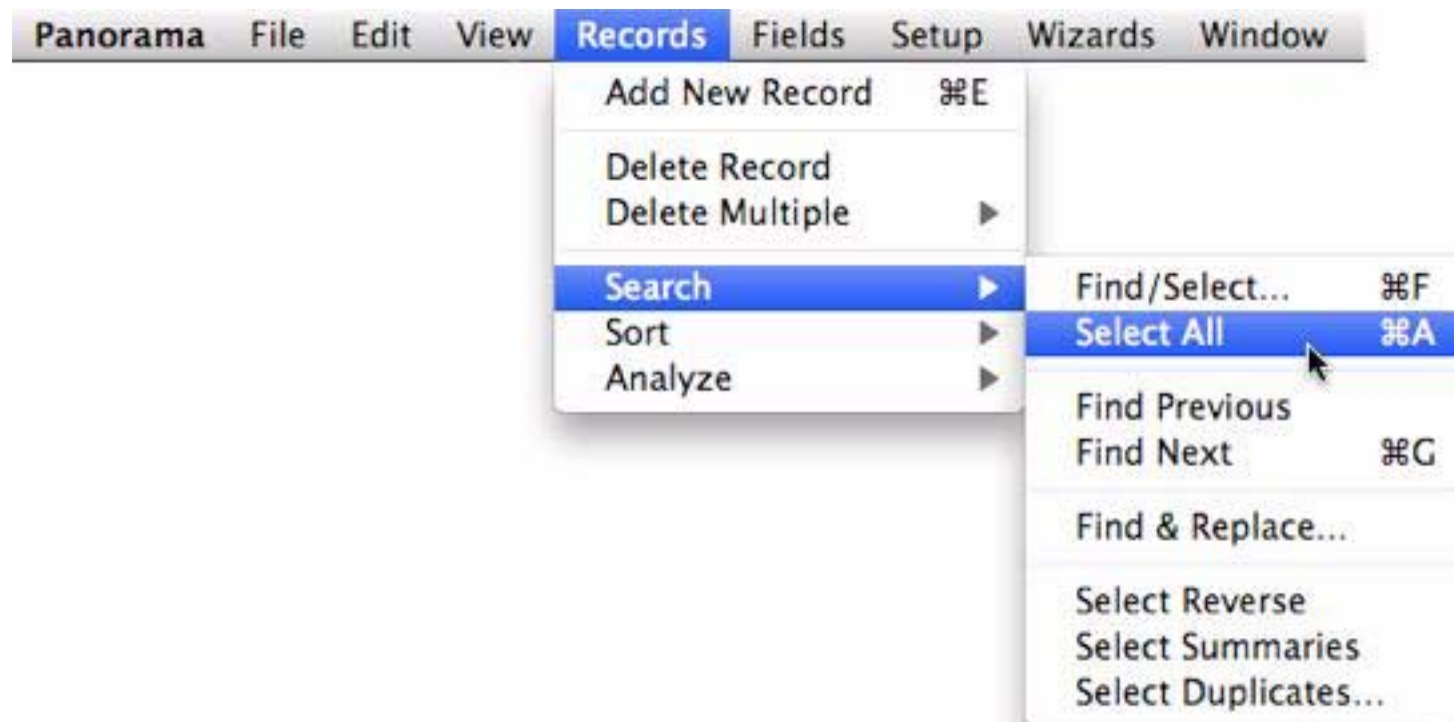
Panorama will display all of the data in the database again.

Saving Your Favorite Searches

If you need to do the same or similar searches over and over, you can save any search so that you can re-use it later. The first step is to set up the search — for example this search selects all states along the Pacific coast of the United States.

To save this search, click on the yellow favorites icon and choose **Add to favorites**.
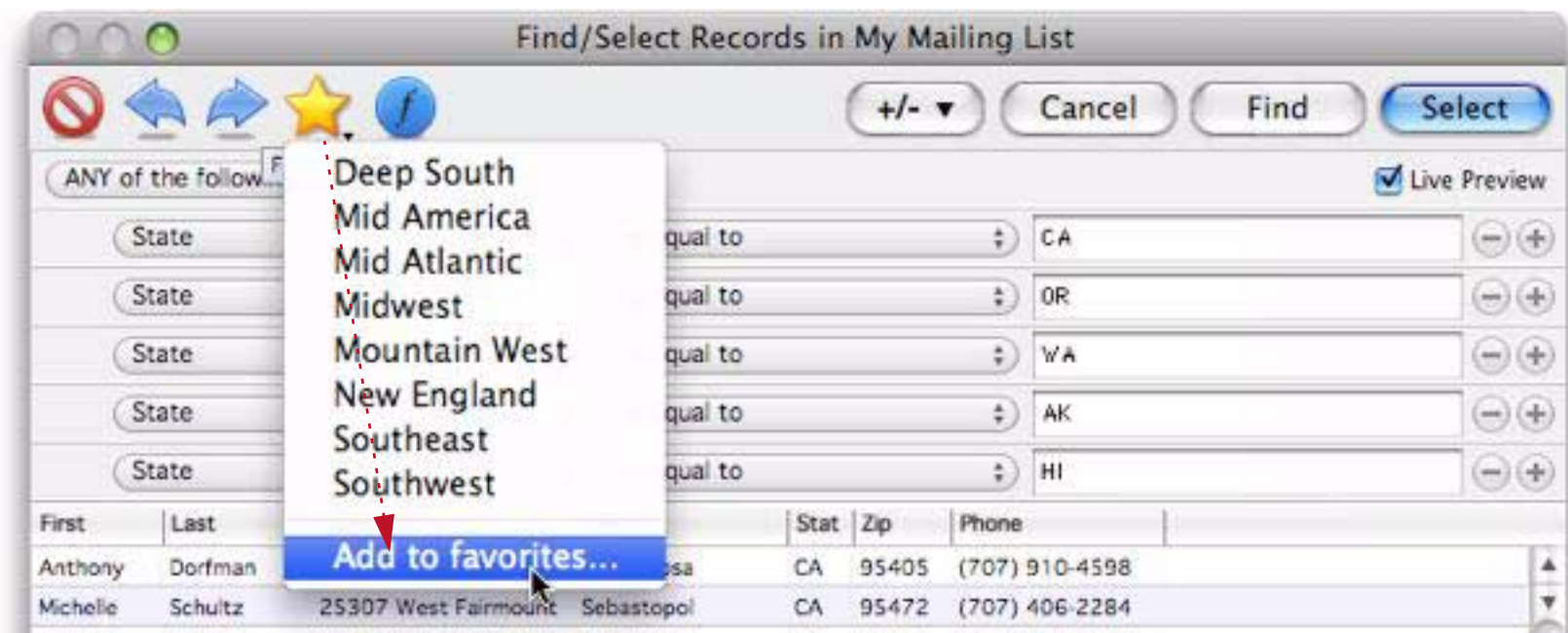
Enter the name for your new favorite search.

Now the new favorite is included in the menu, so you can re-use it at any time.
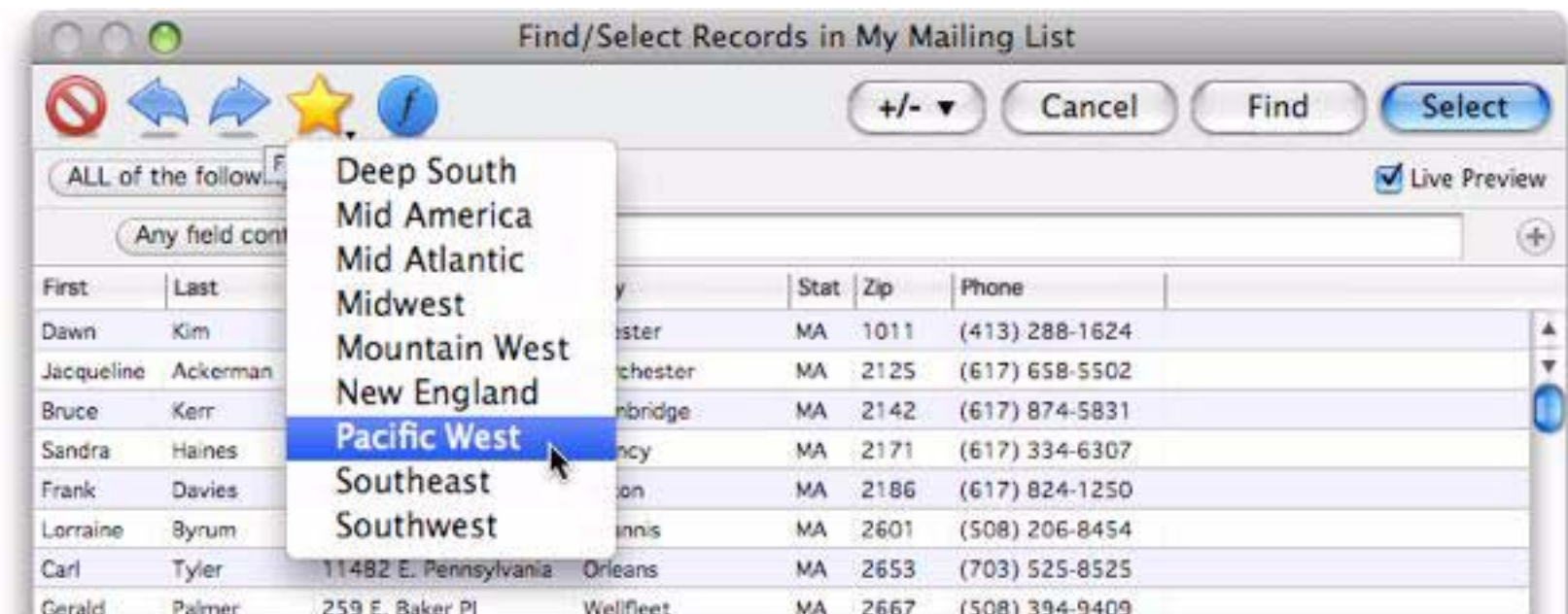
For more information about favorite searches see "Managing Queries" on page 355 of the *Panorama Handbook*.

Closing a Database

To close a database first click on it (to bring its window to the front). If the database has only one window you can close it by clicking on the window's close box. If the database has more than one window you can close each window individually or you can select the **Close File** command from the File menu. Close the My Mailing List database now.
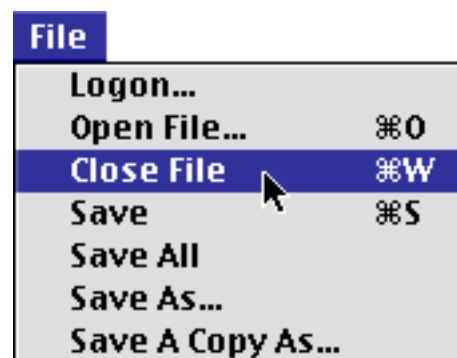
If the database has been modified since the last time it was saved Panorama will ask you if you want to save the changes. Press the **Save** button to save the changes.
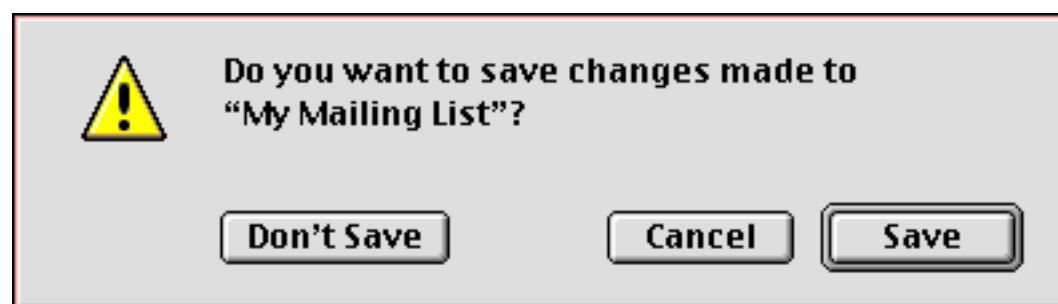
The database is now closed, and the memory it was using is available for use with other databases. See "Monitoring Memory Usage" on page 137 of the *Panorama Handbook* to learn how to oversee Panorama's memory usage.

Re-Opening a Recently Opened Database

You can always open any database by double clicking on it in the Finder (Mac) or Windows Explorer (Windows).

double click to open
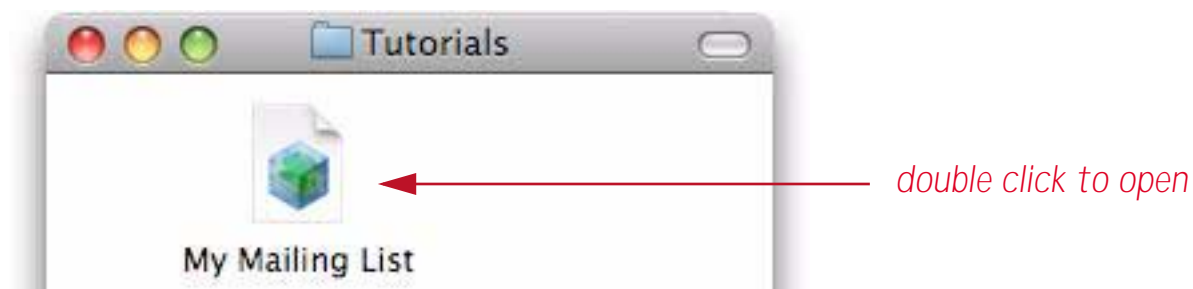
If the database was recently opened or saved by Panorama, you can also quickly open it by choosing **Recent Databases** from the **File** menu. A list of recently accessed databases appears.
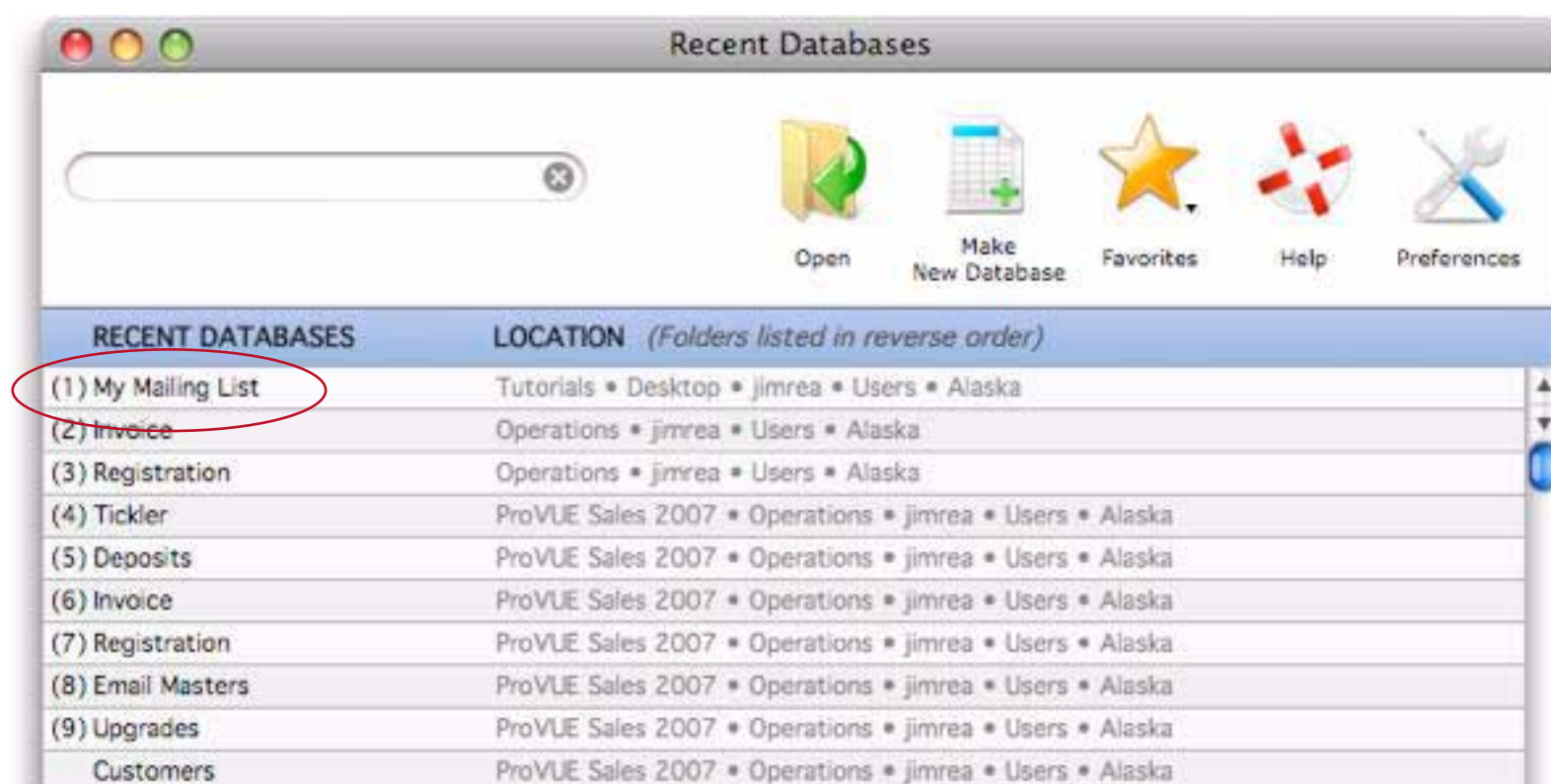
Since My Mailing List was the last file I accessed, it's at the top of the list. I can double click on that row to open it, or I can simply press the ☐ key (numeric 1). In fact, any of the nine most recently accessed databases can be opened simply by pressing the corresponding digit (for example pressing ☐ will open the Tickler file).

The **Recent Databases** window can display hundreds of recently accessed files. If the file you are looking for isn't immediately visible you can type a few letters search for it. The example below shows all recently accessed data relating to purchases.
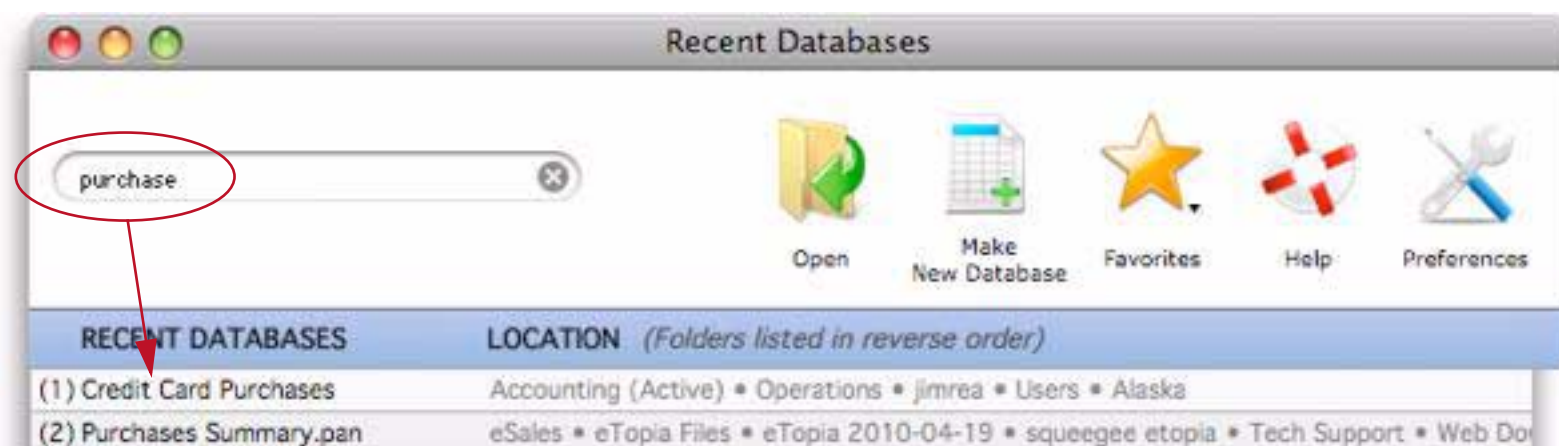
To learn more about this wizard see "The Recent Databases Wizard" on page 44 of the *Panorama Handbook*.

Printing the Data Sheet

Before actually printing the data sheet you'll set up a page header to print today's date on the top left and the page number on the top right of each page. To do this choose **Headers/Footers** from the File menu. This command opens a dialog that allows you designate headers on the top left, center and right and a bottom centered footer.
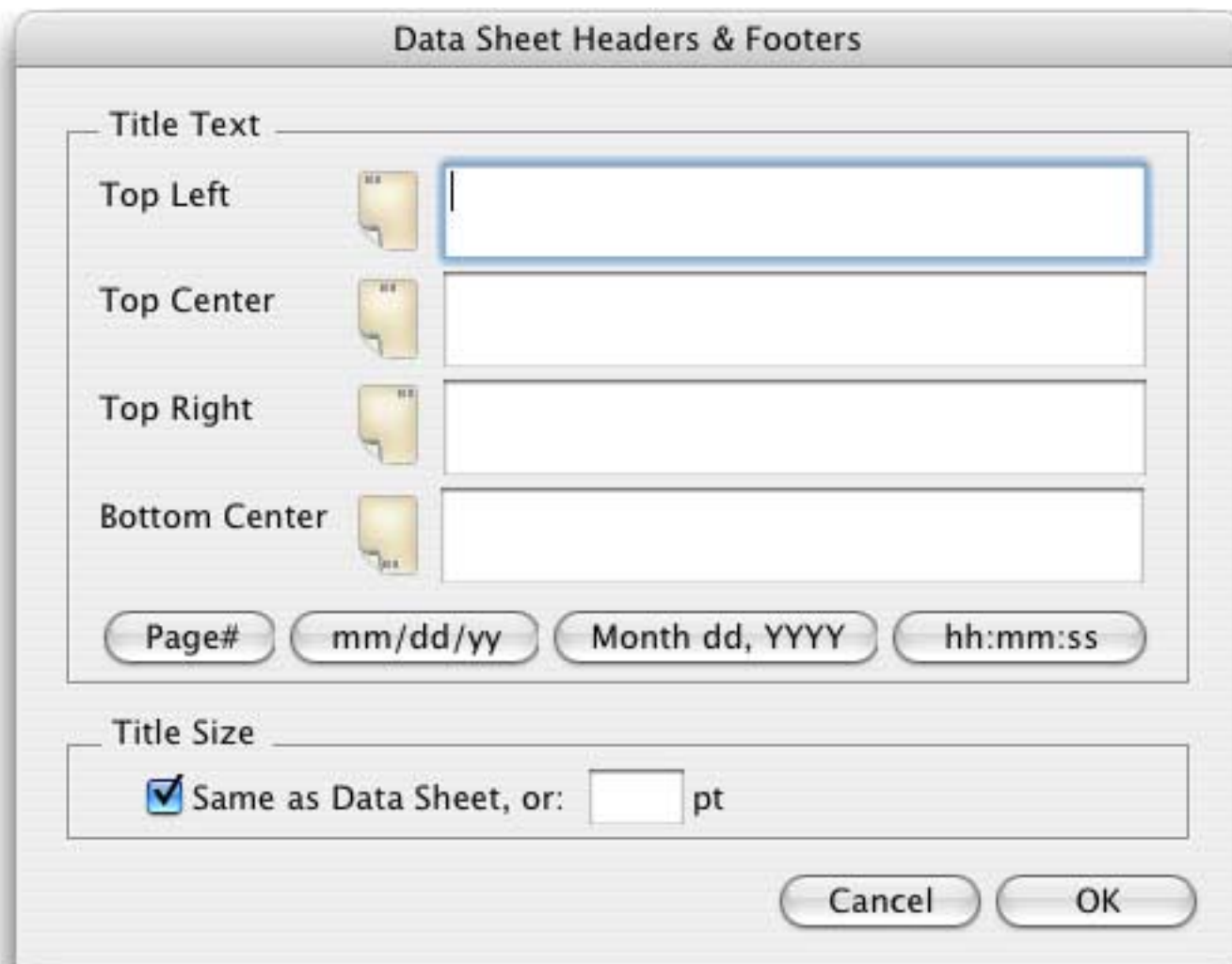
Start with the top left header. Type in the words Printed on and then press the **Month dd, YYYY** button.
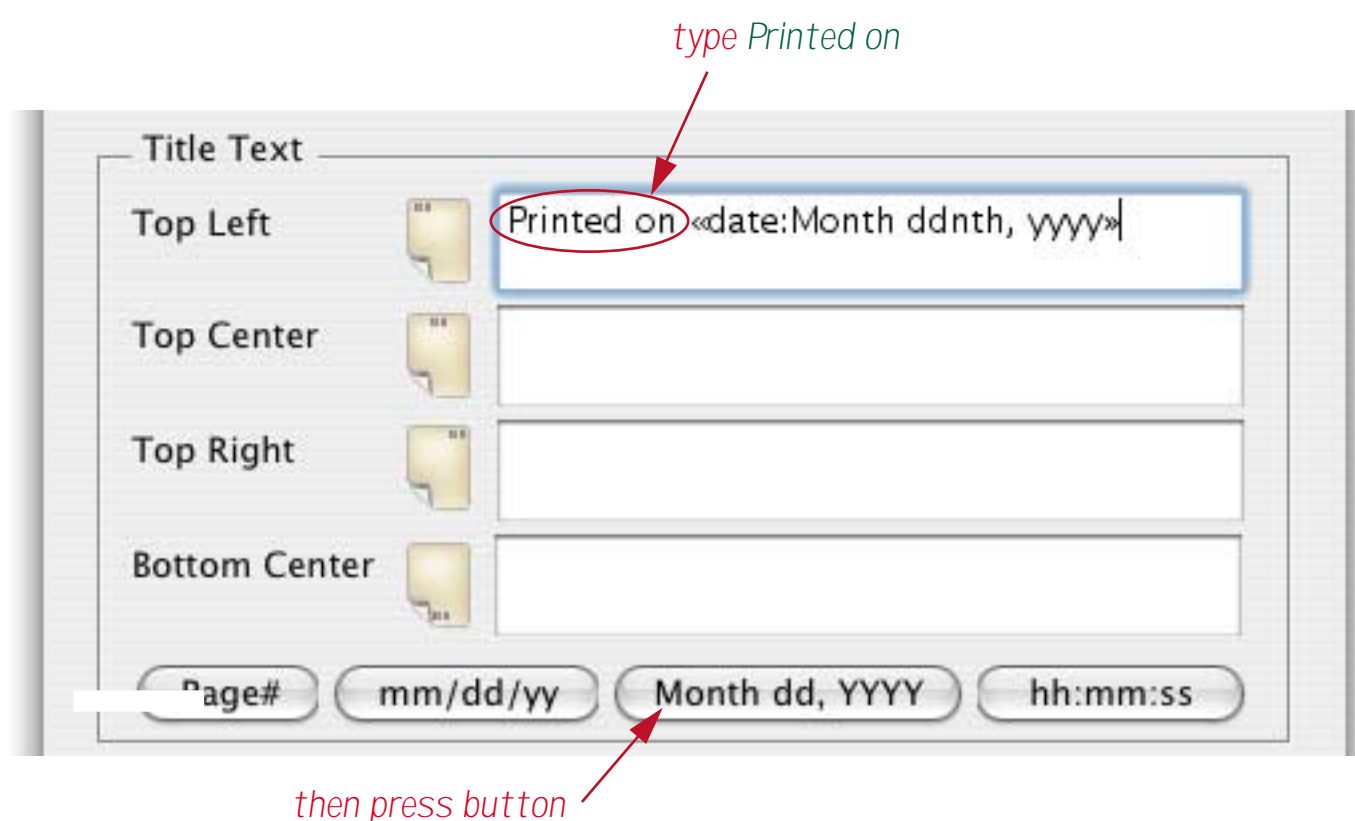
Now for the top right header. Type Page and then press the **Page#** button.

type Page

Title Text

Top Left   Printed on «date:Month ddnth, yyyy»

Top Center

Top Right   Page «Page#»

Bottom Center

[Page#]   [mm/dd/yy]   [Month dd, YYYY]   [hh:mm:ss]

then press button
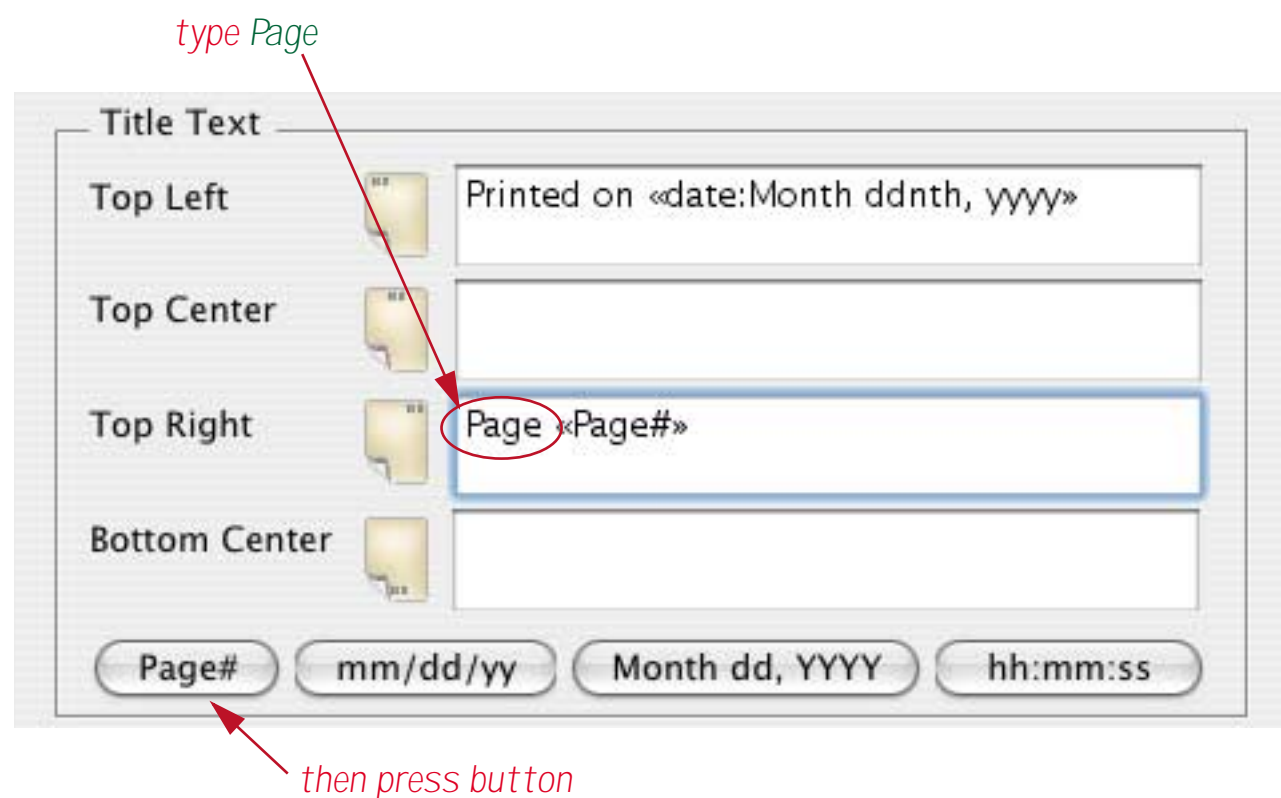
Once both headers are set up press the **OK** button. (To learn more about the header and footer options available when printing the data sheet see "Printing Data Sheet Headers & Footers" on page 1048 of the *Panorama Handbook*. When printing a form you have complete control over the exact layout of headers and footers — see "Custom Reports" on page 1061.)

Next, choose the **Page Setup** command from the File menu. (Before you do this, make sure that the printer you want to use is connected to your computer and selected.) The exact options available in the **Page Setup** dialog depend on the operating system and what kind of printer you are using, but in general you can control the page size, orientation (tall or wide), and print reduction factor. Here is a typical **Page Setup** dialog.

Page Setup

Settings: [Page Attributes ▲▼]

Format for: [Any Printer ▲▼]

Paper Size: [US Letter ▲▼]
            8.50 in x 11.00 in

Orientation: [▮] [▮] [▮]

Scale: [100] %

[?]   [Cancel]   [OK]
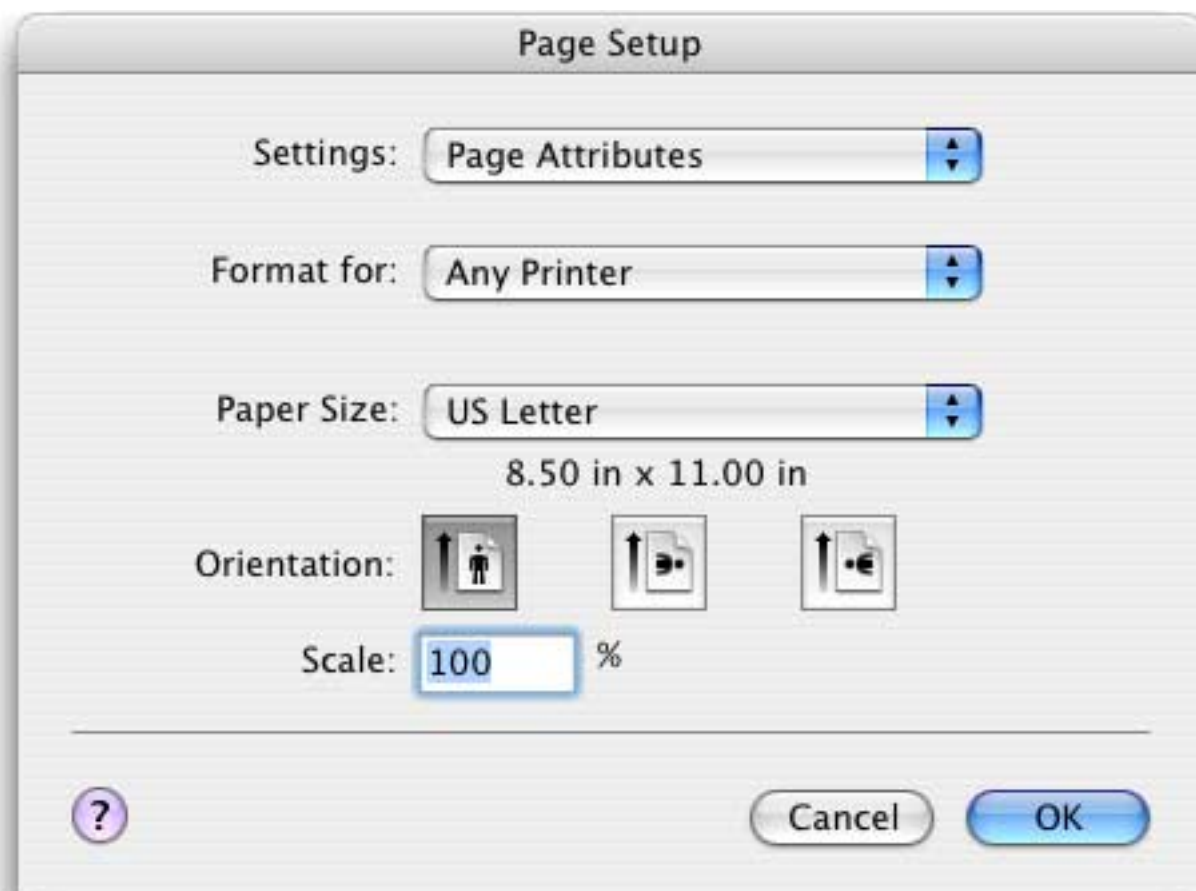
Select the printing options you want to use and press the **OK** button. To actually print the data sheet choose **Print** from the File menu. The printing dialog will appear. The exact options available in this dialog depend on the operating system and what kind of printer you are using, but in general you can control which pages to print, how many copies to print, and whether you want to manually feed the paper. Here is a typical **Print** dialog.
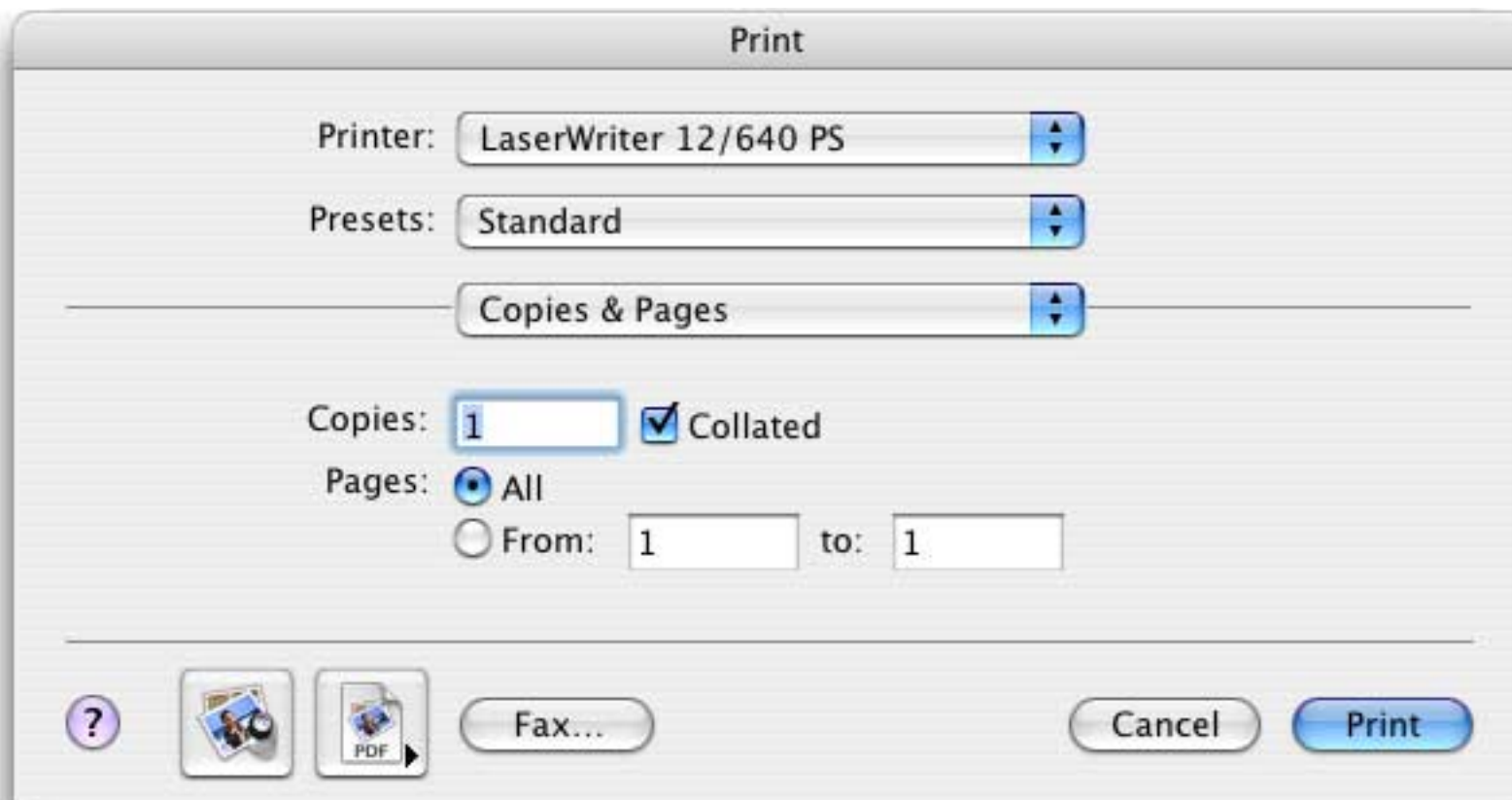
For the exact details on the operation of this dialog see the documentation that came with your printer. Press the **Print** button to print the data sheet. Panorama will automatically print as many sheets as necessary.

If you want to print only a portion of the database, use the **Select** button in the **Find/Select** dialog to select the data you want before printing the database (see "Selecting Instead Of Finding" on page 30). Only the visible records will be printed.

Temporarily Hiding One or More Fields

If you need to temporarily hide a field, simply click anywhere in the field and then choose **Hide Field** from the **Fields** menu. (Alternately, you can right click on the field name and choose **Hide Field** from the pop-up context menu.
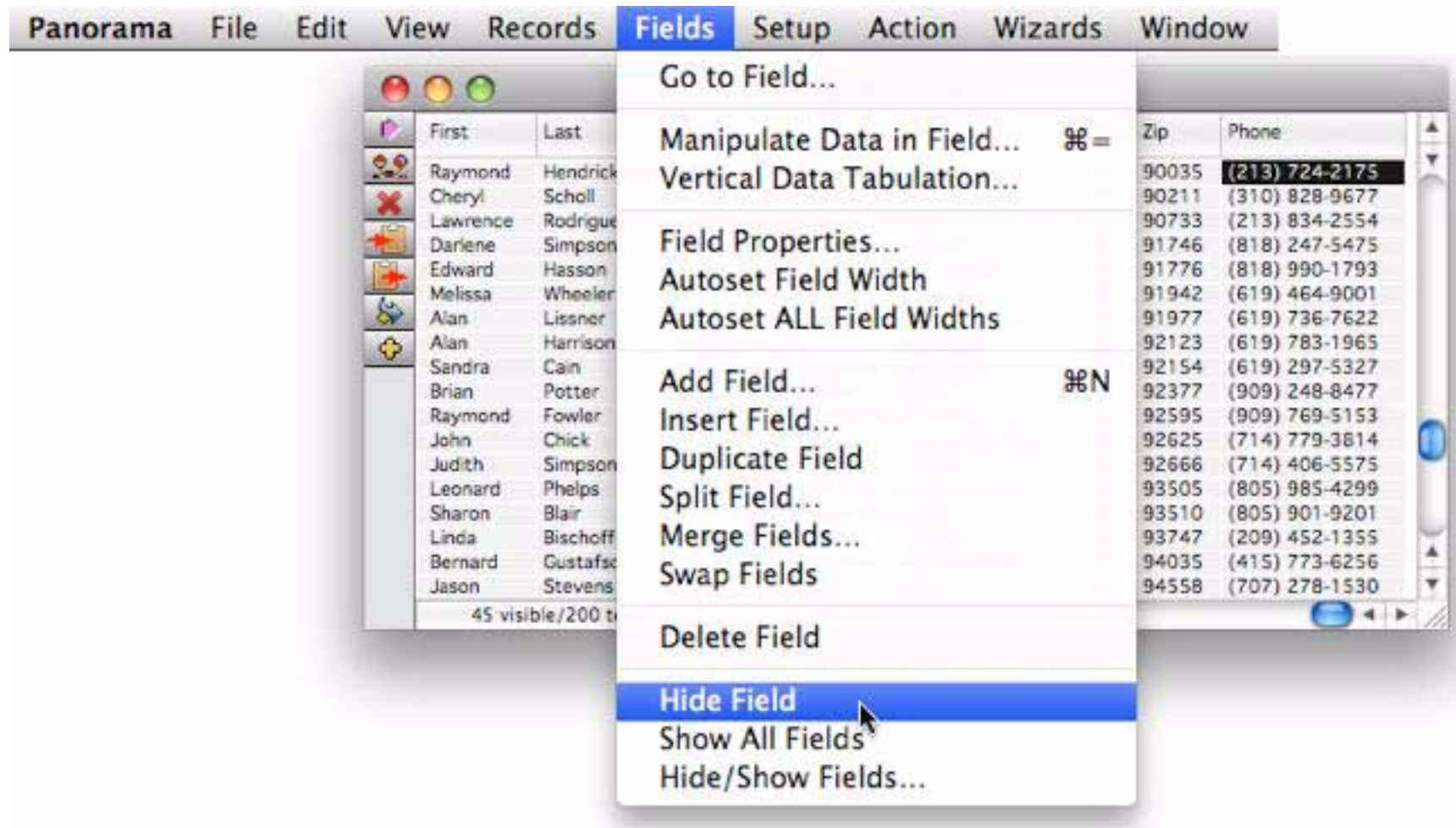
The field, in this case Phone, disappears. You can hide as many fields as you want as long as at least one is visible.

To make all hidden fields visible again, choose **Show All Fields** from the **Fields** menu. Or you can choose **Hide/Show Fields** from the **Fields** menu. This opens a dialog that allows you to choose which fields to show and which to hide.

When you press **Apply**, only the checked fields will be shown.

This technique is especially useful when you want to print only certain fields. Simply pick the fields you want and then choose the **Print** command. If there is a certain set of fields you use over and over again you can set up a favorite for them. Start by opening the **Hide/Show Fields** dialog and pick the fields you want to show. Then click on the yellow star and choose **Add to Favorites**.

Type in a name for your new favorite.

Now you can quickly call up this field configuration at any time simply by clicking on the yellow star.

Automating Tasks with Procedures

Right out of the box, Panorama is a very flexible program. Its built in menus and tools bring incredible power to your fingertips. Even better, you can easily create your own commands that can be activated with a menu or button. You can create these commands (called procedures) using Panorama's built in programming language or simply by recording each step with the built in recorder. To start recording a procedure just click on the **Record Procedure** tool. The wheels of the recorder will start to spin to let you know that Panorama is recording your actions (the recorder is described in detail in "Creating a Procedure with the Recorder" on page 212 of *Formulas & Programming*).
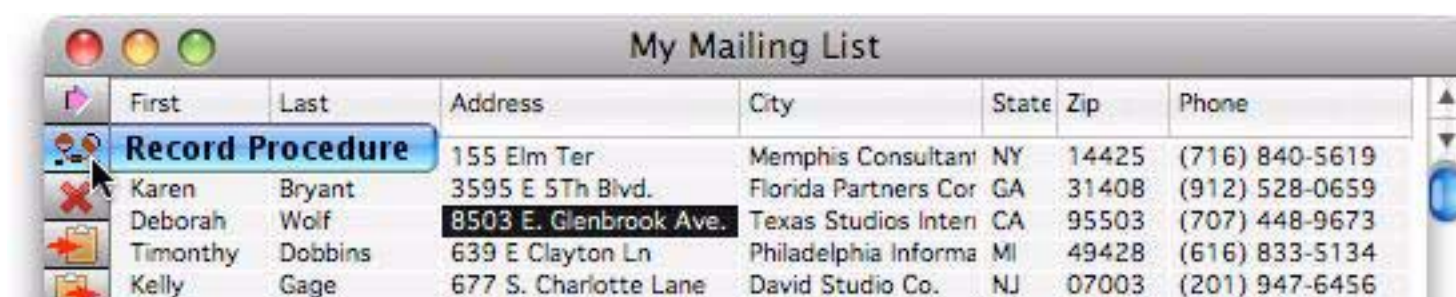
I'll use the recorder to create a procedure that sorts the database by first and last names. With the recorder running (make sure the reels are spinning) I perform the following steps (using the sorting technique you learned earlier, see "Sorting By Two or More Fields" on page 25).

Step	Action
1	Click on the Last field.
2	Choose **Sort Up** from the Records>Sort menu.
3	Click on the First field.
4	Choose **Sort Up Within** from the Records>Sort menu.

When you've finished with these steps press the **Record Procedure** tool again. This stops the recording.

After you stop the recorder a dialog box will appear. Type in the name of the new procedure (in this case Sort) and press the **Save Procedure** button.

Next I'll create a more complicated procedure to print the addresses in zip code order. I start by turning the recorder back on again.
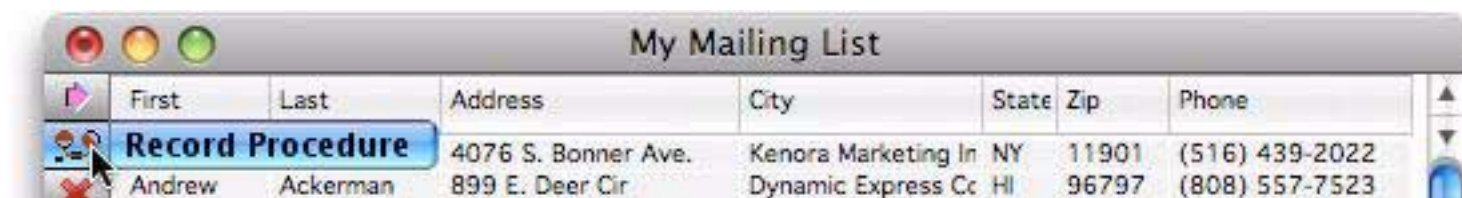
With the recorder running perform the following steps.

Step	Action
1	Click on the Zip field.
2	Choose **Sort Up** from the Sort menu.
3	Choose **Hide/Show Fields** from the Fields menu.
4	Uncheck the Phone field, leaving the others checked.
5	Click on the **Apply** button.
6	Choose **Print** from the File menu
7	Click on the **Print** button

When I've finished with these steps I press the **Record Procedure** tool again to stop the recording.

Again, Panorama asks me to give this procedure a name of its own.

Before I go any further I will **Save** the database with the new procedures I just created.

Using the Action Menu

If you look closely, you'll see that a new menu has appeared — the **Action** menu. This menu contains the two procedures that were just recorded.
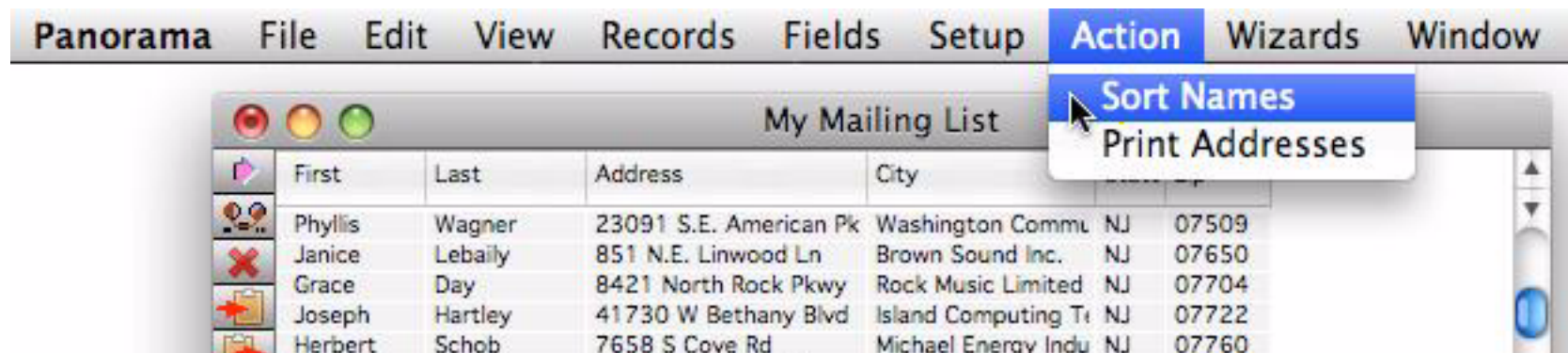
When you choose a command from this menu it replays the steps that were recorded in the procedure. If I choose the **Sort Names** command, Panorama replays the recorded steps as fast as it can — zip zip zip.

To learn more about the **Action** menu see "The Action Menu" on page 355 of *Formulas & Programming*.

Editing a Procedure

A procedure can be opened to see what's inside. To see what is inside a procedure, right click on the **View** menu and choose the procedure name (if you have a one button mouse, hold down the **Control** key).

right click or hold down control key to open procedure in a separate window
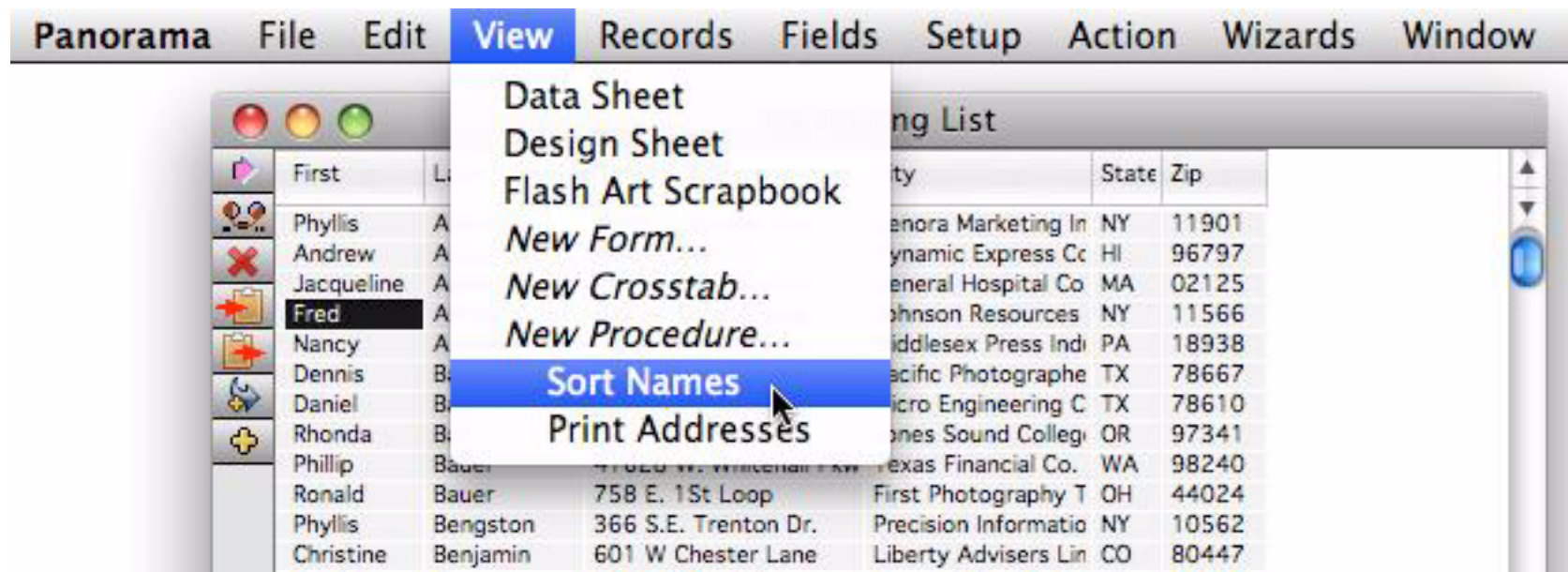
A new window opens, showing the steps of the procedure. Each step you recorded appears in a simple English-like format.
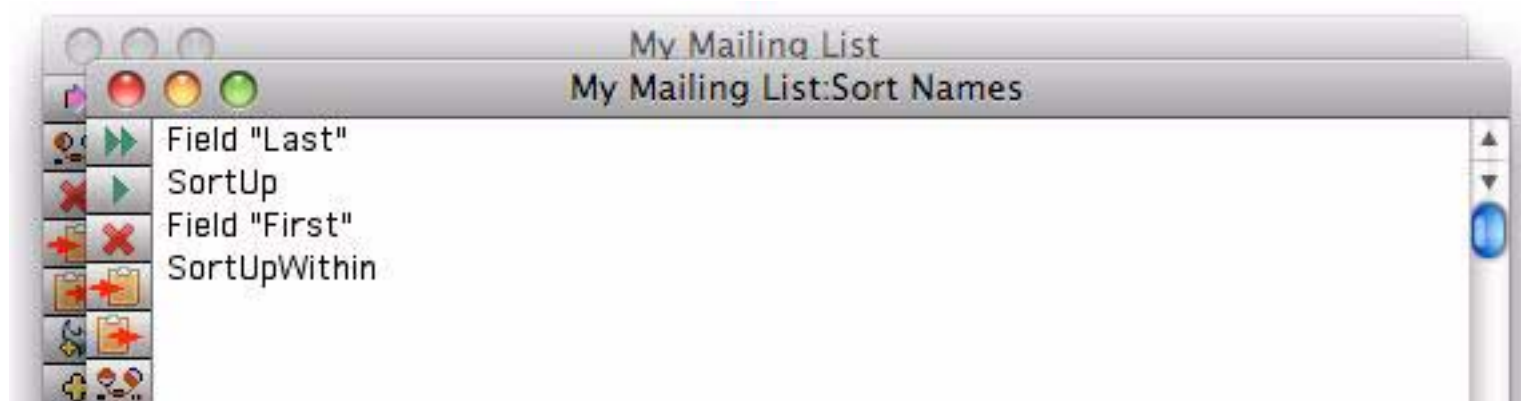
With this window opened you can edit the steps that were recorded. For example, if you made a mistake during the recording, you could fix it now. You can also add new steps by typing them in (or cutting and pasting from another recording). For example, if I add the step `firstrecord` to the end of this procedure, Panorama will automatically jump to the beginning of the database after sorting the data. To try this out I can either click on the data sheet and use the Action menu, or I can simply press the **Run** tool.
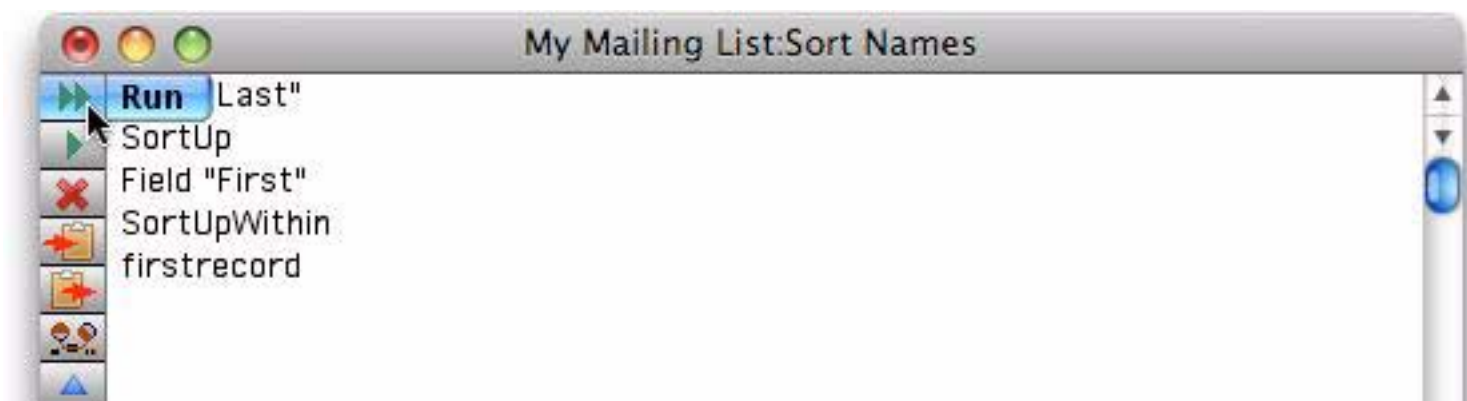
Panorama has hundreds of commands — how did I know that `firstrecord` was the one I needed to jump to the top of the database? To help find the command I need I use the **Programming Assistant** dialog, in the **Edit** menu. Once this dialog I can search for the command I am looking for. Aha ... there it is, *firstrecord*. Now I can simply double click on it to insert it into the procedure (to learn more about this assistant see "The Programming Assistant Dialog" on page 225 of *Formulas & Programming*).
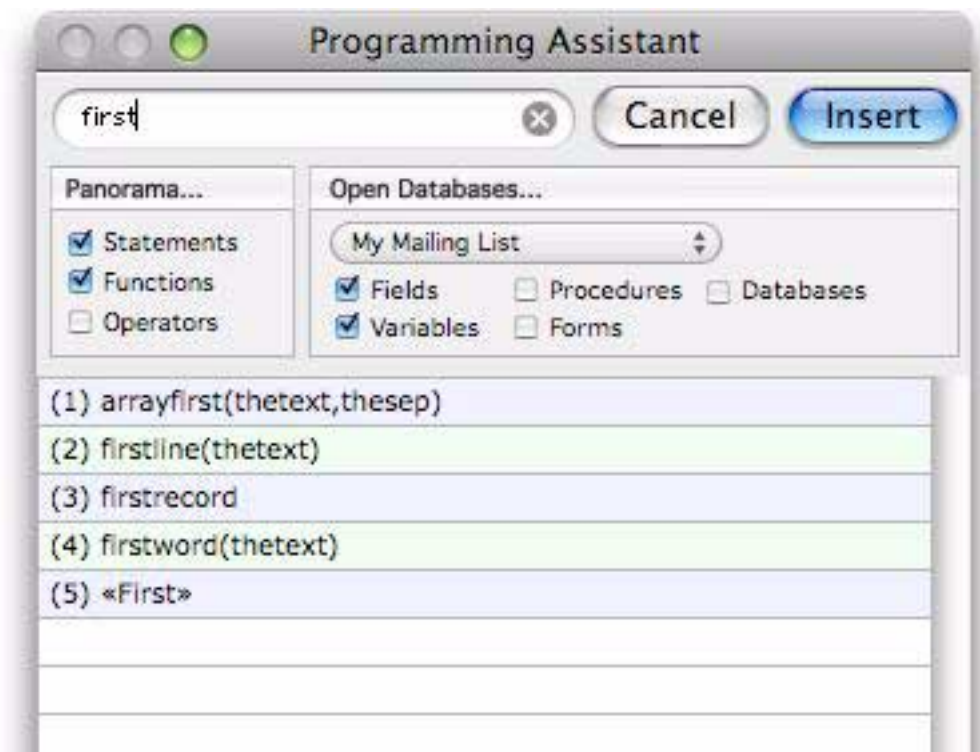
As you can see Panorama has hundreds of commands that can be used in a procedure — in fact, it has a complete programming language. If you're a developer you'll love the power and flexibility at your fingertips (you can even program in PHP, Perl, Ruby, Python, AppleScript or shell scripts). If you don't have programming experience you'll find that Panorama's step -by-step approach makes it easy to learn. The fundamentals of Panorama's programming language and tools are described starting with "Introduction to (Panorama) Programming" on page 203 of *Formulas & Programming*.

Creating a New Procedure from Scratch

In addition to creating procedures with the recorder, you can also create them from scratch. To demonstrate this, I'll create a simple procedure that displays a map of the current address. This is easy to do because Panorama has a built-in command to display a map. To create a new procedure, right click on the **View** menu and choose **New Procedure** (if you have a one button mouse, hold down the **Control** key).
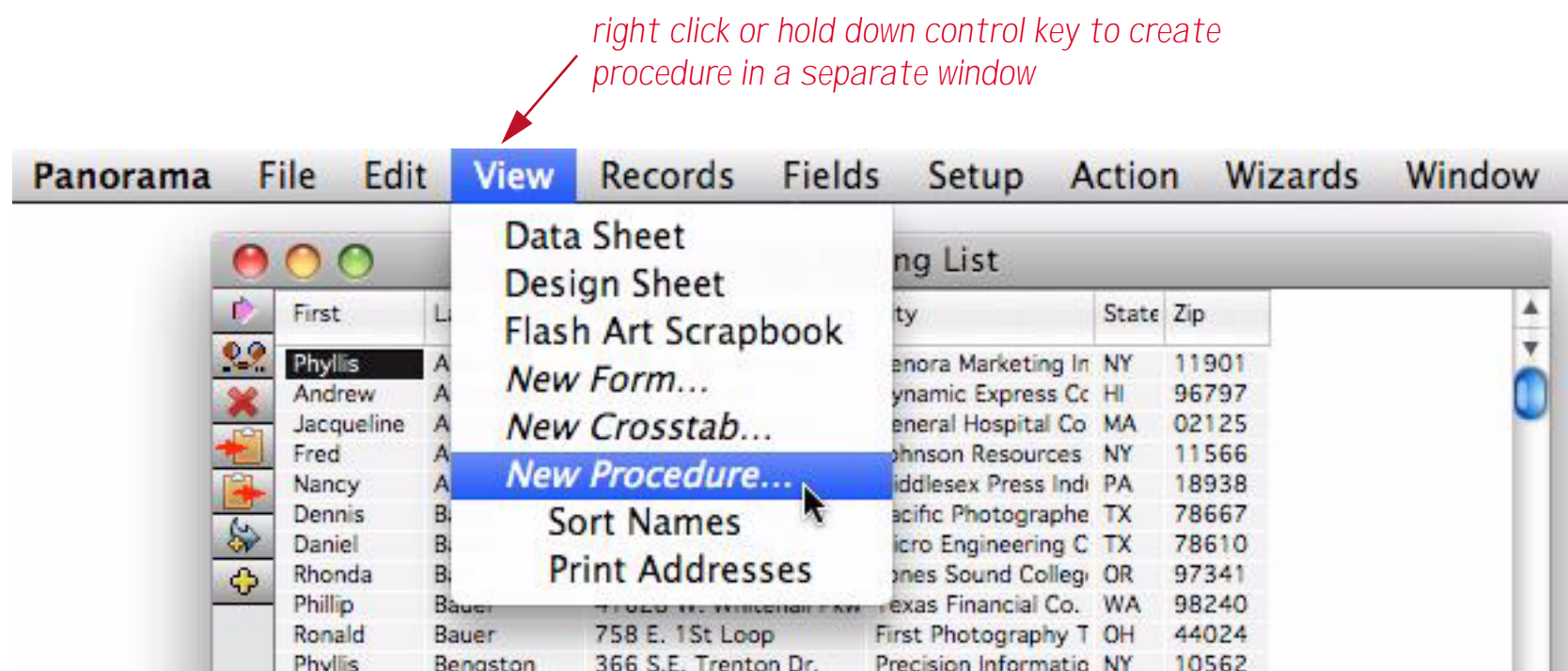
I'll simply call my new procedure Map.

```
                          Create New Procedure

    New procedure name:            ☐ Insert before:

    [Map                    ] [▲▼]    [ Sort Names        ▲▼ ]

                              ( Cancel )    ( OK )
```

Panorama creates a new, empty procedure, ready for whatever I want to put into it.

```
 ● ● ●              My Mailing List:Map

 ▶▶  |
 ▶
 ✖
 ⬅
 ➡
 👥
 🔺
 🔻
 ➕
 ✅

        Procedure opened.         ◀ ▶ ⬤      ◀ ▶
```

To find out how to display a map I use the **Programming Assistant** (**Edit** menu).
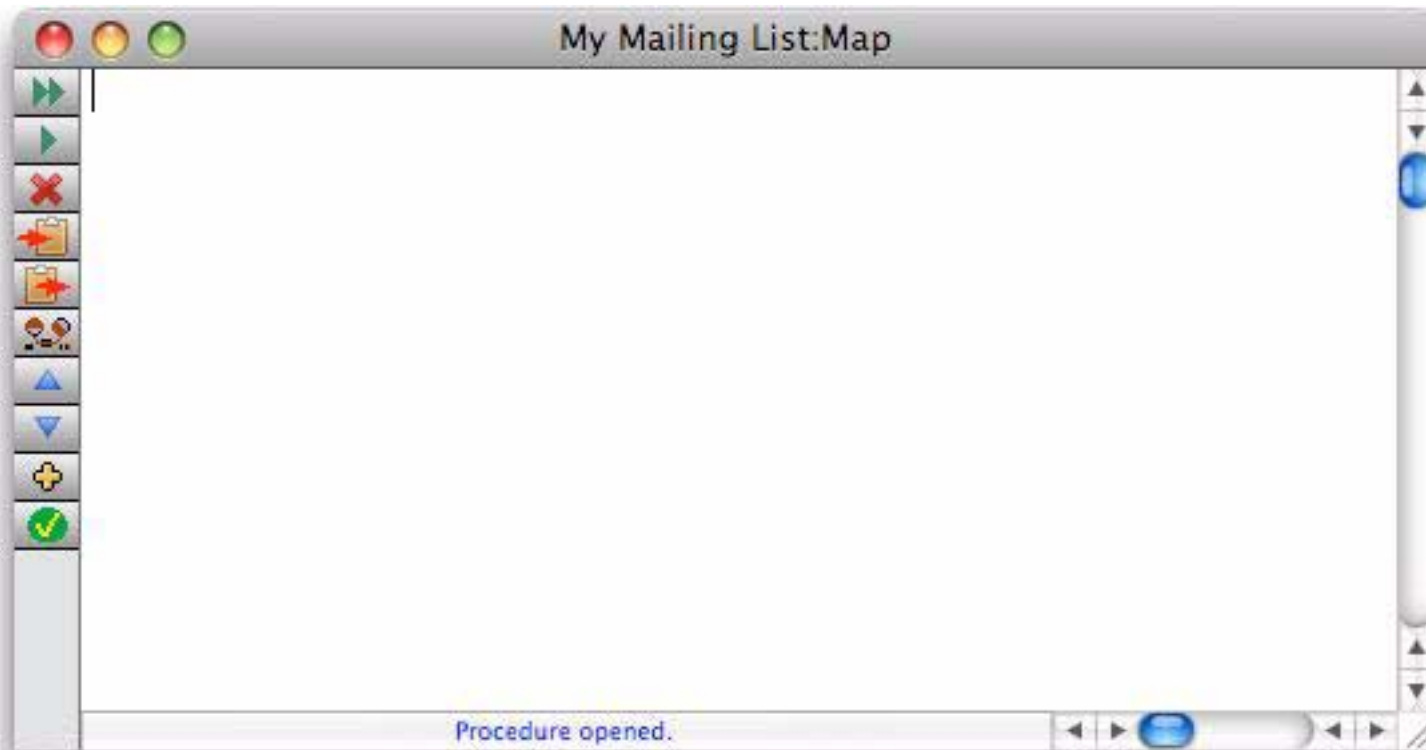
```
 ○ ○ ●              Programming Assistant

 ( map|                              ⊗ )  ( Cancel )  ( Insert )

 Panorama...      Open Databases...

 ☑ Statements     ( My Mailing List        ▲▼ )
 ☑ Functions      ☑ Fields    ☐ Procedures  ☐ Databases
 ☐ Operators      ☑ Variables ☐ Forms

 (1) mapaction
 (2) mapdisplay(thestreet,thecity,thestate,thezip)
 (3) mapdisplaycache(thestreet,thecity,thestate,thezip,cacheonlyflag)
 (4) mapincache(thestreet,thecity,thestate,thezip)
 (5) opengooglemap street,city,state,postalcode,country
 (6) openmapquest street,city,state,postalcode,country
 (7) openmapwindow street,city,state,postalcode,country,mapheight,mapwidth,options
 (8) openwebmap street,city,state,postalcode,country
```

The command I want is openmapwindow, so I double click on that line to insert it into my new procedure.

This command has eight parameters, but only the first four are required. So I start by deleting the last four parameters. Then I edit the first four parameters to match the actual field names in this particular mailing list database.
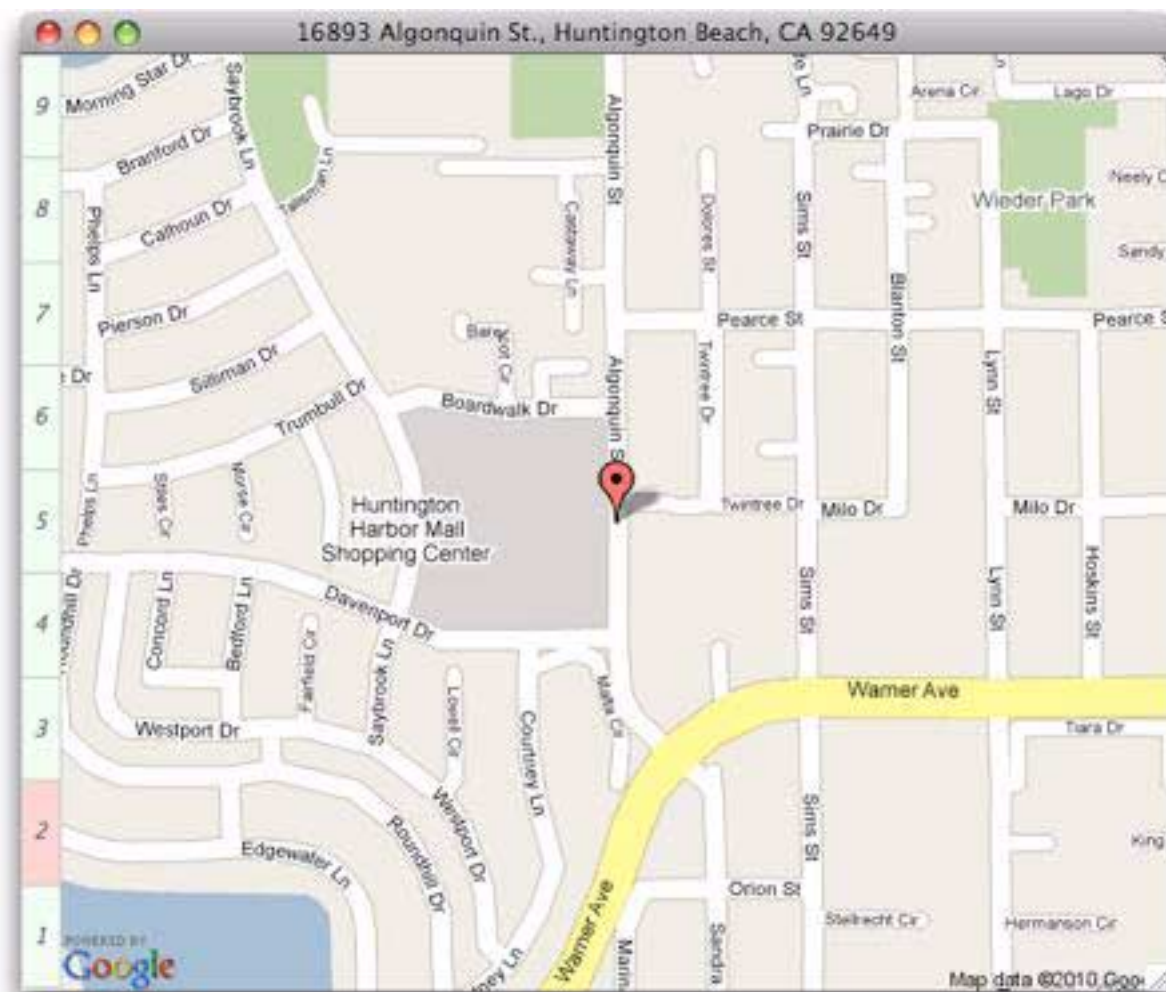

My program is complete … just one line. To test it, I can either go back to the data sheet and choose **Map** from the **Action** menu, or simply press the **Run** tool. Panorama will open a new window showing the location of the current address in the data base.


Not every procedure is quite this simple, but if you take a step-by-step approach you'll be amazed at what you can do.

Creating a Form for Printing Mailing Labels

Printing mailing labels is a common task. Many types of peel-off labels are available commercially. Panorama already knows the dimensions of many popular labels and can do most of the work for you. The first step in setting up a mailing label is to create a **form** to hold the label. A form is like a sheet of paper that you can draw on (see "Introduction to Forms" on page 481 of the *Panorama Handbook*). You can place graphics, text and data on the form to create labels, invoices, statements, or virtually anything else. To create a new form select **New Form** from the View menu.
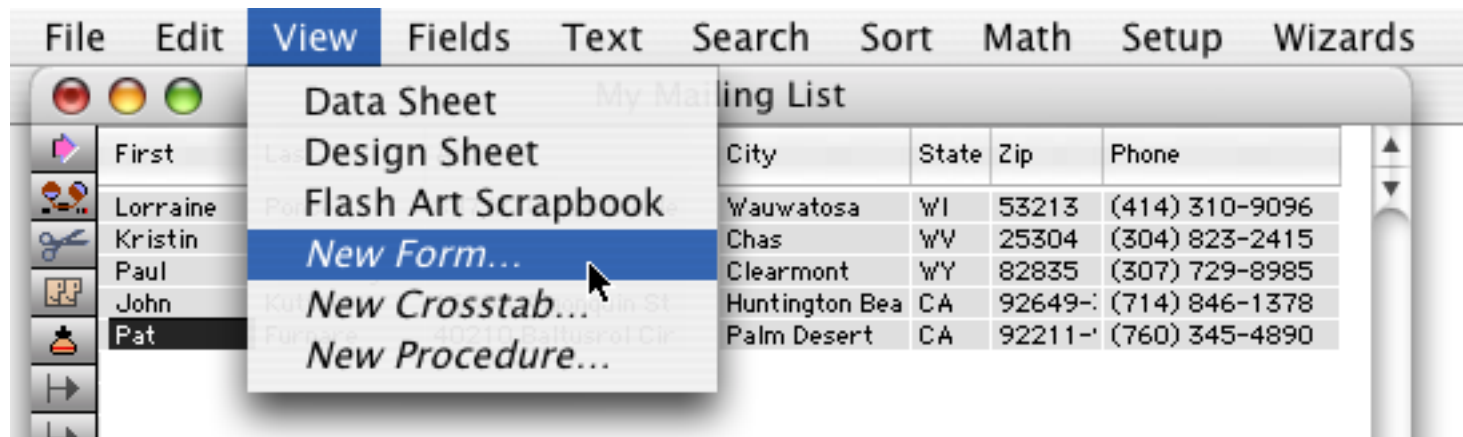

A dialog box appears asking for more information about the new form you want to create. Type in a name for the new form (we used the name Mailing Labels, but you can choose any name up to 25 characters long).
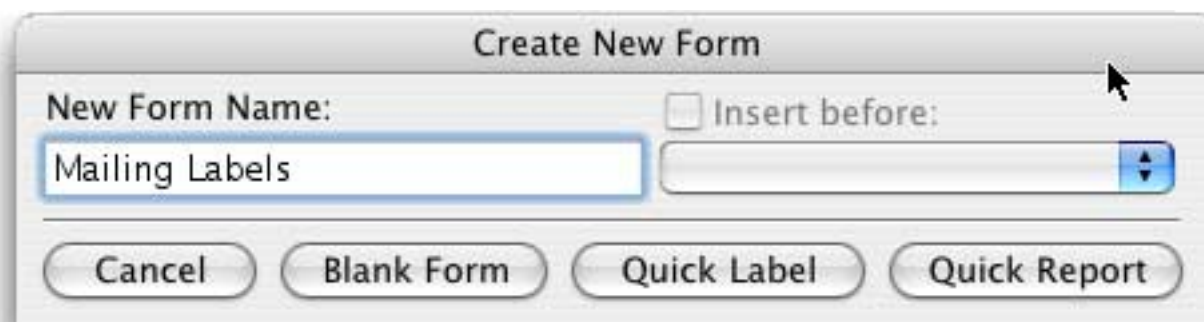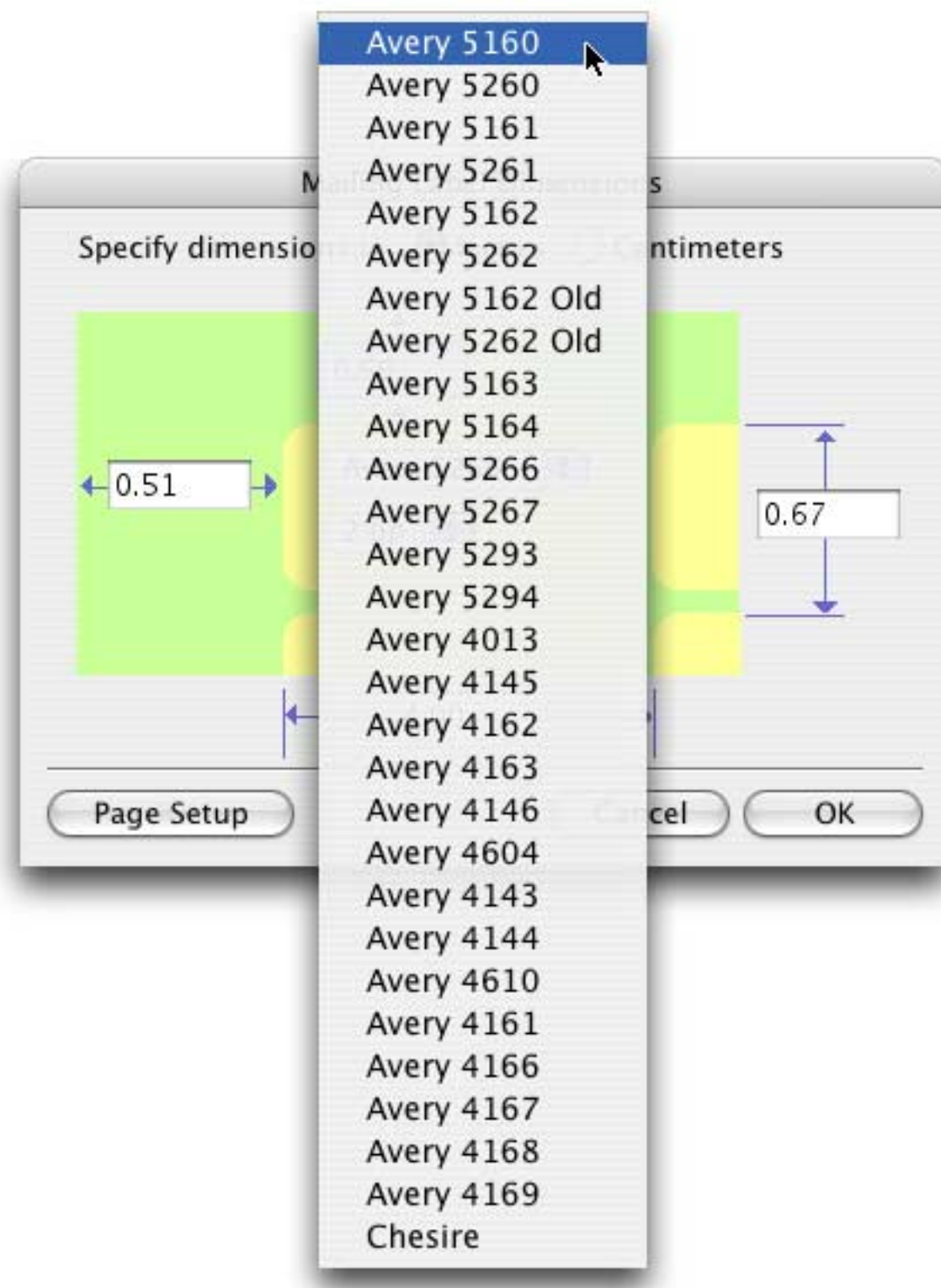
The dialog gives you three options when creating a new form — a blank form, a mailing label and a report. Press the **Quick Label** button. The Quick Label dialog appears, allowing you to define the dimensions of the mailing label you want to print on.
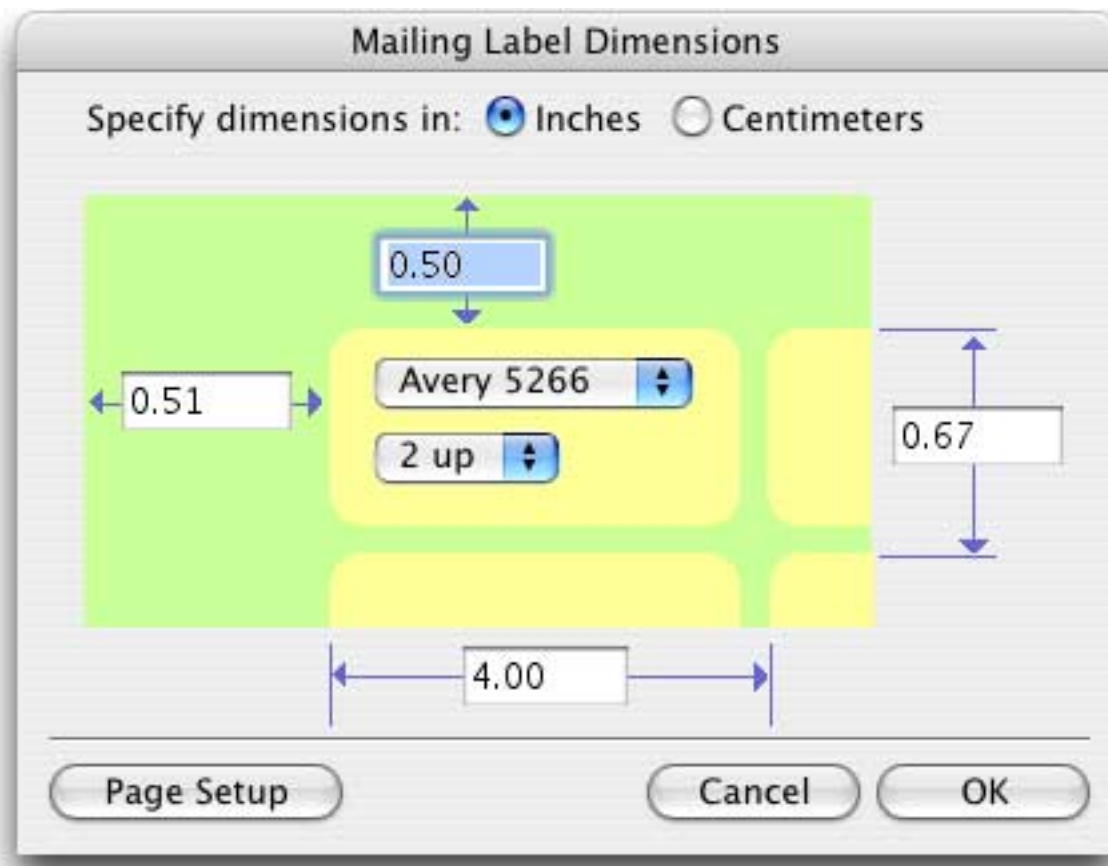
In the center of the dialog is a pop-up menu that lists many popular labels. The most popular label is the Avery 5160 which contains 30 labels per page in three columns of 10 labels.

Avery 5160
Avery 5260
Avery 5161
Avery 5261
Avery 5162
Avery 5262
Avery 5162 Old
Avery 5262 Old
Avery 5163
Avery 5164
Avery 5266
Avery 5267
Avery 5293
Avery 5294
Avery 4013
Avery 4145
Avery 4162
Avery 4163
Avery 4146
Avery 4604
Avery 4143
Avery 4144
Avery 4610
Avery 4161
Avery 4166
Avery 4167
Avery 4168
Avery 4169
Chesire

Specify dimensio   ntimeters

0.51

0.67

Page Setup   cel   OK

When you release the mouse the updated label dimensions appear. (You may also see an alert telling you that the largest possible printable page area must be set in the **Page Setup** dialog. If you see this message you should make sure Page Setup is configured to use as much of the page as possible, with the minimum possible margins.)
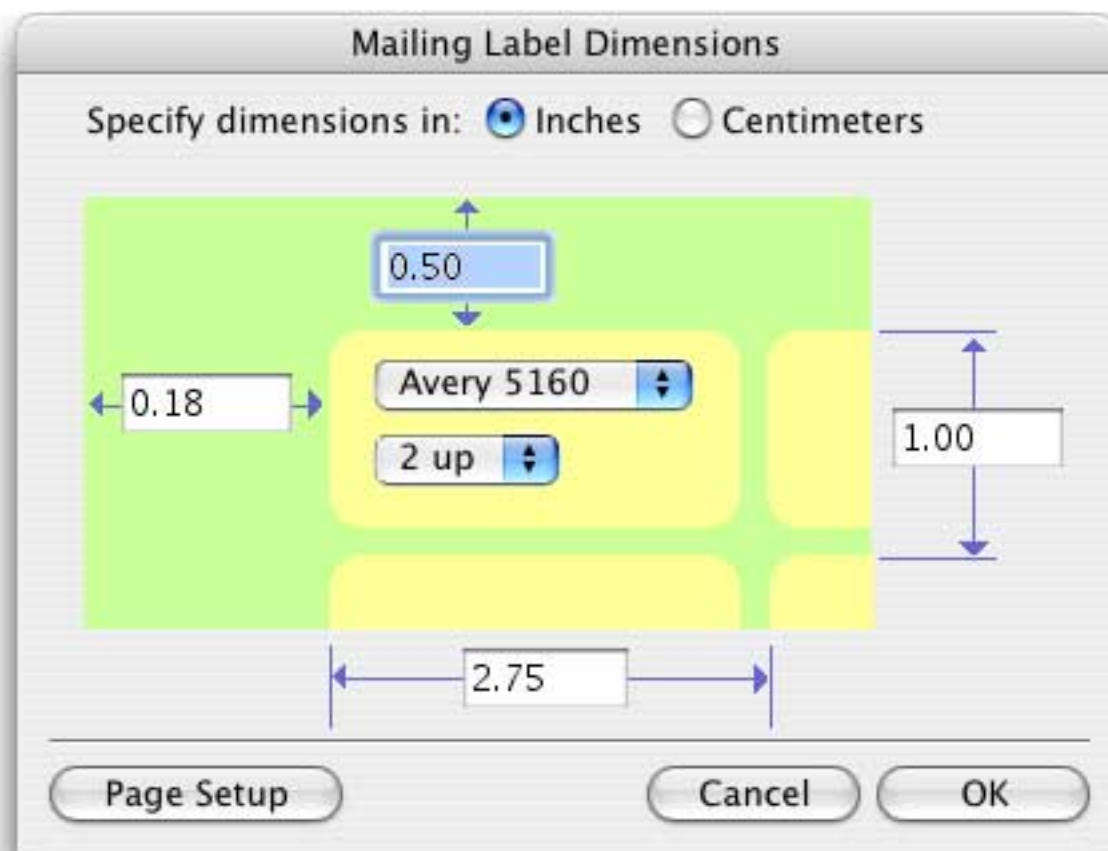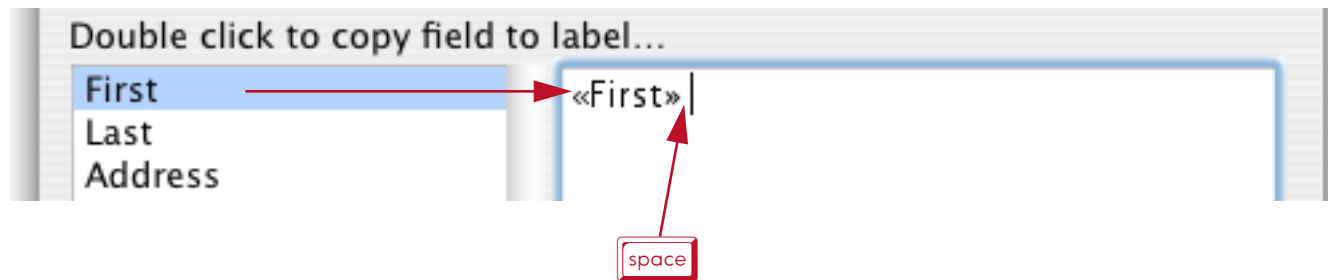

Press the **OK** button after the dimensions are set up.

Once the label dimensions are set up, the next step is to set up the text that will be printed on the label. A second dialog box will appear with a list of fields on the left. You'll build the template for your label on the right.

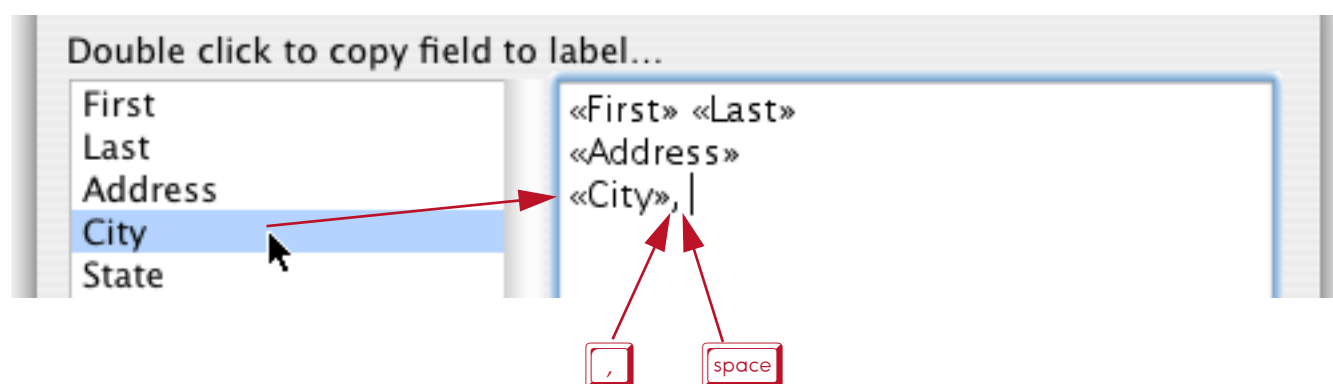Start by double clicking on the First field, then press the **Space Bar**.

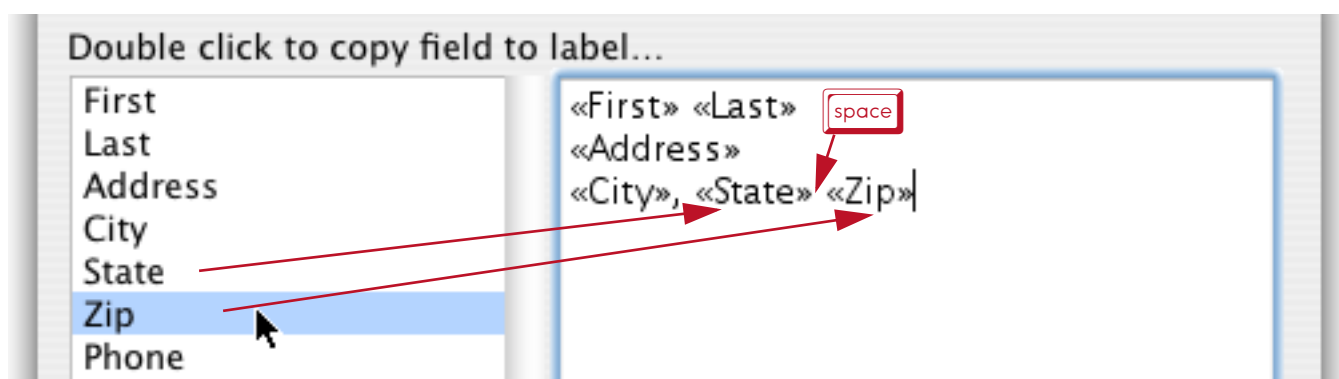Now double click on the Last field, then press the **Return** key.
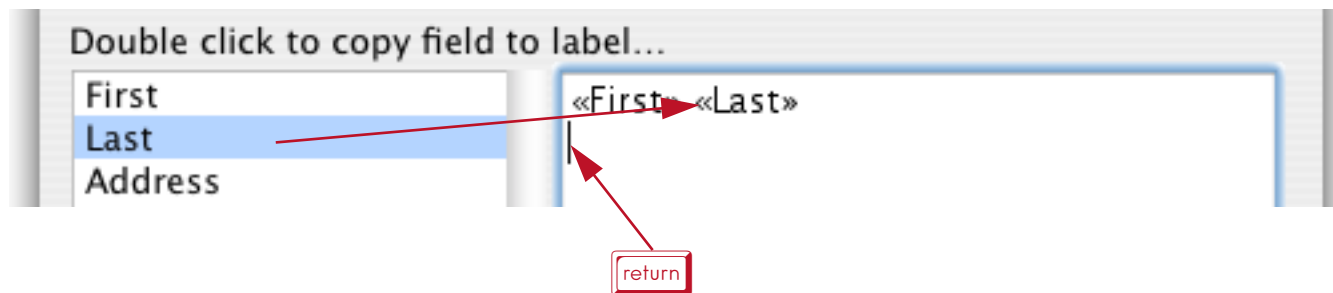
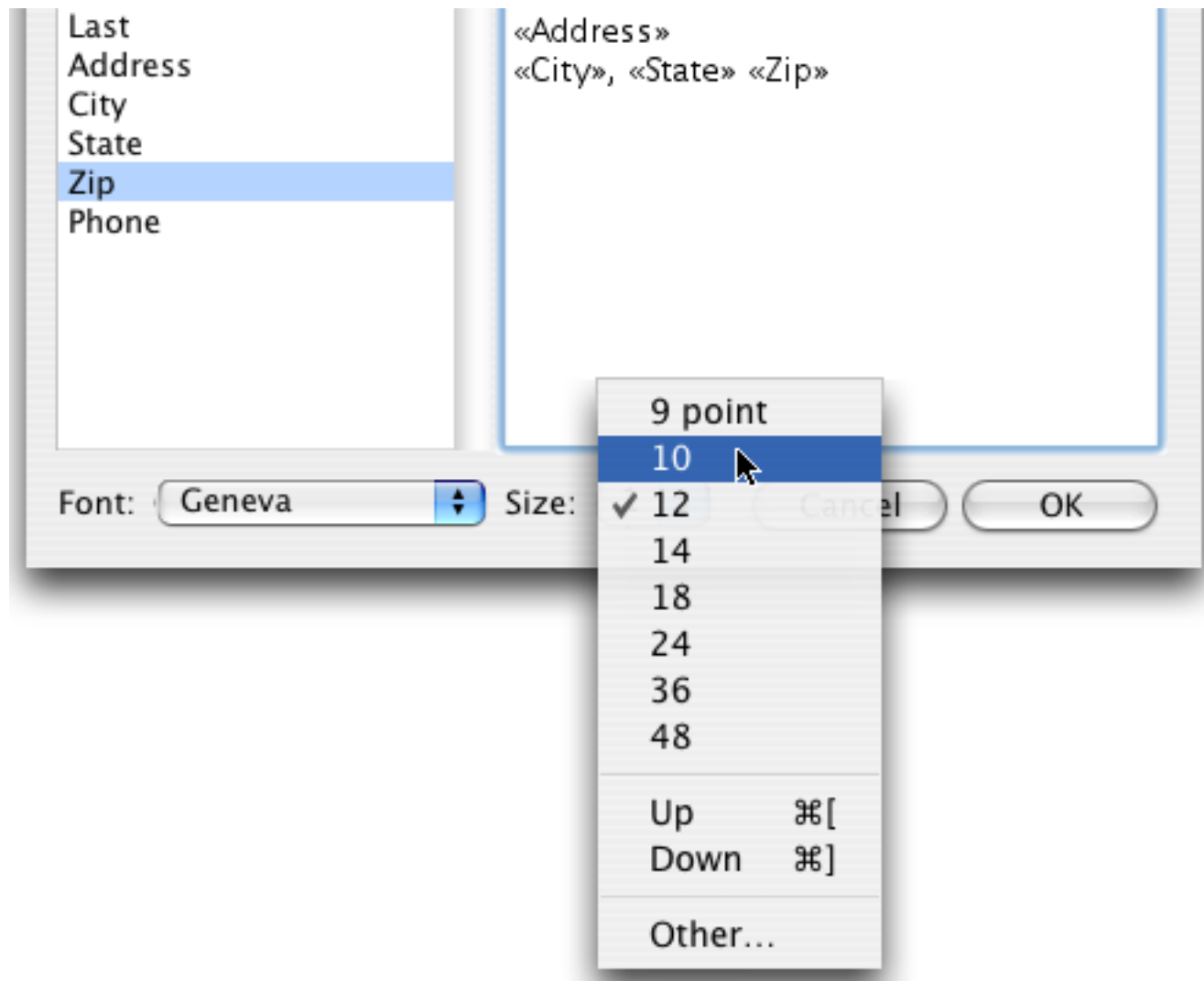Double click on the Address field, then press the **Return** key.

Double click on the City field, then press the **comma** key and the **Space Bar**.

Finish the label by double clicking on the State field, pressing the **Space Bar** and then double clicking on the Zip field.
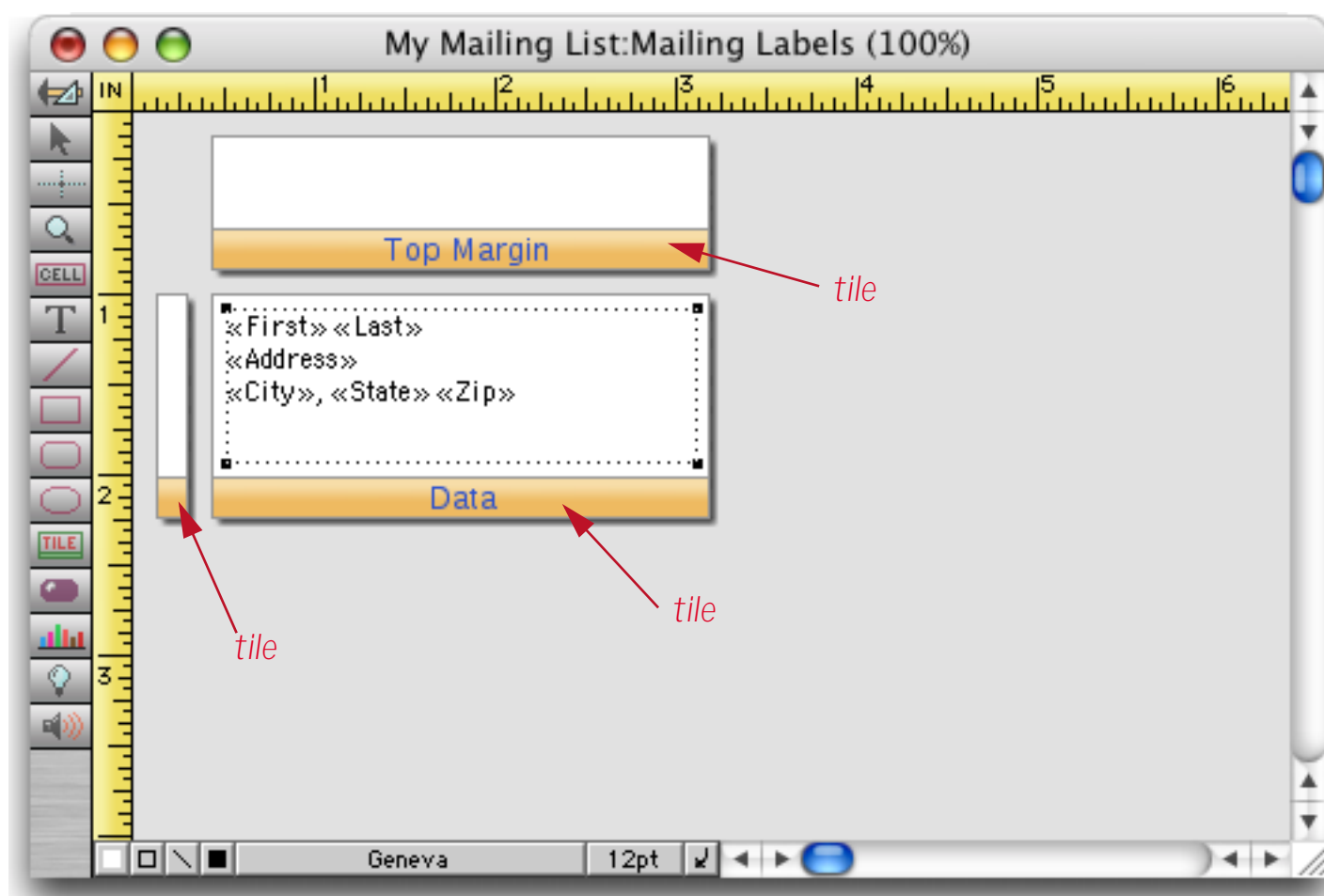
You can choose the font and size you want to use now or later.

Press **OK** when the label design is complete.

Panorama now shows you the finished template for the label. The label appears on special "tiles" that control the size and spacing of the labels (see "Tiles In Action" on page 1076 of the *Panorama Handbook* for a complete description of tiles).
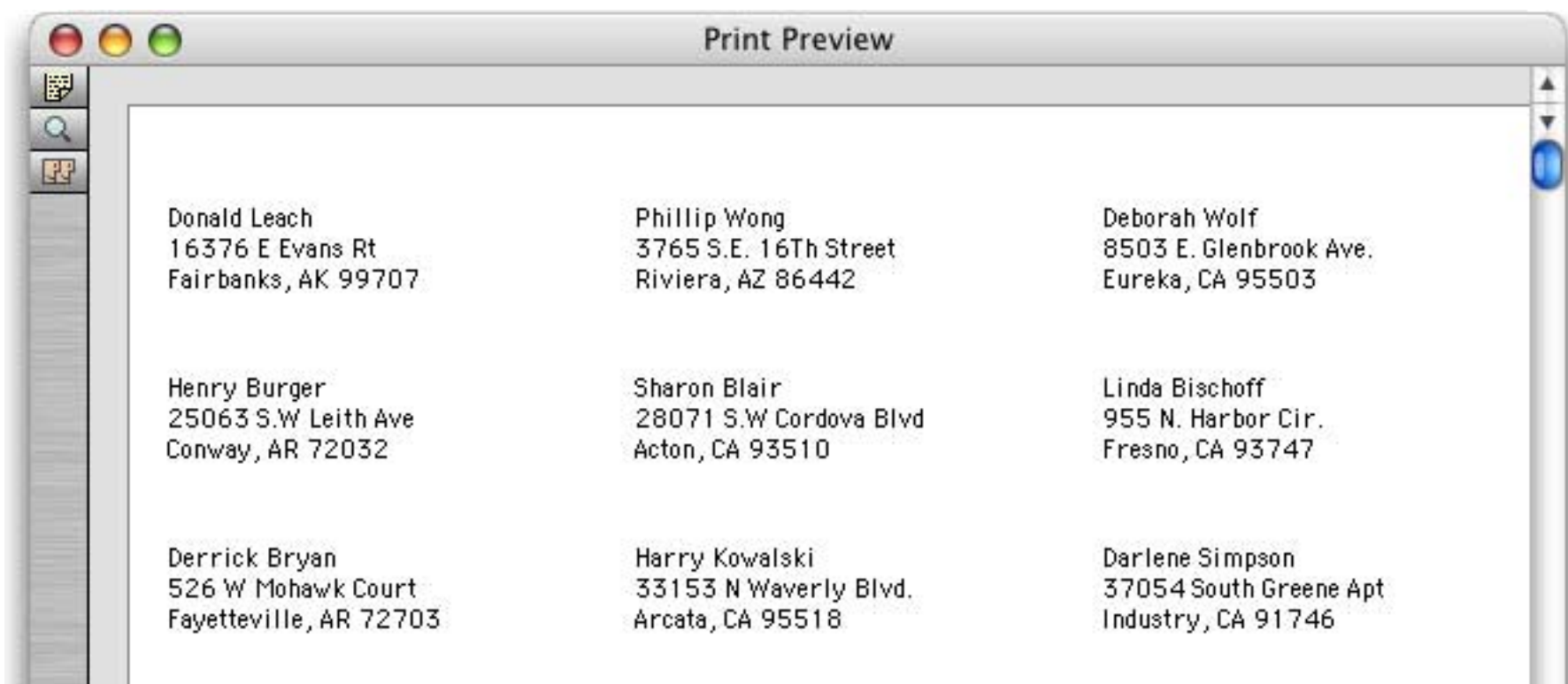
Previewing the Labels

To see how the page of labels would look before printing, choose **Preview** from the File Menu. If this is the first time the labels have been previewed or printed, the **Page Setup** dialog will appear. If this happens, just press **OK** to skip to the preview window. The Print Preview window will show a reduced view of an entire page of labels.
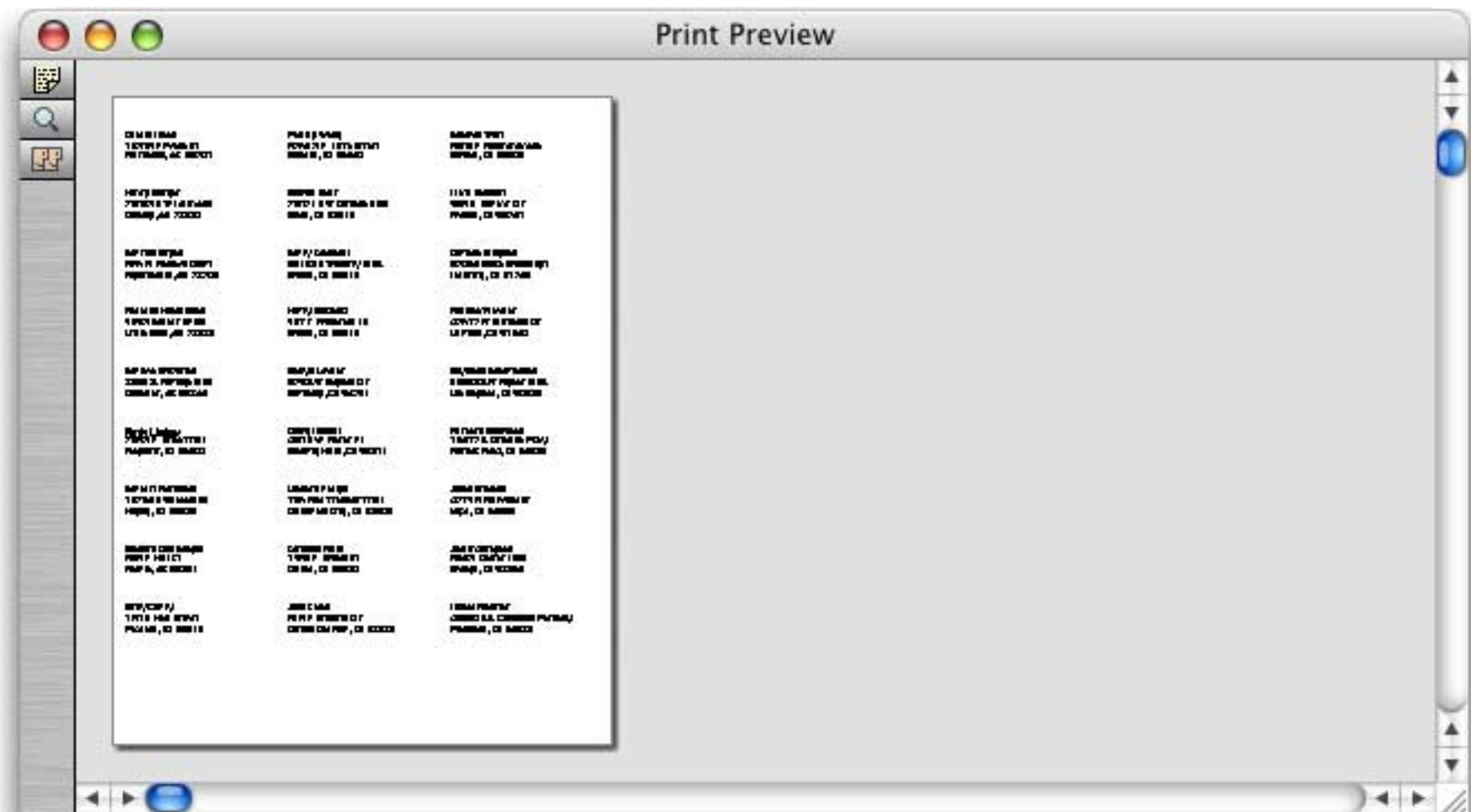
You can click on the magnifying glass tool to see the report life-size, and click on the Next Page tool to preview the next page.

When you are done looking at the preview, click on the window's close box. To learn more about the Print Preview window see "Print Preview" on page 1056 of the *Panorama Handbook*.
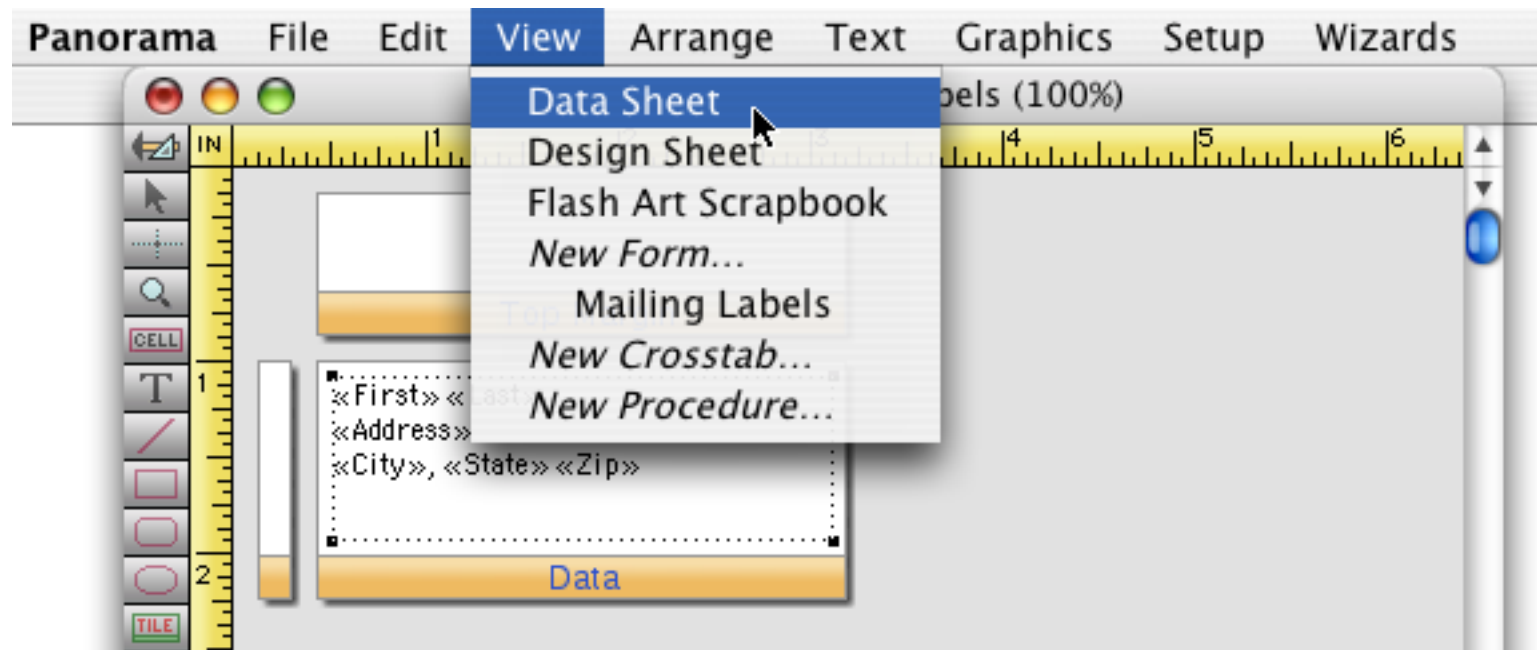
Printing the Labels

To print your mailing labels, first make sure that the correct printer is selected. Make sure the labels are set up in the printer, then choose **Print** from the File Menu.

If you don't want to print all of the labels, use the **Find/Select** command to select the addresses you do want to print. Use the **Select** button so that only the addresses you want to print are visible (see "Selecting Instead Of Finding" on page 30). Once the correct addresses are selected, use the **Print** command to print the labels. After the labels are printed, use the **Select All** command to make all of the addresses visible again.

Switching Between Forms and the Data Sheet

To switch back to the data sheet select **Data Sheet** from the **View** menu.
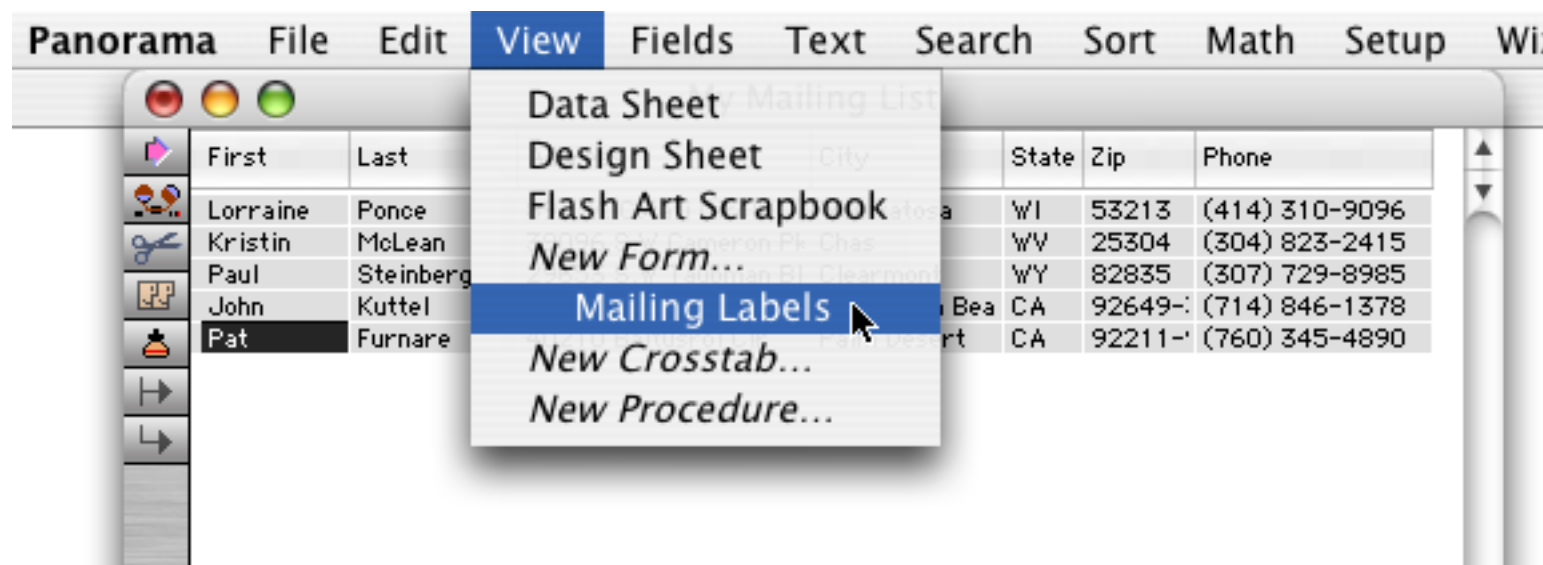

Panorama will switch the window from the mailing label back to the data sheet.

The **View** menu lists every possible view of your database, and also allows you to create new views. To switch back to the mailing label, choose the name of the form containing the label from the menu.


Your database can contain many different forms, each displaying the data a different way (see "Introduction to Forms" on page 481 of the *Panorama Handbook*).

Creating a Data Entry Form

A form is not limited to displaying and printing data, it can also be set up for data entry. Using a form allows you to lay out the fields any way you like. You are not limited to the row and column format used by the data sheet.

To create a new form view you'll use the **View** menu. You're going to create the form in a new window. To do this you must hold down the **Alt** key if you are using a Windows PC, if you are using a Macintosh hold down the **Control** key. Either way, select **New Form** from the View menu.
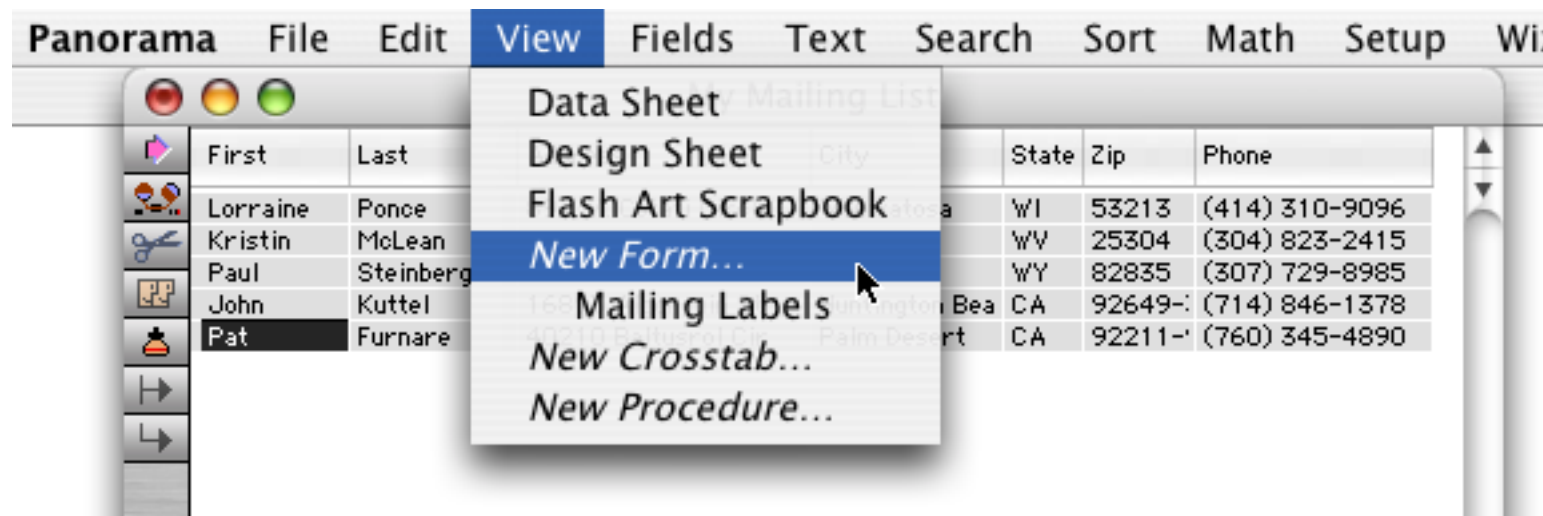

Panorama will ask you for the name of the new form. You can use any name you like up to 25 characters, we chose the name Entry.
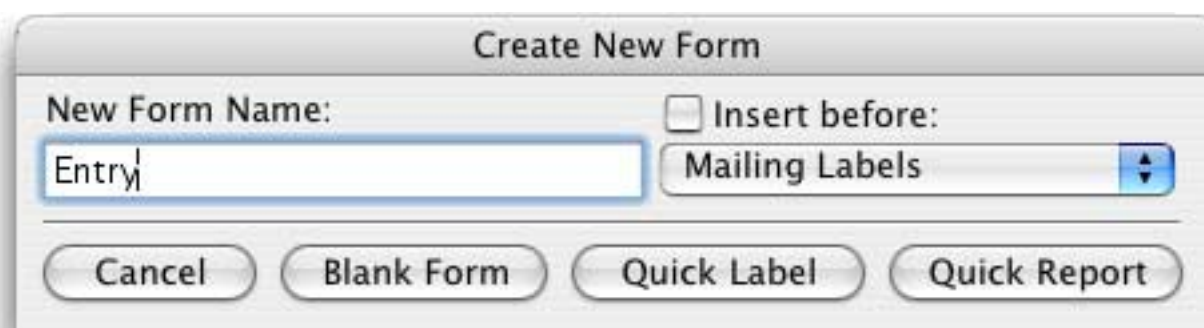
When you press the **Blank Form** button Panorama will create a new, empty, form. Since you pressed the **Alt** key (PC) or the **Control** key (Mac) when using the **View** menu, Panorama creates the form in a new window, leaving the data sheet also open in the back (see "Opening More Than One Window Per Database" on page 169 of the *Panorama Handbook* to learn more about window management).
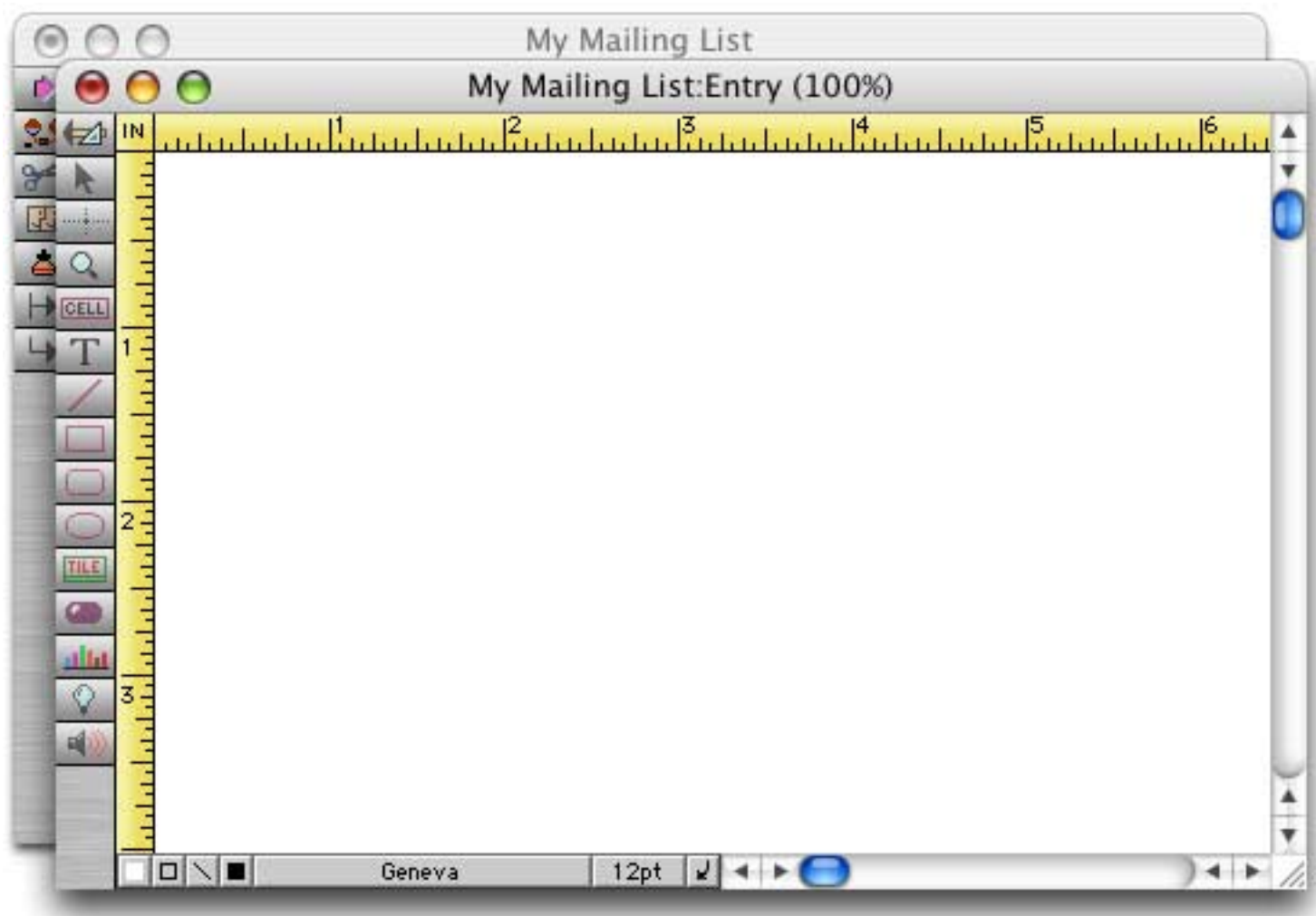
The tool palette on the left side of the window contains tools for creating and manipulating graphic objects on the form. The most commonly used tools are shown below.

switch between graphics editing and data editing
pointer for selecting graphic objects
turn cross hair on/off (to help alignment)
magnify/reduce
create data cell object (database field)
create text object
create line object
create rectangle object
create rectangle object with round corners
create oval/circle object

Creating Graphic Objects

Before you actually start creating the data entry form let's practice a bit with using these tools. Start by selecting the **Oval** tool.
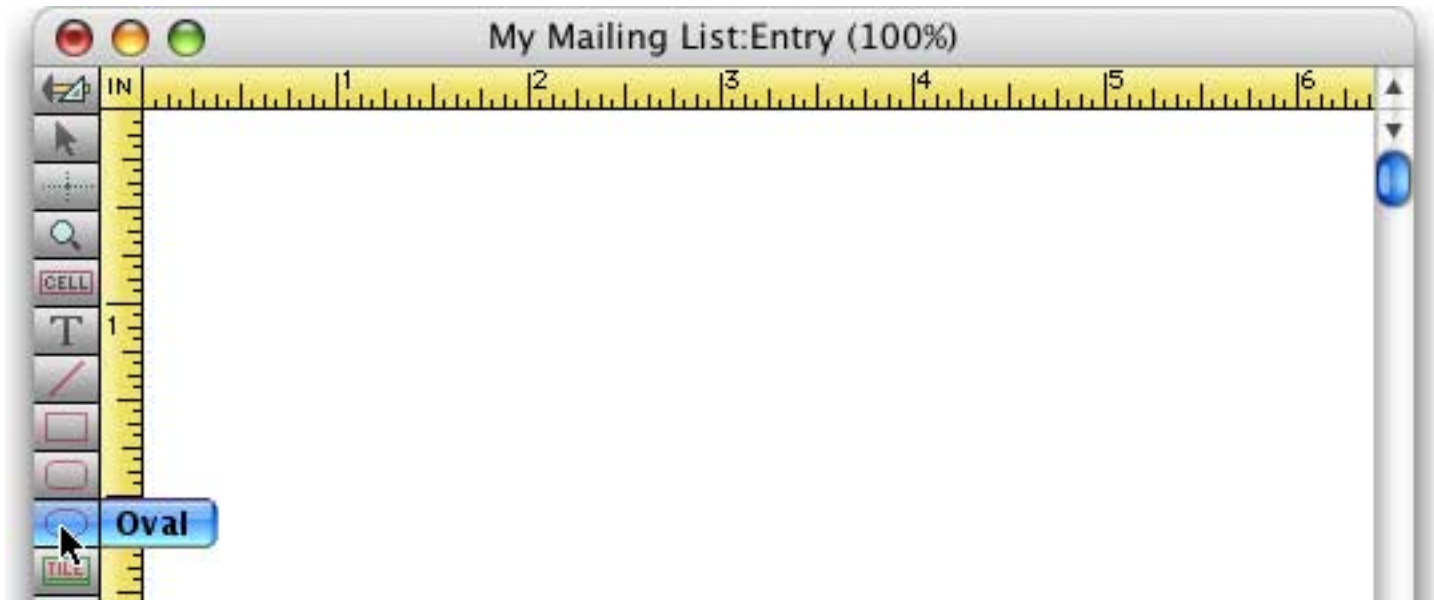
Now move the cursor onto the form and drag the mouse across the surface of the form to define the location and size of the new object (the dragging motion is shown by the dashed arrow in the illustration below). A gray outline of the new object will follow the mouse.
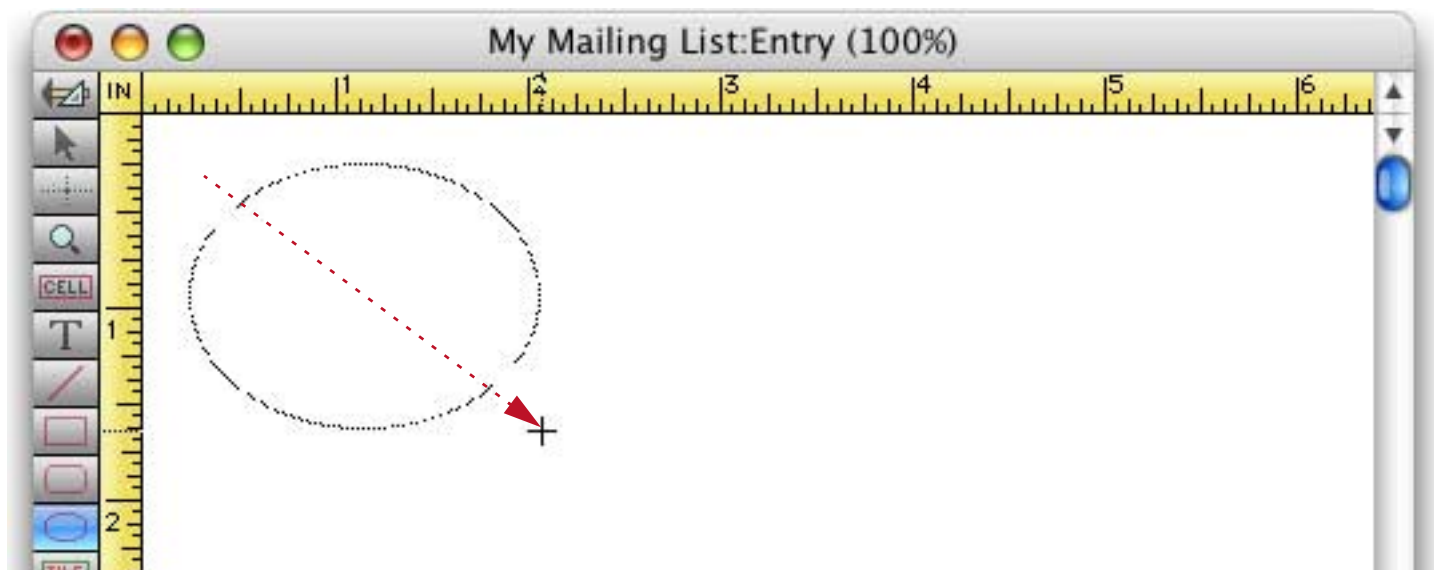
When you release the mouse, the new object will appear.
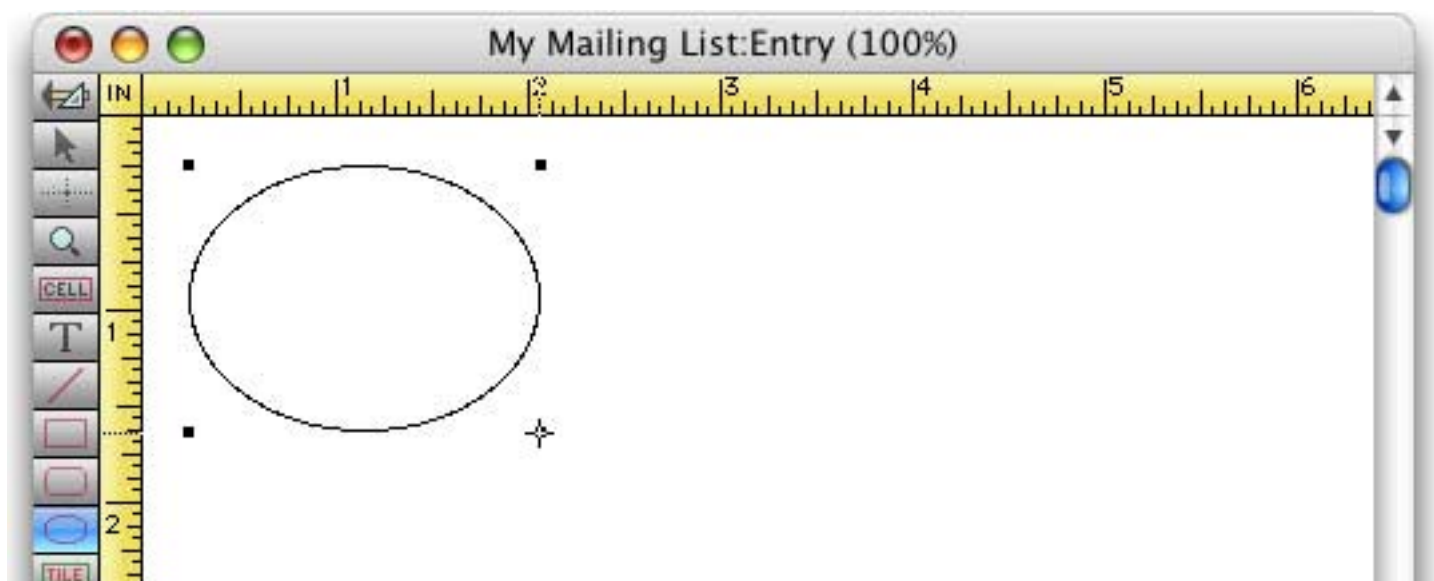
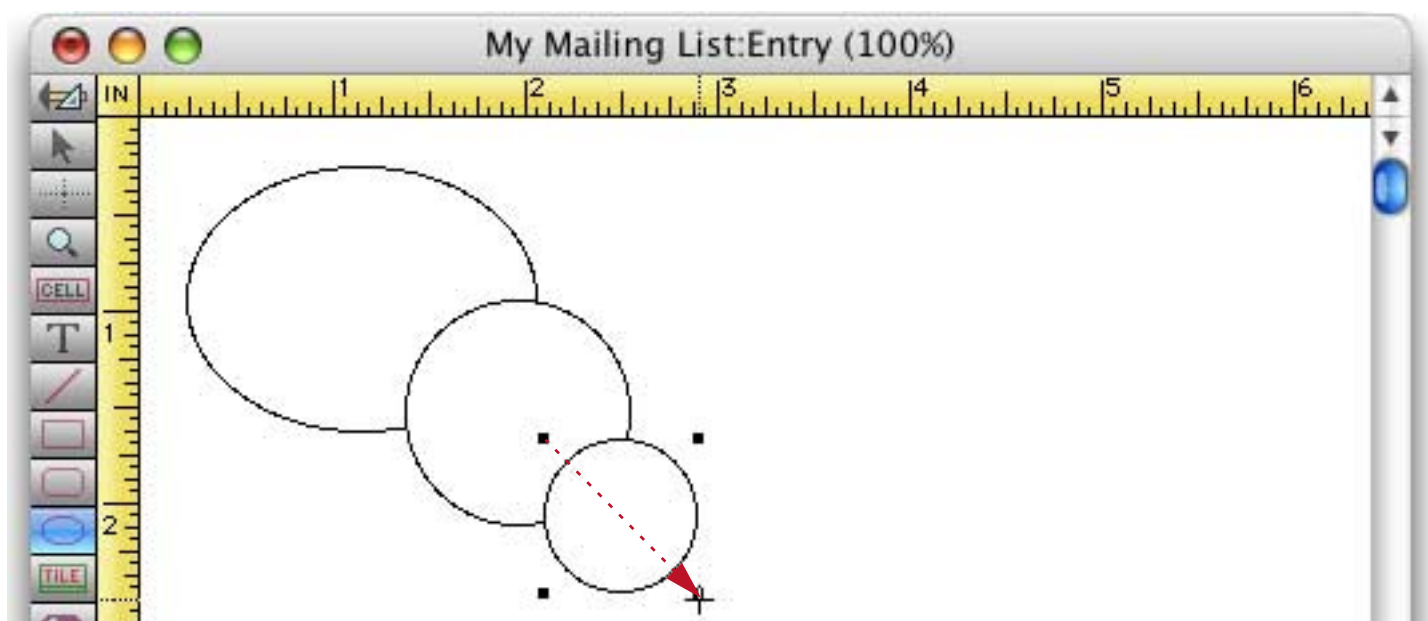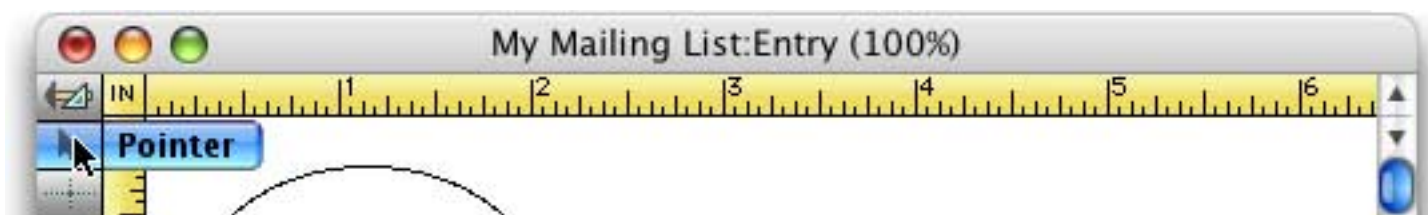Each time you drag across the form you will create a new shape. Create several shapes as shown below (these objects are just for experimentation, so don't worry about the exact position and size).

When you are finished creating shapes, click on the **Pointer** tool.

Don't forget to click on the Pointer tool when you are done! If you don't, the next time you click you will create another graphic object. To learn more about creating graphic objects see "Creating a Graphic Object" on page 494 of the *Panorama Handbook*.

Selecting and Moving a Graphic Object

To select a graphic object simply click on it with the **Pointer** tool selected. Four "**handles**" appear at the corners to show that the object is selected (see "Selecting a Single Object" on page 501 of the *Panorama Handbook*).
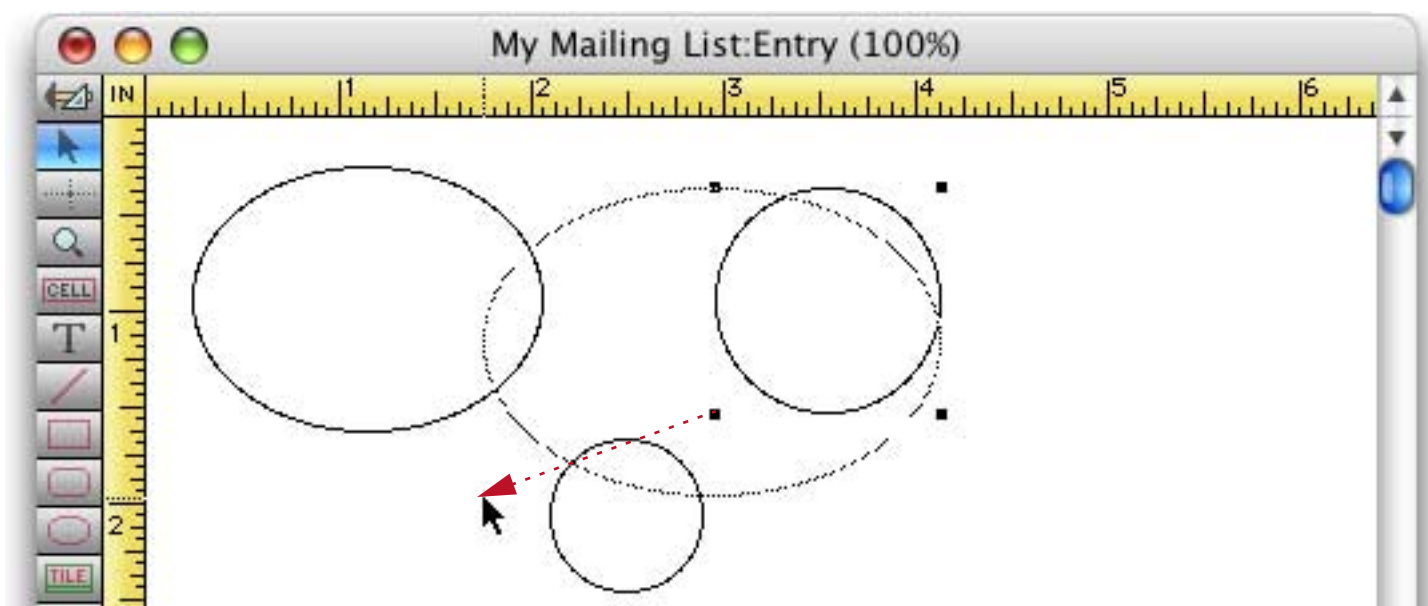
handles
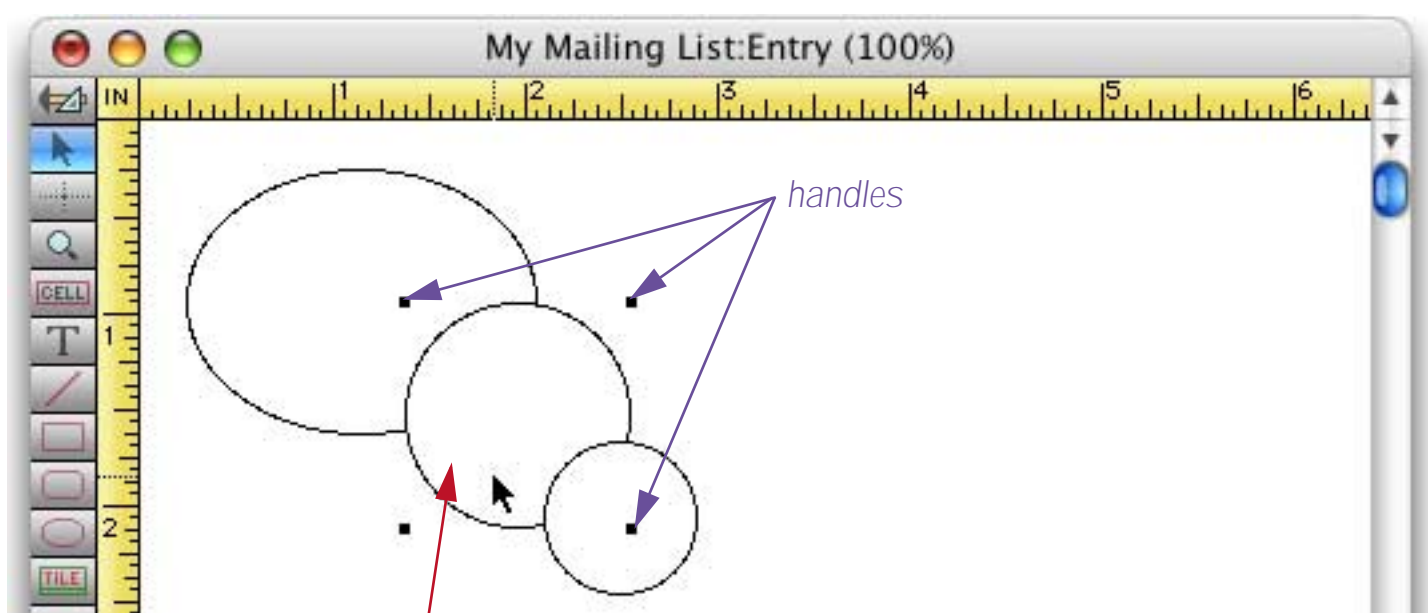
click on the object you want to select

To move an object click on it and drag to the new position (see "Moving a Single Object" on page 508 of the *Panorama Handbook*).
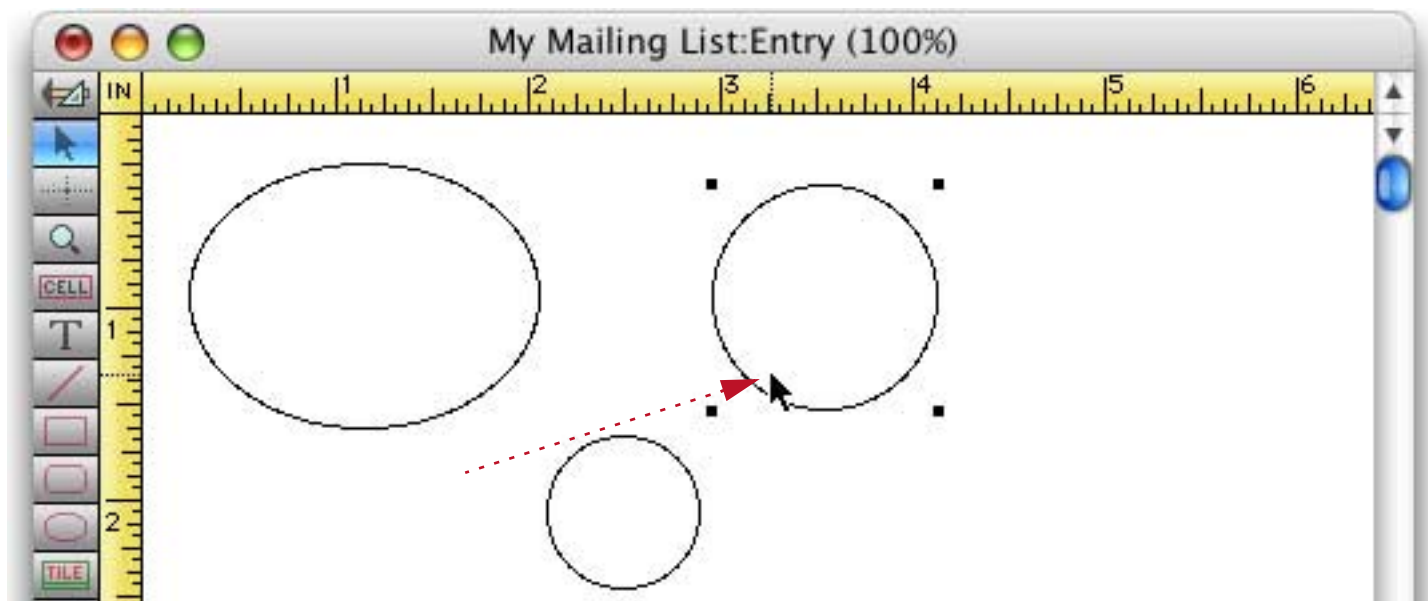

For fine adjustments you can use the arrow keys ([←], [→], [↓], [↑]) to nudge selected objects into position. Each time you press an arrow key, the object (or objects) moves one pixel in the direction of the arrow (see "Nudging an Object (or Objects)" on page 509 of the *Panorama Handbook*).

Adjusting the Size of a Graphic Object

To change the size of an object, first select the object with the **Pointer** tool. Then use the mouse to drag one of the corner handles. As you drag the handle, an outline of the object will follow the mouse.

Release the mouse when the corner is in the correct spot (see "Changing the Size of a Single Object" on page 513 of the *Panorama Handbook*).
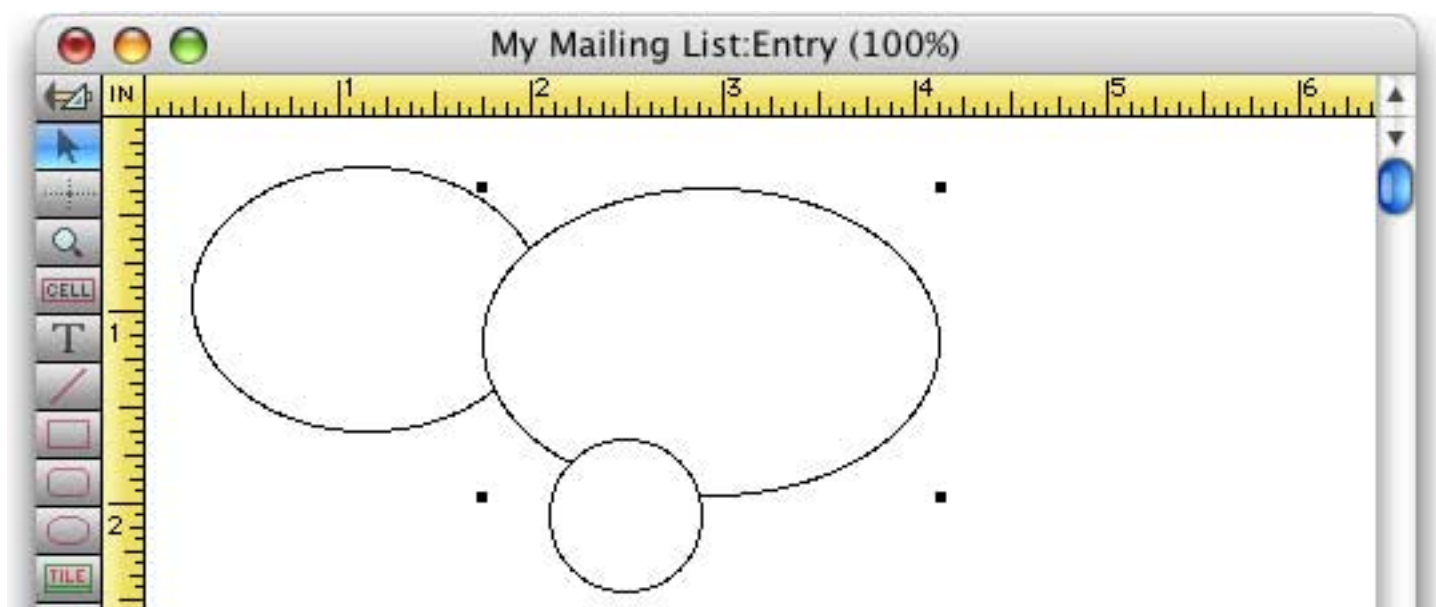

The arrow keys (←, →, ↓, ↑) usually nudge the entire object. However, after you click or drag a handle, the arrow keys will nudge just that handle. Each time you press an arrow key the handle will move one pixel in the direction of the arrow. In other words, each time you press an arrow key the object will grow (or shrink) one pixel in the direction of the arrow (see "Nudging the Size of an Object" on page 513 of the *Panorama Handbook*). You can also adjust the position and size of the object numerically with a dialog, see "Viewing and Setting Exact Object Dimensions" on page 512 to learn how.

Changing an Objects Appearance

The new objects you have created are white with a black border. You can change it to Solid (or Hollow) with the Graphics menu (see "Solid, Outline and Hollow Objects" on page 520 of the *Panorama Handbook*).
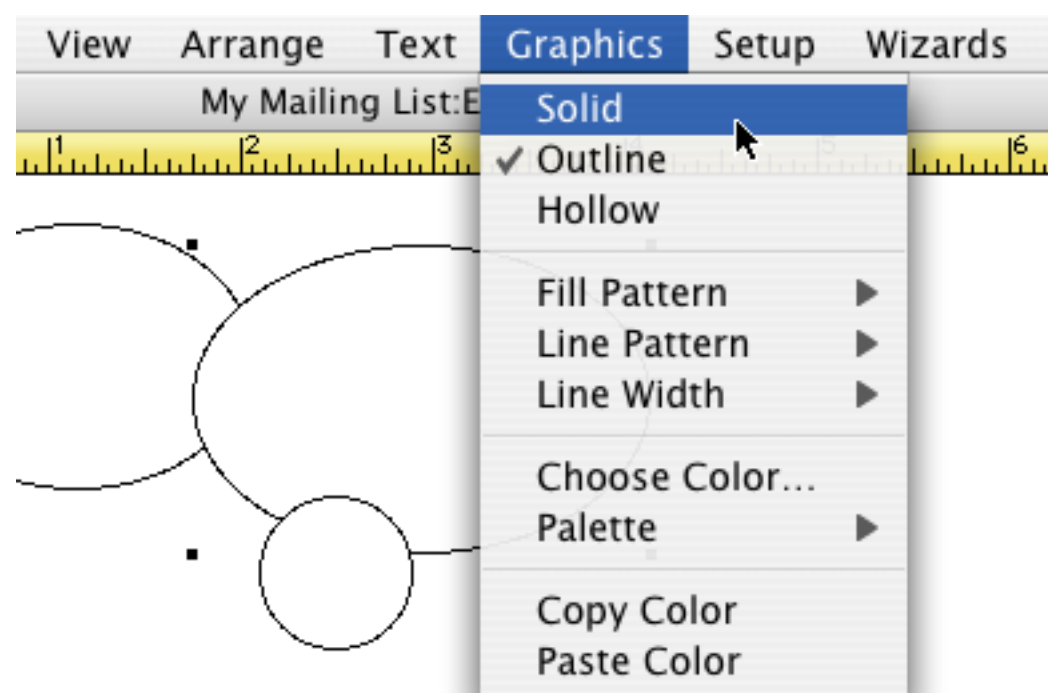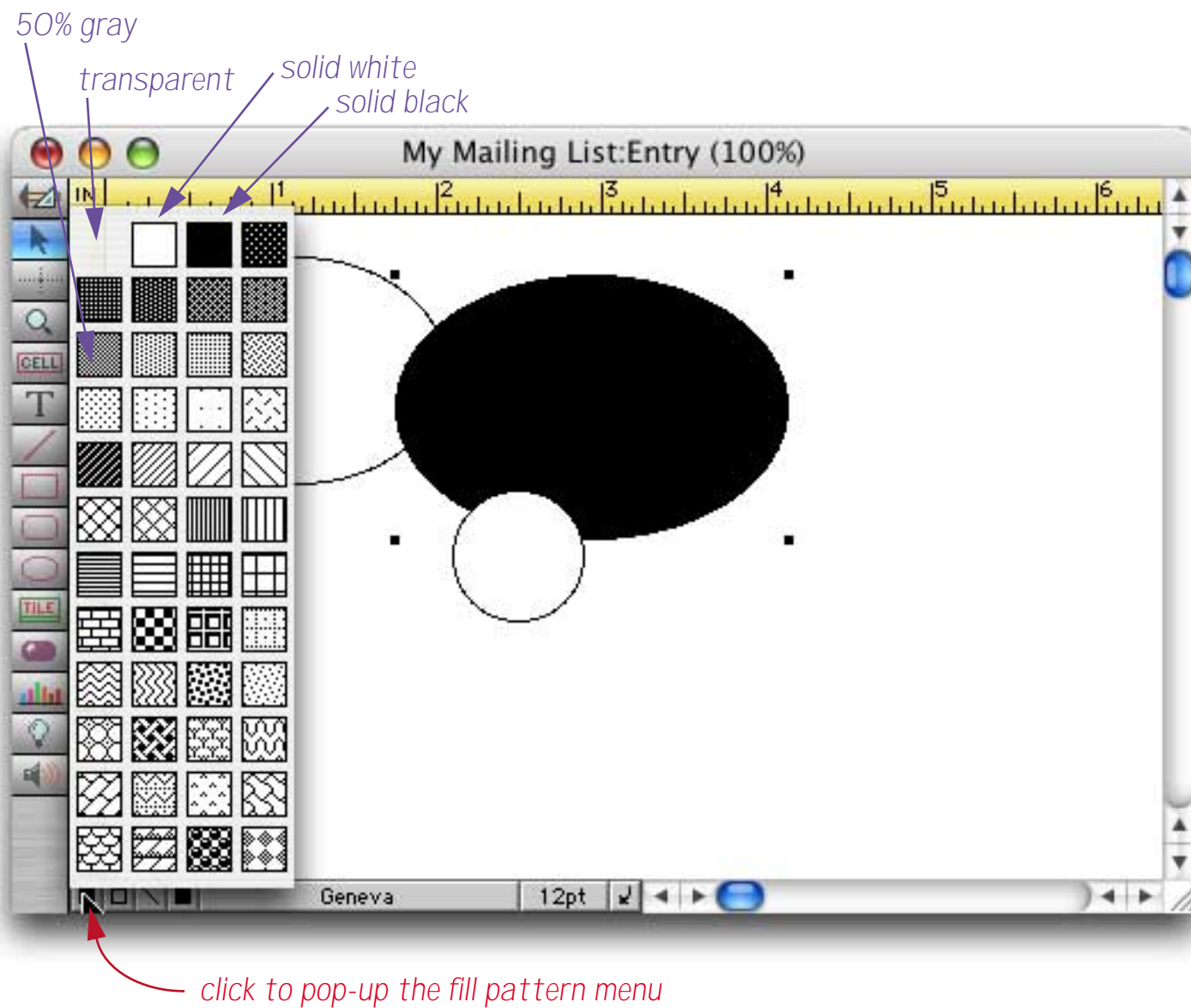
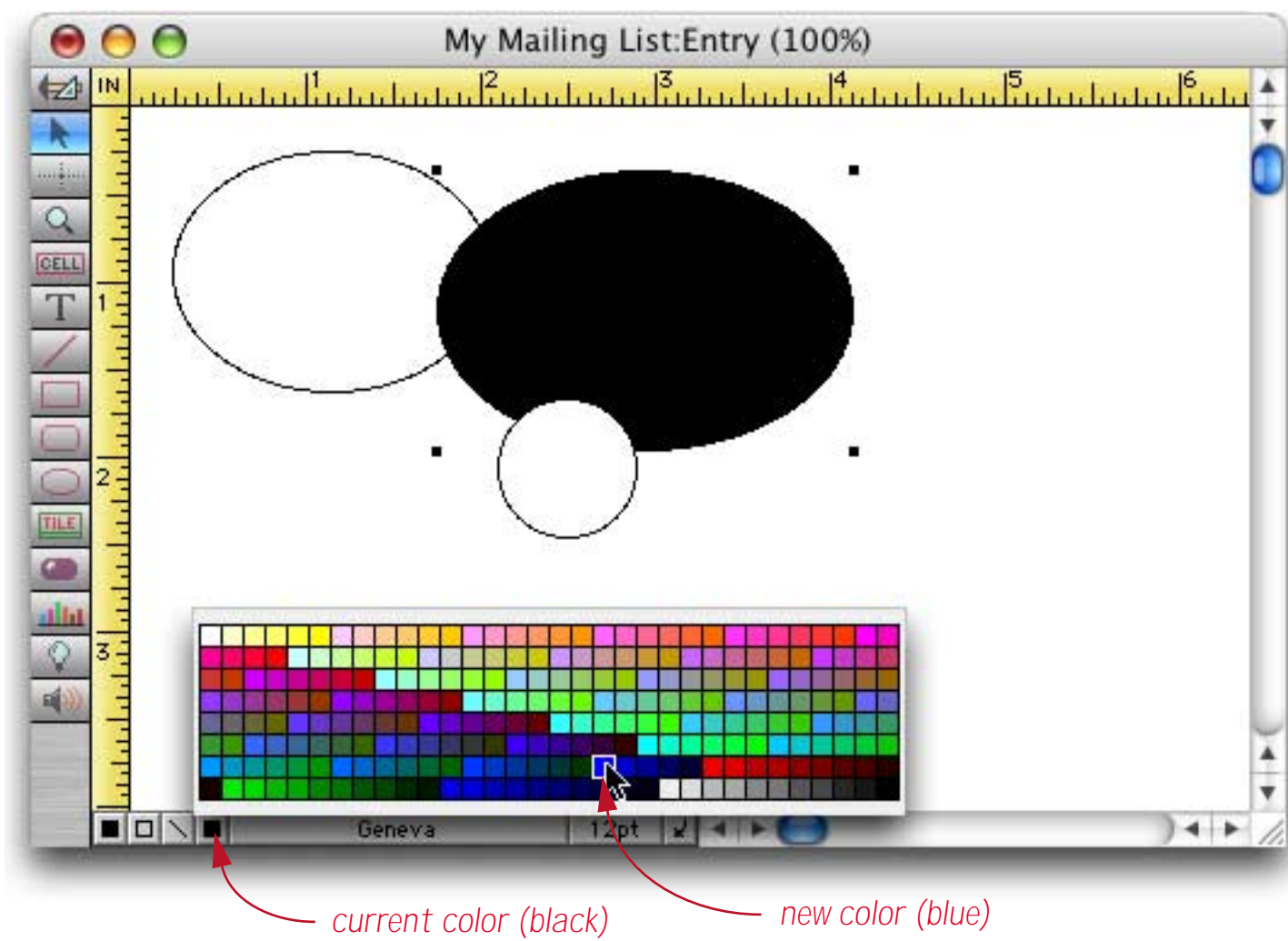After you make your selection the object will change to the selected pattern, in this case solid fill.
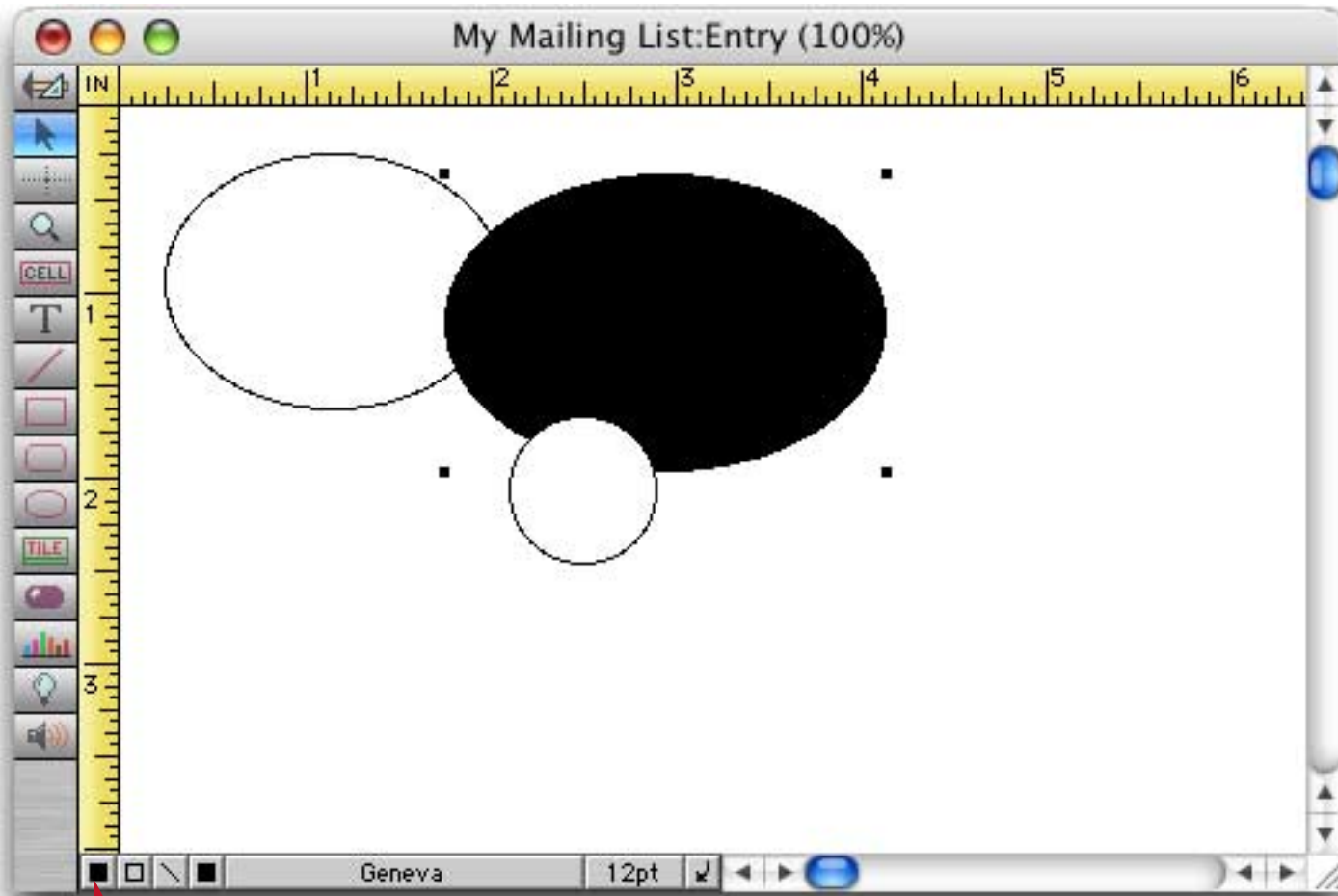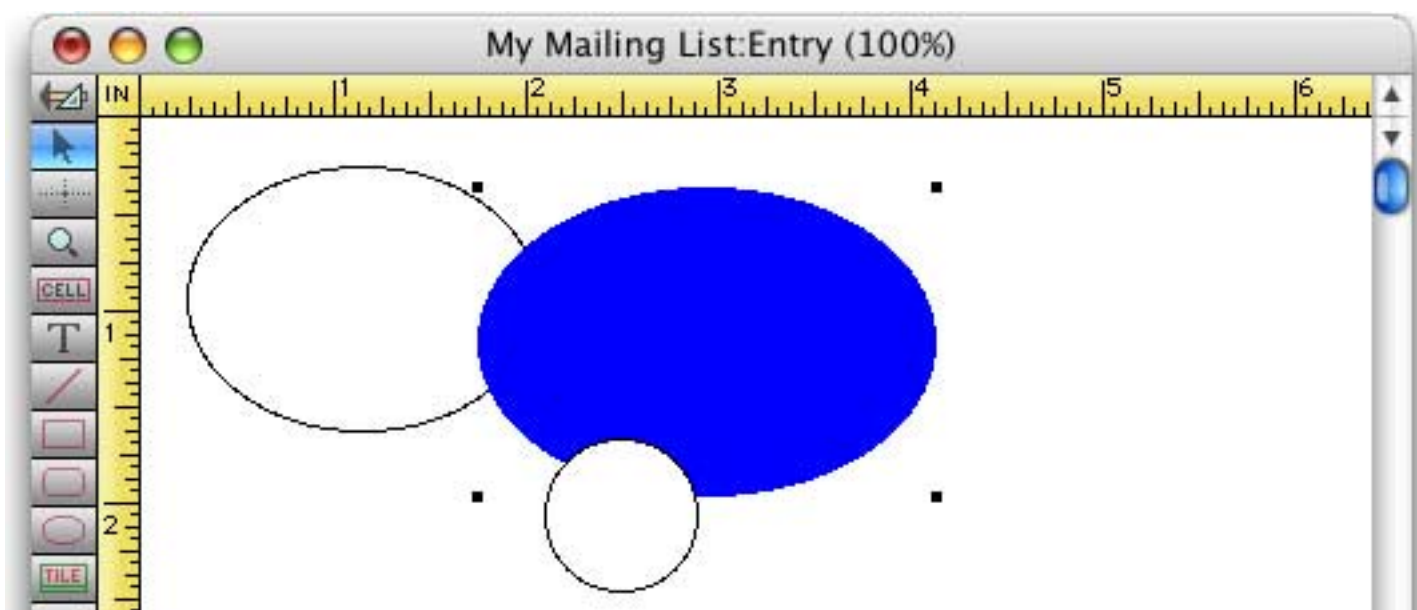

current fill pattern (solid)

You can also use the **Graphic Control Strip** (on the bottom of the window next to the horizontal scroll bar, see "The Graphic Control Strip" on page 505 of the *Panorama Handbook*) to change the appearance of the selected objects. Another way to change the selected object to solid black is to use the fill pattern menu (see "Fill Pattern" on page 521). This menu has 40 different patterns to choose from.

50% gray

transparent

solid white

solid black

click to pop-up the fill pattern menu

To change the color of the selected object use the color menu (see "Color" on page 526 of the *Panorama Handbook*).

current color (black)   *new color (blue)*

After you make your selection the object will change to the selected color.

If you want to choose a color that is not on the palette hold down the **Control** key while clicking on the color swatch in the control strip (On PC systems you should Right-Click on the swatch instead of holding down the Control key). The standard system color dialog will appear.


Choose the color you want and press **OK**.

You can also adjust the line pattern (see "Line Pattern" on page 523 of the *Panorama Handbook*) and the line width (see "Line Width" on page 525) of the selected object(s), and you can copy the color from one object to another (see "Copying and Pasting Colors" on page 528).

Creating Text Objects

To add a piece of text to your form start by clicking on the **Text** tool.
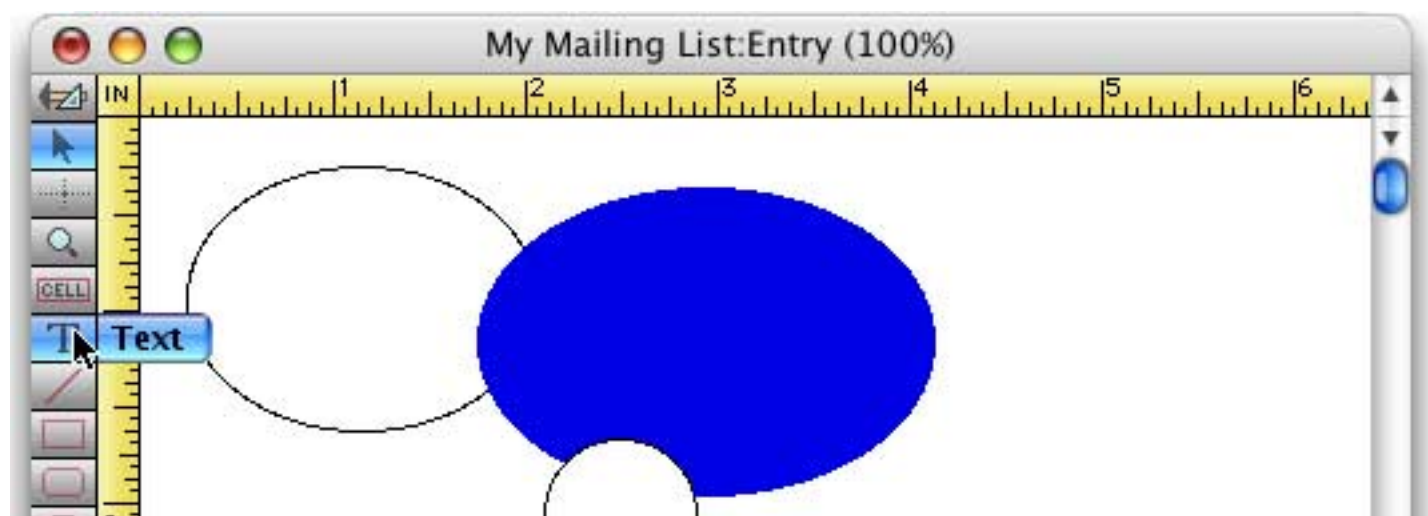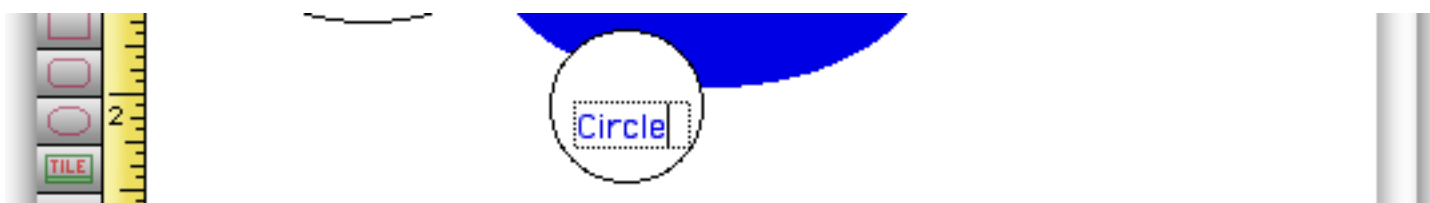
Now move the mouse to the position where you want the text to appear (you can adjust the position later) and click the mouse.
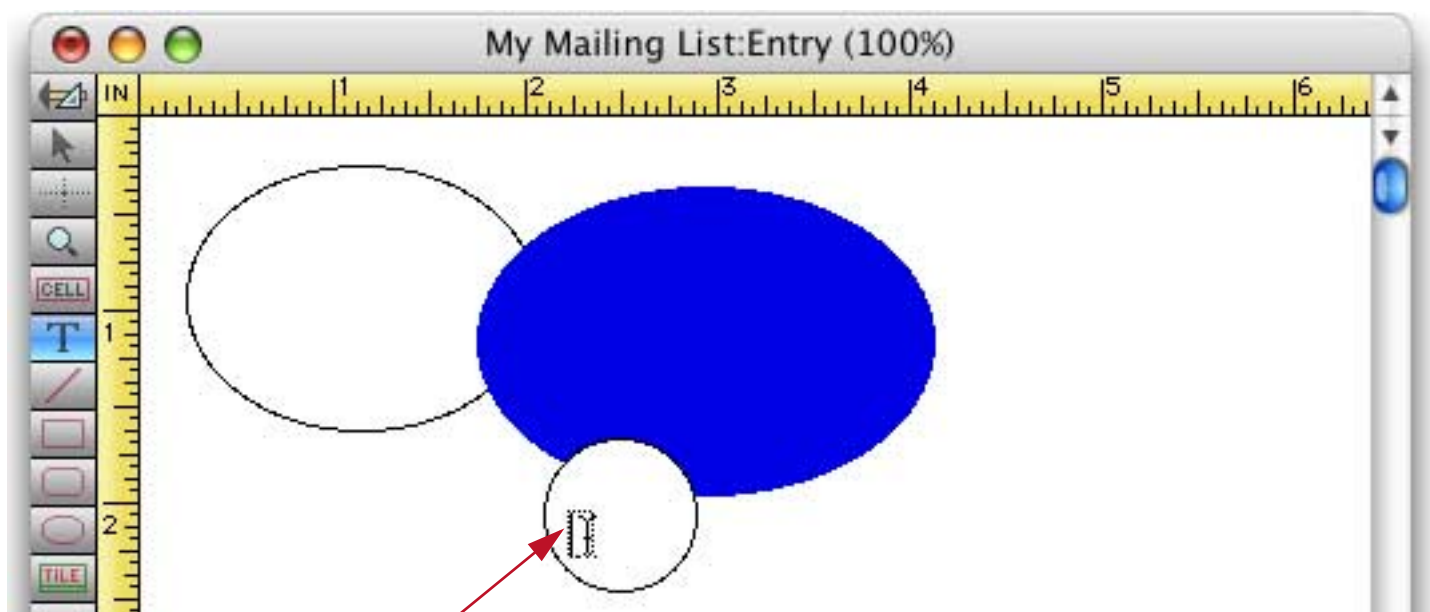

click where you want the text to appear

Now use the keyboard to type in the text.

As you type each character, the click text object automatically expands. To add another line of text press the **Return** key. When you're done creating text you can click on another spot to create another text object or you can click on the **Pointer** tool.

The text object you just created is called **click text**, because you click to create it. Panorama has another type of text object called an **auto-wrap text** object. Instead of expanding automatically as you type an auto-wrap text object is a fixed size, with the text wrapping inside the object. To create an auto-wrap text object click on one corner of where you want the object to appear and then drag to the opposite corner.
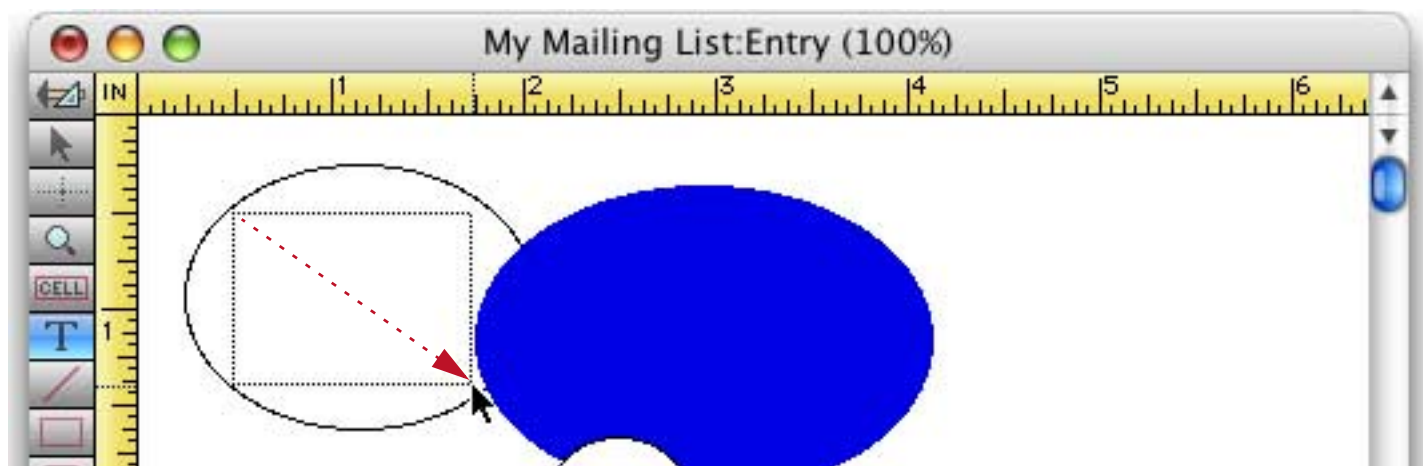
When you release the mouse a dotted box appears for you to type into.
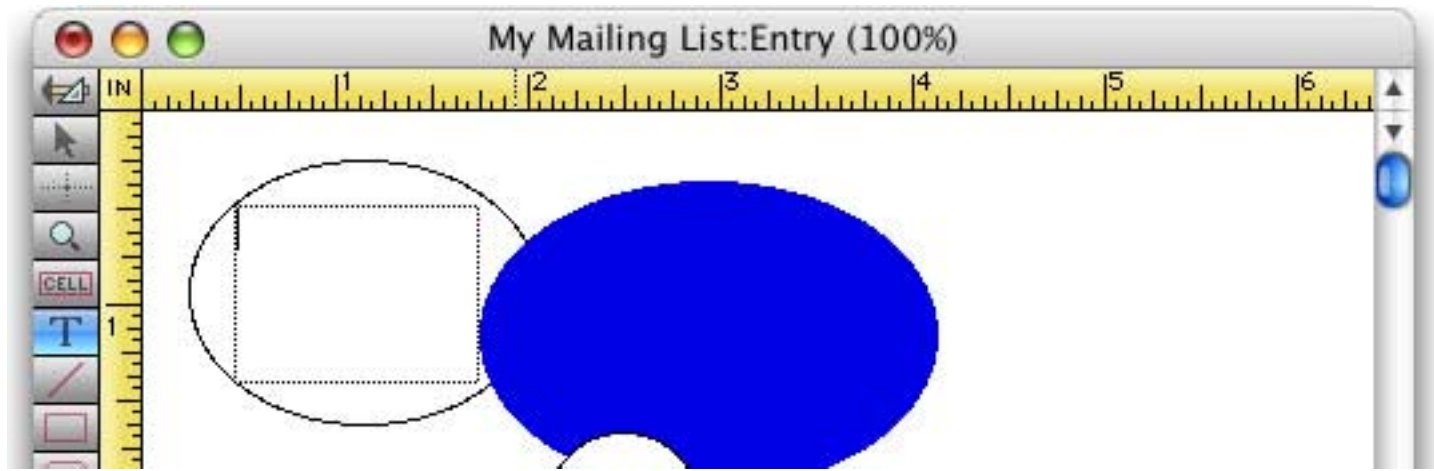

Whatever you type will wrap inside of the box.
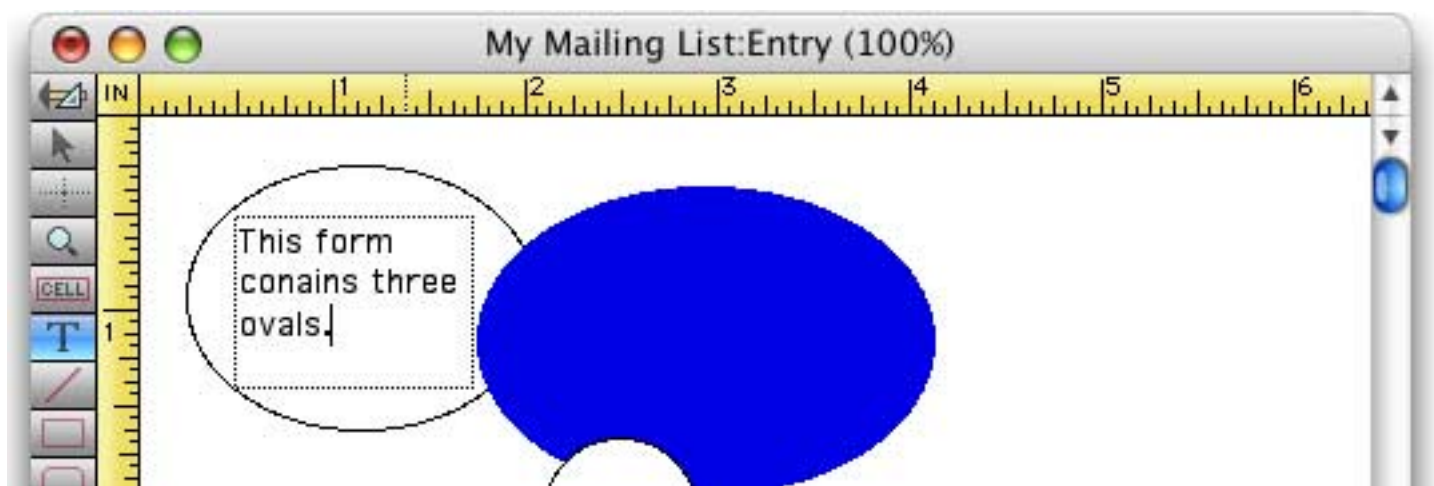
When you're done creating text you can click or click-drag on another spot to create another text object or you can click on the **Pointer** tool.

Changing the Font and Size

To change the font and size of the selected object you can use the **Graphic Control Strip** or you can use the **Text** menu (see "Text Font, Size and Style" on page 593 of the *Panorama Handbook*). The illustration below shows the auto-wrap text object being changed from 12 point to 9 point.


current text size

current font
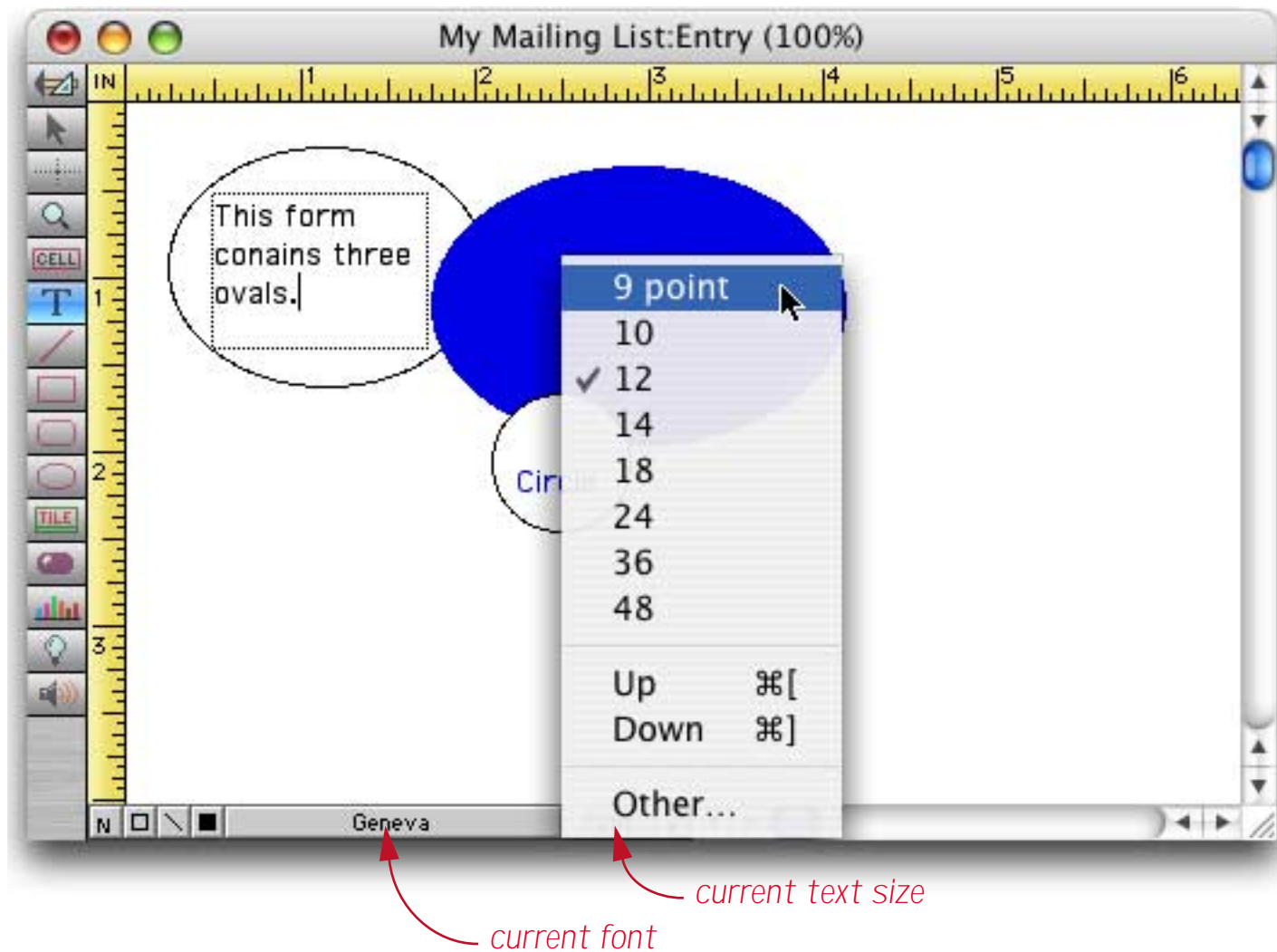
Here's the revised text object.
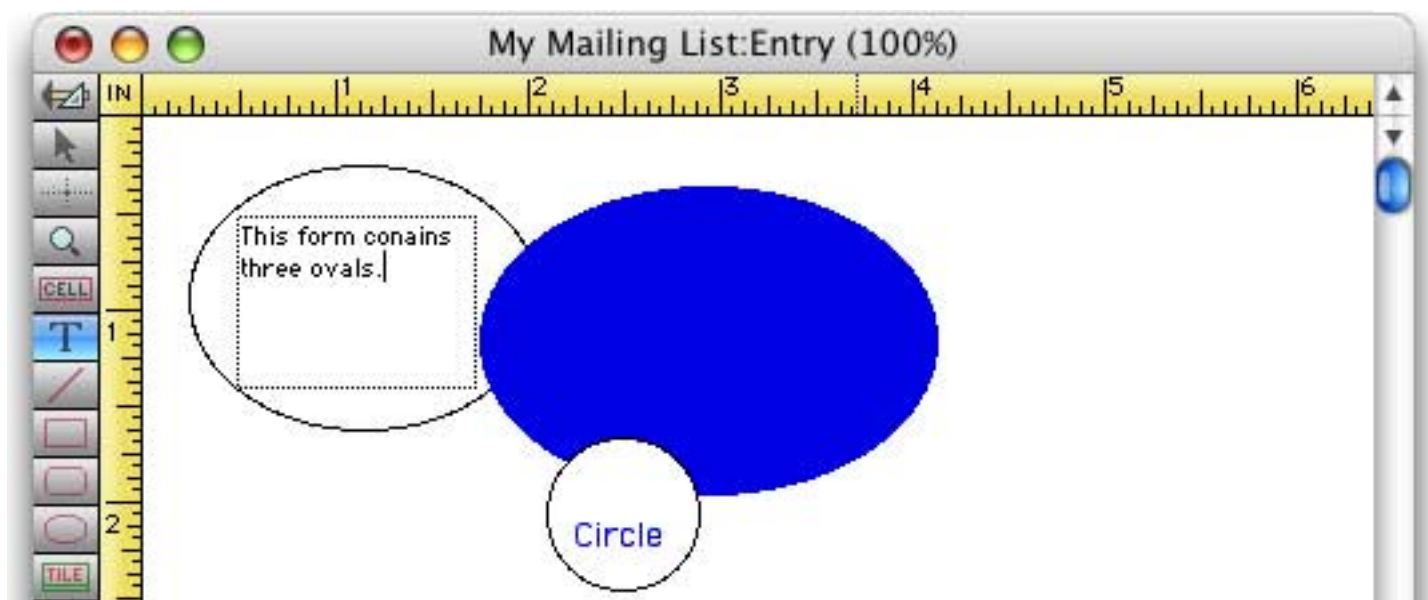
Within a single text object all of the text must be the same font, size, style and color. If you want to mix different text appearance within a single object you must use Panorama's Word Processor SuperObject (see "Word Processor SuperObject" on page 673 of the *Panorama Handbook*).

Editing a Text Object

To edit a text object simply select the **Text** tool and click or drag on the object (see "Editing Fixed Text" on page 590 of the *Panorama Handbook*). With this tool you can edit the text object just like any other text - click to select an insertion point, double click to select a word, etc.
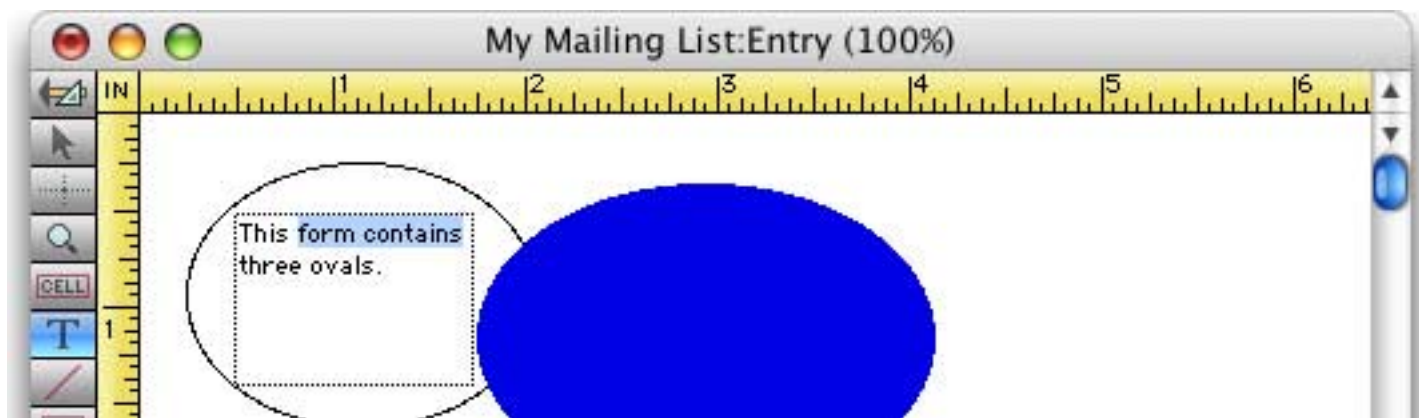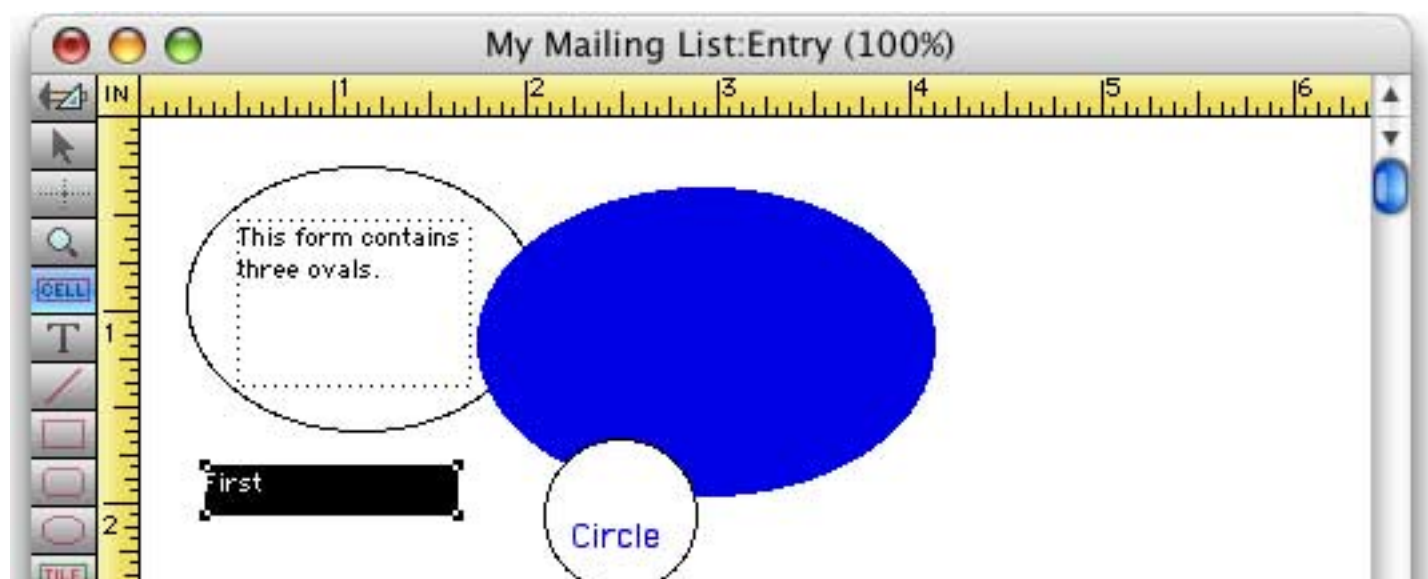
Creating Data Cell Objects

Panorama has two different types of objects for editing data (see "Types of Data Editing Objects" on page 632 of the *Panorama Handbook*). Right now you're going to learn about data cells, which allow data fields to be edited with a pop-up input box very similar to the data sheet (see "Entering Data Into Your New Database" on page 7 and "The Input Box" on page 272). To create a data cell start by selecting the **Data Cell** tool (see "Working with Data Cell Objects" on page 635).
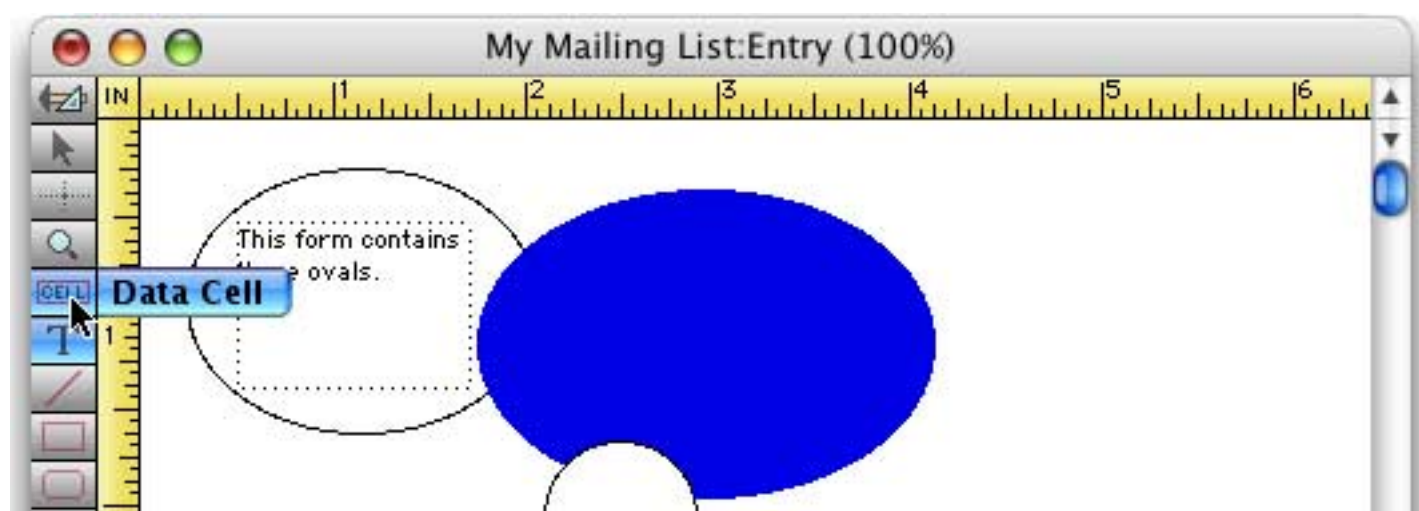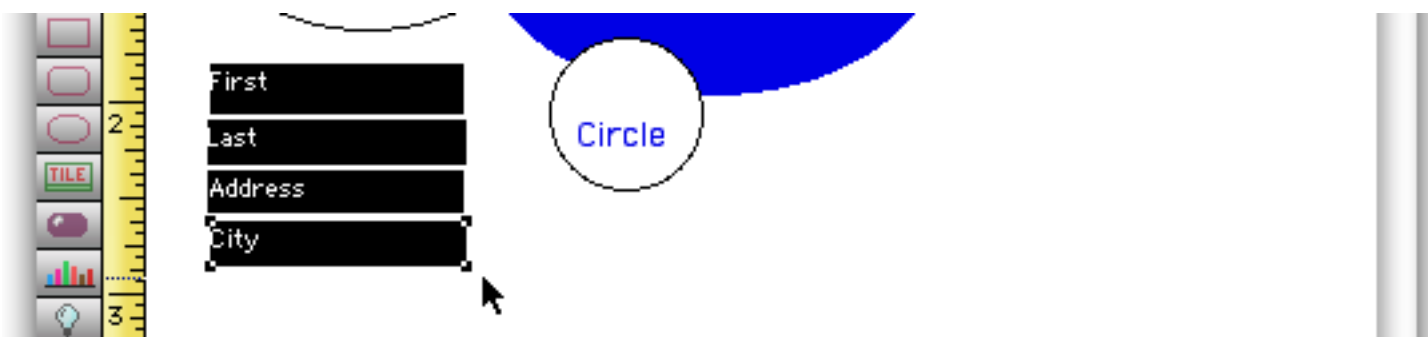
Drag the mouse across the form in the spot where you want to create the data cell.
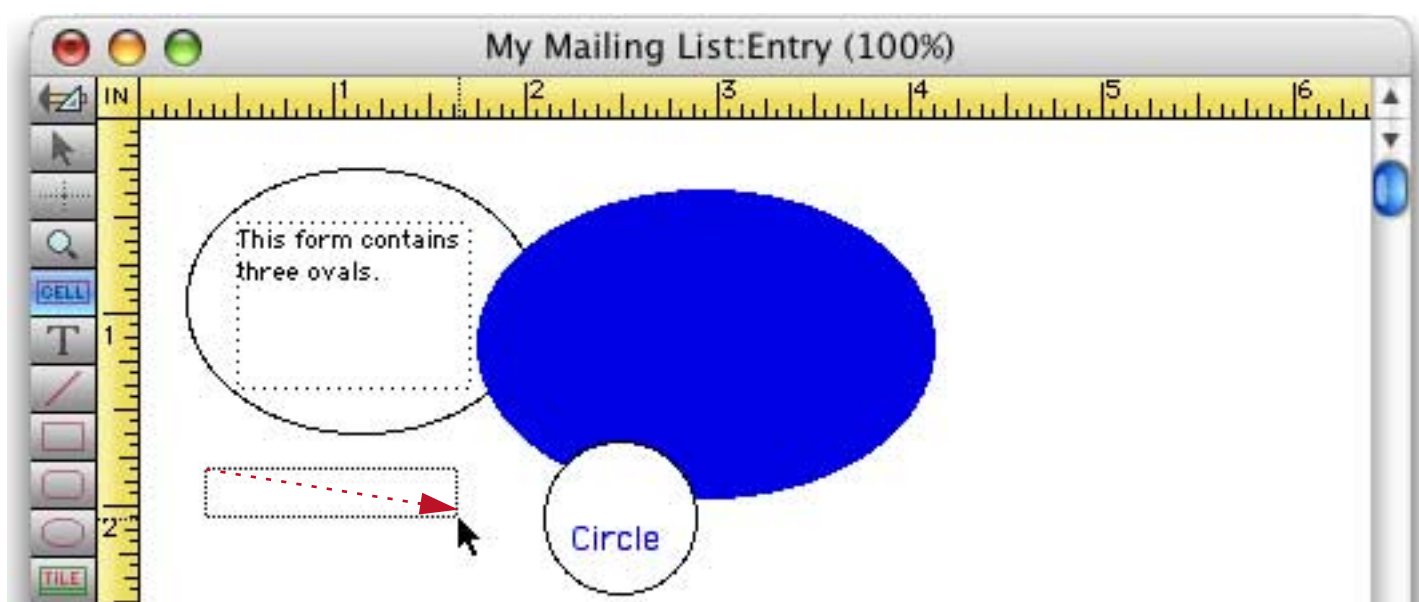
When you release the mouse the data cell is created. It is automatically assigned to the first field in the data-base, which in this database is First.


Each additional data cell you create will be assigned to the next available field in the database.

To change the field a data cell is assigned to make sure the **Data Cell** tool is selected and move the mouse over the data cell object. When the mouse is over the object the arrow turns into a little menu icon.
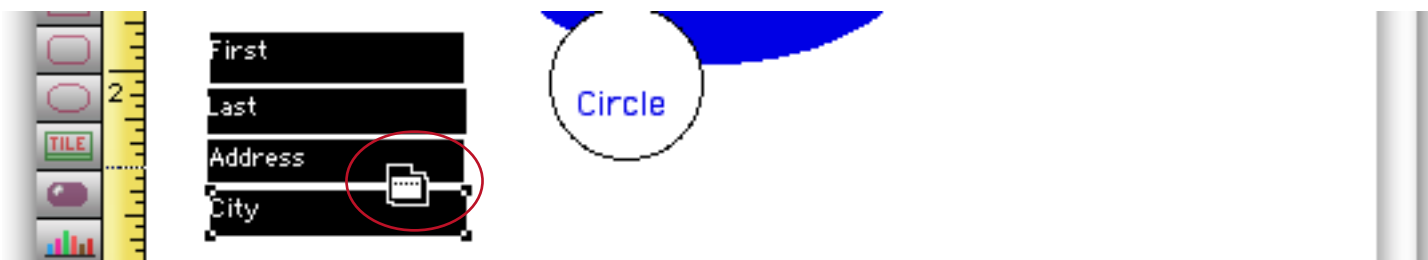
When you see this icon you can press the mouse button to see a pop-up menu of the fields in the database.
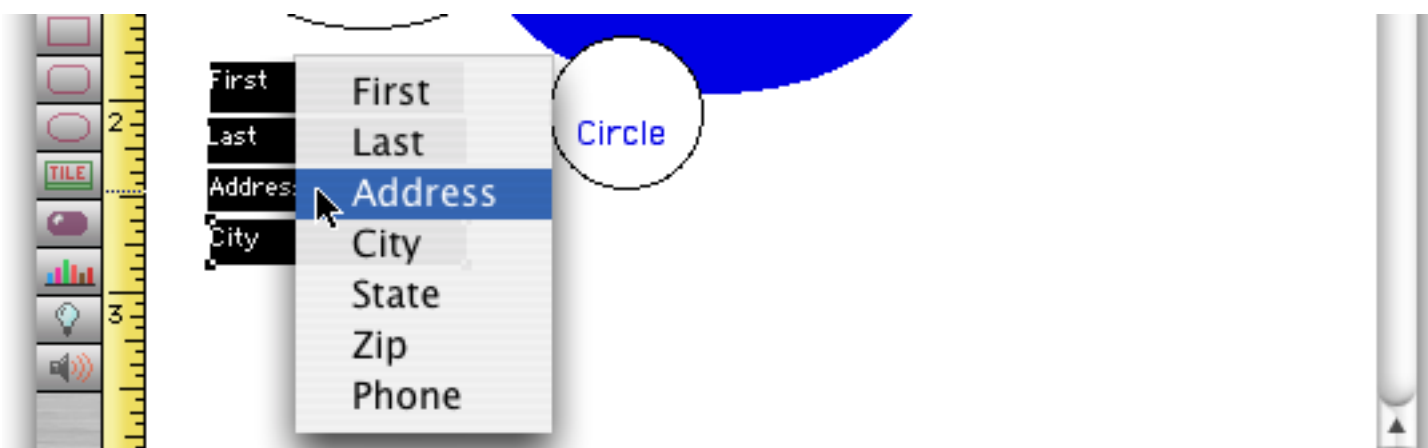
Select the field you want assigned to the data cell from the pop-up menu.


changed from Address to Phone
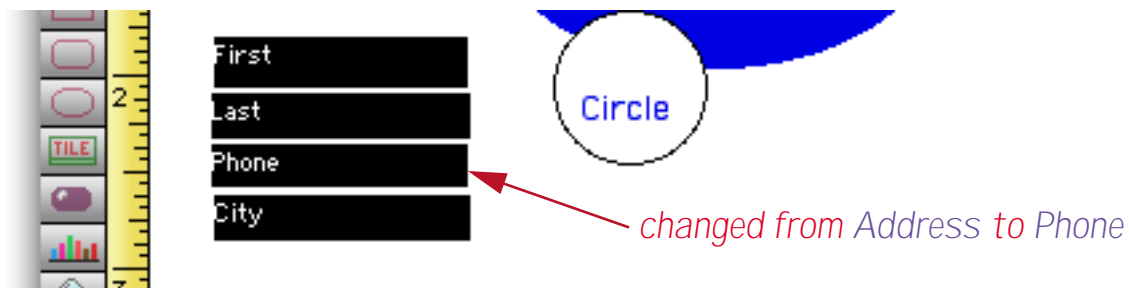
Panorama has another type of graphic object for editing data - the Text Editor SuperObject. To learn more about this type of object see "Text Editor SuperObject" on page 639 of the *Panorama Handbook*.

Aligning Multiple Objects

I don't know about you, but those raggedy looking data cells are really bothering me! Fortunately Panorama has tools that can make this objects nice and neat in a hurry. Start by selecting the **Pointer** tool.


Now start on an empty spot on the form and drag the mouse diagonally across all four objects. The dotted rectangle should surround the objects.
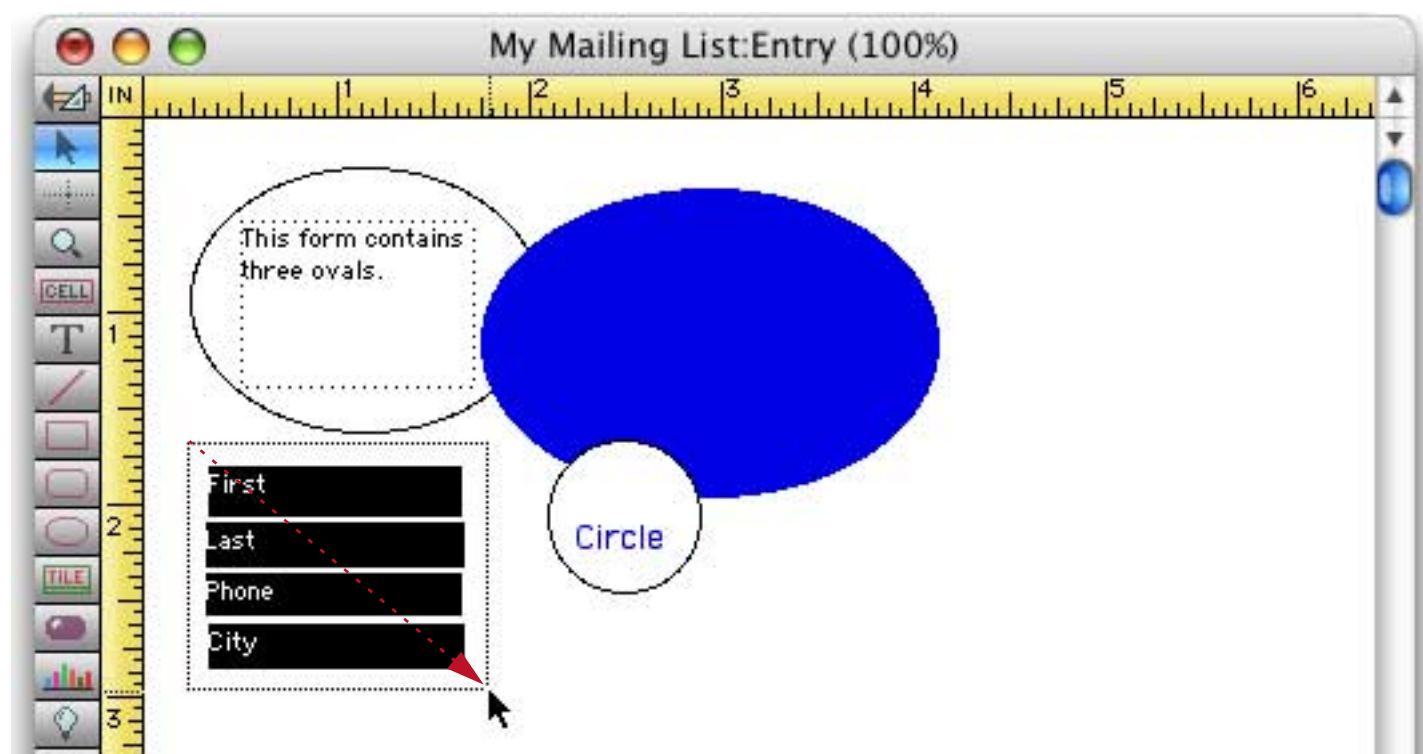

When you release the mouse all four objects will be selected (see "Selecting Multiple Objects at Once" on page 502 of the *Panorama Handbook*).
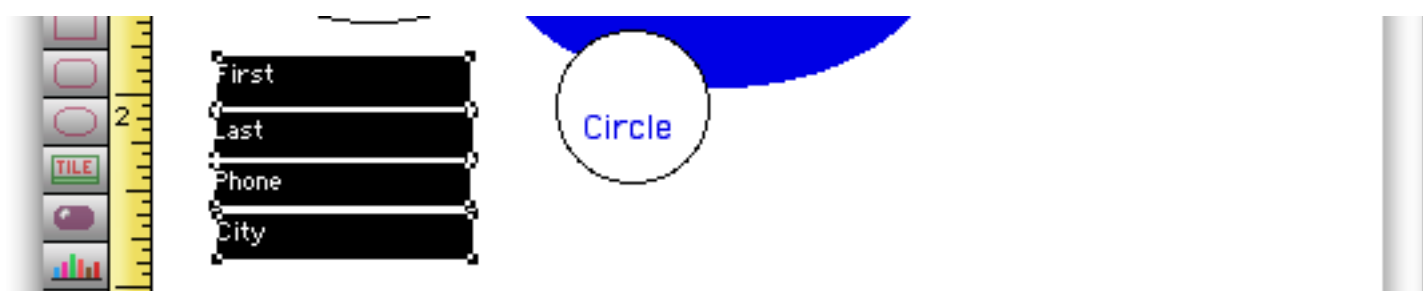
To align the left and right edges of the objects choose **Align Objects** from the Arrange menu (see "Aligning Objects" on page 553 of the *Panorama Handbook*). The dialog gives you eight different alignment choices — pick Left & Right.
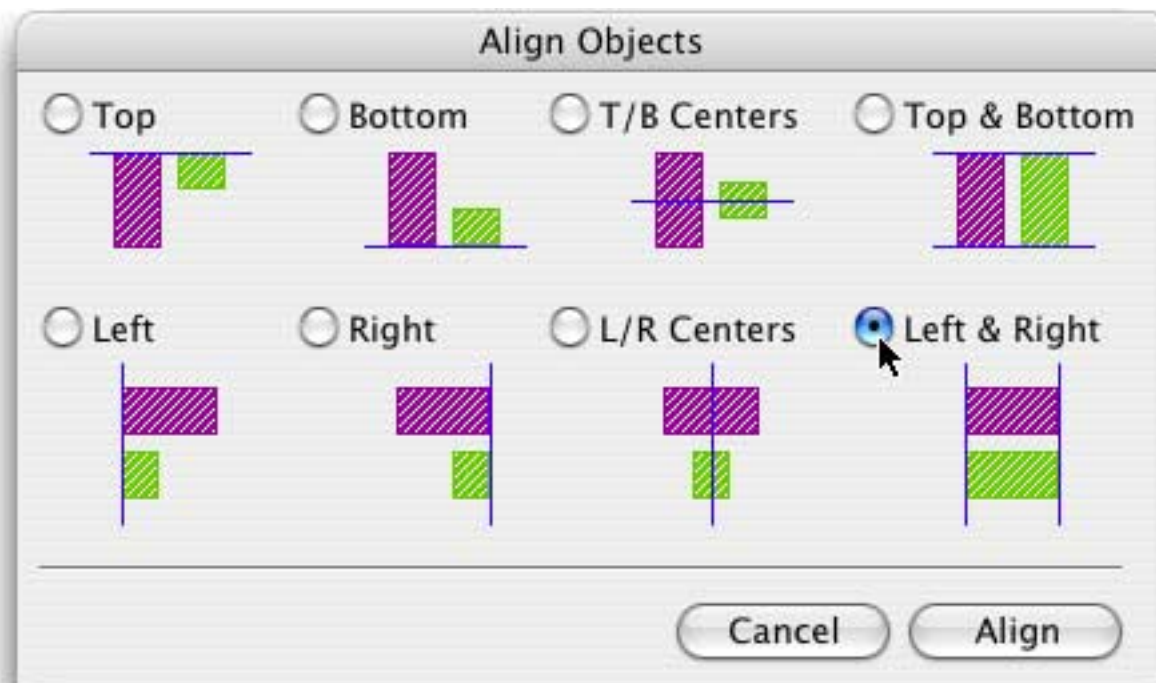

When you press the **Align** button the left and right edges of the objects are brought into perfect alignment.
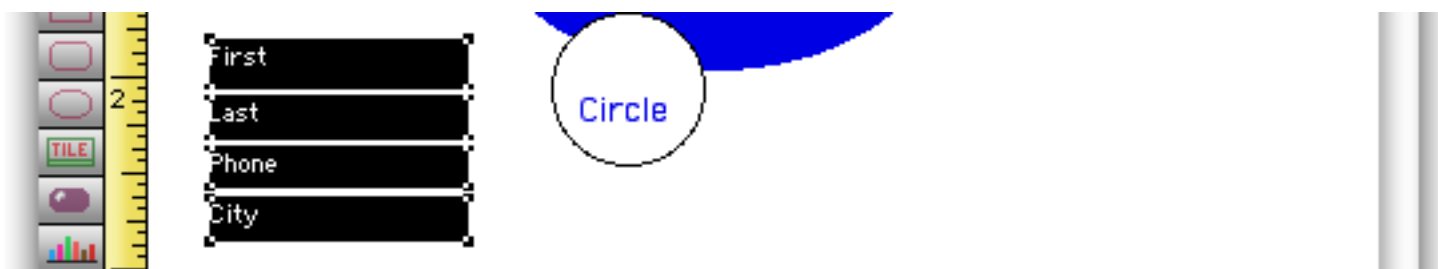
To set the height of all of the objects to 15 pixels choose **Dimensions** from the Edit menu (see "Setting Exact Dimensions of Multiple Objects" on page 550 of the *Panorama Handbook*). Select the Pixels radio button and type in 15 for the height (just 15, not +15).
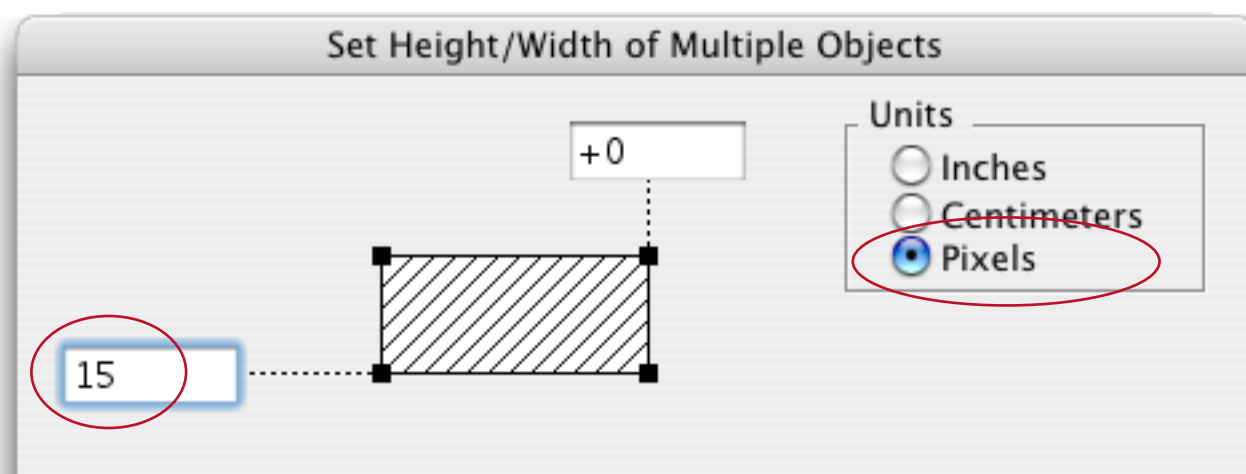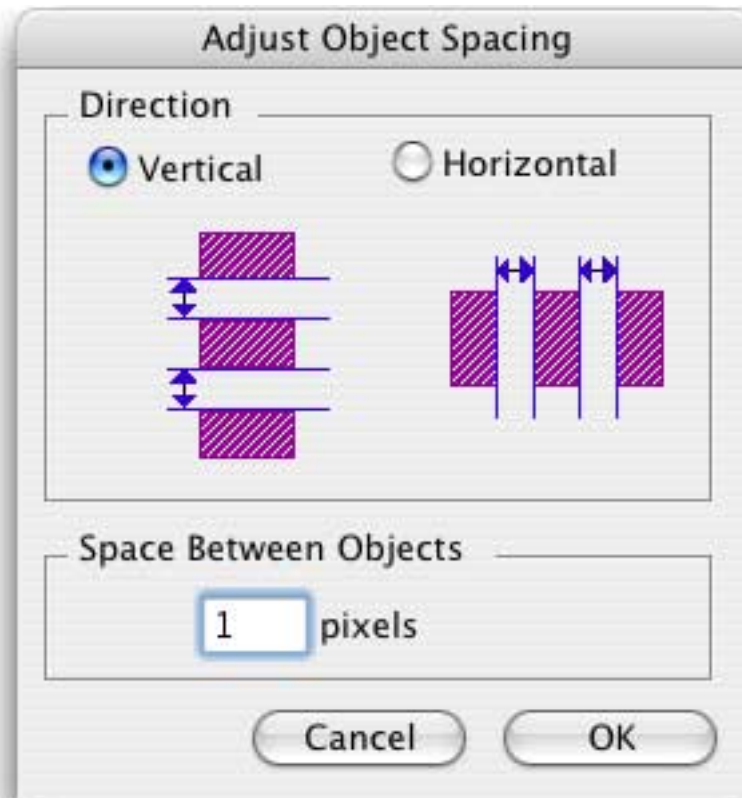

When you press **OK** all of the objects will be adjusted to 15 pixels.
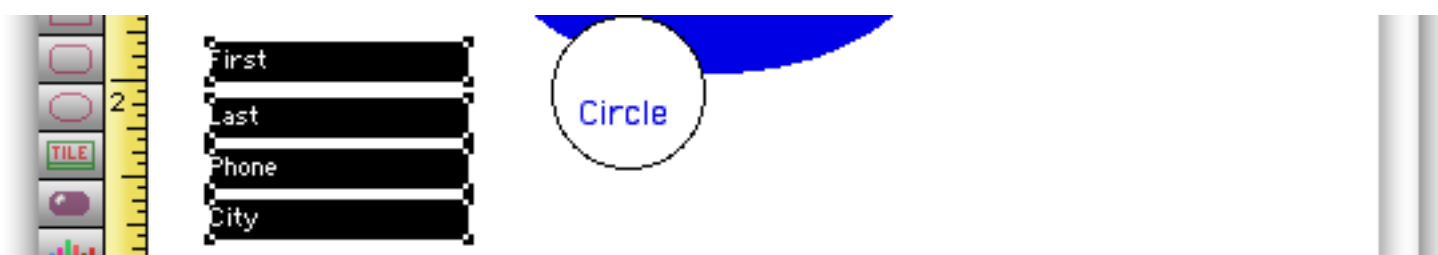
To vertically space the objects evenly choose the **Spacing** command from the Arrange menu (see "Adjusting Spacing Between Multiple Objects" on page 556 of the *Panorama Handbook*). Click on the Vertical option and set the spacing you want between each object (a pixel is one screen dot, or 1/72nd of an inch).


The data cells are now lined up nice and neat.

Before we call it a day let's make one final adjustment. Hold down the **Shift** key and drag the bottom right handle of the bottom object to the right.
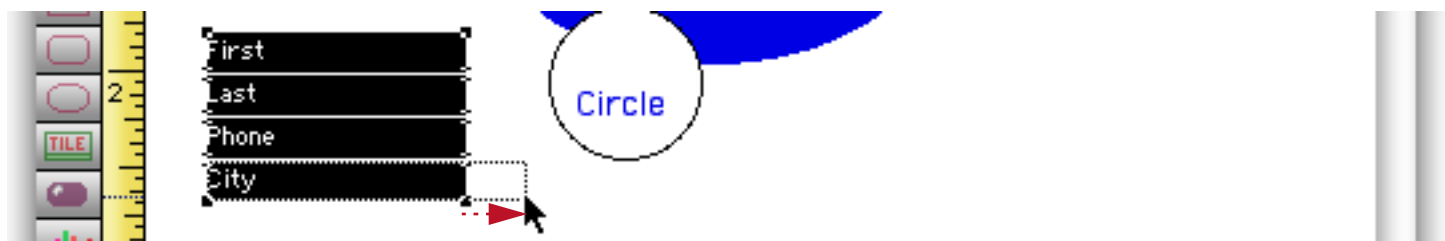

When you release the mouse all four objects will expand. This feature is called **cluster resize** (see "Cluster Resize" on page 541 of the *Panorama Handbook* for additional examples) and is very handy for adjusting columns of objects.
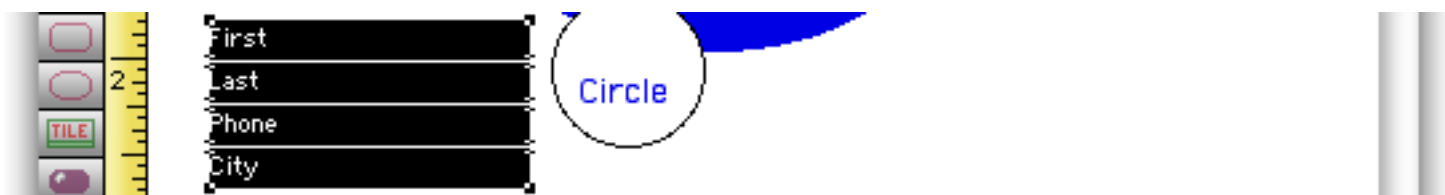

In a few minutes you'll learn a method to create data cell objects in a nice neat column or row in the first place, making the technique shown above unnecessary. However, you'll still find the techniques described above useful in many circumstances.

Using Data Cells to Edit Data

So far you've managed to make four boxes with field names on them — perhaps that doesn't seem very useful. To activate these cells you must switch the form from **Graphic Design Mode** to **Data Access Mode**.
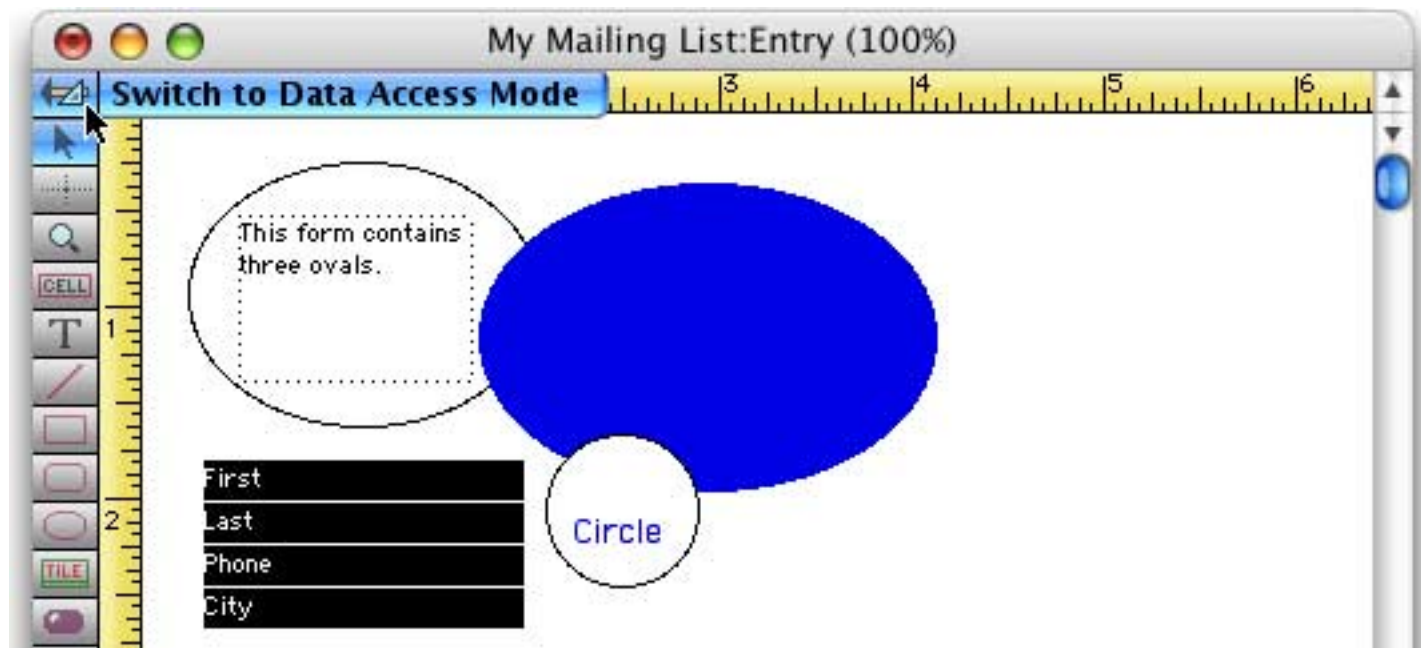

In this mode the rulers disappear and the tool palette switches from graphics tools to data navigation tools (see "Moving From Record to Record" on page 265 and "Browsing the Database With a Form" on page 488 of the *Panorama Handbook*). Most importantly, the data cells now display information from the database itself.


database fields
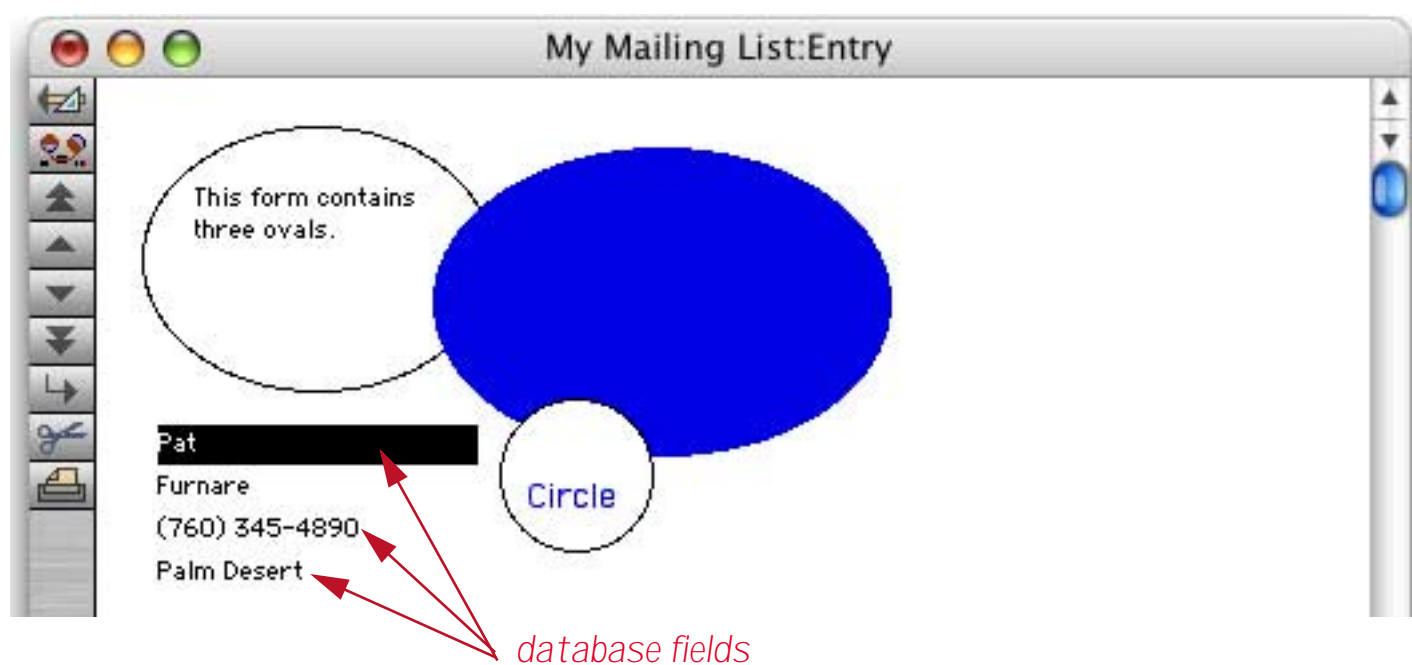
If you adjust the windows so that you can see both the data sheet and the form you can see that the form is displaying the same information that the data sheet is displaying.
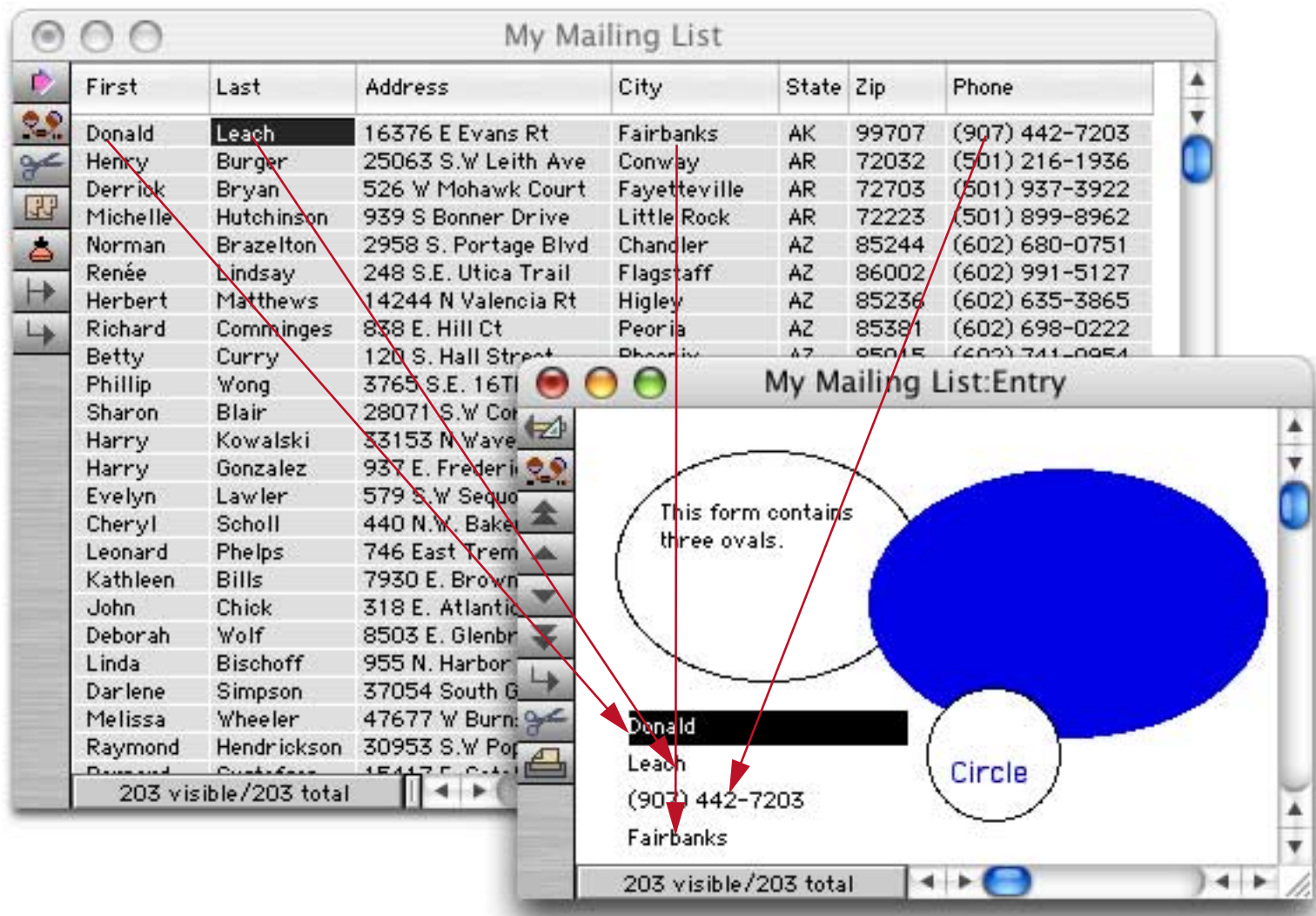
If you double click on one of the data cells you can edit the data, just as you could in the data sheet (see "Entering Data Into Your New Database" on page 7 of this tutorial as well as "The Input Box" on page 272 of the *Panorama Handbook*).
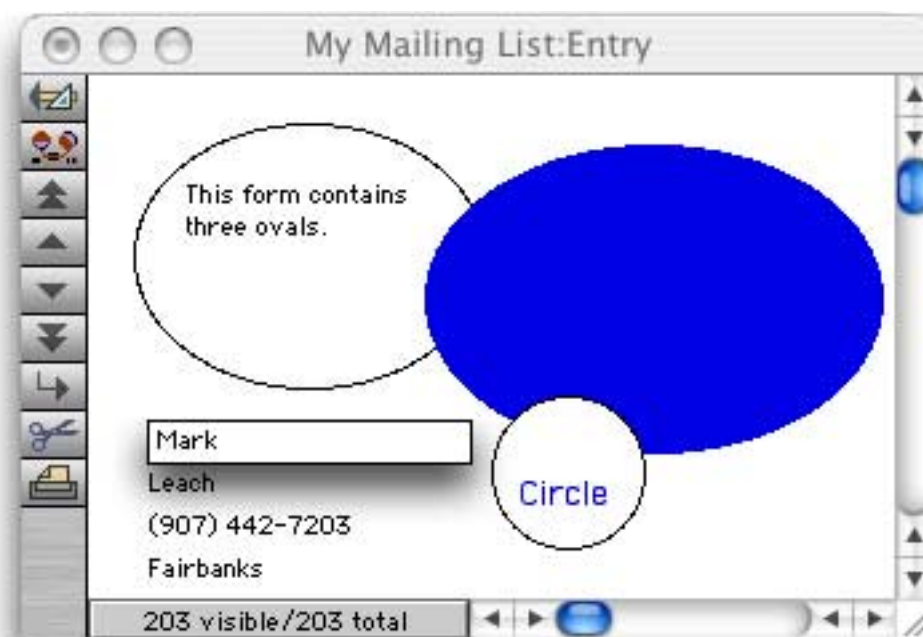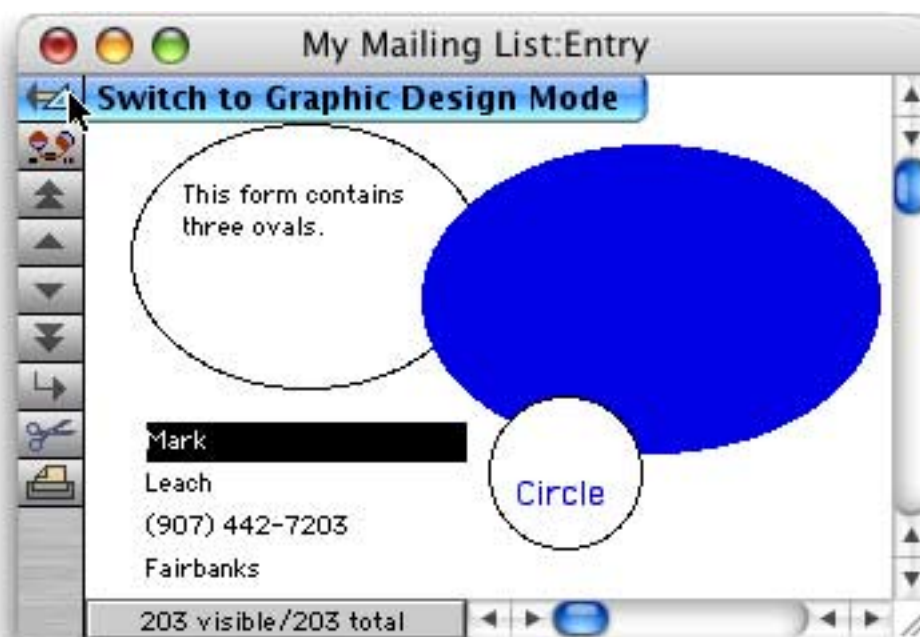
When you press the **Enter** key the new data will appear in both the form and the data sheet.
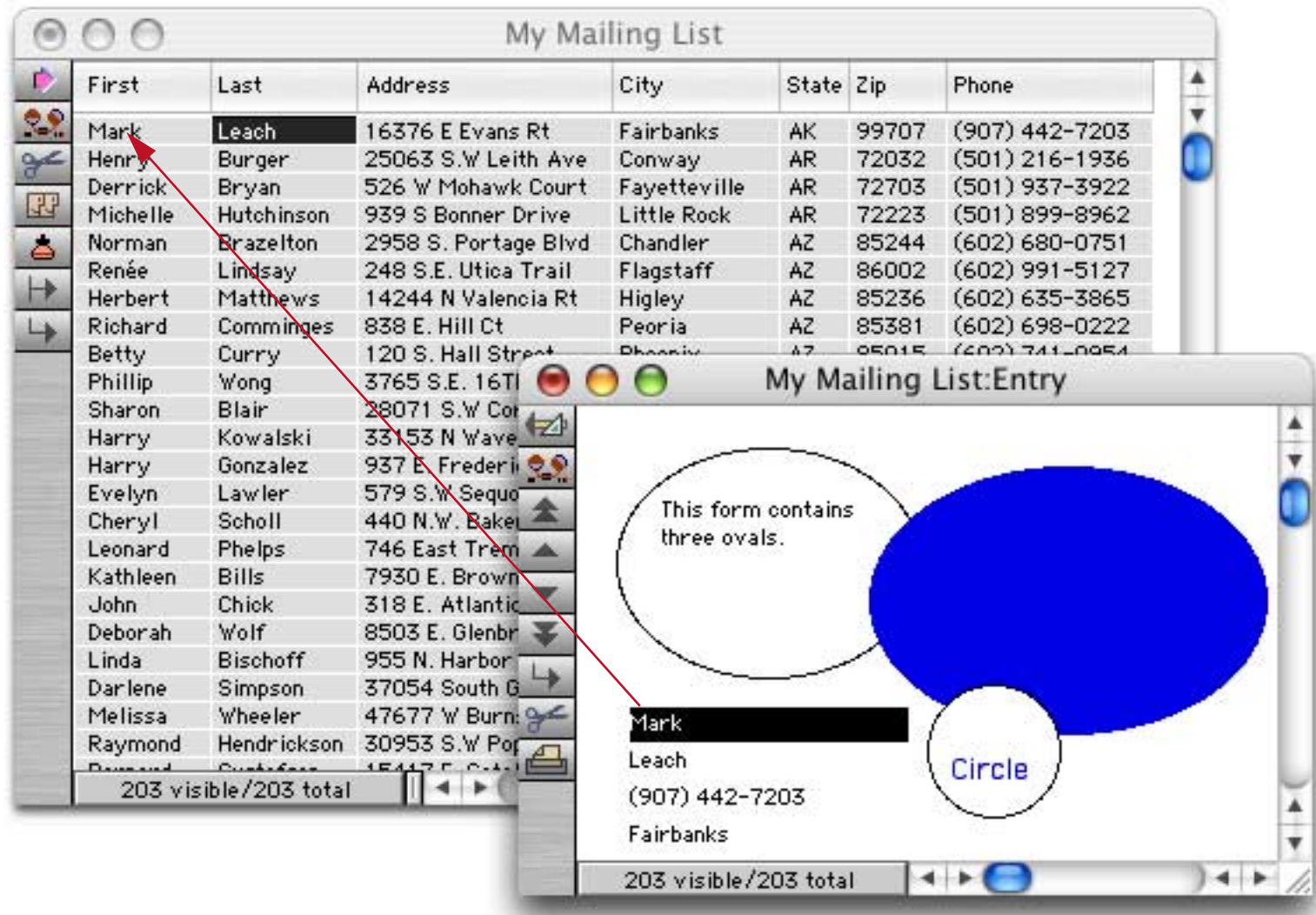
The same process works in reverse also — any data you enter into the data sheet will also appear in any forms that are open.

Building the Data Entry Form

Enough practice — it's time to start building the actual data entry form. Start by switching the form back to **Graphic Design Mode**.

We're going to start over in this form, so the first step is to erase all of the practice objects you have created. To do that choose **Select All Objects** from the Edit menu, then **Clear** from the Edit menu (or press the **Delete** key). Now you've got an empty form.
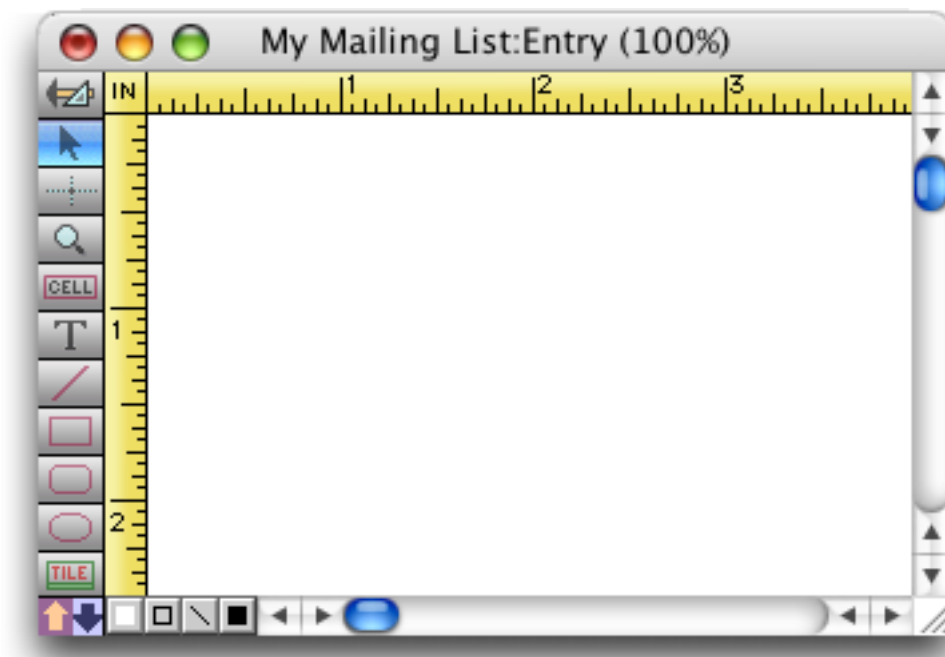

Now click the mouse in the upper left hand corner of the form, about 1/16th of an inch from the top and left hand sides.
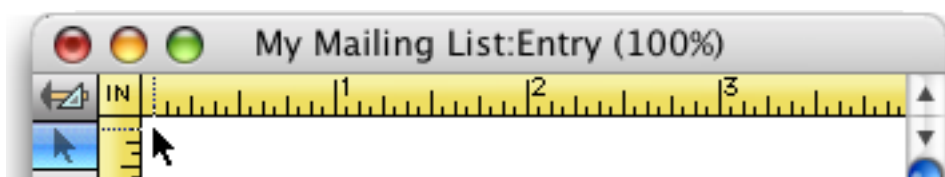

Now choose the **Auto Cell Layout** command from the Arrange menu. This command is going to create a neat column of data cells for us (see "Automatically Creating Rows or Columns of Data Cells or Text Editor Super-Objects" on page 662 of the *Panorama Handbook*). This dialog controls how the data cells are generated. Start by pressing the **Select All Fields** button. Then set the Spacing (Pixels) option to 1.
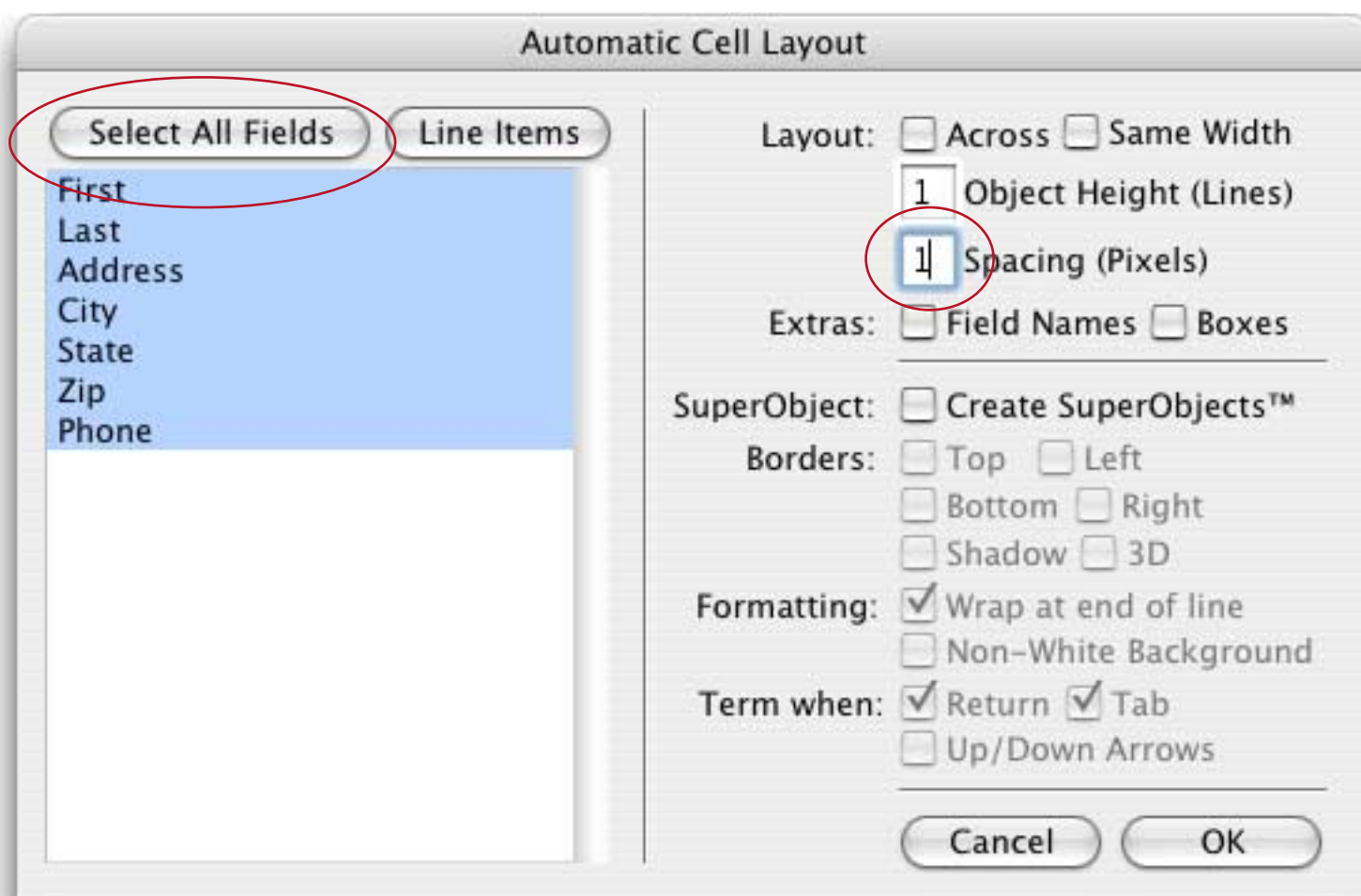
When you press the **OK** button Panorama will automatically create a column of data cells (starting at the point where you clicked the mouse).
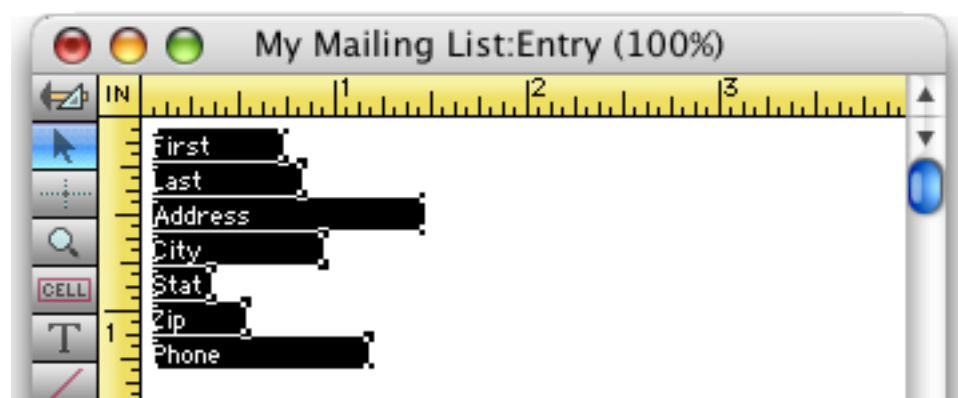
All of the objects are selected. To begin working on the objects separately click on any blank spot to de-select the objects.
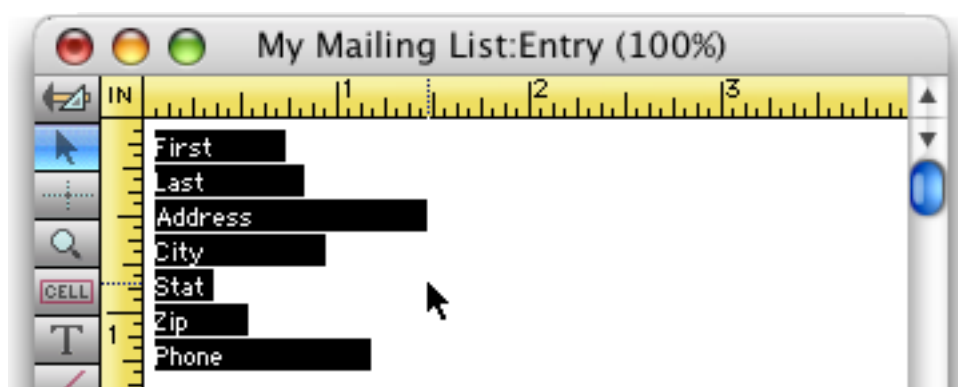
Using a combination of dragging and the arrow keys (◁, ▷, ▽, △) move the objects so that the First and Last name objects are on the same line and the City, State and Zip objects are the same line. Usually the best technique is to drag the object approximately into place and then use the arrow keys to nudge it exactly into position. If you need to review the techniques for dragging and nudging objects see "Moving a Single Object" on page 508 and "Nudging an Object (or Objects)" on page 509 of the *Panorama Handbook*. You may also find "Viewing and Setting Exact Object Dimensions" on page 512 useful.
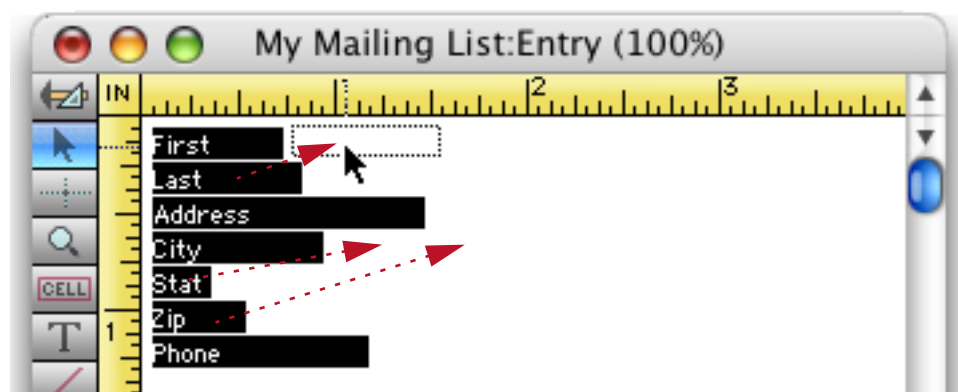
When you nudge an object with the arrow keys (◁, ▷, ▽, △) blue lines will appear when the object is aligned with other objects. When you are finished the result should look like this.
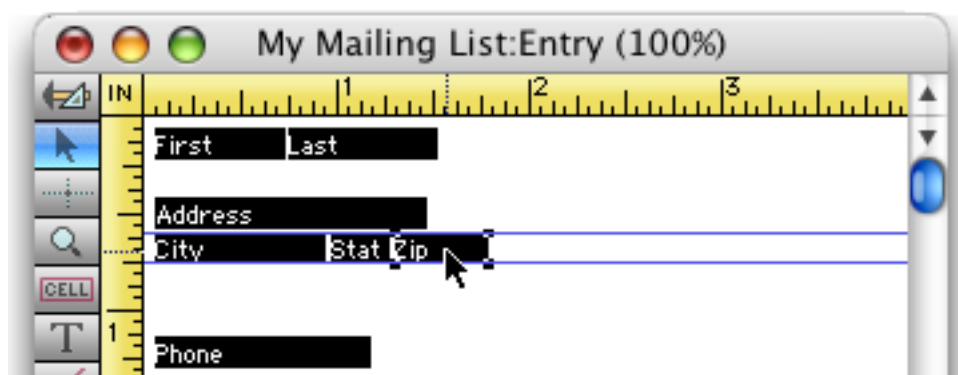
Next drag and nudge the Phone object up under the City, State and Zip objects. When you drag the Phone object hold down the **Shift** key so that Panorama will drag the object straight up with no slip to the left or right (see "Moving a Single Object" on page 508 of the *Panorama Handbook*). Then use the ↓ and ↑ arrow keys to nudge it into final position.
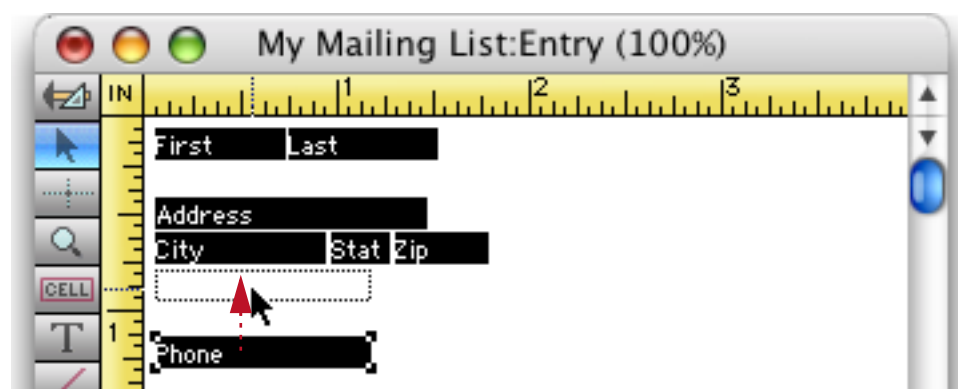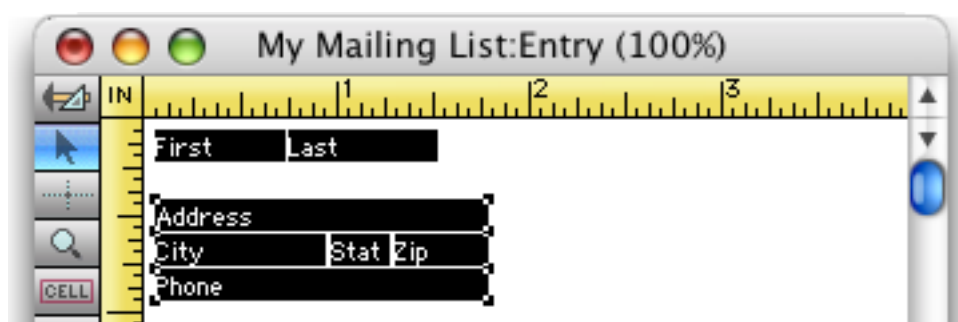

Again holding down the **Shift** key, drag the lower right hand handle to the right, expanding the width of the Phone object.
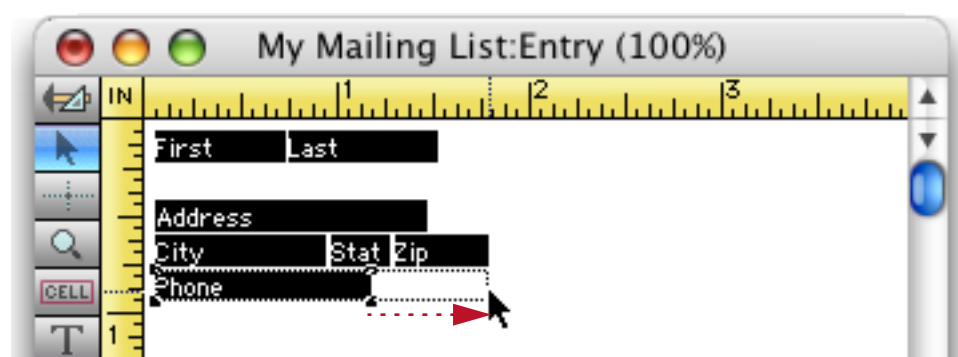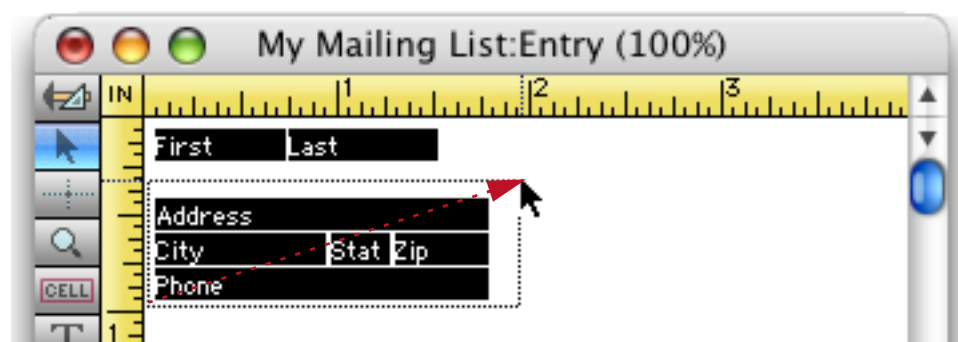

Then use the ← and → arrow keys to nudge the width of the object until it matches the combined width of the City, State and Zip objects. The blue alignment lines appear when the objects are aligned. You may also find it useful to use the crosshair cursor to check the alignment (see "Nudging to the Crosshair Cursor" on page 515 of the *Panorama Handbook*).
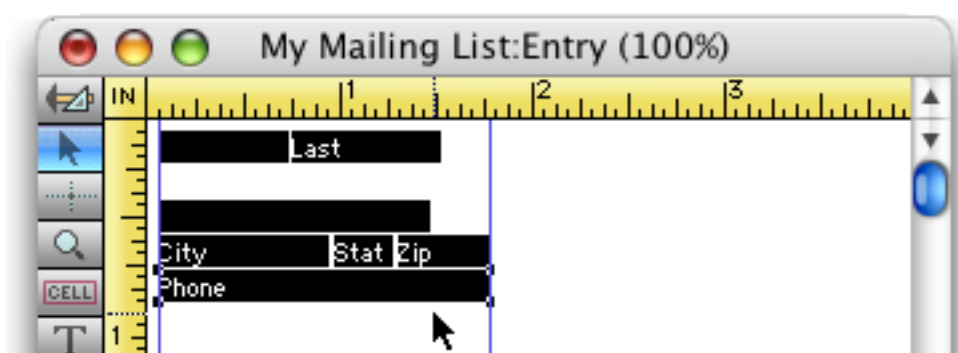

Then use the same techniques to adjust the width of the Address cell. Alternatively you can select the Address and Phone objects (see "Selecting Multiple Objects at Once" on page 502 of the *Panorama Handbook*) and then use the **Align** command with the **Left & Right** option to adjust the width. Either way the form should now look like this.

Drag the mouse around the bottom group of objects to select them (see "Selecting Multiple Objects at Once" on page 502 of the *Panorama Handbook*).

While holding down the **Shift** key drag these objects up underneath the First and Last objects. After you've dragged them close use the ⬇ and ⬆ arrow keys to nudge the objects into final position.
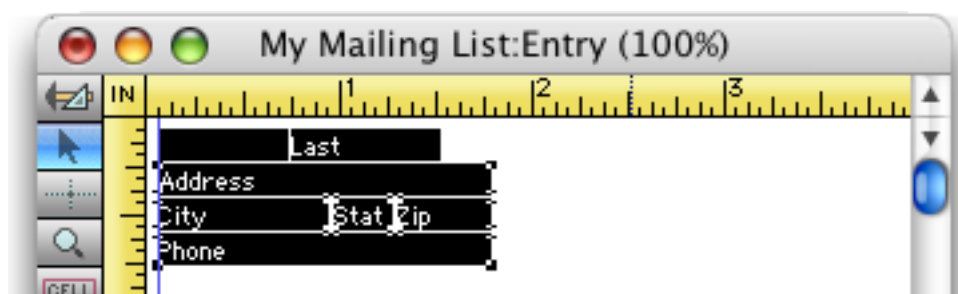
Finally drag and nudge the width of the Last name object to match the other objects.
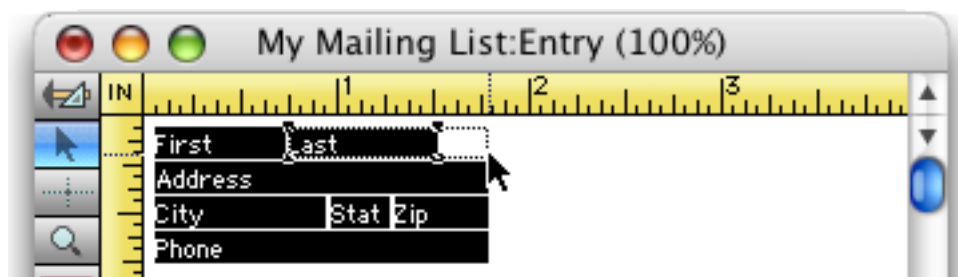
As one last enhancement you'll set the background color of the form. To do this use the **Form Preferences** command in the Setup menu. The background color is set with a pop-up menu at the bottom of this dialog (see "Form Background Colors" on page 582).
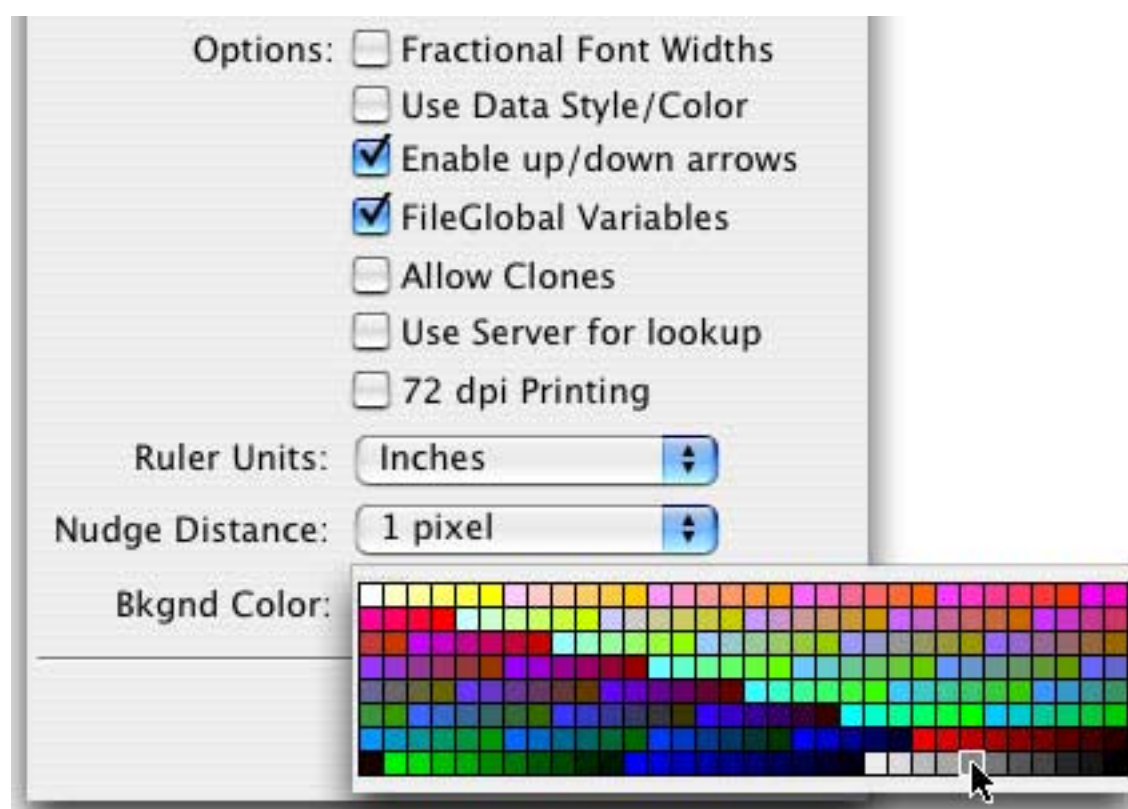
Your new form is now complete. Use the **Switch To Data Access Mode** tool to prepare for displaying and entering data, and adjust the window size and position so that both the data sheet and form are visible at the same time.
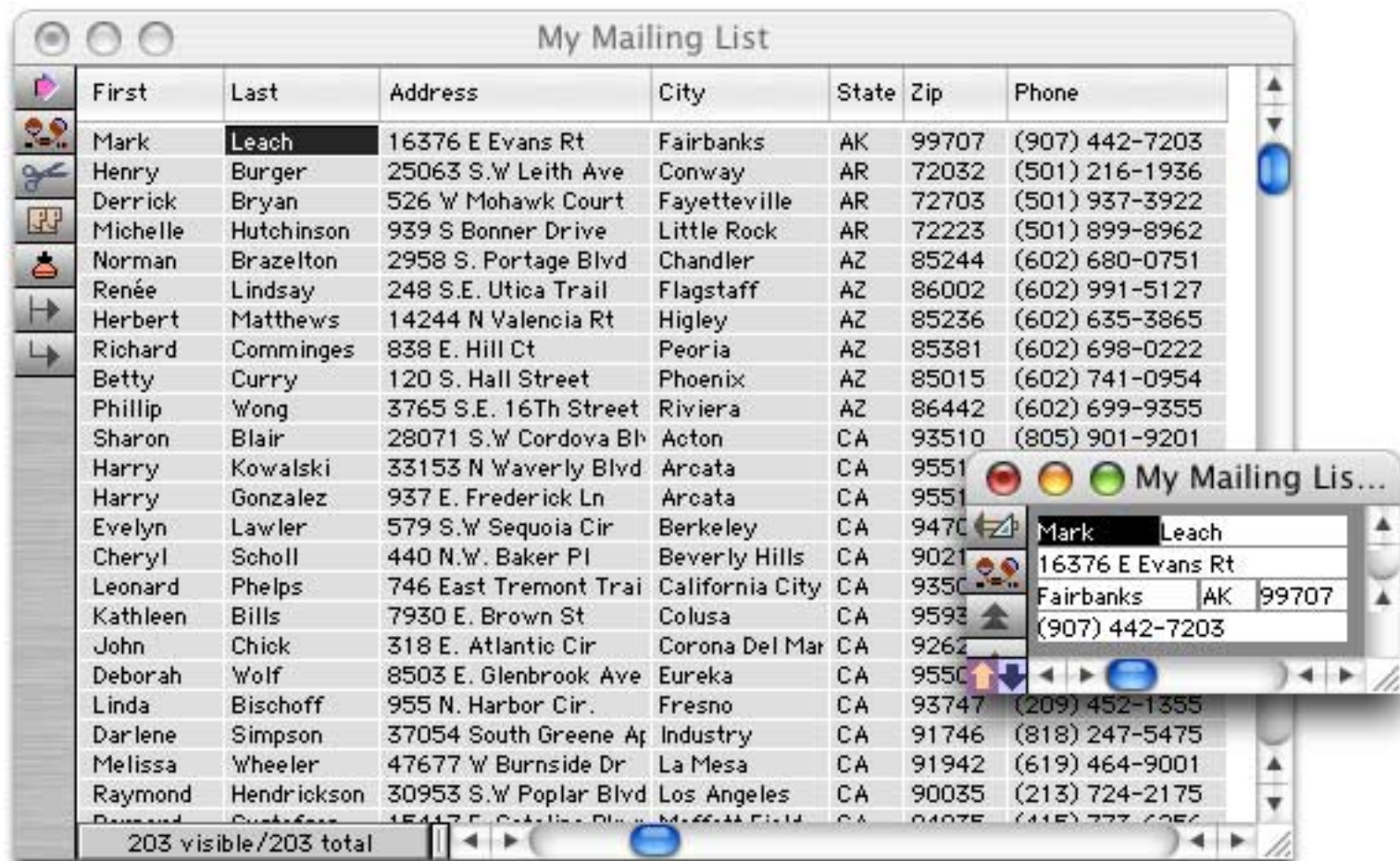

The form window has a tool palette and scroll bars that aren't really necessary. To get rid of them select the **Window Tweak** command from the Form Tools submenu of the Wizard menu (see "Turning Window Components On and Off (Window Tweak Wizard)" on page 150 of the *Panorama Handbook*). The tool palette and scroll bars are now removed.
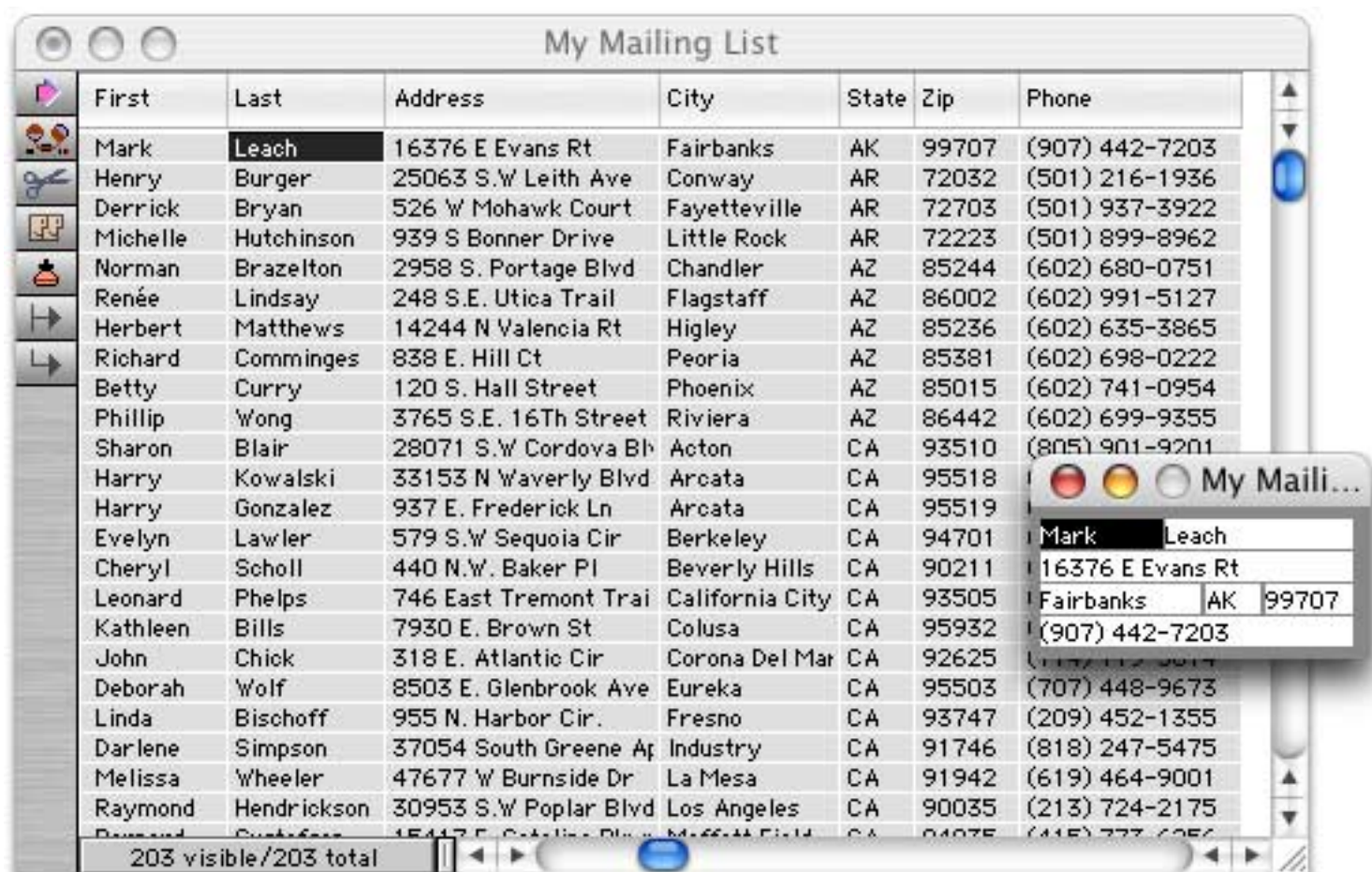
If you ever need to get the scroll bars and tool palette back again (for example to modify the form) simply select the **Window Tweak** command again. Another option is to close the form window and then re-open it with the **View** menu, which will also restore the tools and scroll bars.

Now that the form is complete be sure to **Save** your work. (In fact it really would have been a good idea to save two or three times while you were working on the form. Since Panorama saves so quickly there's no reason not to save early and often.) Panorama saves the window positions along with the data and graphics (assuming you checked the Save Window Positions option when you originally saved the file, see "Saving Window Positions" on page 64 of the *Panorama Handbook*), so if you close the file and then re-open it the form window and data sheet windows will reappear in the same places, ready to go.

The new form you have created only scratches the surface of the capabilities available for building forms. To see a more sophisticated example use the **Example Launcher** wizard (Wizards>Demos>Example Launcher) to open the 106th Congress database. This form uses what is called **view-as-list** mode, which allows a form to display more than one record at a time (kind of a cross between the data sheet and a regular form. See "View-As-List Forms" on page 899 of the *Panorama Handbook* to learn how to create this type of form.
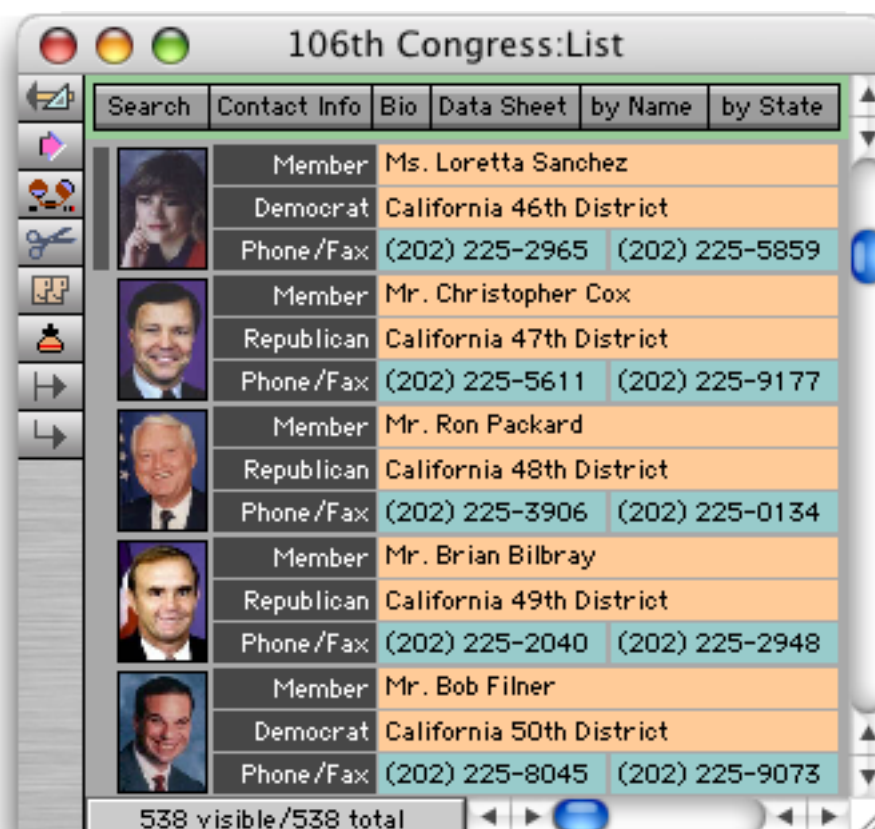
To see an example of a more traditional form press the **Contact Info** or **Bio** button. (See "Push Buttons" on page 823 of the *Panorama Handbook* to learn how to create a button.) Pressing either button opens a form in a new window.
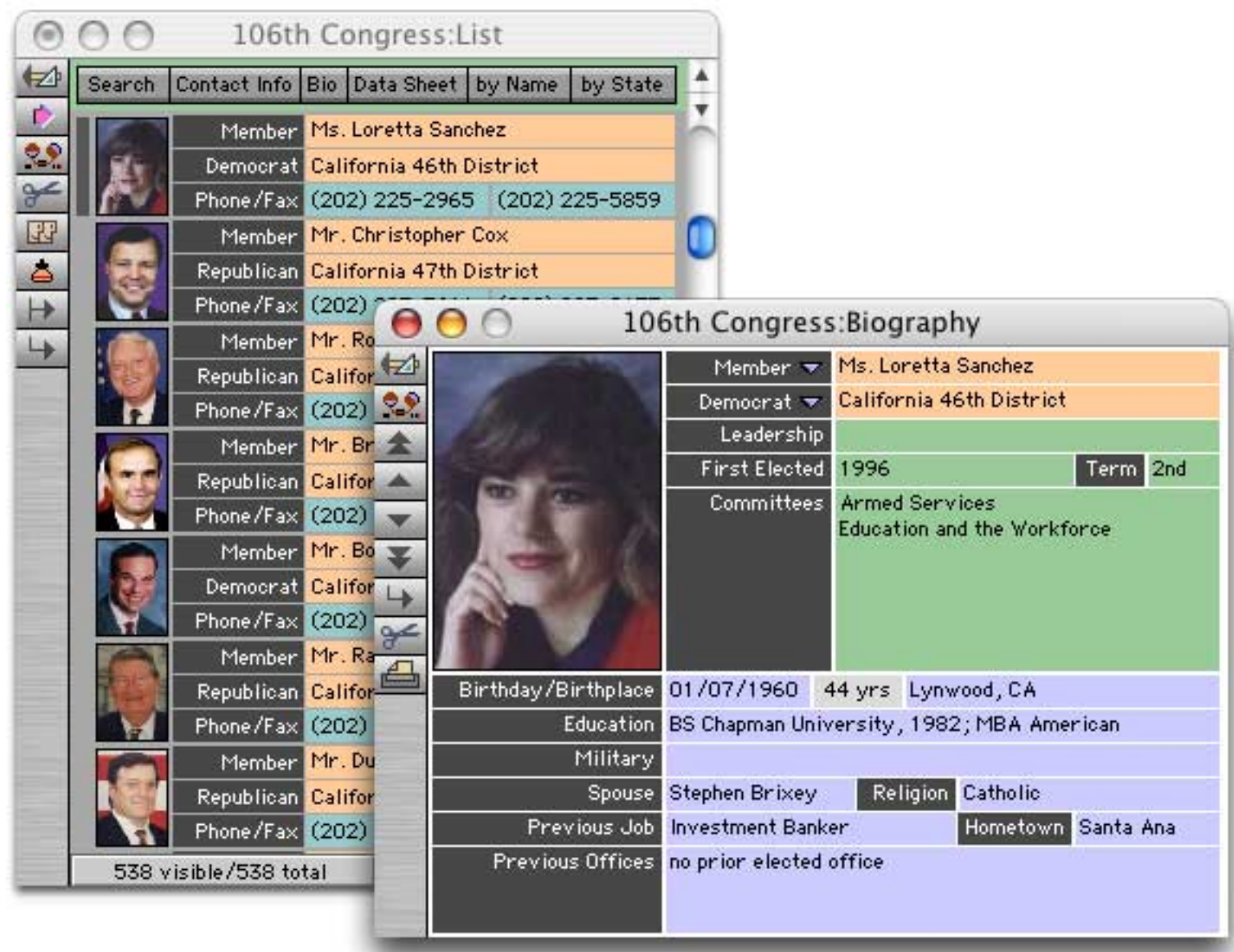
All of these forms use **Flash Art** to display a photograph (see "Flash Art™" on page 750 of the *Panorama Handbook*). You can also show and play a QuickTime movie in a form (see "Displaying Movies in a Form" on page 819 of the *Panorama Handbook*).

Writing a Letter to Someone in the Mailing List

Panorama includes a pre-built database for handling general word processing chores — the **Mini Correspondence** wizard (see "Using the Mini Correspondence Wizard" on page 727 of the *Panorama Handbook*). This database may be used for general correspondence (letters, memos, etc.) and to create mail merge letters that are customized and sent to a group of recipients. To write a letter to a person in your mailing list database, first locate and click on that person.
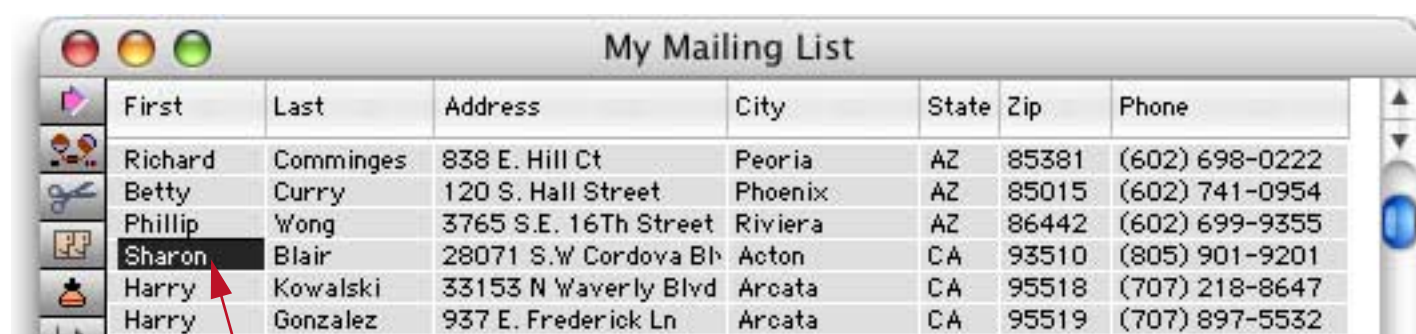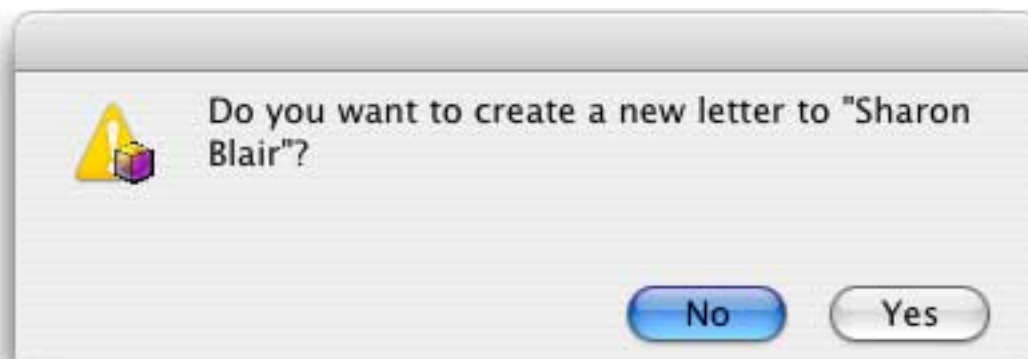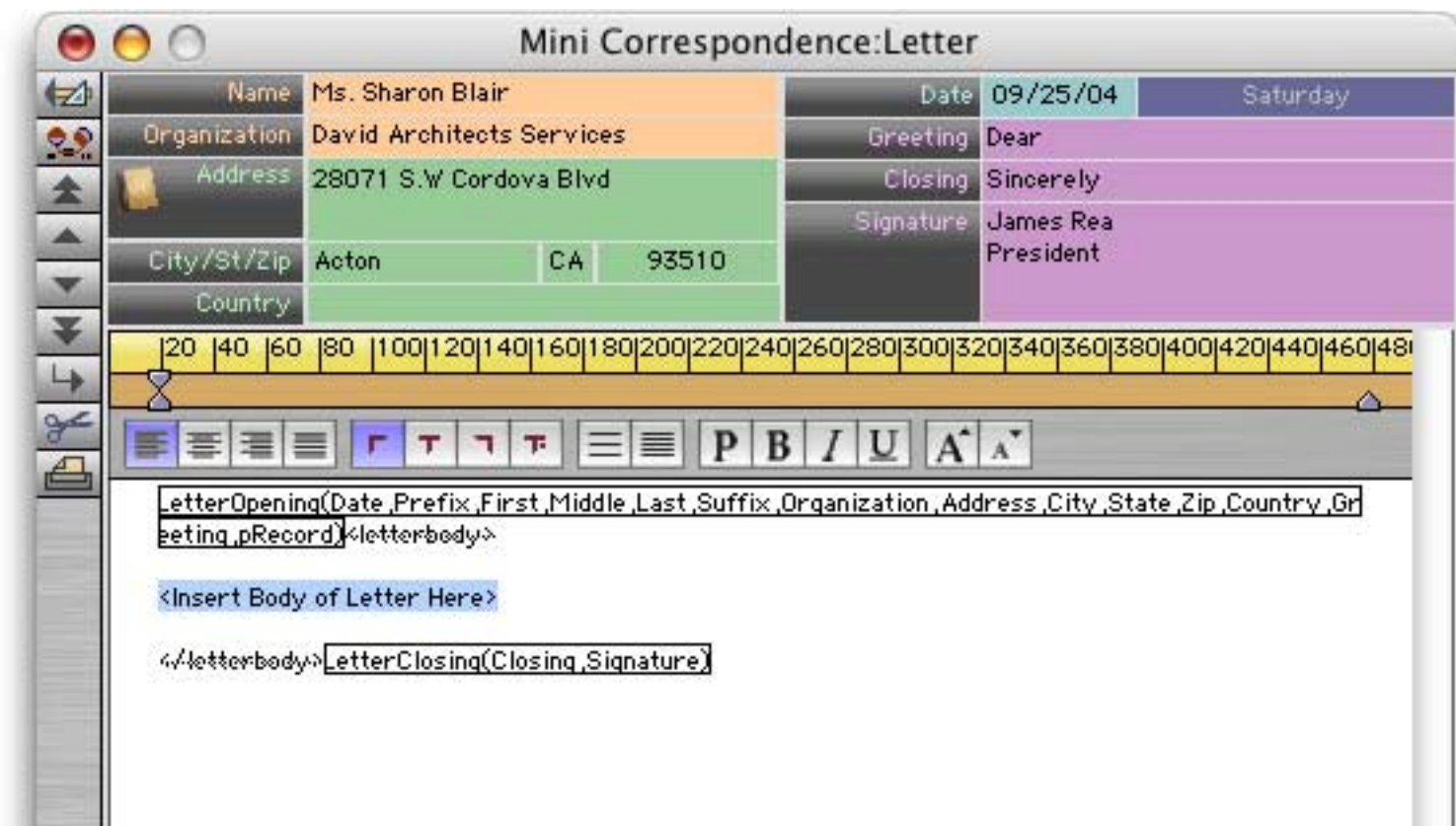

click on the person you want to write a letter to

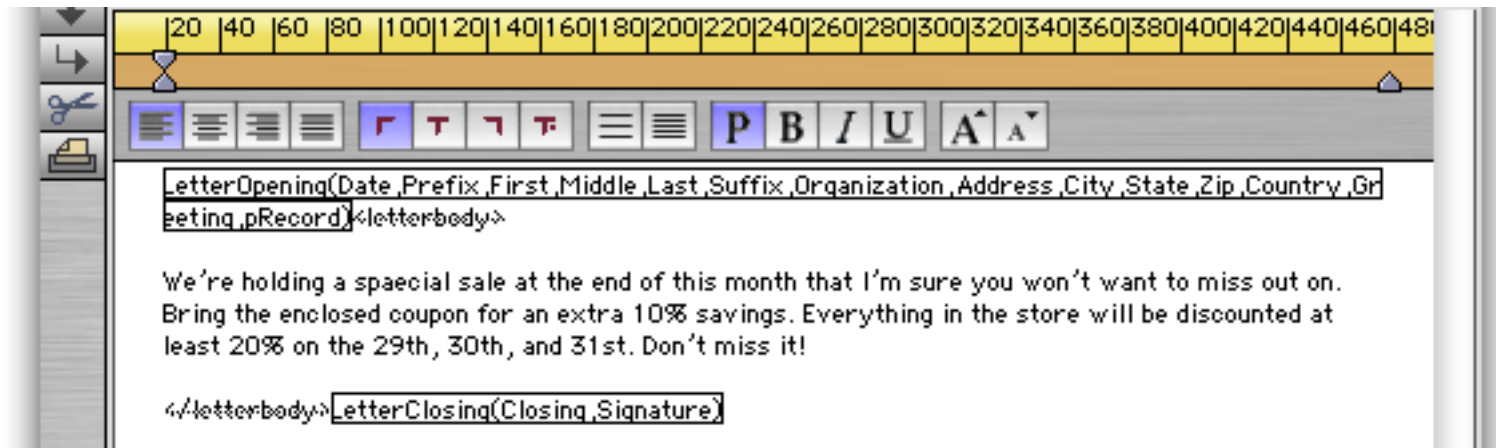Now open the **Mini Correspondence** wizard.
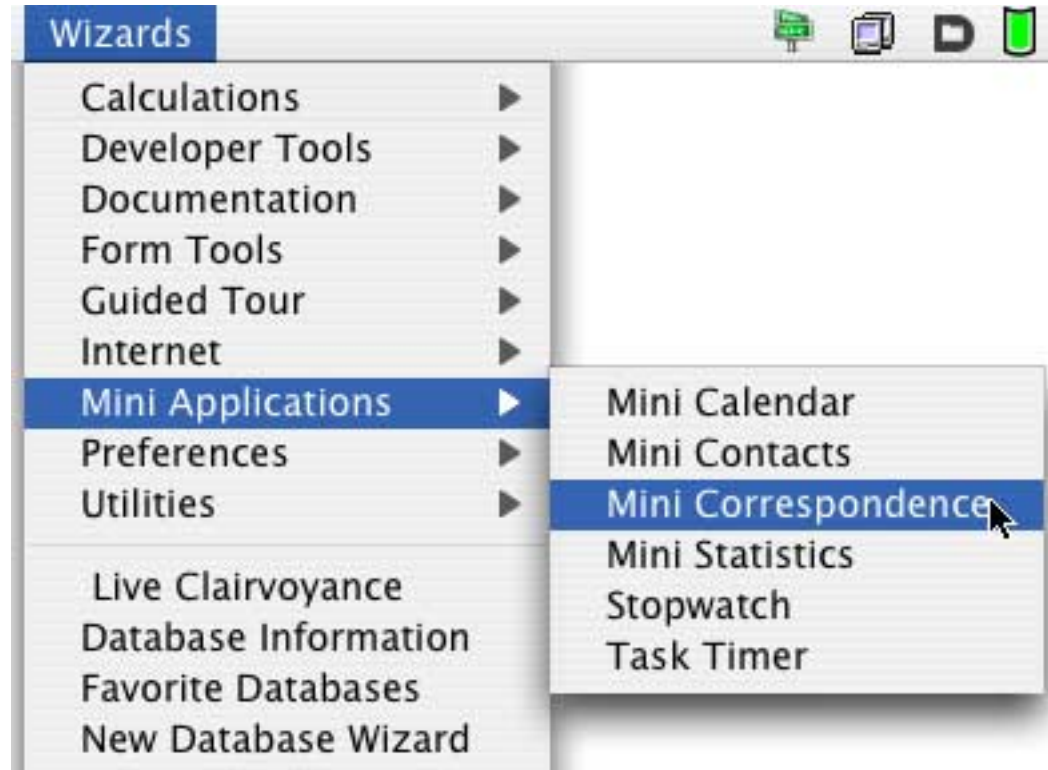
The wizard will ask you if you want to create a new letter to Sharon Blair.

Press the **Yes** button to create the new letter. The wizard will automatically fill in the name and address in the new letter.
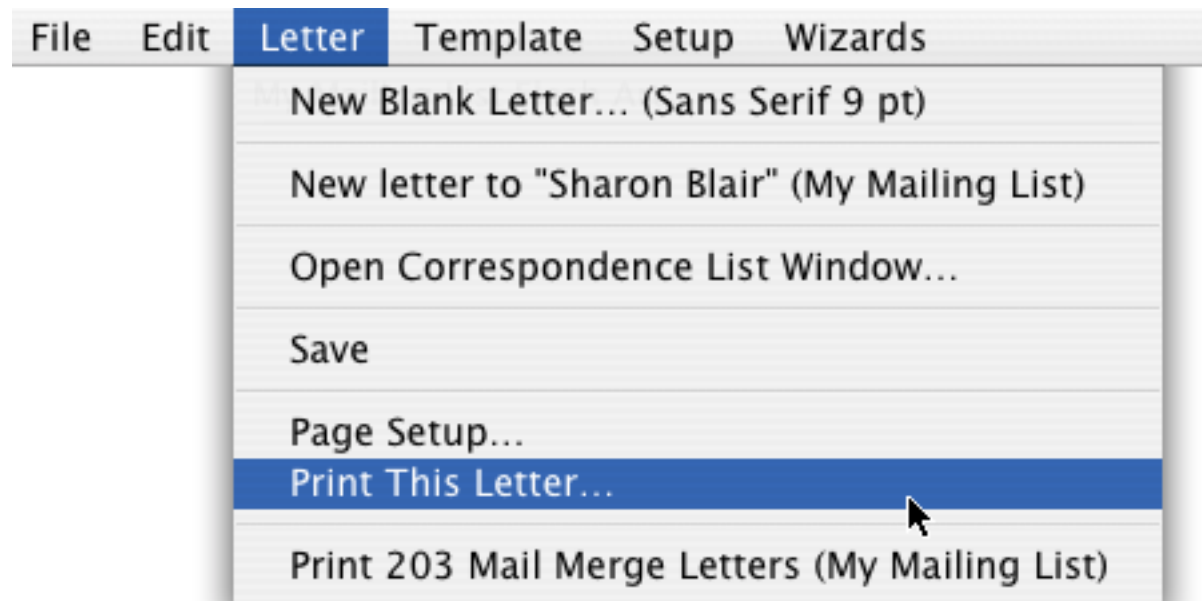
At this point all you need to do is type in the body of the letter. Just start typing.

When you are finished typing in the letter press the **Enter** key. Panorama will display a preview of the actual letter, including the address, greeting and salutation.

If you want to print this letter use the **Print This Letter…** command in the Letter menu.

To learn more about editing a word processing document (including setting margins, tabs, fonts, styles and colors) see "Using the Word Processor" on page 677 of the *Panorama Handbook*.
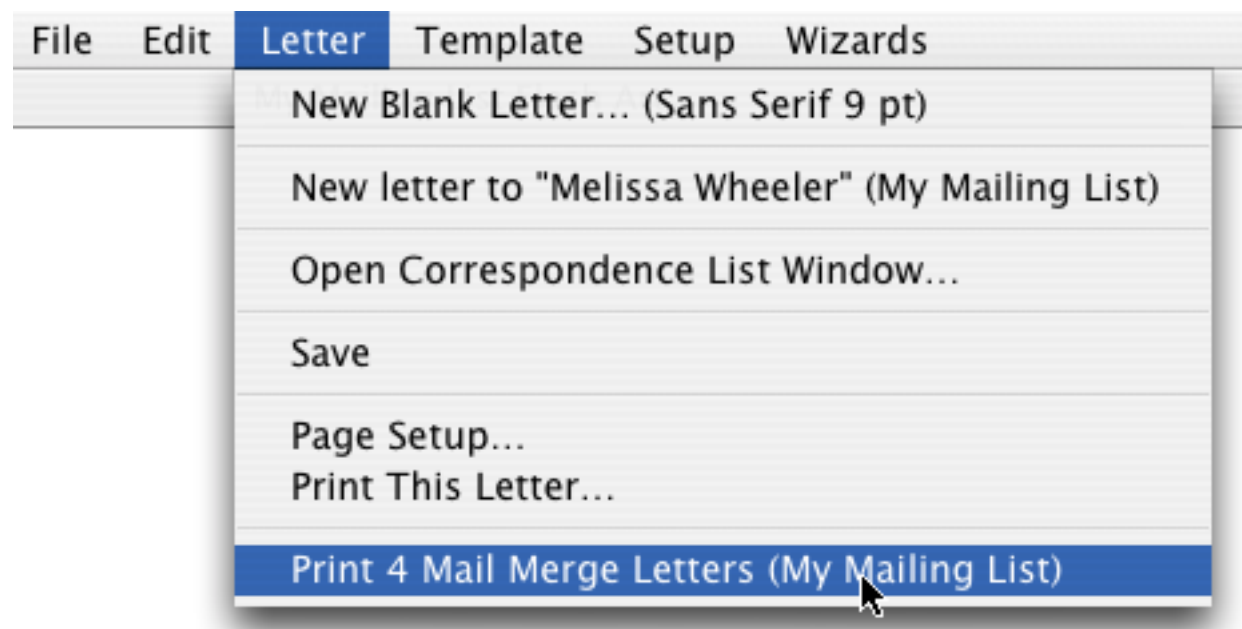
Printing a Mail Merge Letter

You can take the same letter you just created and send it to multiple recipients — for example we could send it to everyone in the 619 area code. Start by going back to the **My Mailing List** database and selecting the members of congress from California (see "The Find/Select Dialog" on page 336 of the *Panorama Handbook*) and searching for (619).
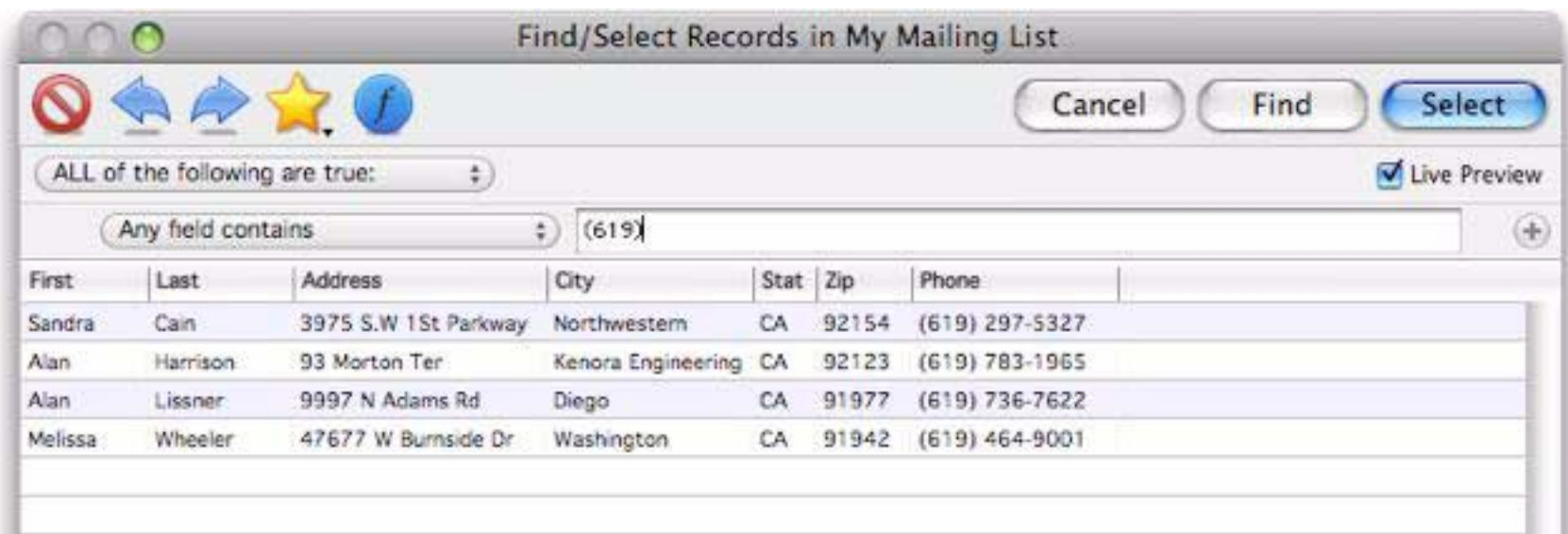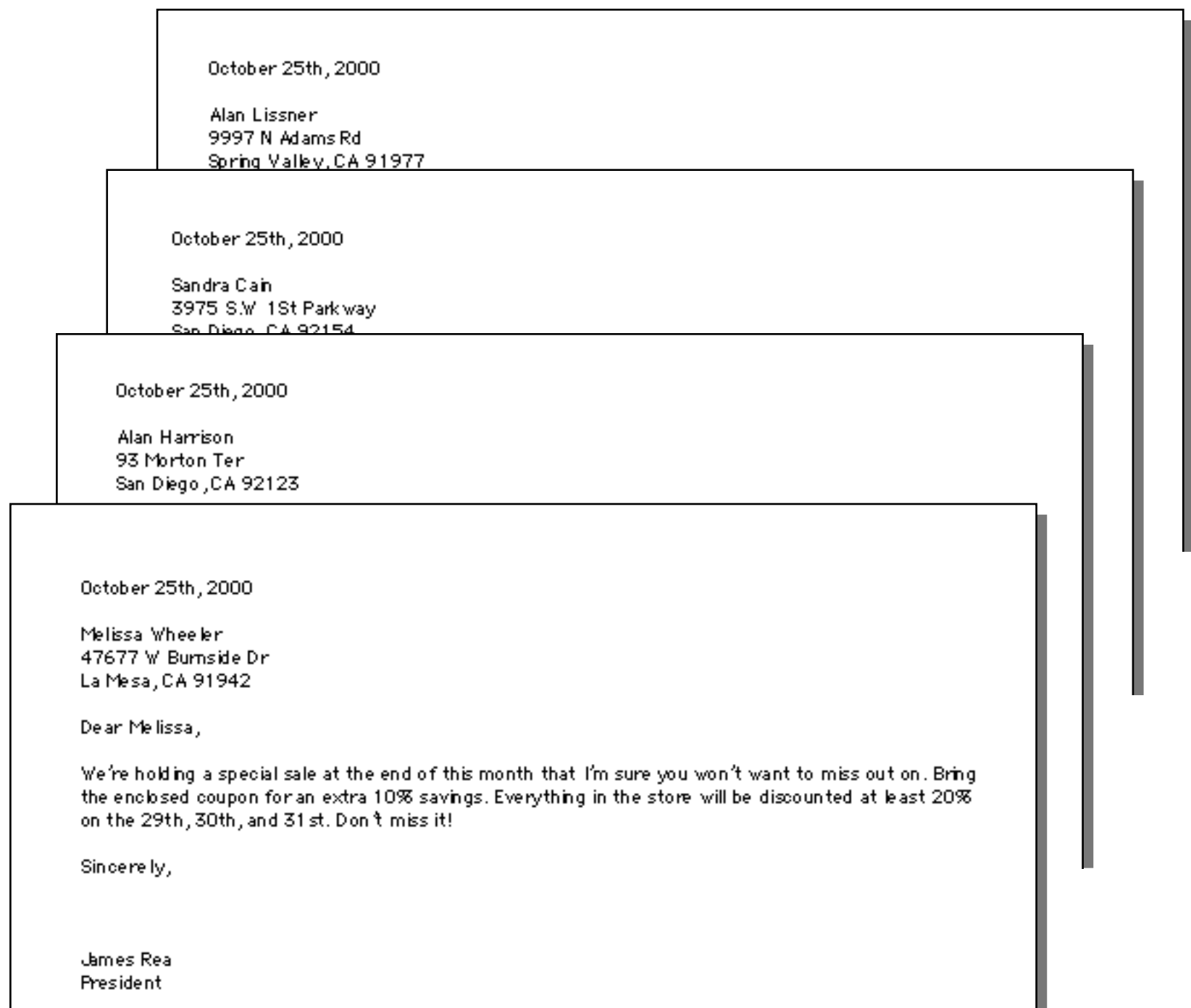

As you can see there are 4 people in this area code in the mailing list. Press the **Select** button to select them in the data sheet.

Now go back to the **Mini Correspondence** database and pull down the **Letter** menu. The last item in this menu will print a customized letter to each selected person in the My Mailing List database.

File	Edit	Letter	Template	Setup	Wizards

New Blank Letter... (Sans Serif 9 pt)

New letter to "Melissa Wheeler" (My Mailing List)

Open Correspondence List Window...

Save

Page Setup...
Print This Letter...

Print 4 Mail Merge Letters (My Mailing List)

The wizard will print 4 customized letters.

October 25th, 2000

Alan Lissner
9997 N Adams Rd
Spring Valley, CA 91977

October 25th, 2000

Sandra Cain
3975 S.W 1St Parkway
San Diego, CA 92154

October 25th, 2000

Alan Harrison
93 Morton Ter
San Diego, CA 92123

October 25th, 2000

Melissa Wheeler
47677 W Burnside Dr
La Mesa, CA 91942

Dear Melissa,

We're holding a special sale at the end of this month that I'm sure you won't want to miss out on. Bring the enclosed coupon for an extra 10% savings. Everything in the store will be discounted at least 20% on the 29th, 30th, and 31st. Don't miss it!

Sincerely,

James Rea
President

See "Printing a Mail Merge Letter" on page 732 of the *Panorama Handbook* to learn more about printing mass mailings with Panorama.

Tidying Up

Your mailing list database is complete, so now is the time to save your work permanently. Choose **Quit** from the **Panorama** menu (OS X) or **File** menu (Windows). If you have made any changes to your database since the last time it was saved, Panorama will ask you if you wish to save the database. You do, so click the **Save** button.
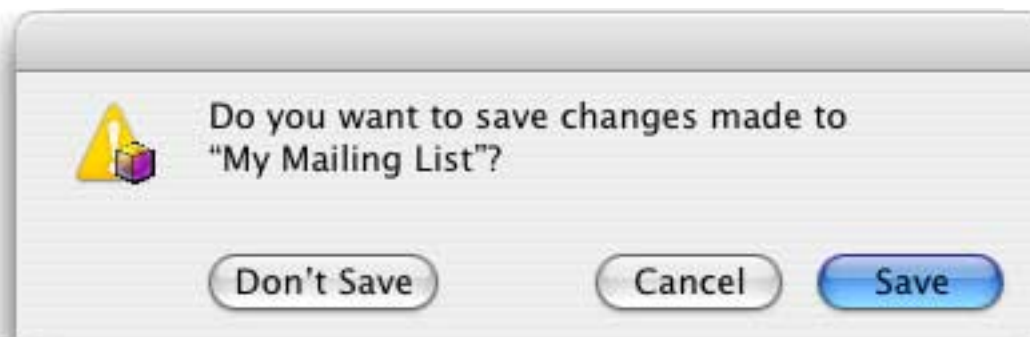
Congratulations! You've successfully created and used your first Panorama database (you were following along on your computer, right?). Now that you've mastered the basics you're ready to move on to some more advanced techniques.

Extra Credit — Importing, Cleaning up and Adding a List of Names to the Mailing List

Suppose a colleague has sent you a spreadsheet with names you need to add to your mailing list. The names are formatted differently from your list, but I'll show you how Panorama can take care of that. (The spreadsheet below is in Apple's Numbers program, but the techniques I'm about to show you also works with Microsoft Excel.)

Since the data is in the wrong format I can't import it directly into my mailing list. Instead, I'll import it into a new database, fix up the data, and then add it to the mailing list. I'll start by opening the **New Database Wizard**, selecting all of the data in the spreadsheet, and then dragging it onto the wizard. (If you want to follow along you can find the New Members spreadsheet by opening the **New Database Wizard**, then choosing **Show Sample Text Files** from the **Special** menu.
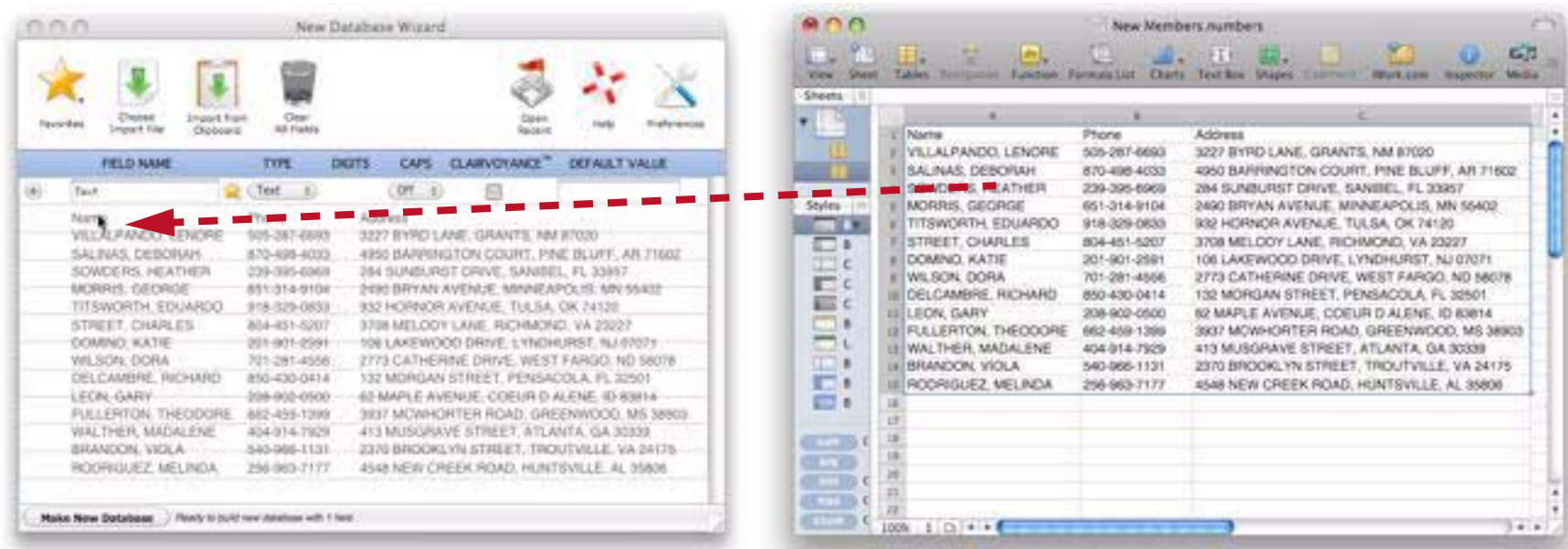
Note: If you're using a Windows PC system dragging to the **New Database Wizard** is not enabled. Instead, you'll need to select all of the data in the spreadsheet, copy it into the clipboard, then go to the **New Database Wizard** and press the **Import From Clipboard** button.

Once the data has been dragged (or copied) to the new database wizard, the wizard will parse the data into three fields. Since in this example the first row of the data contained the field names, I am ready to go. Otherwise I would need to edit the field names now.

To actually create the new database I press the **Make New Database** button.

Here's the data.

Now that the data has been transferred to Panorama I can get to work on fixing the data so that it matches my mailing list. The first step is to fix the capitalization — I hate all caps! To do that I choose **Manipulate Data in Field** from the **Field** menu.
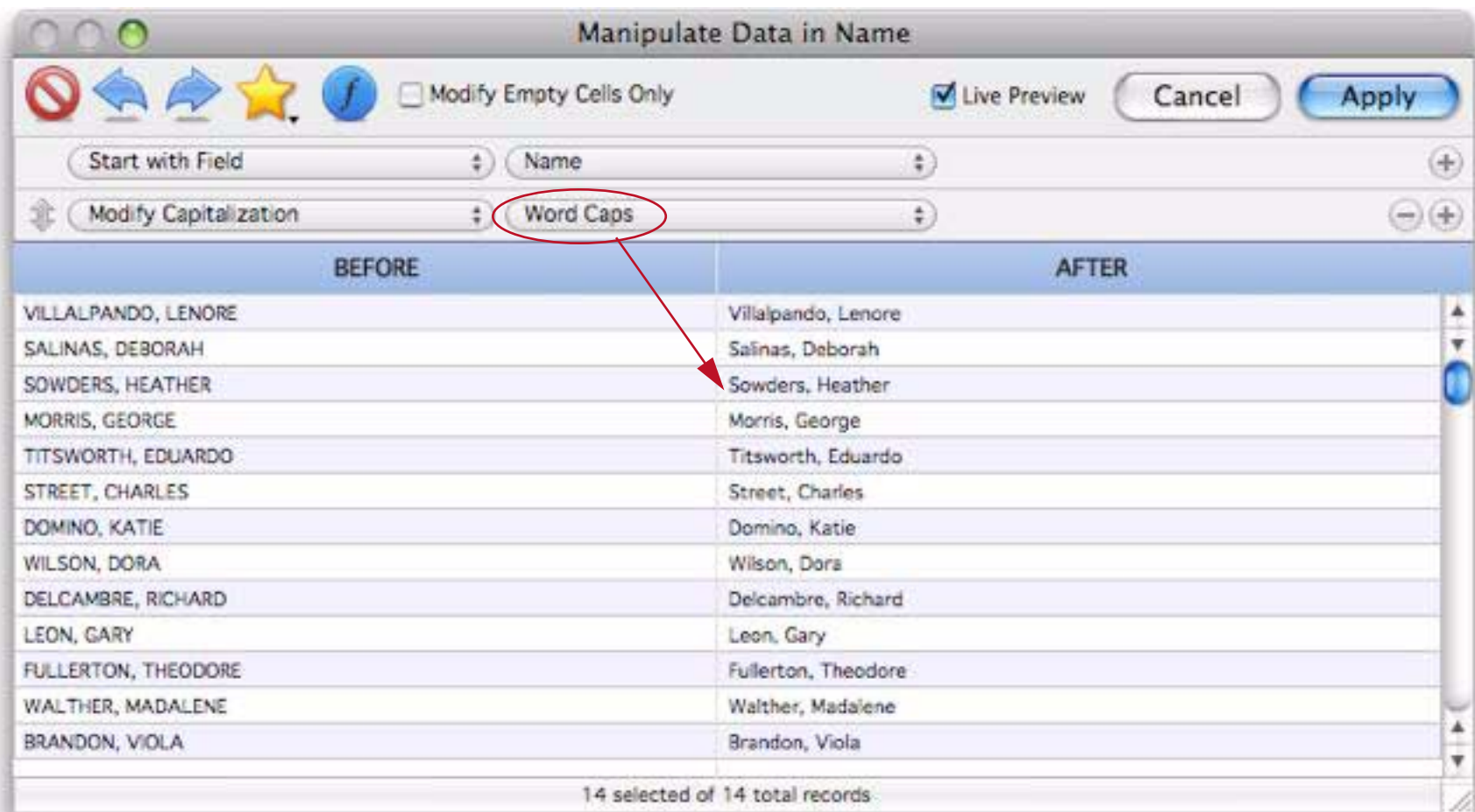

click + to get started

As shown above, click the + button to add a manipulation row to the dialog. Then click on the pop-up menu to change the selected manipulation to **Modify Capitalization**.
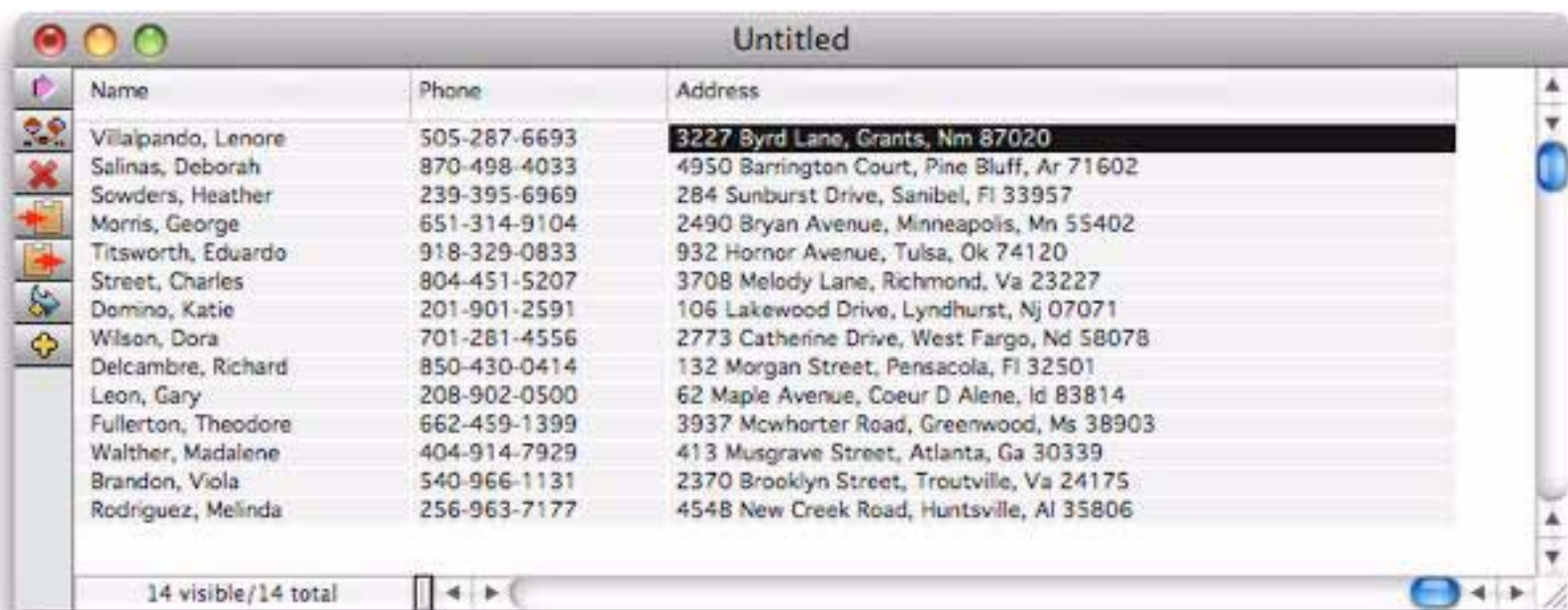

*click for pop-up menu, change to **Modify Capitalization***

Now I change **All Caps** to **Word Caps**. The instant preview shows that the names now look the way I want them to.

I press the **Apply** button to actually change the database, then I repeat the same steps for the Address field.

Now I need to split the names into separate first and last names, and the addresses into separate street address, city, state and zip fields. I start by clicking anywhere in the Name field, then choosing **Split Field** from the **Fields** menu. Using the dialog, choose the options to split the first and last names.

1) Specify how field will be split
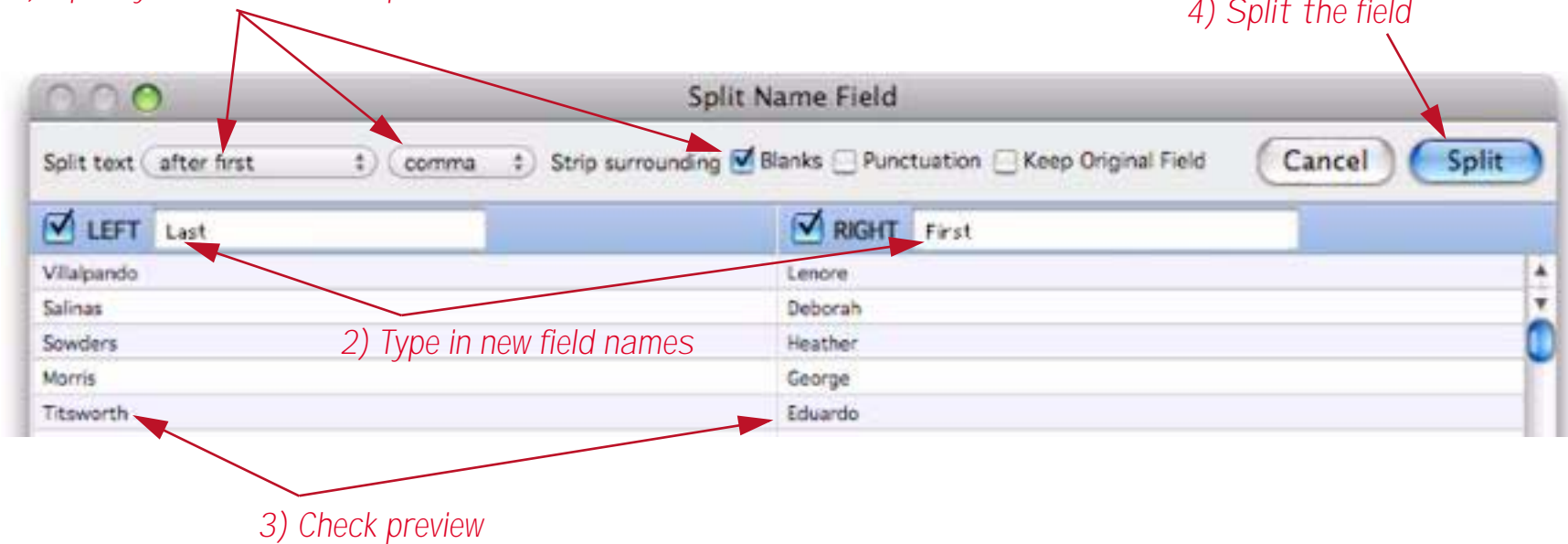
4) Split the field

2) Type in new field names

3) Check preview

Actually splitting the field just takes a fraction of a second.

The first and last names are reversed so I click on the column header…

and drag it into position,

Splitting the address is similar to splitting the name. Again I start by clicking anywhere in the Address field and choosing **Split Field** from the **Fields** menu. It will take three passes to split this into four fields, I'll start with the zip code field, as shown here.

1) Specify how field will be split

4) Split the field

2) Type in new field names

3) Check preview
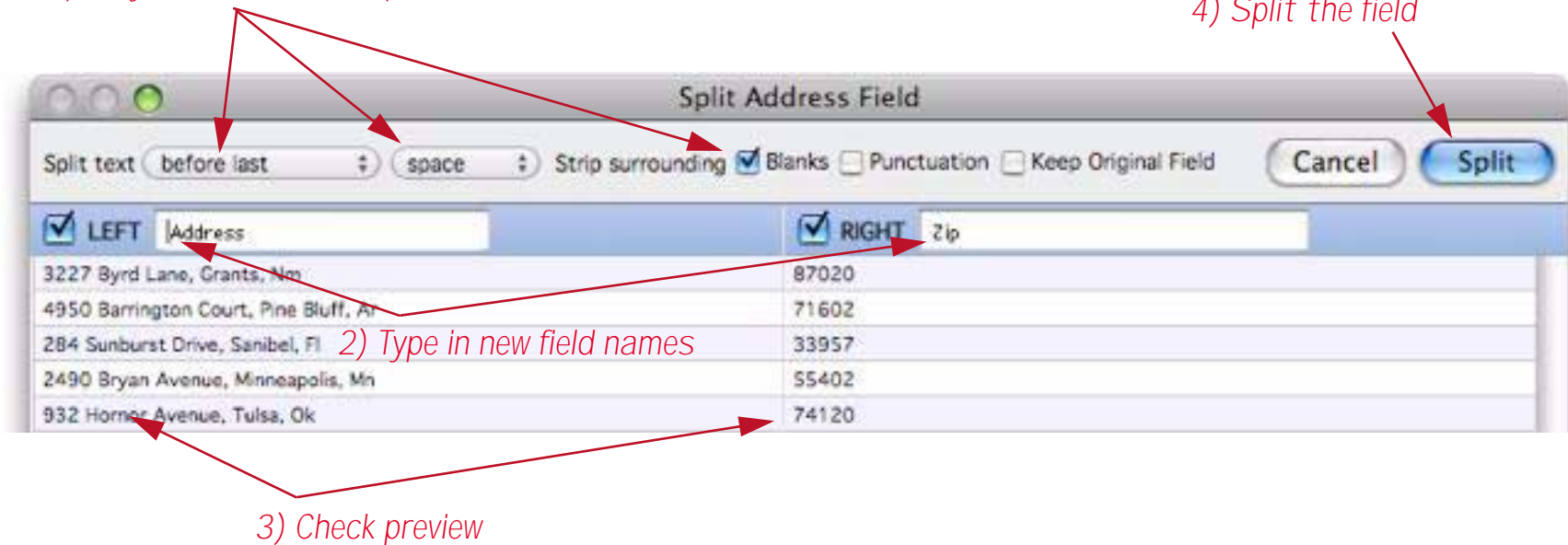
Once again, actually splitting the field only takes a fraction of a second.

Splitting off the state is pretty much the same as splitting off the zip except that the split is at the last comma instead of the last space. (The states need to be all caps, but I'll fix that in a moment.)

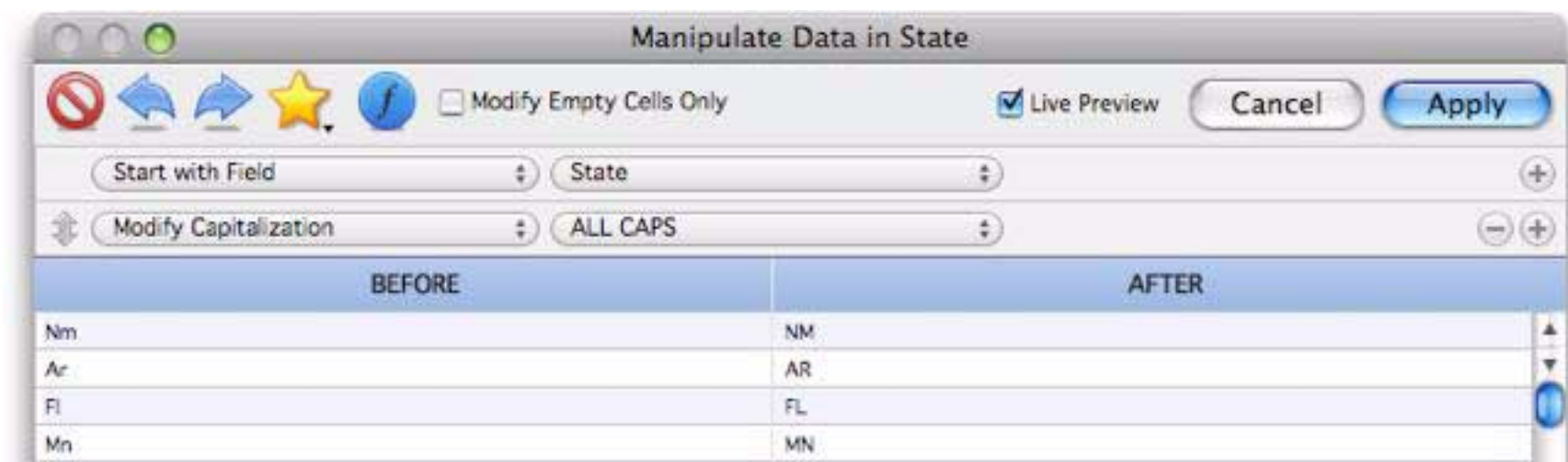Finally I split off the city, also at the last comma.

Here's the finished result, with all the fields split. (To learn more about splitting fields, see "Splitting a Field" on page 201 of the *Panorama Handbook*. You can also merge fields, see "Merging Adjacent Fields" on page 207 of the *Panorama Handbook*.)

Before I transfer the data to my mailing list I need to convert the State field to all caps. To do that I click anywhere in the field, choose **Manipulate Data in Field**, then set up the dialog to modify the capitalization:
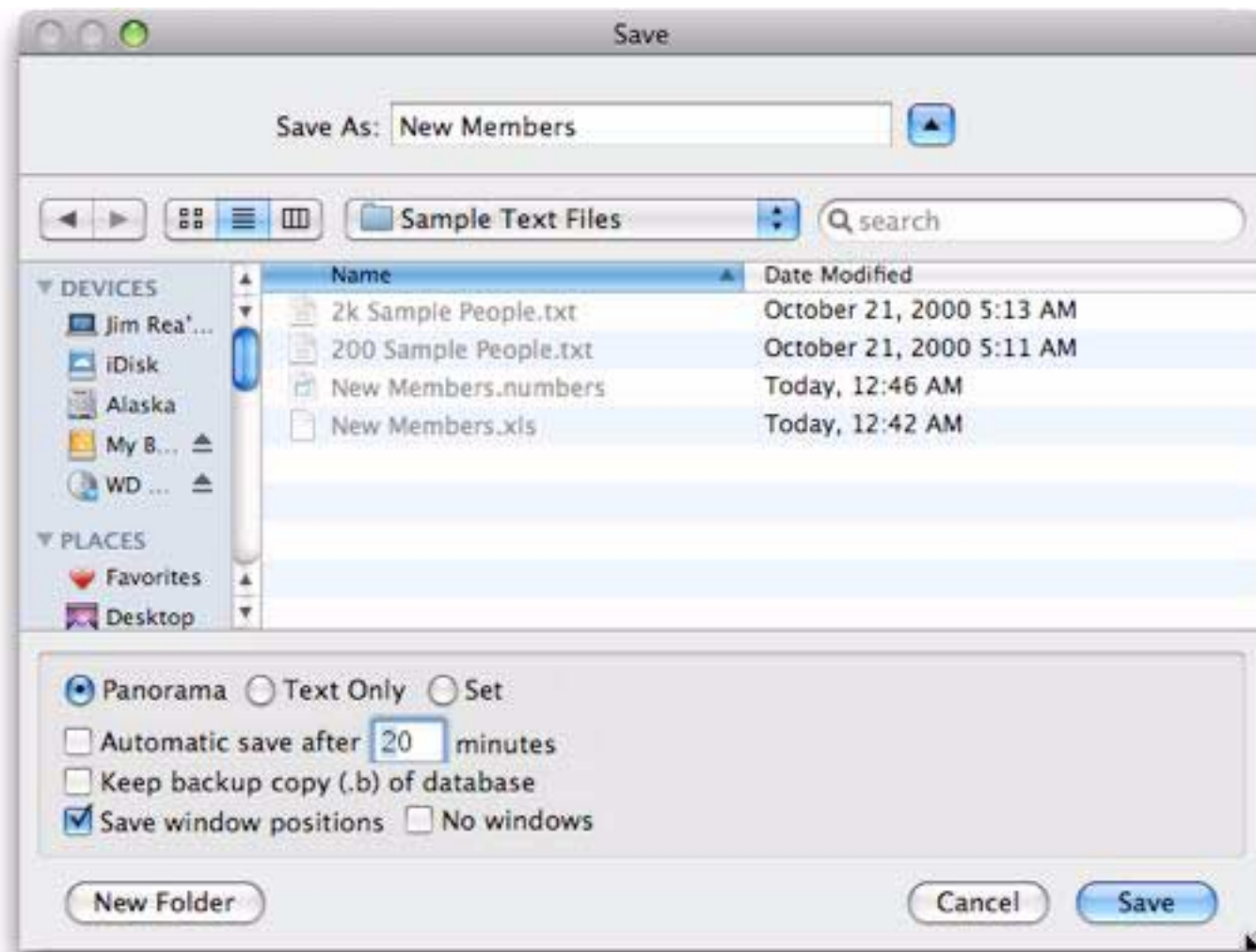

I press **Apply** and the data is ready to transfer.

To actually transfer the data I first need to save it, so I choose **Save** from the File menu and give the new file a name.

I'm done with this new database, so I can close it and get back to my original My Mailing List database.

With the **My Mailing List** database active, I choose **Open File** from the **File** menu, then choose the option to append the data as shown below.

1) Select file to append to current database

2) Tell Panorama to append instead of opening the file in a separate window

3) Match fields by name (if unchecked fields will be matched by their order)
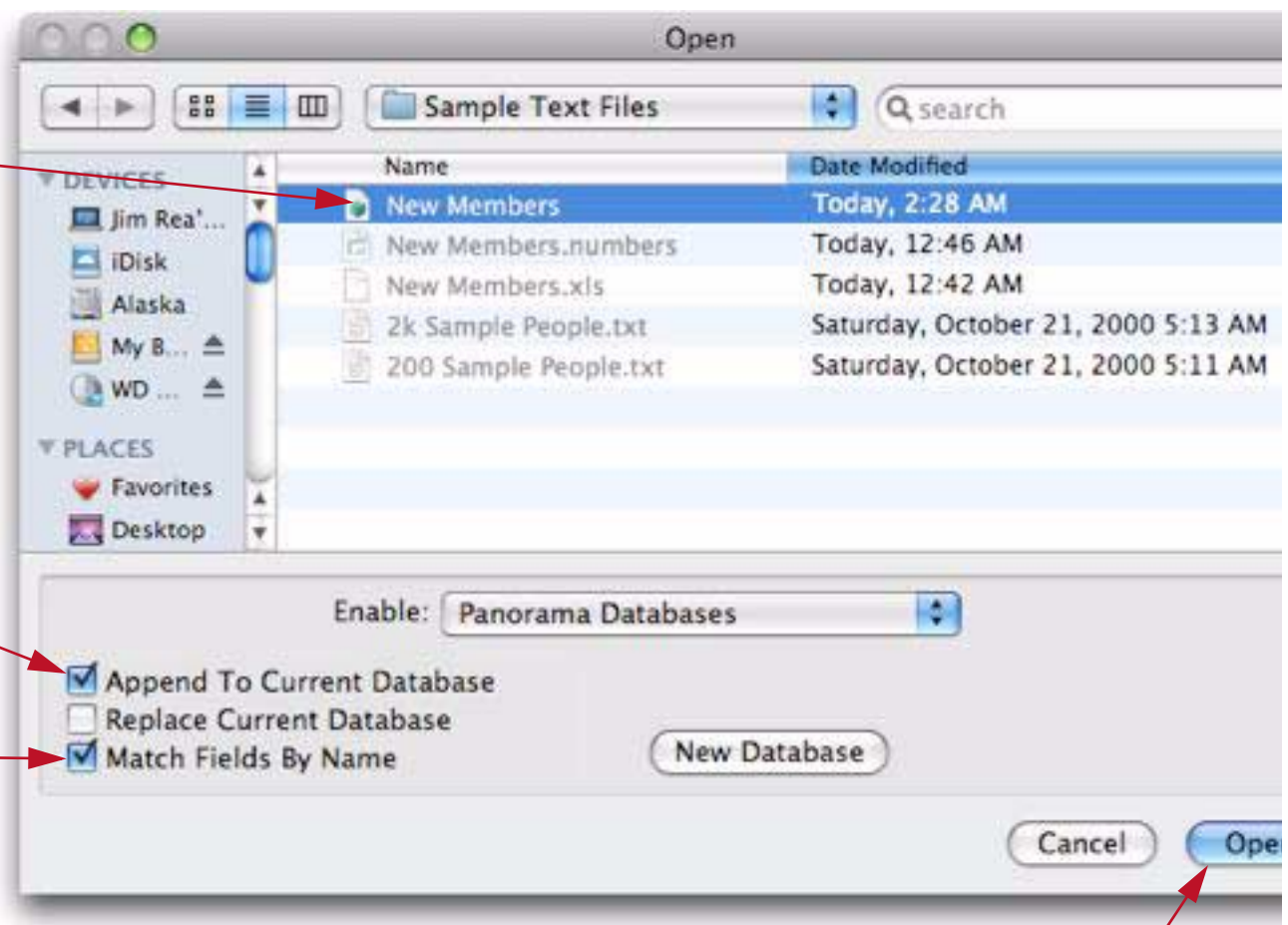
4) Press Open to append data

The data has been transferred from the spreadsheet to the mailing list database, without any retyping and without any programming or formulas.

Note: If you are willing to write some formulas, it would be possible to use the **Text Import Wizard** to directly import data like this without having to create an intermediate database. To learn how, see "Re-Arranging Imported Data" on page 93 of the *Panorama Handbook*.

Extra Credit — Transferring Data with VCards (Mac only)

In this section we'll export a VCard to Apple's **Address Book** application. A properly configured Panorama database can exchange data with any VCard compatible application. In this case, the **New Database** wizard has done the configuration for us (see ""Generic" Fields" on page 230 of the *Panorama Handbook* to learn how to do this configuration yourself). The first step is to click on the record we want to transfer, in this case Christina Gutierrez.

Open the **VCard Wizard**, which you'll find in the Utility submenu of the Wizard menu. The wizard displays the name, address and phone number of the currently selected person.

To transfer Ms. Gutierrez to the Address Book, drag the tiny book icon onto the Address Book window.
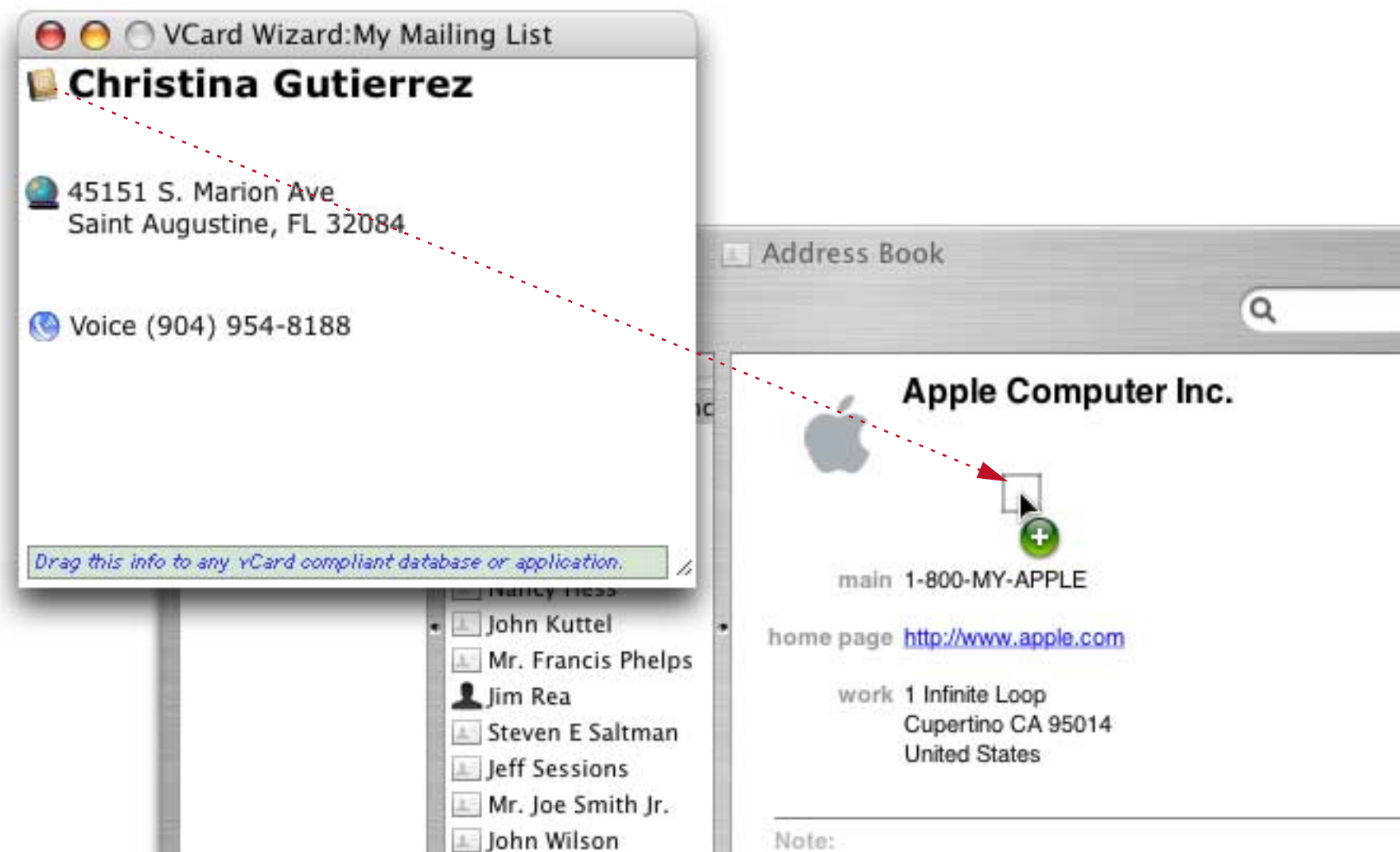
The Address Book program will ask you to confirm that you want to add this person.

Press **OK** to add her to the Address Book.
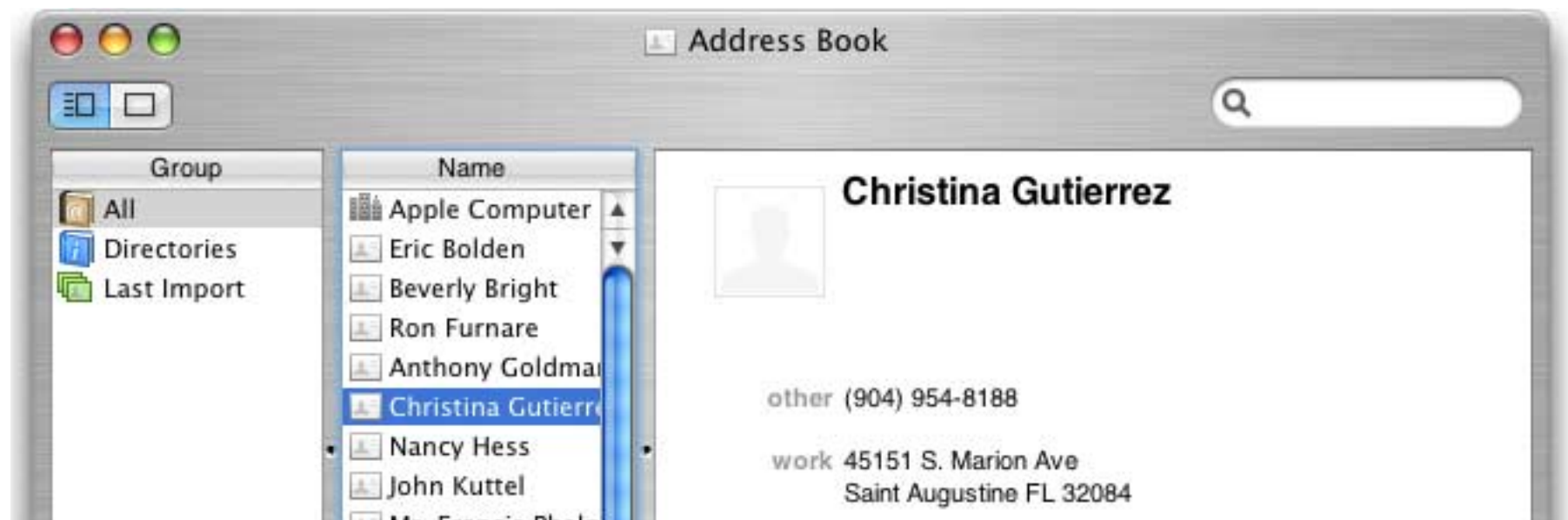
Drag the other way to transfer from the Address Book to your database.
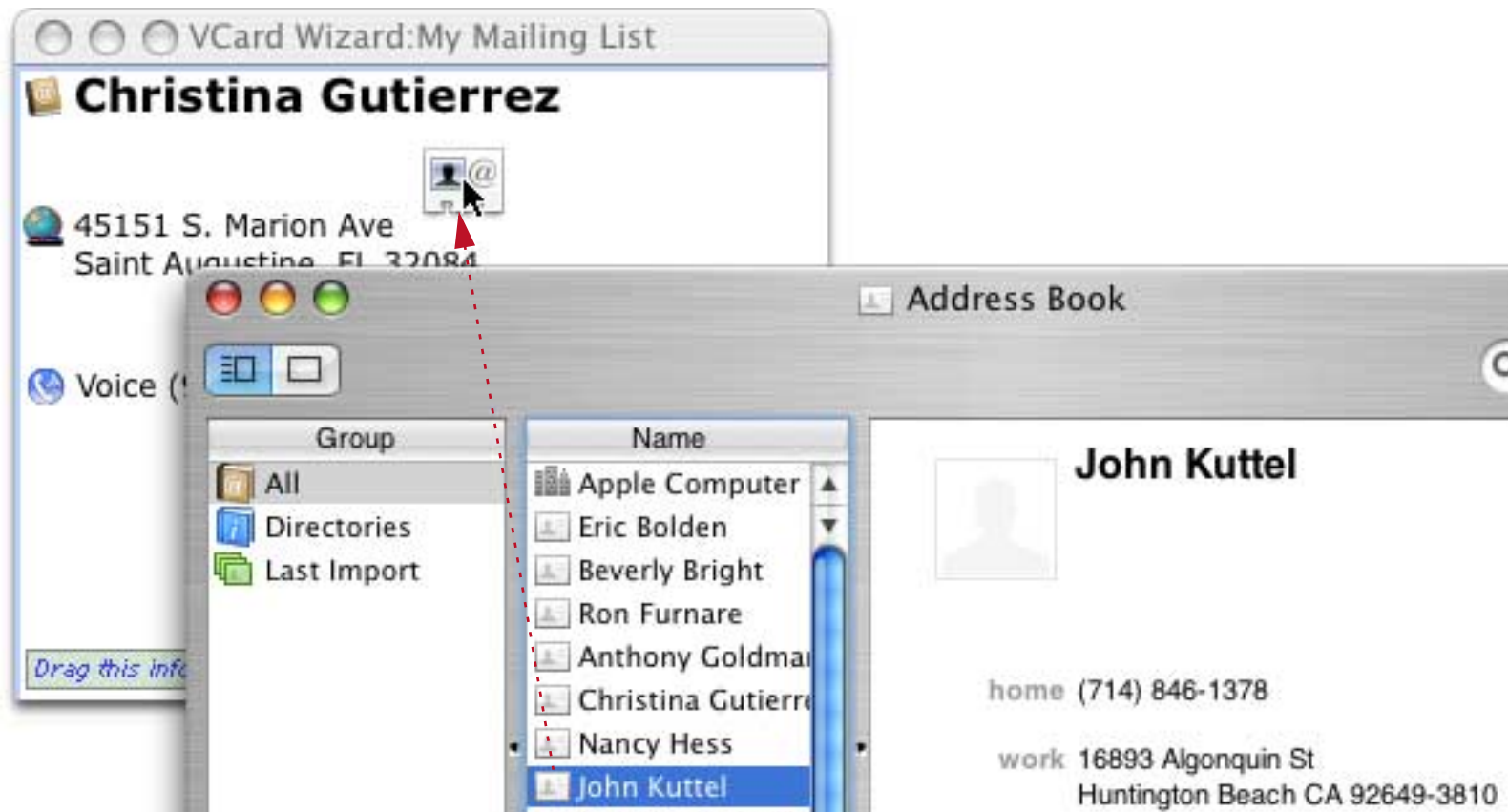
John Kuttel is automatically added to the database.

The VCard wizard can also import and export groups of VCards at once. For more informations see "Using Generic Fields with the VCard Wizard" on page 237 of the *Panorama Handbook*.

Lesson 2: Building and Organizing a Checkbook

Now that you've created your first simple mailing list database, you're ready to try something more complicated. In this lesson you'll build and use a database for keeping track of a checkbook. Start by launching Panorama and the **New Database Wizard**.
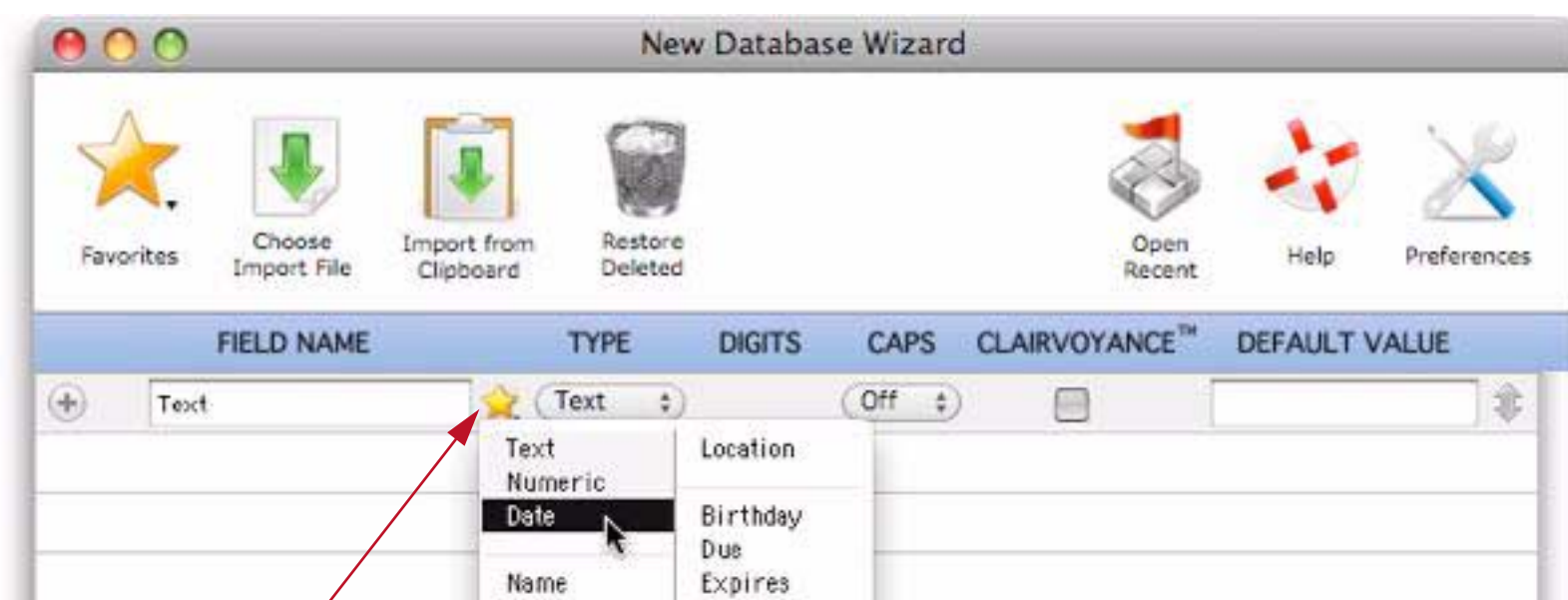
The checkbook database will have eight fields — Date, Check, Pay To, Category, Memo, Debit, Credit and Balance. In the Lesson 1 mailing list file all of the fields were text fields, but this checkbook database will include text, dates and two different types of numbers. I'll start by clicking on the small yellow star and choosing Date from the pop-up menu.

click here to choose from a list of the most common field names
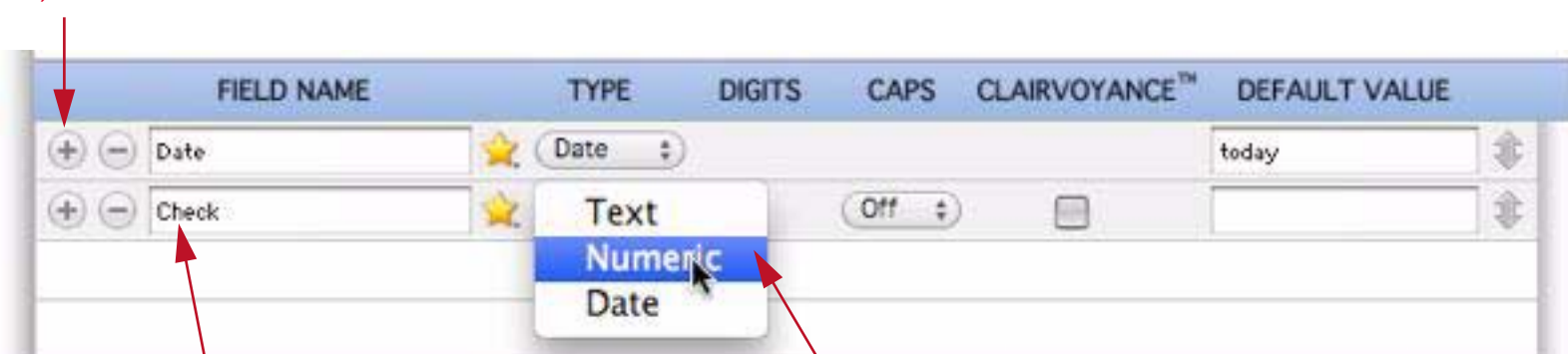
Choosing from this menu automatically sets up all of the attributes for the field (of course you can also set up these attributes separately.

name, type and other attributes fill in automatically

The next field will contain check numbers. Set it up using the steps shown below.

1) Press + to add another field

2) Type in field name   *3) Switch to numeric*

The next three fields are text fields, so I just press the + button to add the field and type in the field names. (Panorama displays a warning because the Pay To field name contains a space. Field names with spaces or punctuation require special handling when used in a formula. Since I'm not planning to use Pay To in a formula, I'll ignore this error.)
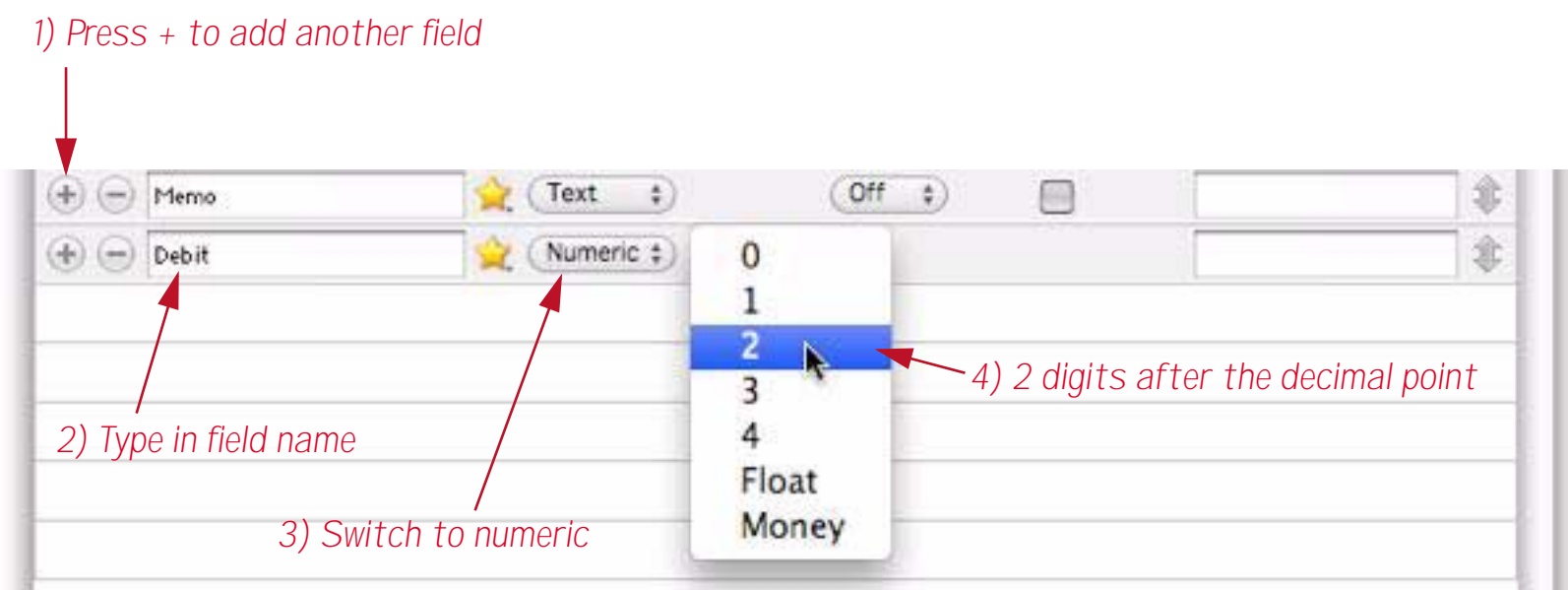

*Warning appears because of blank in **Pay To** field name*

I'll click the Ignore Warnings checkbox to suppress the warning.

Like the Check field, the Debit field is numeric. The Debit Field, however, has two digits after the decimal point (or you might want to use the **Float** or **Money** options, see "Numeric Data" on page 249 of the *Panorama Handbook*).
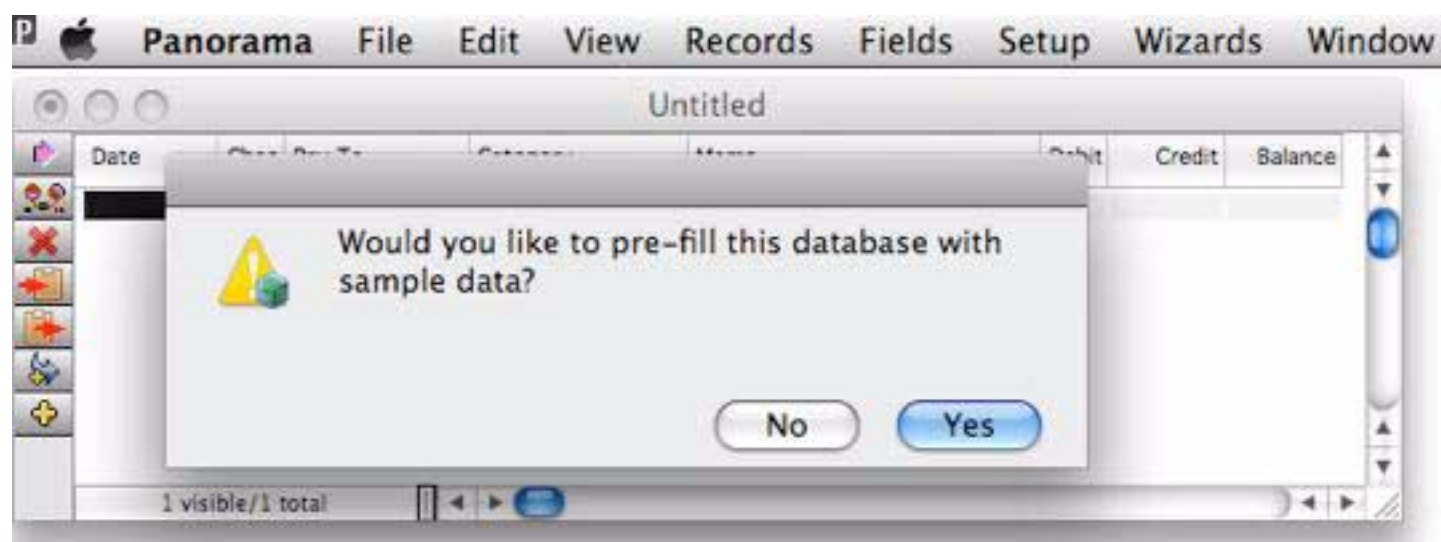
1) Press + to add another field

4) 2 digits after the decimal point

2) Type in field name

3) Switch to numeric

After adding the Credit and Balance fields the setup is complete.

Press **Make New Database** to actually create the new checkbook database.

Panorama creates a new, empty database with the specified fields. It then asks if you would like to fill the database with sample data (it doesn't usually do this, but has been specially programmed with sample data for some of the tutorial databases).

Press **Yes** to load the database with sample data that will be used in this tutorial.

You may want to adjust the widths of some of the columns (see "Adjusting Column Widths, Font, Size and Background Color" on page 19).

Before continuing you should use the **Save** command in the File menu to save your new creation. The first time you save any file Panorama will ask you to give it a name. You'll also want to check the Save Window Positions option if it is not already checked. When everything is set up press the **Save** button. (To see what this dialog looks like on the PC see "Saving Your Work" on page 12.)

type in name of file

select folder you want to save file in

tell Panorama to save window positions
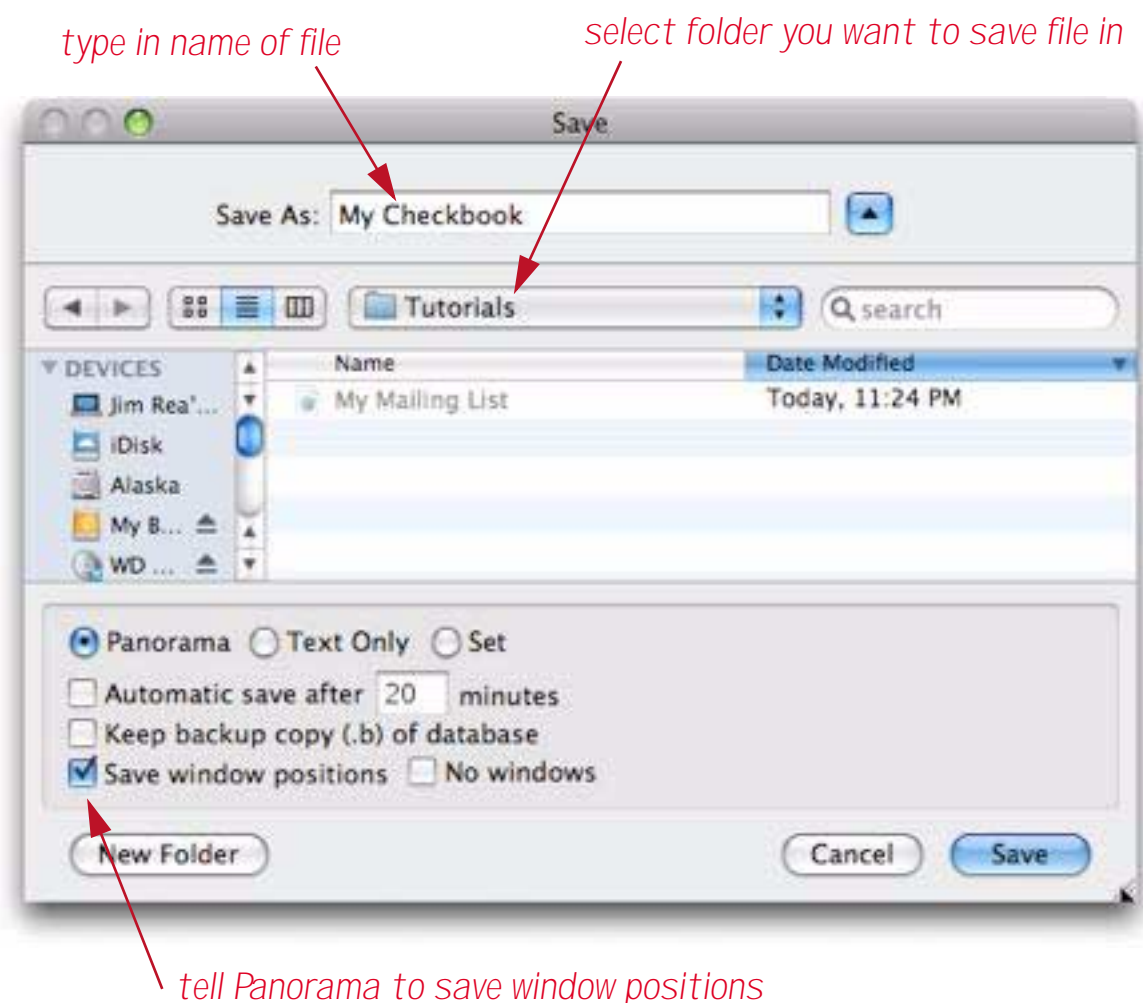
Analyzing the Checkbook

In the next few sections you'll learn several techniques for extracting useful information from any database.

Selecting Data

Suppose I'd like to look at all office supply expenditures. Since one office supply check is already visible, all I have to do is right click on the cell and choose **Select Same**. (If you only have a one button mouse then hold down the **Control** key and click on the cell.)
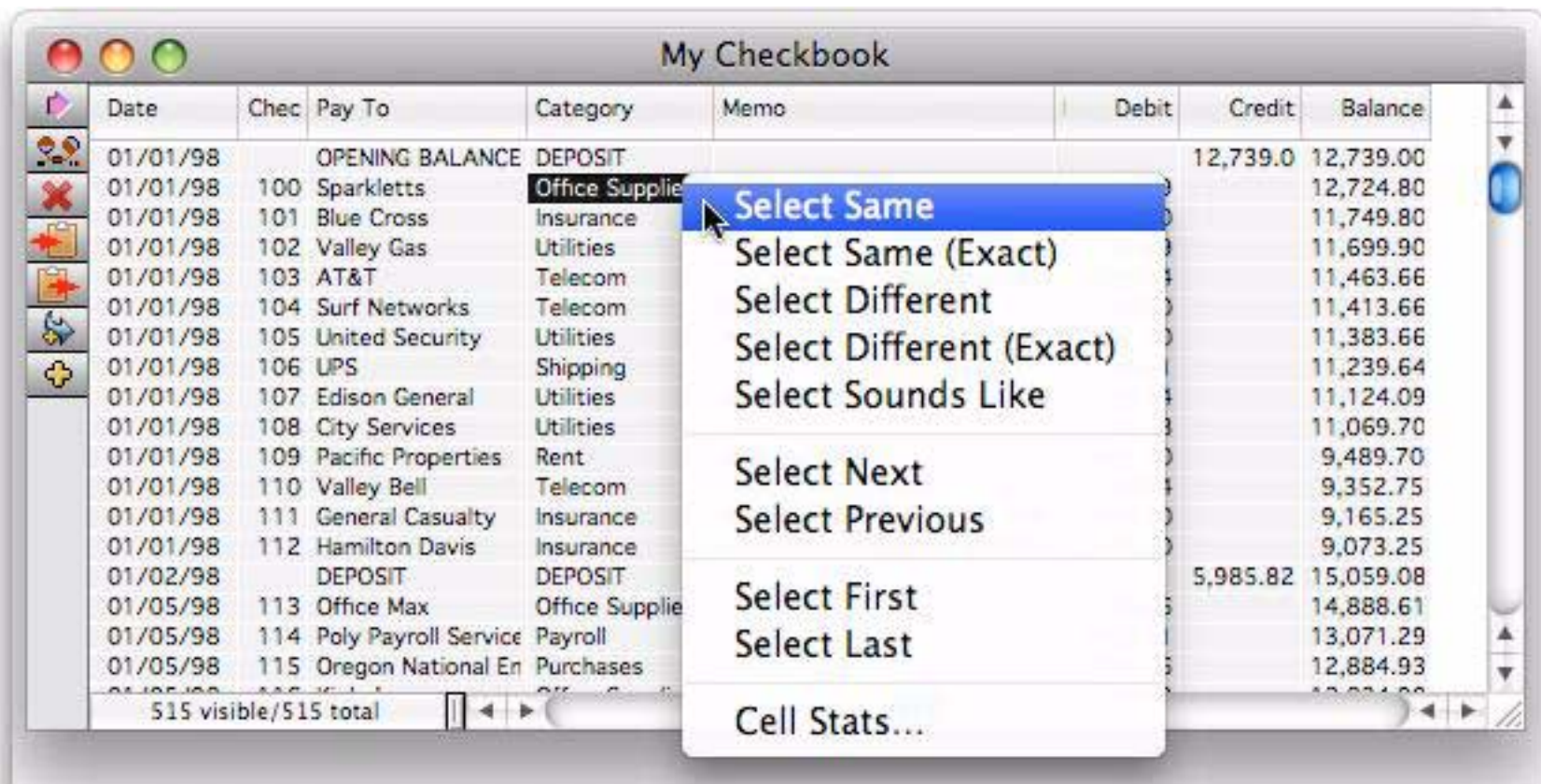
Panorama will select the 73 checks for office supplies in the database. All of the other checks will become temporarily invisible.
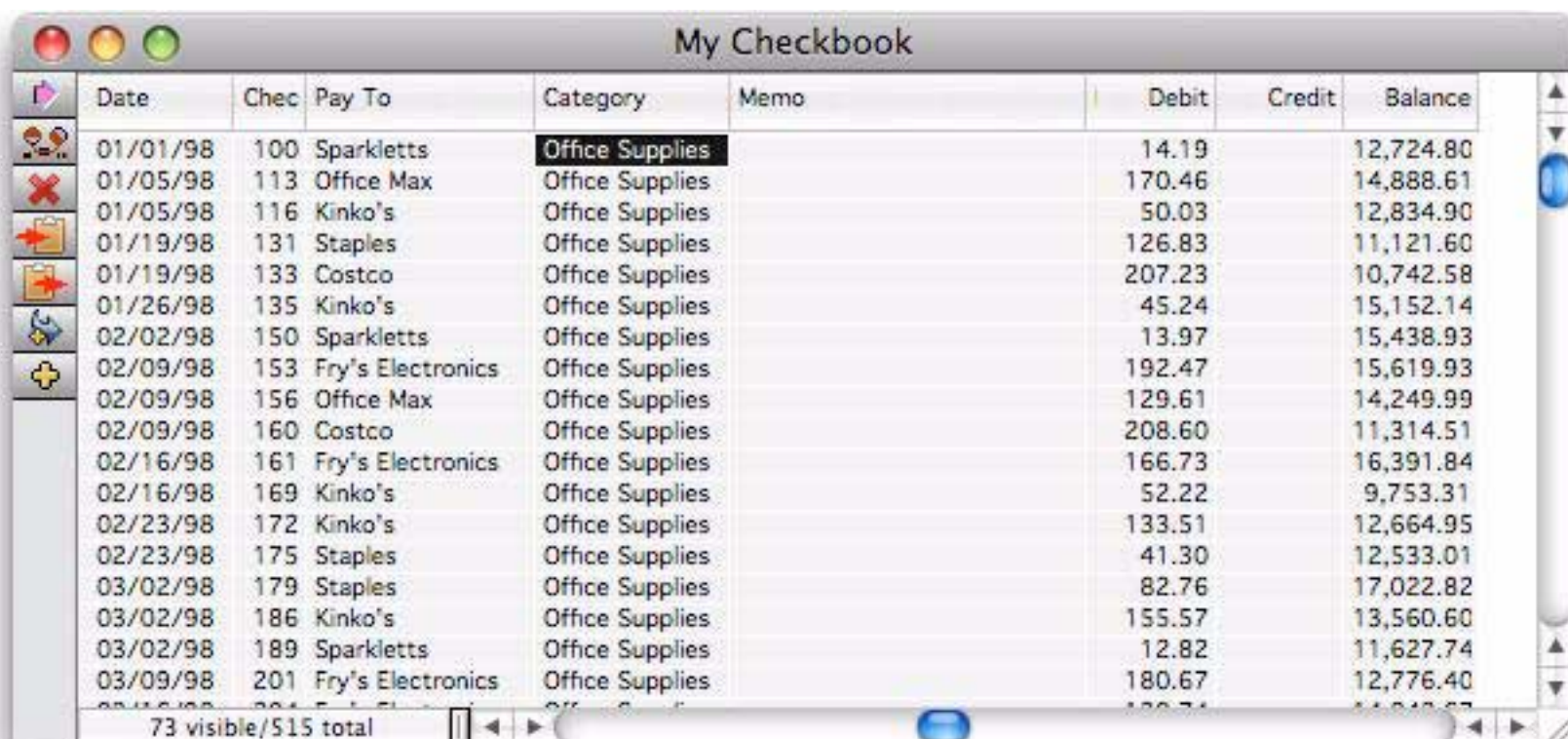
To see only the records in October, right click on any cell in that month and choose **Select Same Month**.
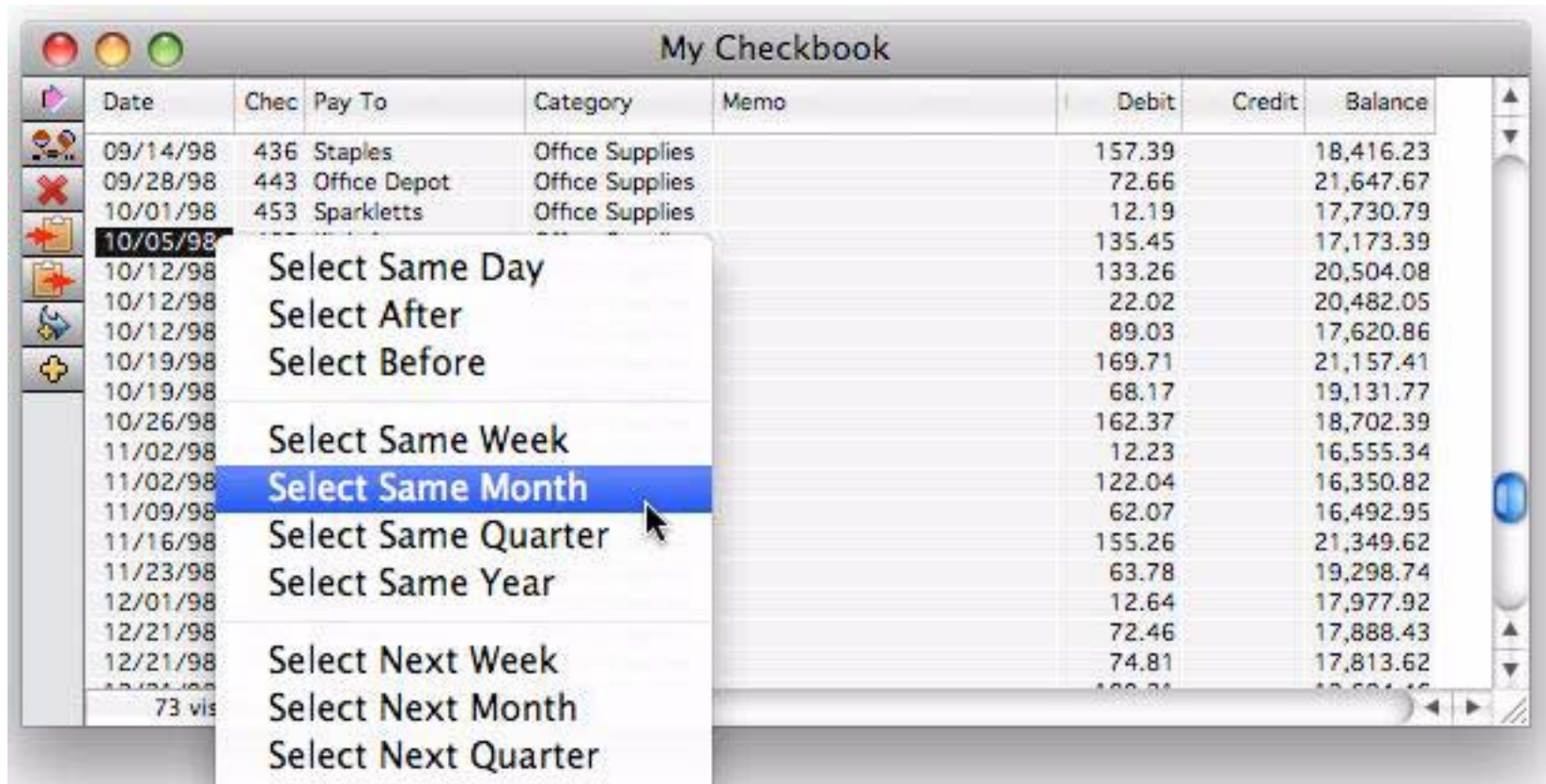
Now all 44 records in October are shown.

To see only checks for Office Supplies in October, open the **Find/Select** dialog (from the **Records>Search** menu), then set up the options as shown below.
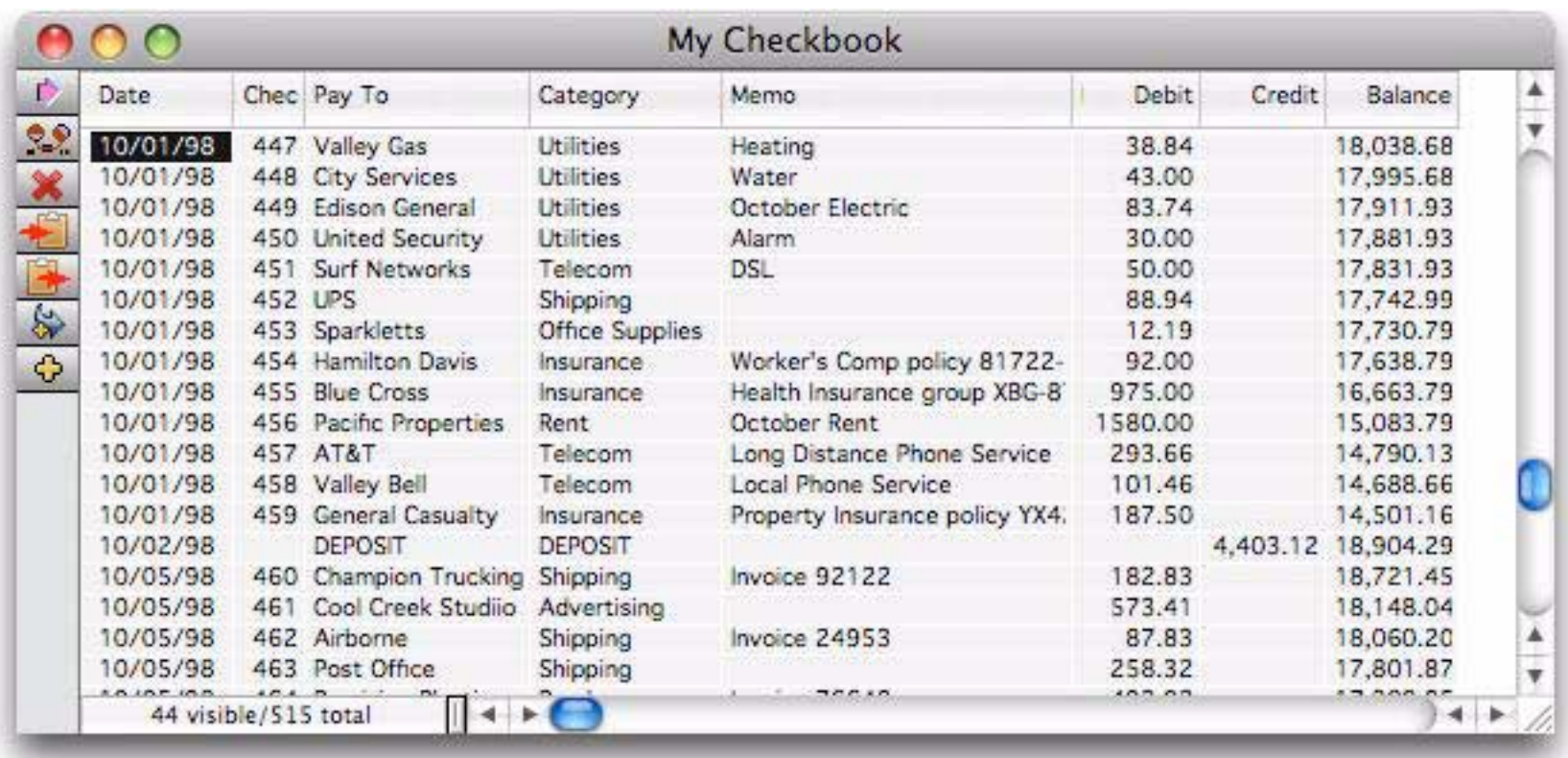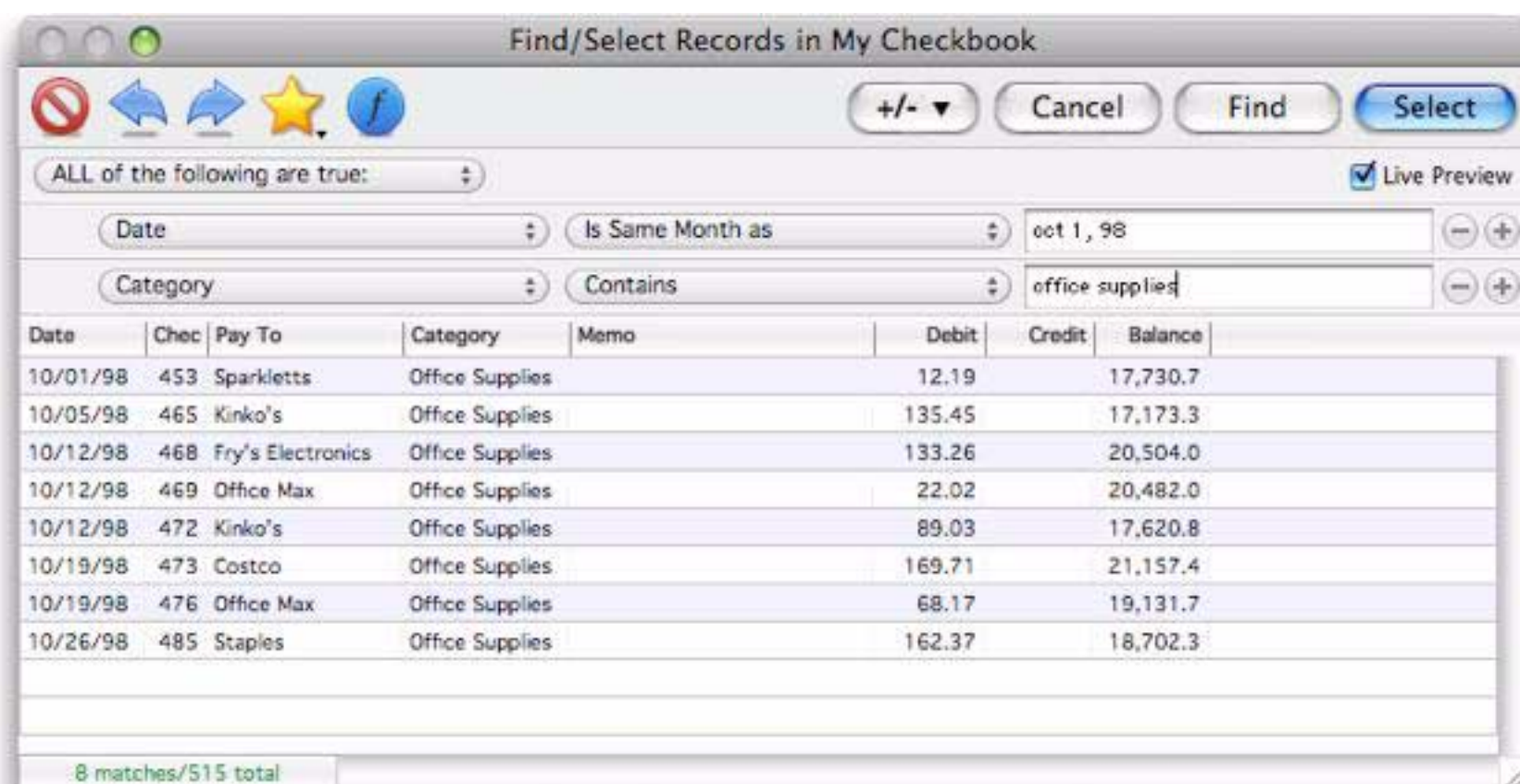

Press the `Select` button (or the **Enter** key) to actually select the 8 checks for office supply expenses in October 1998.
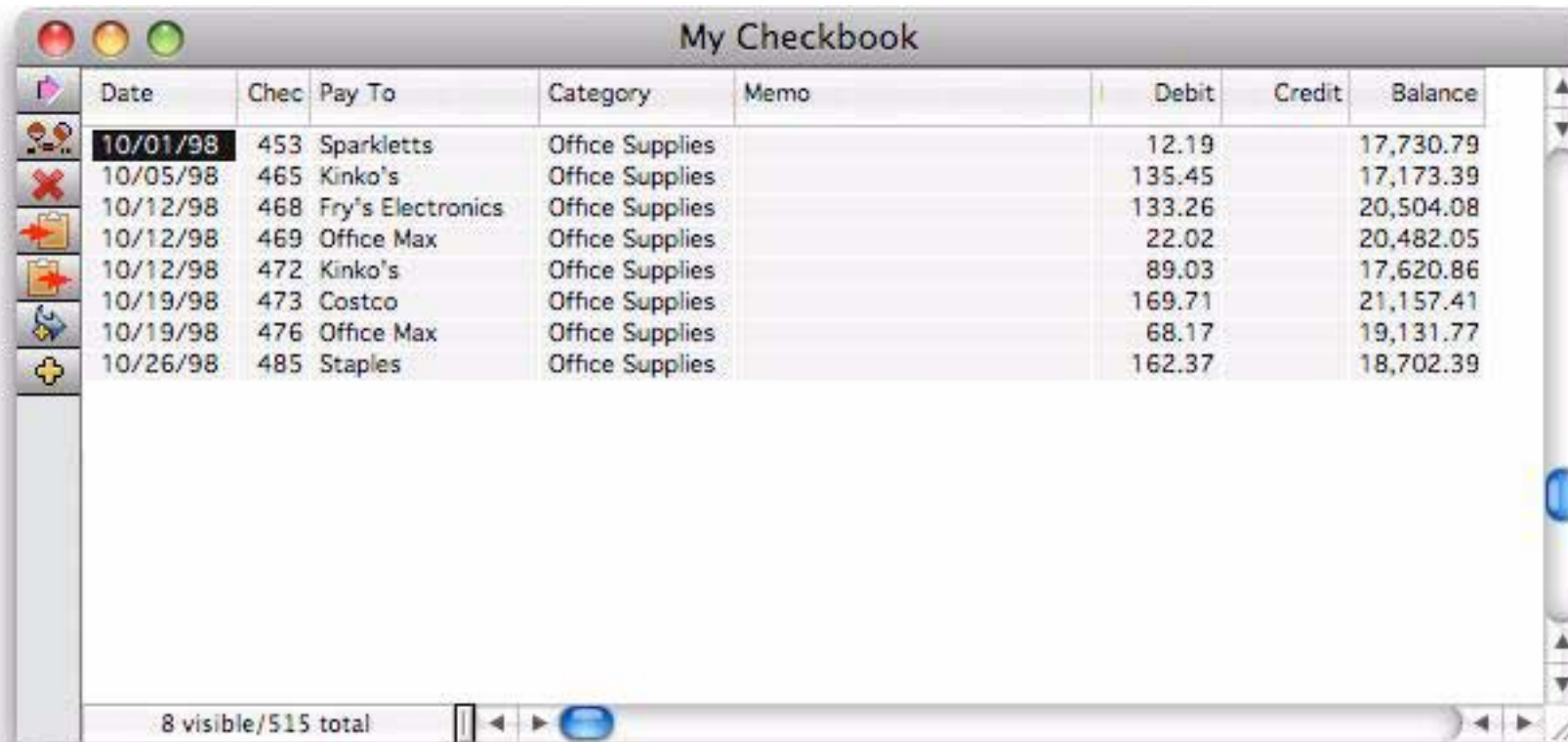
When you want to see all of the checks again, choose **Select All** from the Records>Search menu. You can also undo the sixteen most recent selections with the **Undo** command in the Edit menu (see "Undo Select" on page 359 of the *Panorama Handbook*).

Calculating the Grand Total

To calculate the grand total of all the checks in the database simply right click anywhere in the Debit field and choose **Column Stats**.
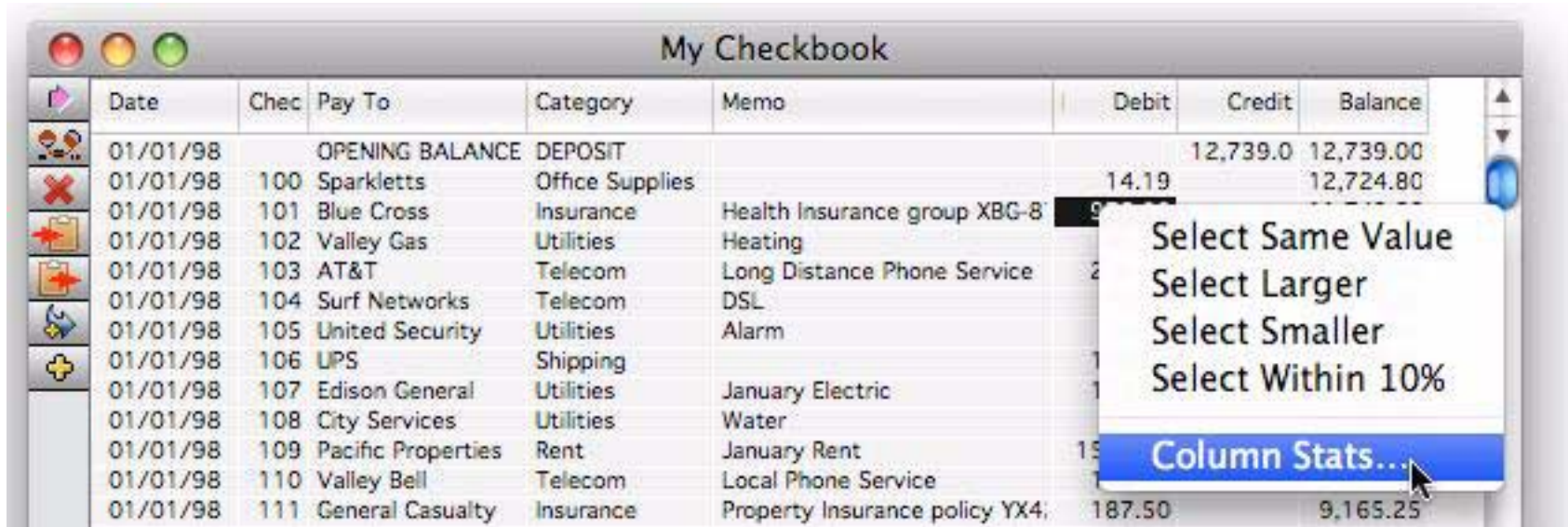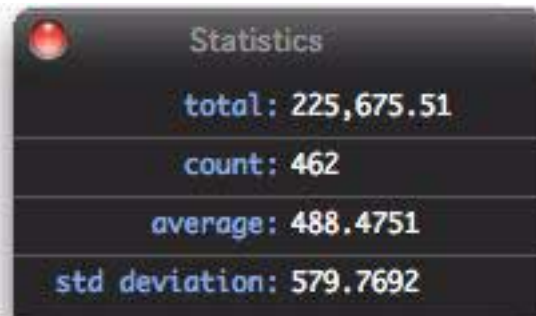

A small pop-up window displays the total, along with other information about the values in this field.

If only a subset of records is selected then the statistics will reflect that subset. For example, if only records from July are selected then the total will include only checks from July.

Analyzing and Calculating Subtotals

Panorama has a special tool for analyzing and summarizing database information, the **Analyze Data** dialog. To open this dialog, choose **Summarize & Analyze** from the **Records>Analyze** menu.
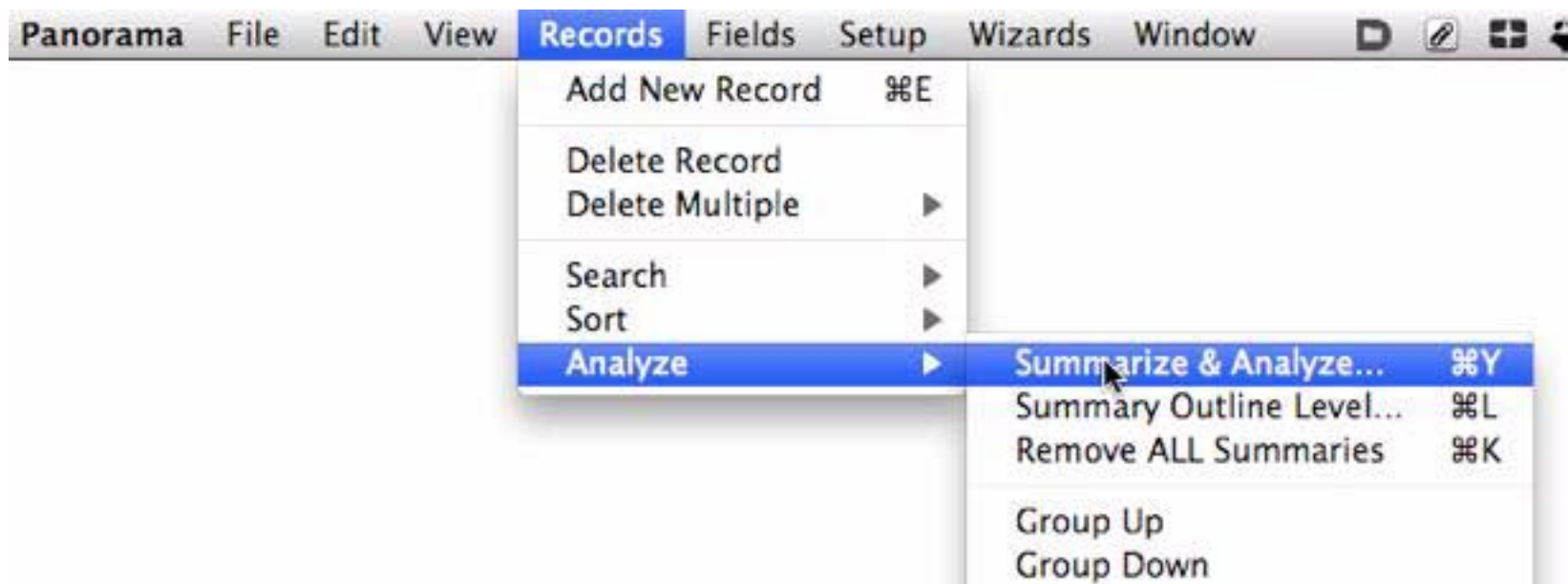
This dialog allows you to use pop-up menus to specify how you want the database to be summarized and calculations to be performed.

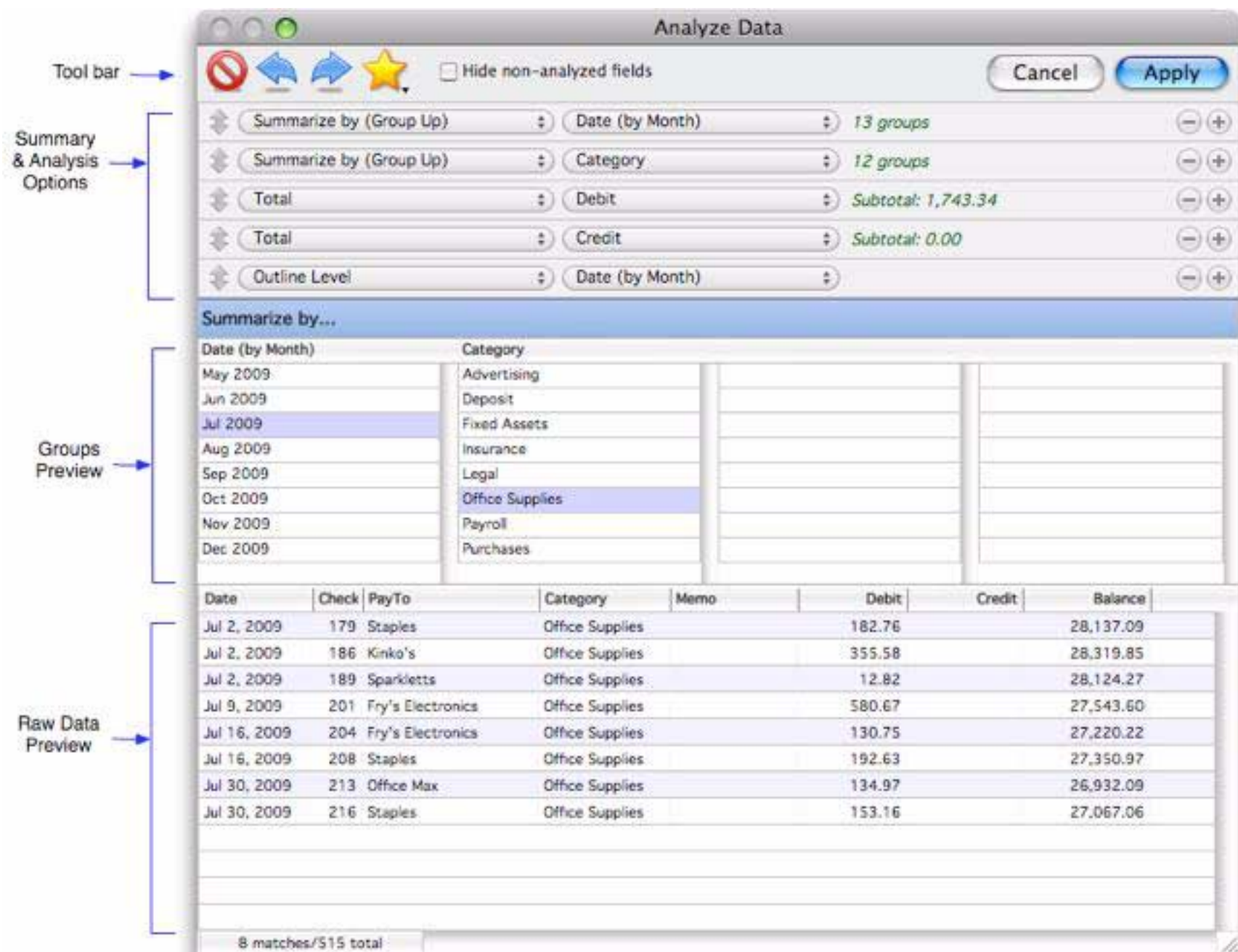The top section of the dialog, *Summary & Analysis Options*, is where the Group/Calculate/Outline analysis is set up. When you first open the dialog this section contains three rows that are preset for summary (group), total (calculate) and outline level:
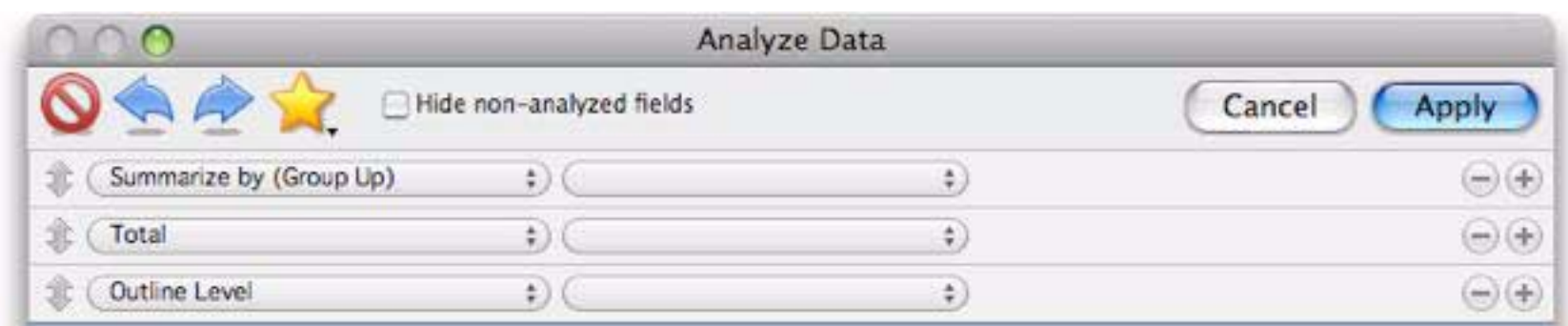
Start by choosing the field you want to summarize by. For date columns you will also have a choice of periods (day, month, year, etc.)

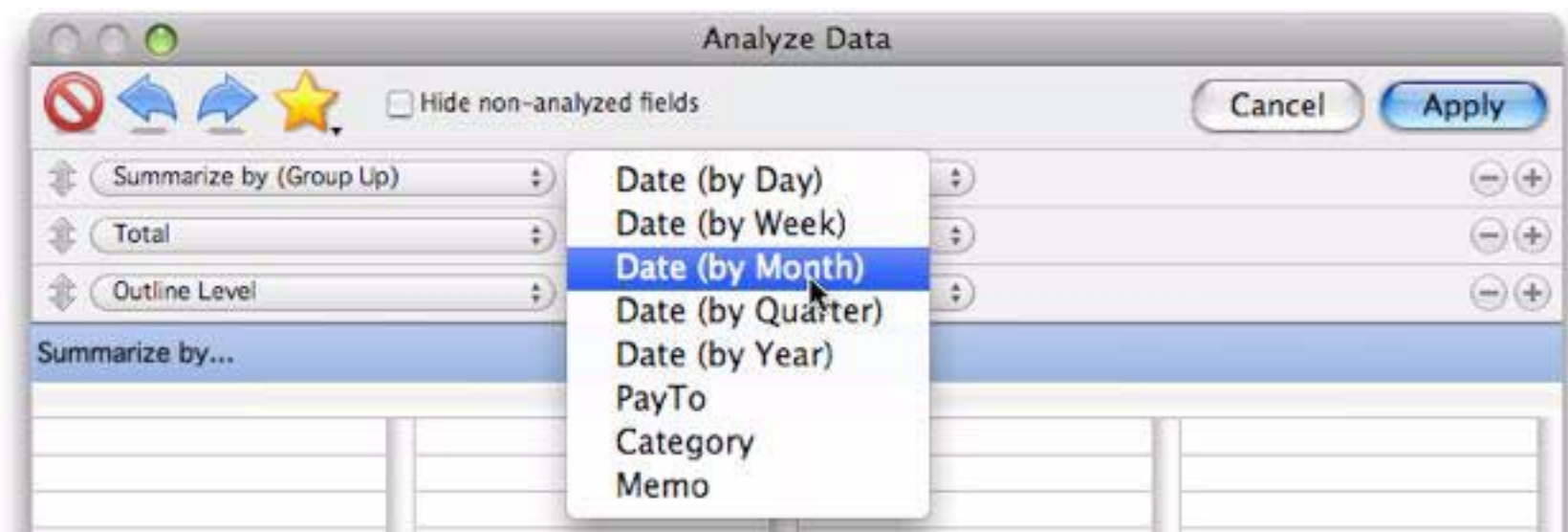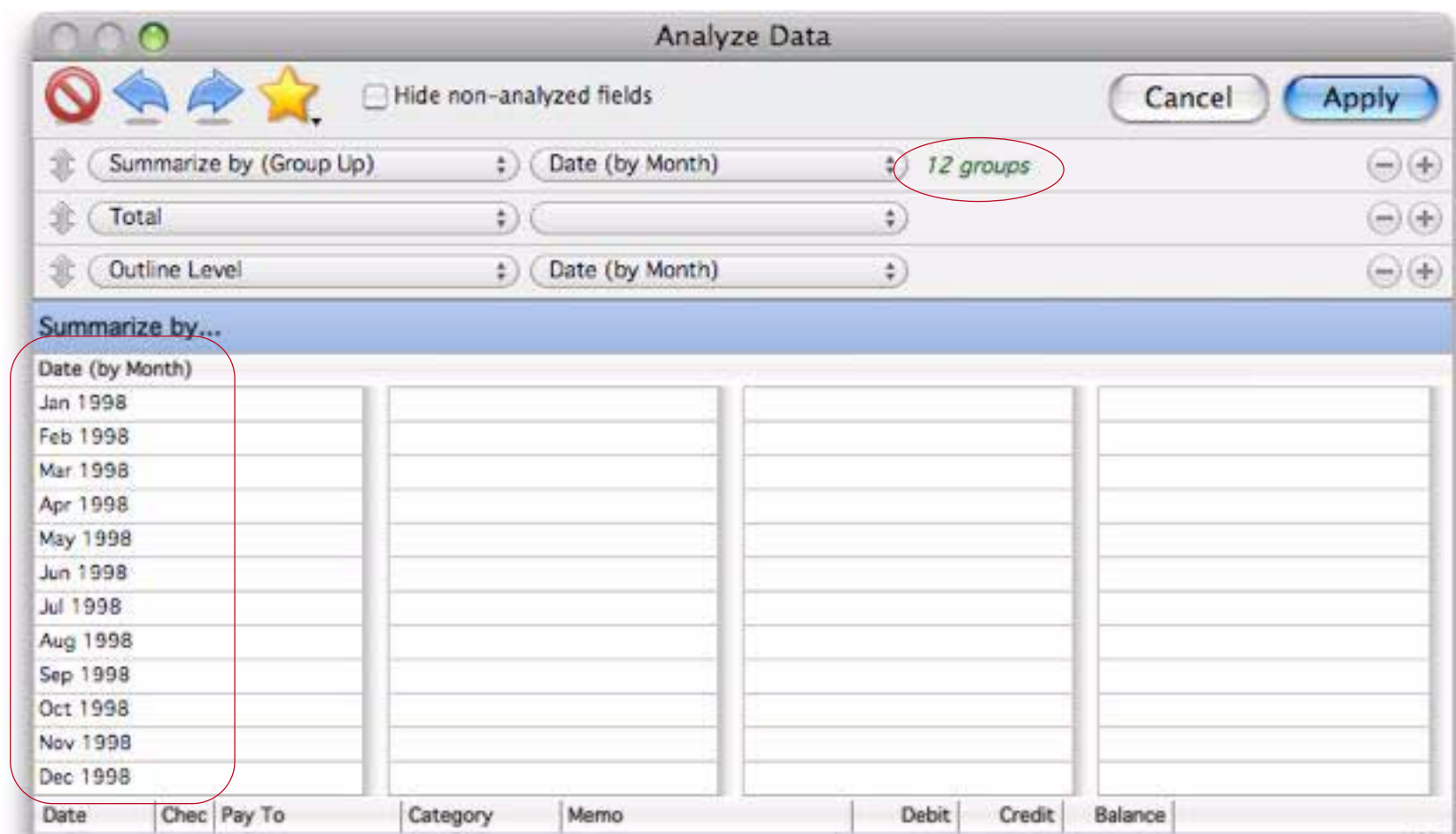Once you've selected the summarization field the dialog will show you how many different groups of data are associated with that field, and also list all of the groups in the *Group Preview* area below.

Next, use the pop-up menu in the second row to choose a column you want to perform calculations on. (In addition to totals, you can also calculate counts, averages, minimums and maximums.) Once you've chosen a column the dialog will show you the grand total for this column.

The final row allows you to control what level of the outline is initially displayed. It defaults to the primary summary field, so you can usually just leave it as-is. However you have a choice of any field you have summarized by or you can elect to include the raw data in the display.

To actually create the outline press the **Apply** button. Panorama will organize the database into an outline with summary records for the groups you have specified.

summaries for each month

grand total

The original data records are temporarily hidden. You'll see how to bring them back later.

Multi-Level Summaries

The previous example create one summary level. Panorama can create up to seven nested summary levels, for example Categories within Months, or Cities within States within Months within Years. To add an additional summary level, re-open the **Summarize & Analyze** dialog, then press the + button on the first row to add a second summary level.
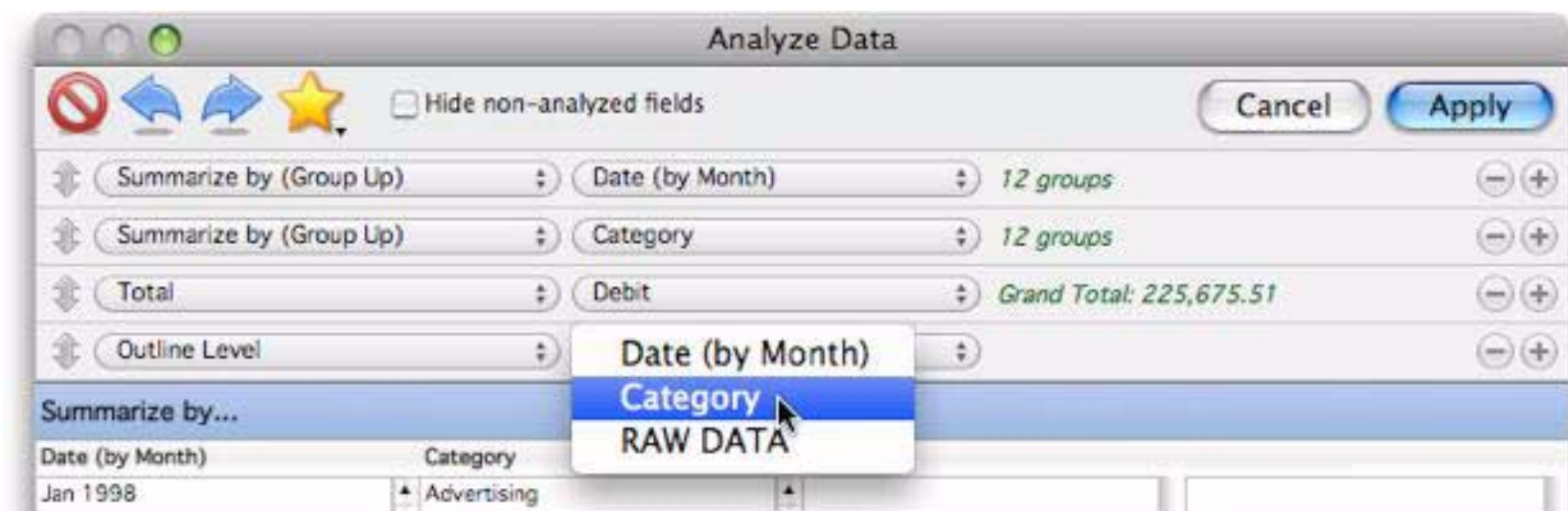

click + to add another summary level

Now use the pop-up menu to select the field to be summarized. The summary preview will show the groups that will appear at this summary level.
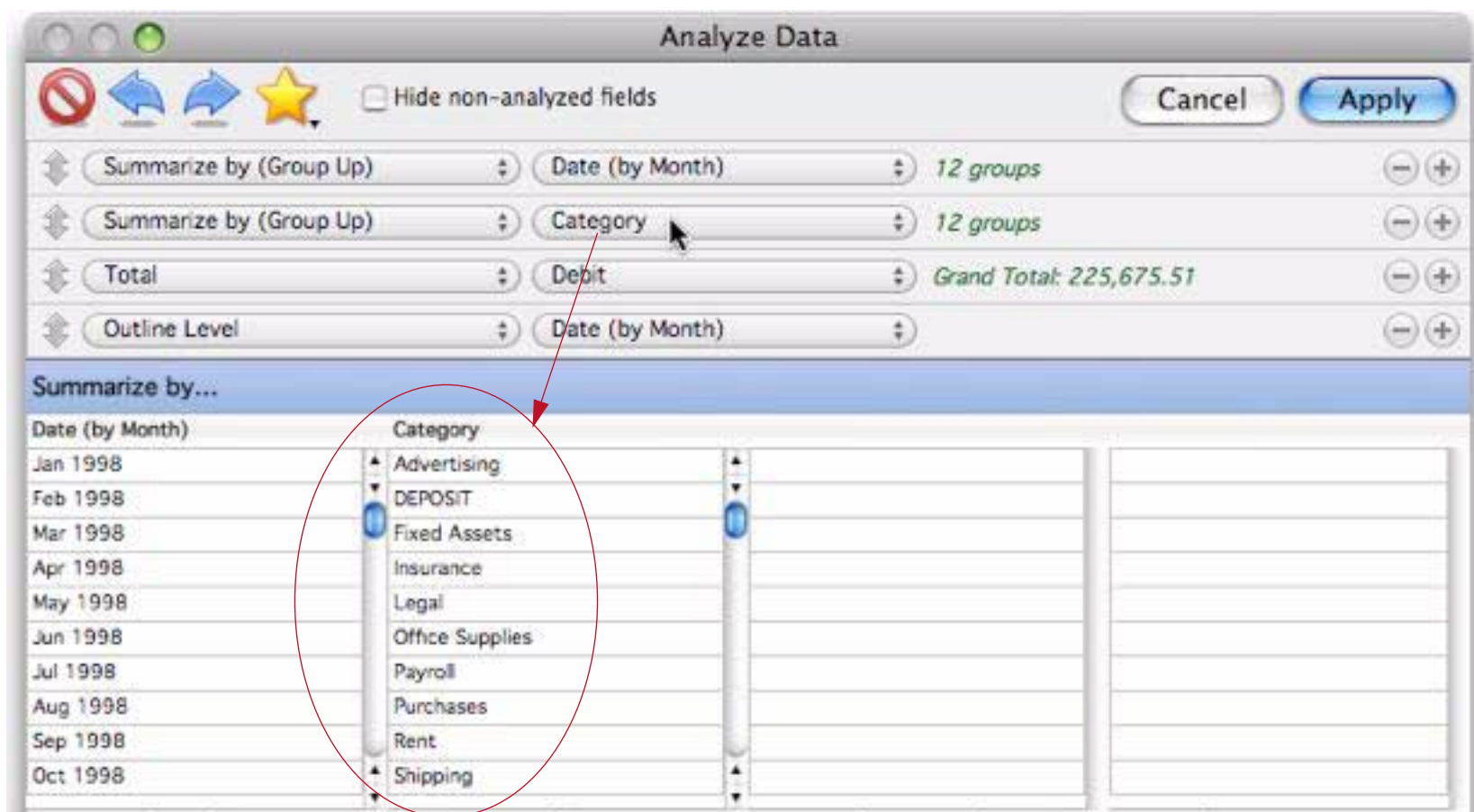
The outline level pop-up menu now gives you the choice of either summary level or raw data. All levels at and above the selected level will be display.

Pressing the **Apply** button organizes the database into a multi-level outline.

sub summaries by category (within month)

Date	Chec	Pay To	Category	Memo	Debit	Credit	Balance
			Fixed Assets		2,828.47		
			Insurance		1,254.50		
			Office Supplies		321.52		
			Payroll		7,172.41		
			Purchases		2,380.28		
			Rent		1,580.00		
			Shipping		1,486.07		
			Telecom		417.79		
			Utilities		234.59		
05/29/98					20,072.04		
			Advertising		2,653.65		
			DEPOSIT		0.00		
			Insurance		1,254.50		
			Office Supplies		481.45		
			Payroll		8,966.81		
			Purchases		2,567.56		
			Rent		1,580.00		
			Shipping		835.78		
			Telecom		402.94		
			Utilities		215.47		
06/29/98					18,958.16		

144 visible/659 total

summaries by month

Scrolling down to the bottom of the database shows the grand total for the entire database.

|			Shipping		938.65		
			Telecom		468.80		
			Utilities		184.12		
11/30/98					20,584.49		
			Advertising		2,528.50		
			DEPOSIT		0.00		
			Fixed Assets		1,063.89		
			Insurance		1,254.50		
			Office Supplies		349.12		
			Payroll		7,021.19		
			Purchases		2,501.50		
			Rent		1,580.00		
			Shipping		1,084.96		
			Telecom		448.99		
			Utilities		221.15		
12/28/98					18,053.80		
					225,675.51		

144 visible/659 total

grand total

Using the same technique you can add up to seven nested summary levels. See "Summaries and Outlines" on page 365 of the *Panorama Handbook* to learn more about analyzing data with summaries.

**Expanding and Collapsing the Summary Outline**

A unique feature of Panorama is that summaries aren't just static on a report, they can be dynamically expanded or collapse to show more or less detail. You can "zoom out" to look for major trends, then "zoom in" to examine specific details. We call this collapsing (zoom out) and expanding (zoom in). To expand a particular summary, click on the summary, then click on the **Expand** tool or right click on the summary and choose **Expand One Level of Detail** from the pop-up menu (you can right click on any cell in the line).

click on Expand tool

or right click and choose Expand One Level of Detail
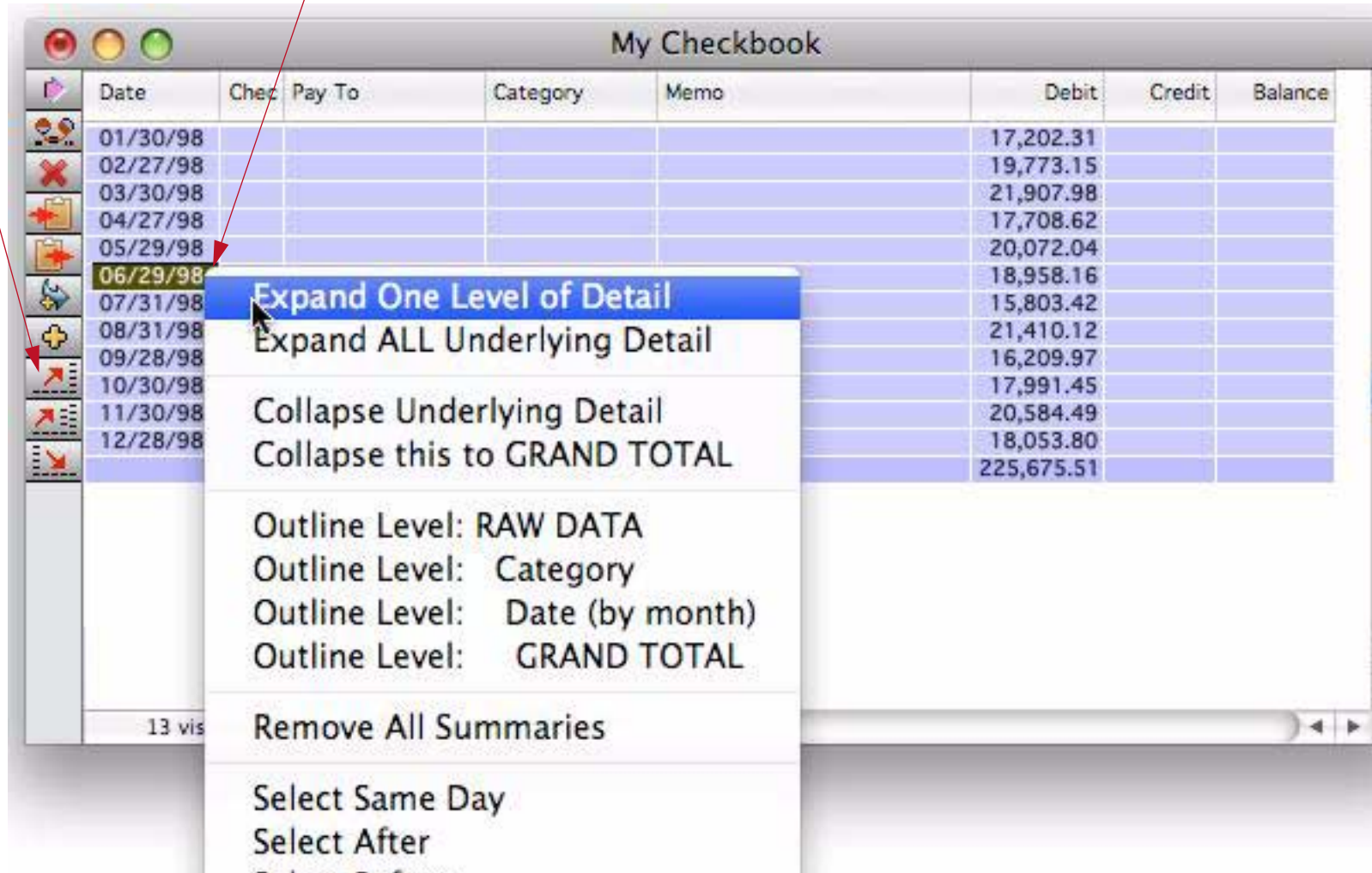
Panorama makes the next level of detail visible.
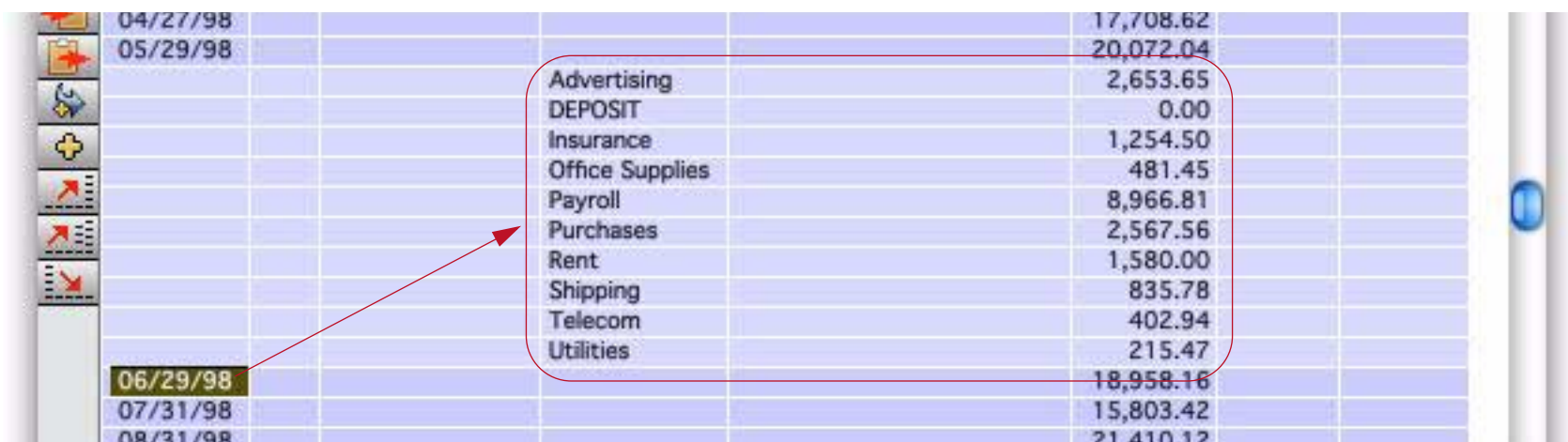
If the database has more than one summary level you can repeat the process all the way down to the raw data.


In this example we are now down to the raw data for purchases in July 1998.

To collapse a summary, click on it and then click on the **Collapse** tool. Or, right click and choose **Collapse Underlying Detail**.

click on Collapse tool
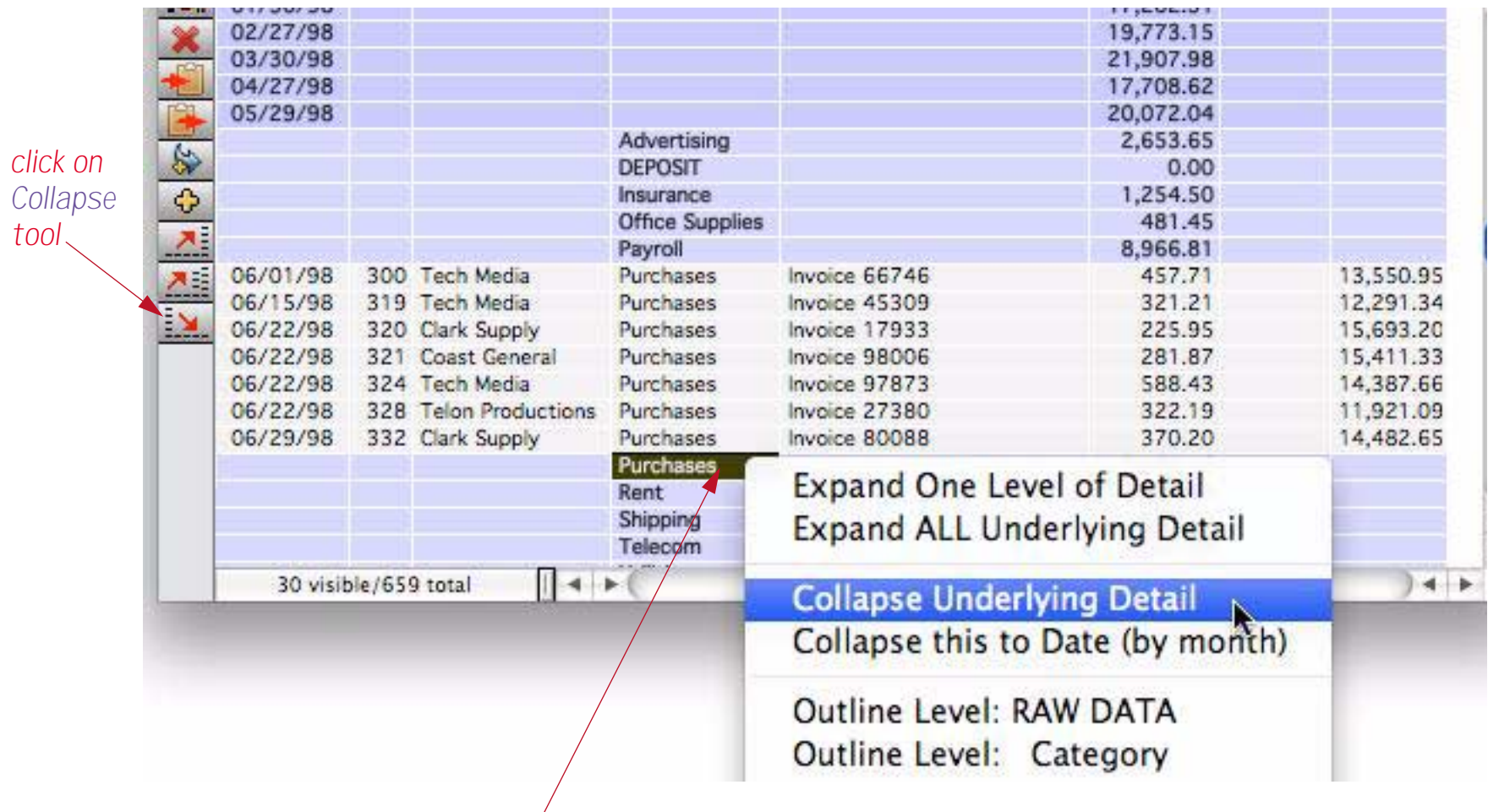
or right click and choose Collapse Underlying Detail

Another way to collapse is to right-click on a detail record, then choose **Collapse this to**. This is especially handy if the summary record you want to collapse isn't currently visible in the window.
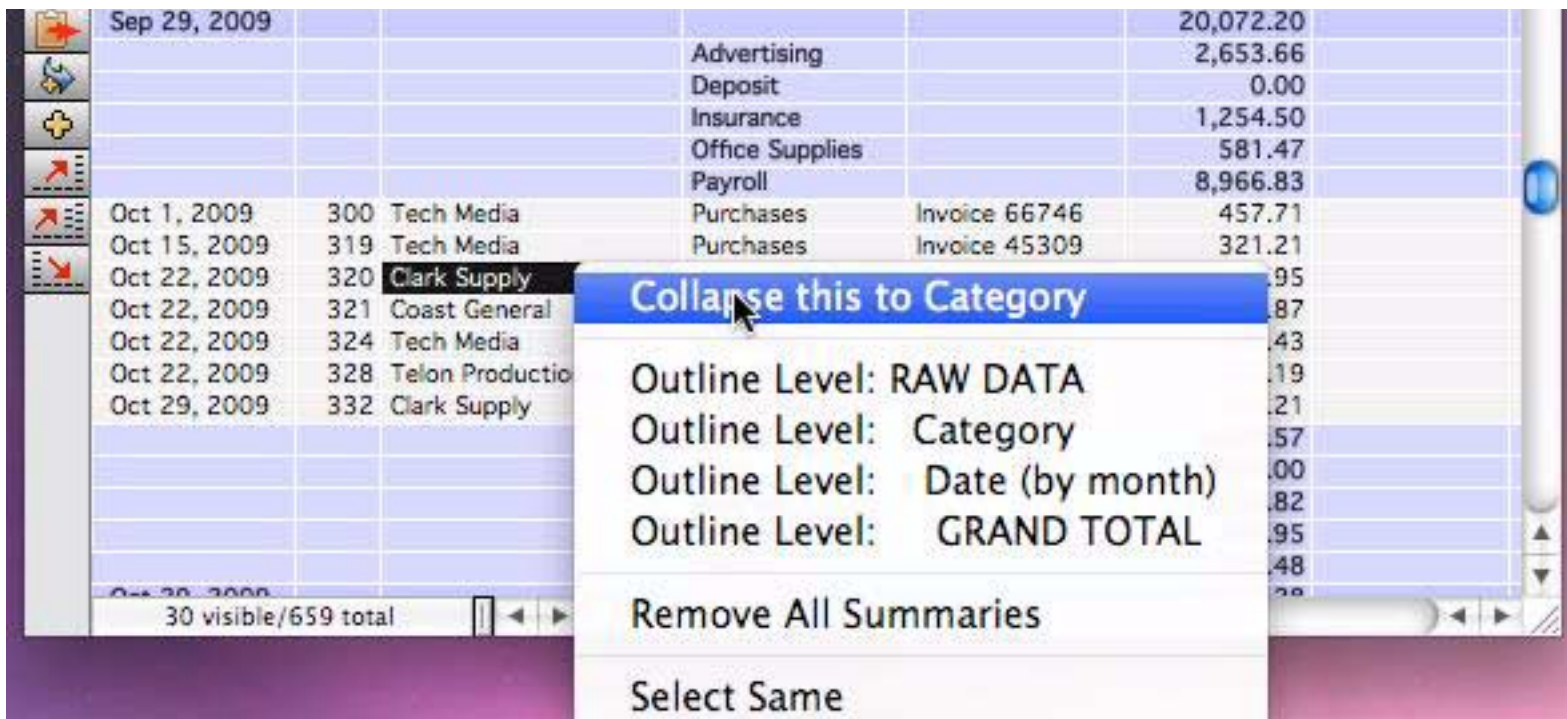
The example above shows doing this with a data record, but this trick works on any record except for the final grand total. The menu adjusts to show exactly what is about to be collapsed, as shown below.

At the start of this section we showed how to expand one level at a time. You can also click on a summary and ask Panorama to expand it all the way to the raw data, all in one step. To do this either click on the **Expand All** tool, or right click on the summary and choose **Expand ALL Underlying Detail**.

click on Expand All tool

or right click and choose Expand ALL Underlying Detail

This makes all subsummaries and raw detail associated with this summary record visible. In the example below, we now can see all of the data and sub-summaries for November 1998.

Expanding and Collapsing the Overall Summary Outline

In the previous section you learned how to collapse and expand individual summary records. Sometimes, however, you'll want to expand or collapse the entire database as a whole. The fastest way to do this is with the Data Sheet Context menu. Simply right click anywhere in the data sheet and choose the outline level you want to see.

If you choose RAW DATA then everything will be visible — the original data, and all summary records.

If you choose GRAND TOTAL then only one record will be visible — the grand total summary record. The choices in between will display varying levels of summary detail.

A second way to expand or collapse the entire database is to use the **Summary Outline Level** dialog (in the **Records**->**Analyze** submenu). See "Expanding and Collapsing the Overall Summary Outline" on page 380 of the *Panorama Handbook* to learn how to use this dialog.

Getting Rid of Summary Records

When you're finished with summary records, you can simply choose **Records->Analyze->Remove All Summaries** to get rid of them. All of the summary records will disappear, and you can get back to working with your original data. This command is also available in the right-click context menu.

Ranking Summaries

Panorama normally generates summaries in alphabetical order. By adding an extra rule to the **Summarize & Analyze** dialog you can tell Panorama to rank the summaries by value. For example, if you are summarizing by month they could be ranked to show the month with the highest sales (or spending, etc.) first, then the second highest etc. Start by clicking on the + button in the outline level row of the dialog.

Panorama assumes that you want to rank by the field that is being totalled in this analysis (in this case Debit), but you can choose another field if you wish. Then press the **Apply** button to see the ranked summaries.

For multi-level nested summaries you can use the outline level pop-up menu to pick which level is ranked.
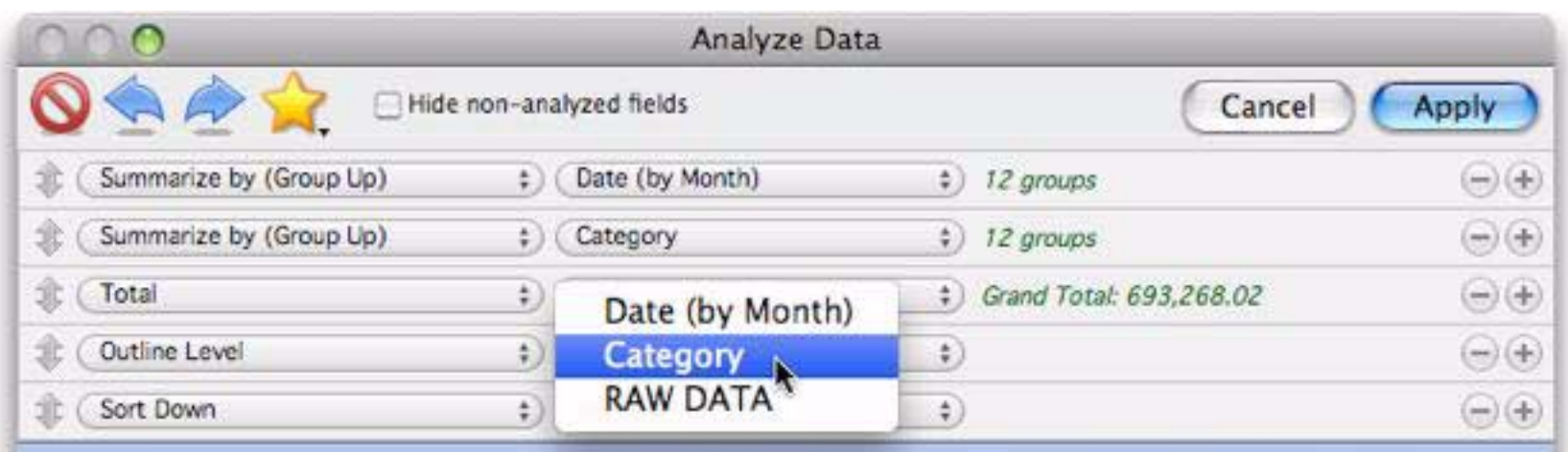
Whatever level you specified will be ranked. In this example, the category summaries are ranked within each month.

Ranking the summaries doesn't affect the ability to expand detail. For example, now that the summaries are ranked we can easily see that the purchasing category in May was a bit higher than usual. To find out why, right click on the record and choose **Expand One Level of Detail** (or just click and choose the **Expand** tool).

Now we can see that there was a large purchase made to Stamford Manufacturing, raising the purchasing in that month.

The ability to "zoom" in and out like this is a great tool for actually understanding your data.

Analyzing Data with a Crosstab

In addition to the **Group** command Panorama has another powerful tool for summarizing data — **crosstabs**. For your next trick you'll create a crosstab table that displays spending by category vs. month. To create a new crosstab view you'll use the **View** menu. If you are using a Windows PC hold down the **Alt** key, if you are using a Macintosh hold down the **Control** key. Either way, select **New Crosstab** from the View menu.
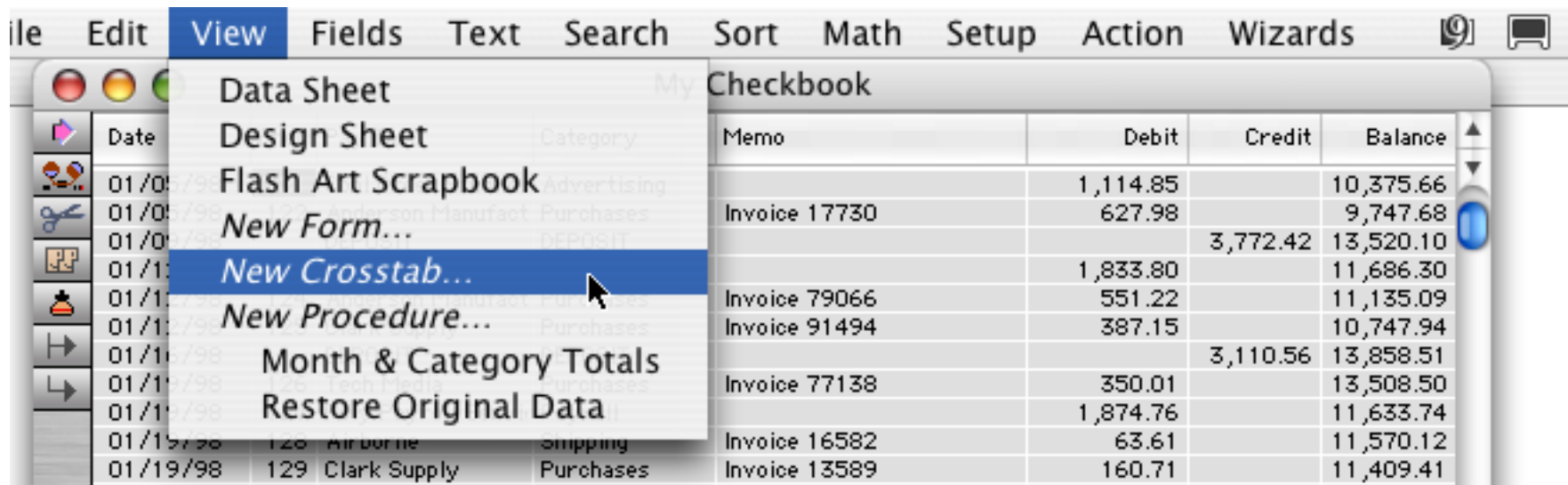
Type in the name of the new crosstab, in this case Monthly Spending, and then press the **OK** button.
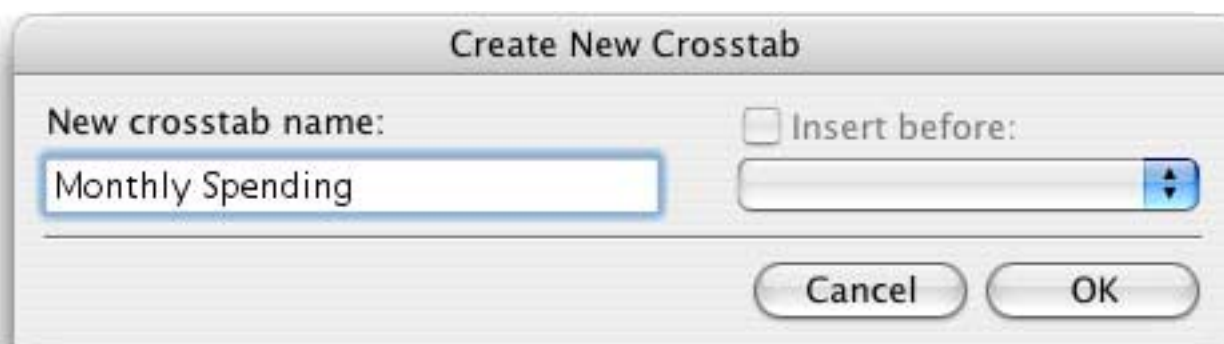
Panorama will create the new crosstab window, and then immediately open the **Crosstab** dialog. This dialog contains a list of the database fields on the left hand side. On the right hand side is a list of fields in the crosstab and a diagram of the crosstab layout (both empty to start).

diagram of crosstab layout
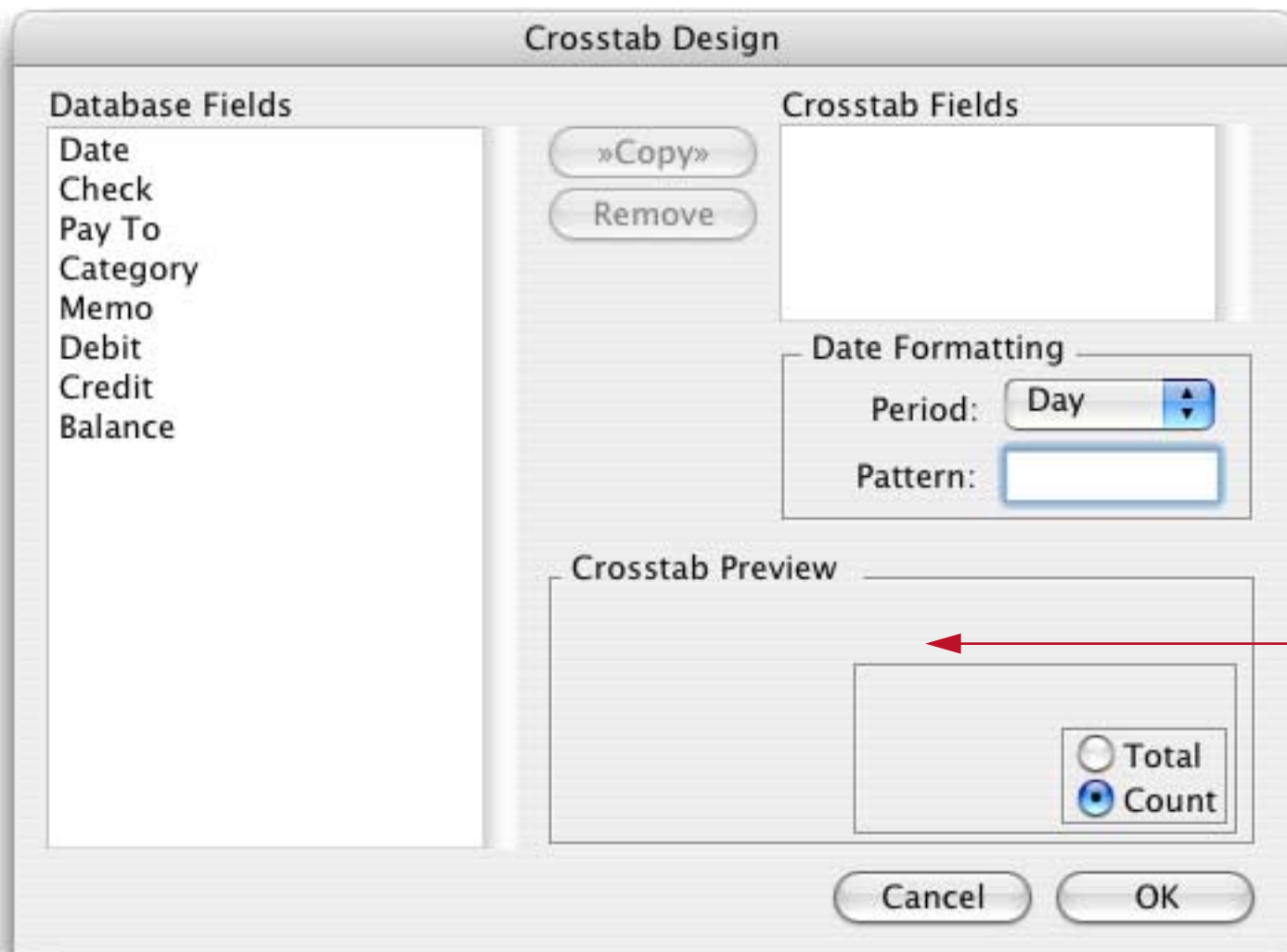
To tell Panorama to list months across the top of the crosstab click on Date and then press the **»Copy»** button (or double click on Date).
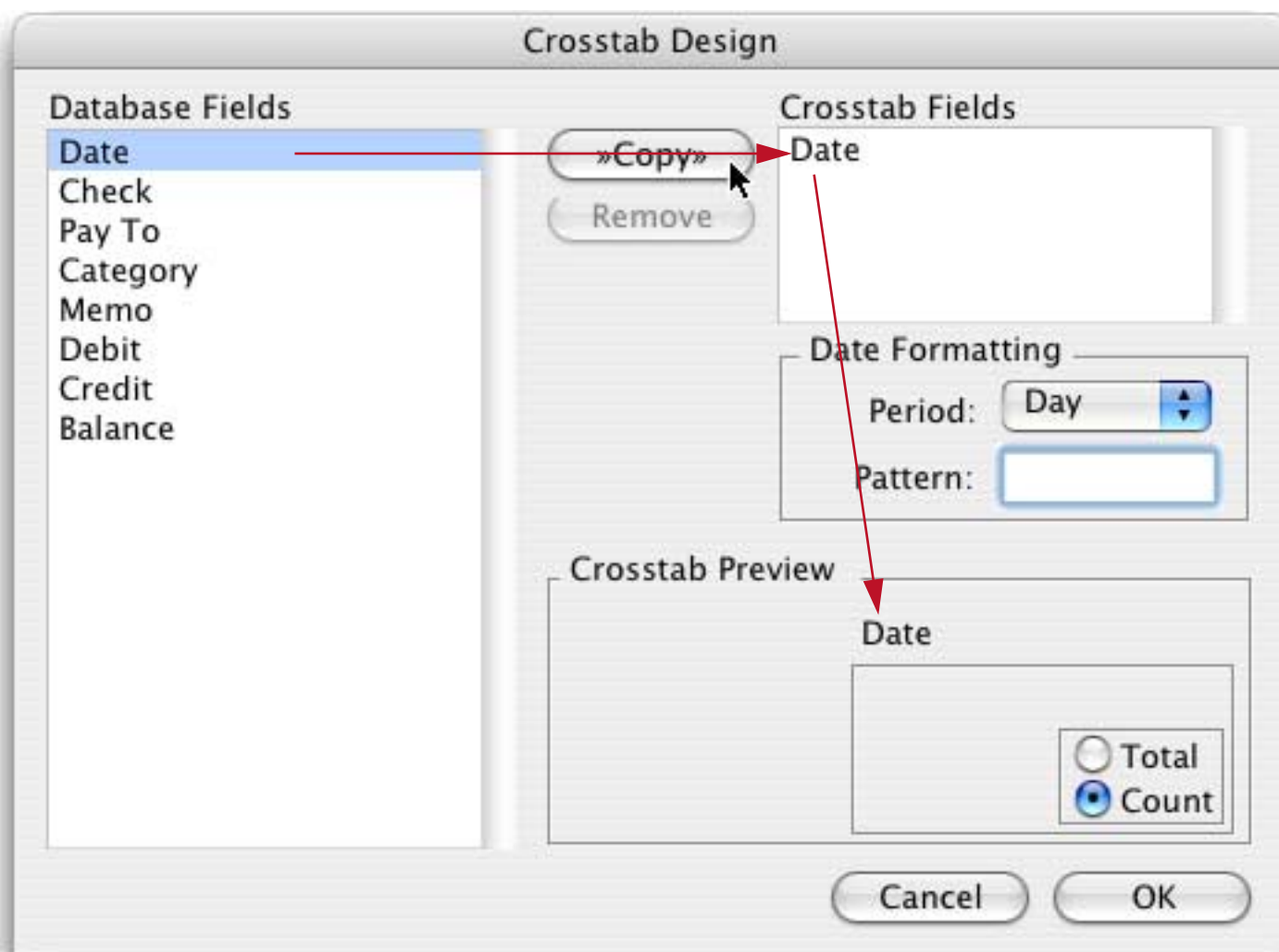
To separate the crosstab into one month per column use the pop-up menu to switch from Day to Month.
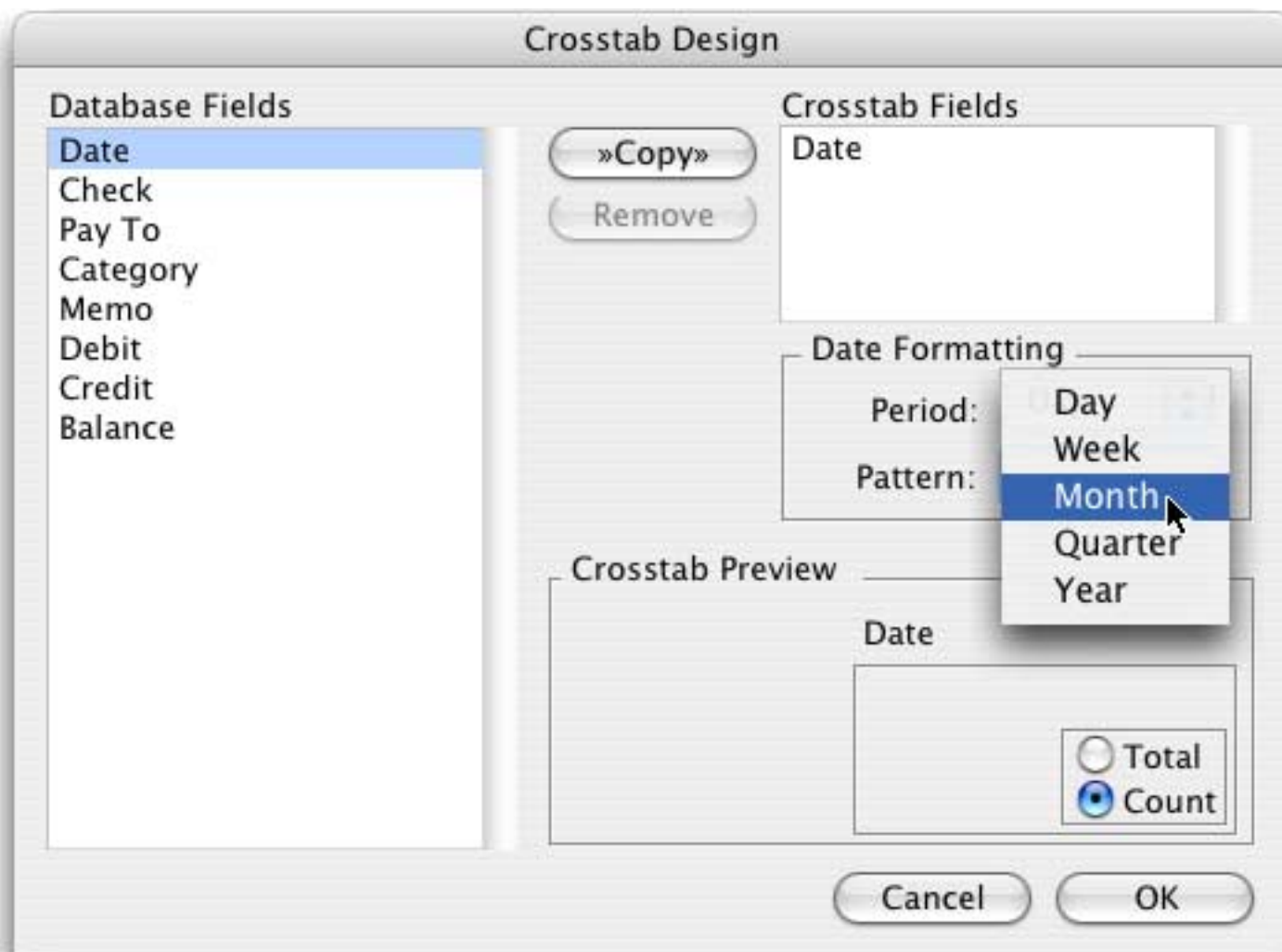
Next you need to specify the field that will appear down the left hand side of the crosstab table. Click on Category and then press the **»Copy»** button (or double click on Category).
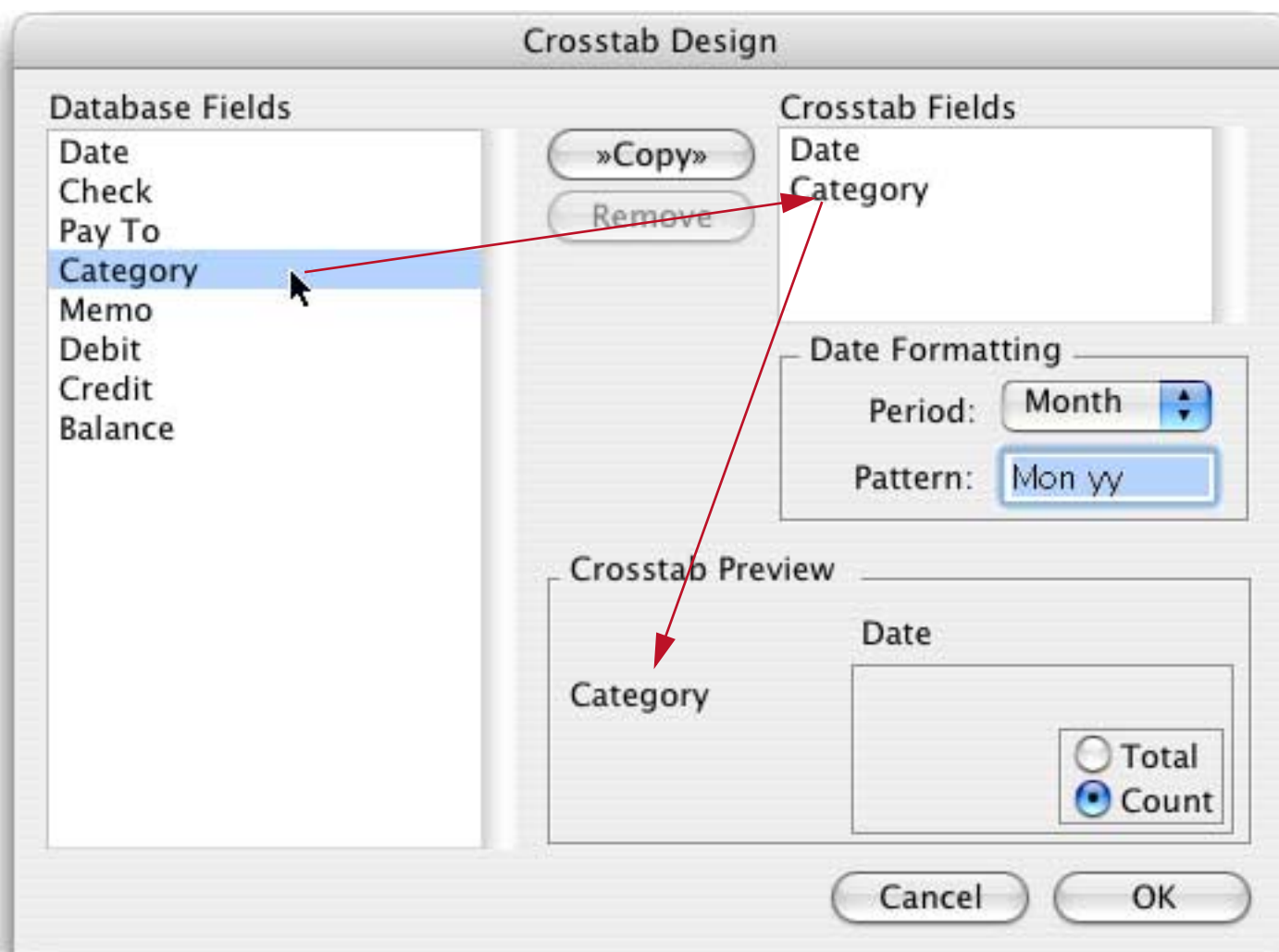
Next you must specify what goes in the middle of the crosstab table. Click on Debit and then press the **»Copy»** button (or double click on Debit).
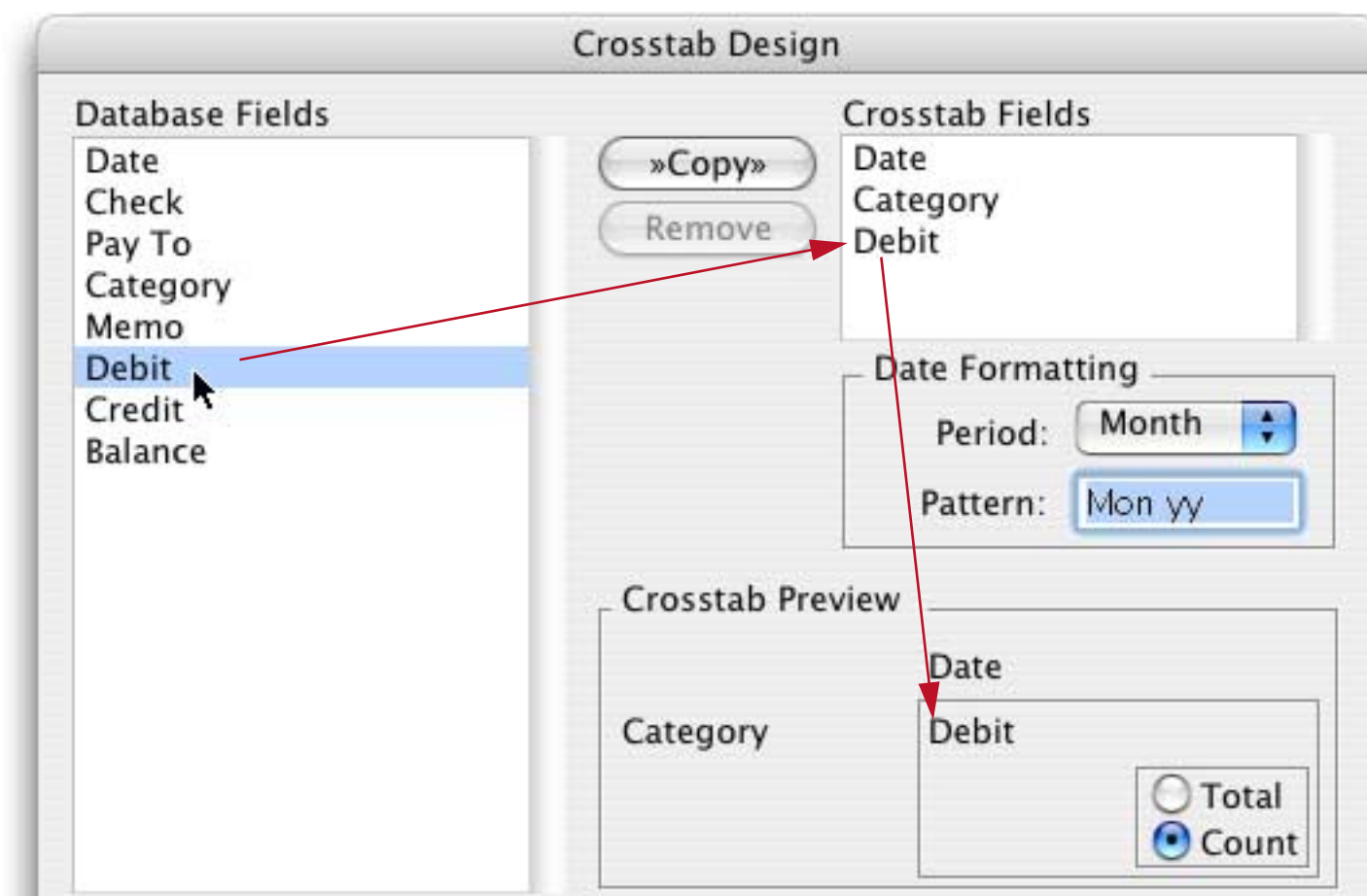
Finally, click the Total radio button so that the crosstab will add up the checks instead of counting them.

Crosstab Preview

Date

Category   Debit

◉ Total
○ Count
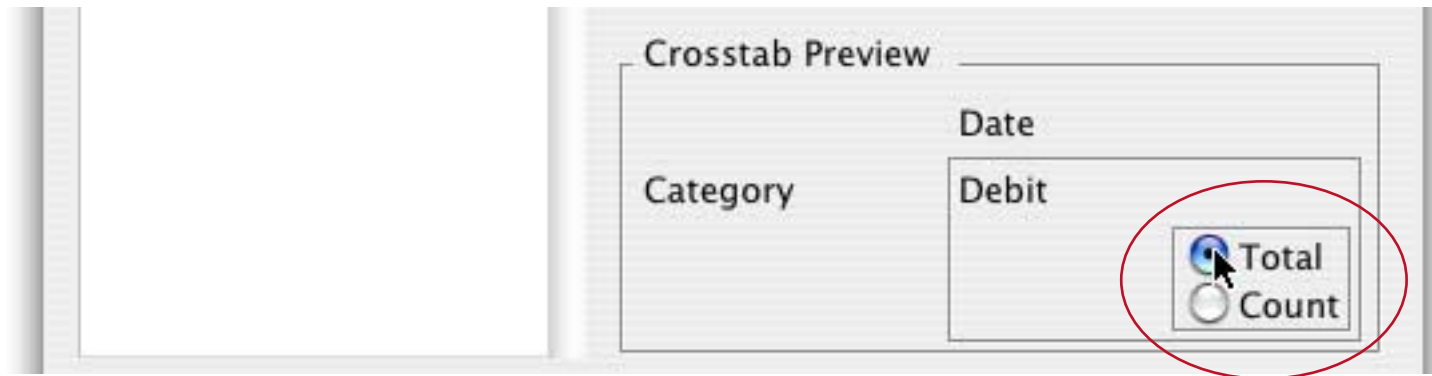
Press the **OK** button. Panorama will think for a few seconds, then the crosstab table will appear in a new window slightly below and to the right of the data sheet window (see "Opening More Than One Window Per Database" on page 169 of the *Panorama Handbook*). The crosstab table displays a summary of the information in the database, showing categories down the left hand side and months across the top (see "Crosstabs" on page 415 of the *Panorama Handbook*).

My Checkbook
My Checkbook:XTABS:Monthly Spending

xtab	Jan 98	Feb 98	Mar 98	Apr 98	May
Advertising	1,114.85	3,874.92	2,202.67	2,631.00	2,396
DEPOSIT	0.00	0.00	0.00	0.00	0
Fixed Assets		1,974.81	1,363.94	727.11	2,828
Insurance	1,254.50	1,254.50	1,254.50	1,254.50	1,254
Legal				282.44	
Office Supplies	614.01	938.45	1,043.33	752.83	321
Payroll	7,319.30	6,966.12	9,123.23	6,726.87	7,172
Purchases	4,106.41	2,135.08	3,447.93	1,961.64	2,380
Rent	1,580.00	1,580.00	1,580.00	1,580.00	1,580
Shipping	540.39	298.76	1,228.69	1,106.24	1,486
Telecom	423.19	514.61	454.94	451.65	417

13 visible/13 total

Just as with the Data Sheet you can adjust the text size and column widths of the crosstab table (see "Adjusting Column Widths, Font, Size and Background Color" on page 19).

You can split the window into two separate panes by dragging the **splitter** to the right. The **splitter** is the small black rectangle to the left of the horizontal scroll bar (see "Splitting a Window" on page 145 of the *Panorama Handbook*).

Once the window has been split in two you can horizontally scroll each pane separately. If you scroll all the way to the right you will see the overall totals for each category.

totals for each category

xtab	Jan 98	Feb 98	Mar 98	Oct 98	Nov 98	Dec 98	TOTAL
Advertising	1,114.85	3,874.92	2,202.67	3,416.08	2,607.82	2,528.52	30,011.38
DEPOSIT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Assets		1,974.81	1,363.94			1,063.90	10,222.66
Insurance	1,254.50	1,254.50	1,254.50	1,254.50	1,254.50	1,254.50	15,054.00
Legal				410.02	1,015.09		2,893.63
Office Supplies	614.01	938.45	1,043.33	792.24	415.42	349.14	7,425.49
Payroll	7,319.30	6,966.12	9,123.23	7,293.66	9,189.31	7,021.21	92,219.14
Purchases	4,106.41	2,135.08	3,447.93	1,881.39	2,930.92	2,501.53	29,666.43
Rent	1,580.00	1,580.00	1,580.00	1,580.00	1,580.00	1,580.00	18,960.00
Shipping	540.39	298.76	1,228.69	722.99	938.68	1,084.98	11,183.63
Telecom	423.19	514.61	454.94	445.13	468.80	449.00	5,450.39
Utilities	249.84	236.05	208.95	195.59	184.14	221.17	2,590.70
TOTAL	**17,202.48**	**19,773.29**	**21,908.19**	**17,991.62**	**20,584.69**	**18,053.95**	**225,677.4**

13 visible/13 total

To learn more about crosstabs see "Crosstabs" on page 415 of the *Panorama Handbook*.

Auditing the Crosstab Table

As you examine a crosstab you may find that you need to check out the backup detail behind a certain number. Doing this is easy—just click on the number and then click the **Select Original Data** tool. For example, suppose you want to see the individual checks written for purchases in November of 1998. Simply click on the Nov 98 Purchases cell and click on the tool.

After you click on the tool the data sheet shows the detail for the crosstab cell you clicked on, in this case the nine checks made for purchase in November of 1998.

Date	Checl	Pay To	Category	Memo	Debit	Credit	Balance
11/09/98	501	Clark Supply	Purchases	Invoice 34449	182.69		18,856.74
11/09/98	502	Anderson Manufact	Purchases	Invoice 56817	417.19		18,439.55
11/09/98	506	Telon Productions	Purchases	Invoice 6559	277.19		16,083.23
11/16/98	508	Miller Industries	Purchases	Invoice 85486	125.37		21,224.25
11/23/98	515	Miller Industries	Purchases	Invoice 89312	387.50		19,362.53
11/23/98	517	Clark Supply	Purchases	Invoice 24343	302.72		18,996.02
11/23/98	519	Stamford Mfg	Purchases	Invoice 11089	366.13		16,778.81
11/30/98	521	Anderson Manufact	Purchases	Invoice 38234	646.73		20,159.40
11/30/98	524	Coast General	Purchases	Invoice 19839	225.40		19,375.48

9 visib

My Checkbook:XTABS:Monthly Spending

xtab	Jan 98	Feb 98	Mar 98	Oct 98	Nov 98	Dec 98	TOT
Advertising	1,114.85	3,874.92	2,202.67	3,416.08	2,607.82	2,528.52	30,011.
DEPOSIT	0.00	0.00	0.00	0.00	0.00	0.00	0.
Fixed Assets		1,974.81	1,363.94			1,063.90	10,222.
Insurance	1,254.50	1,254.50	1,254.50	1,254.50	1,254.50	1,254.50	15,054.
Legal				410.02	1,015.09		2,893.
Office Supplies	614.01	938.45	1,043.33	792.24	415.42	349.14	7,425.
Payroll	7,319.30	6,966.12	9,123.23	7,293.66	9,189.31	7,021.21	92,219.
Purchases	4,106.41	2,135.08	3,447.93	1,881.39	2,930.92	2,501.53	29,666.
Rent	1,580.00	1,580.00	1,580.00	1,580.00	1,580.00	1,580.00	18,960.
Shipping	540.39	298.76	1,228.69	722.99	938.68	1,084.98	11,183.
Telecom	423.19	514.61	454.94	445.13	468.80	449.00	5,450.
Utilities	249.84	236.05	208.95	195.59	184.14	221.17	2,590.
TOTAL	**17,202.48**	**19,773.29**	**21,908.19**	**17,991.62**	**20,584.69**	**18,053.95**	**225,677**

13 visible/13 total

You can use the **Select Original Data** tool with any cell in the crosstab. In this illustration it has been used to select all Fixed Assets regardless of month.

If you click on one of the cells in the bottom line and use the **Select Original Data** tool Panorama will select an entire month of checks, in this case all 43 checks written in February of 1998.

When you are done with the crosstab close the window and, if necessary, use **Select All** in the Search menu to make all the records in the data sheet visible again (see "Selecting All Records" on page 38). You can open the crosstab again later using the **View** menu. If the data has changed use the **Calculate Crosstab** tool to re-calculate the table values.
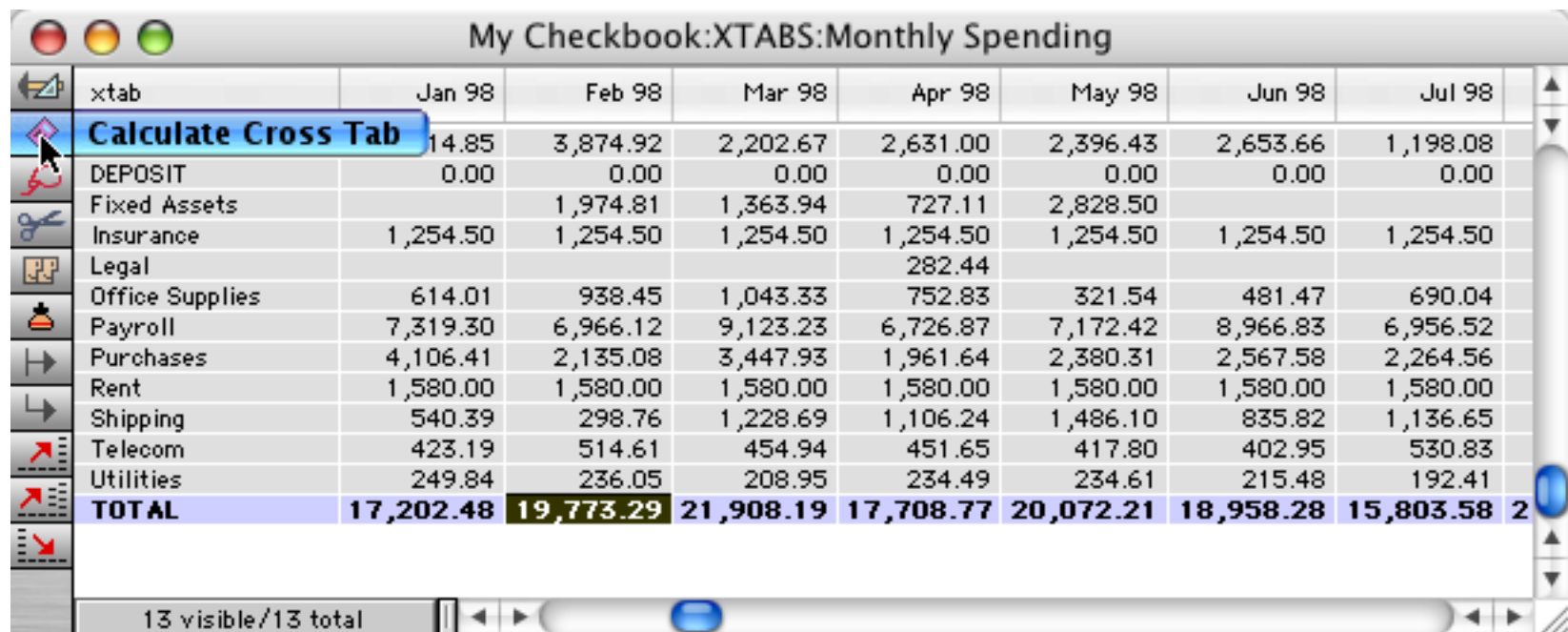
To learn more about crosstabs see "Crosstabs" on page 415 of the *Panorama Handbook*.

Making a Bar Chart

Someone once said that a chart is worth a thousand numbers. Ok, that's not quite what they said, but let's create a chart anyway. Charts are usually displayed from summary records in the database, which are created with the **Summarize & Analyze** dialog described earlier in this lesson (see "Analyzing and Calculating Subtotals" on page 112). Here's how to set up this dialog to summarize the checkbook database by month.
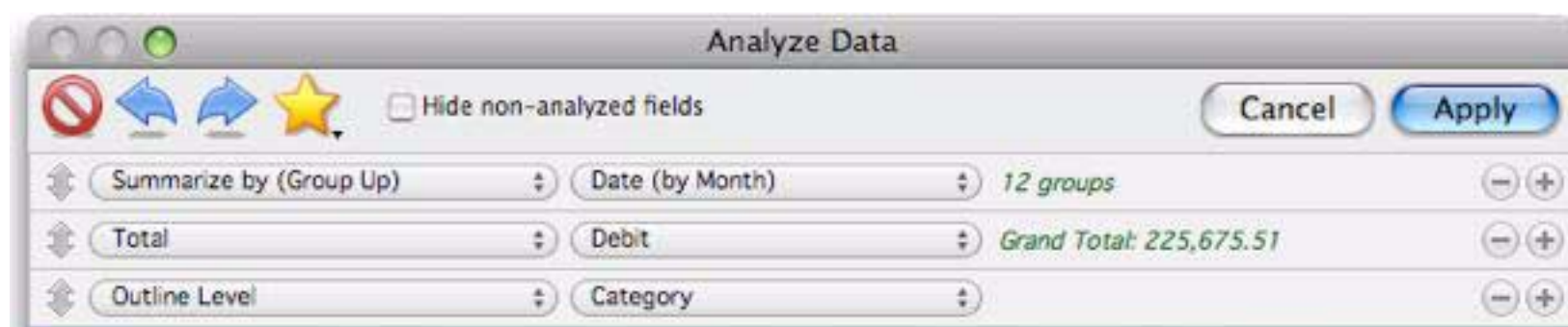
When the **Apply** button is pressed, the summaries are calculated and the raw data disappears. Now we're ready to chart this information.

The next step in building a chart is to create a new form. If you are using a Windows PC hold down the **Alt** key, if you are using a Macintosh hold down the **Control** key. Either way, select **New Form** from the View menu (see "Creating a New Form" on page 487 of the *Panorama Handbook*).

You know the drill by now — type in the name of the new form (up to 25 characters).
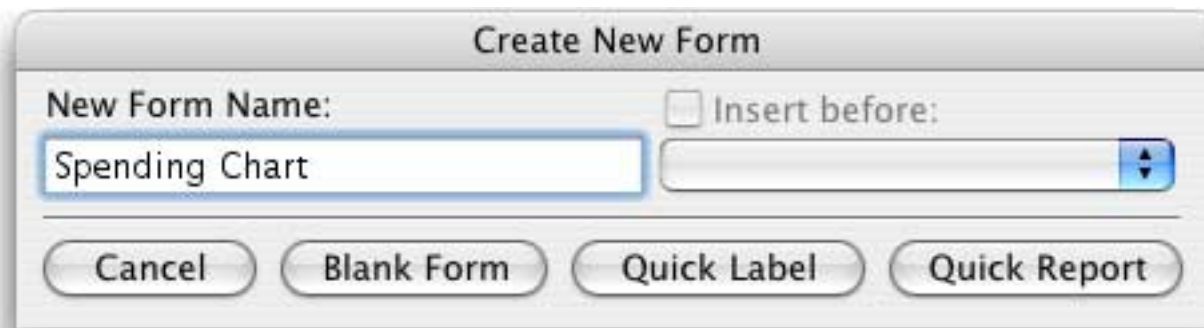
Press the **Blank Form** button to create the new form.
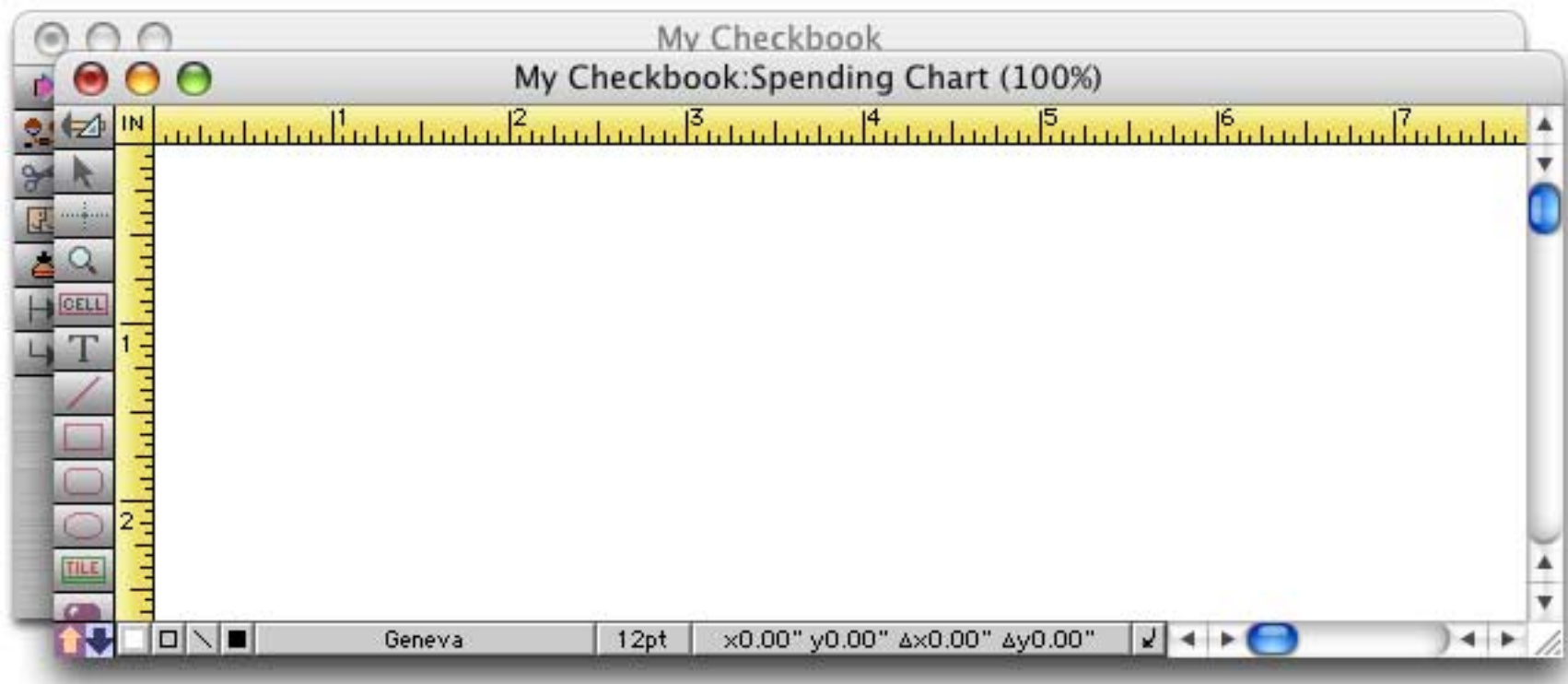
Adjust the window size to approximately the size of the chart you want to make, then click on the **Chart** tool.
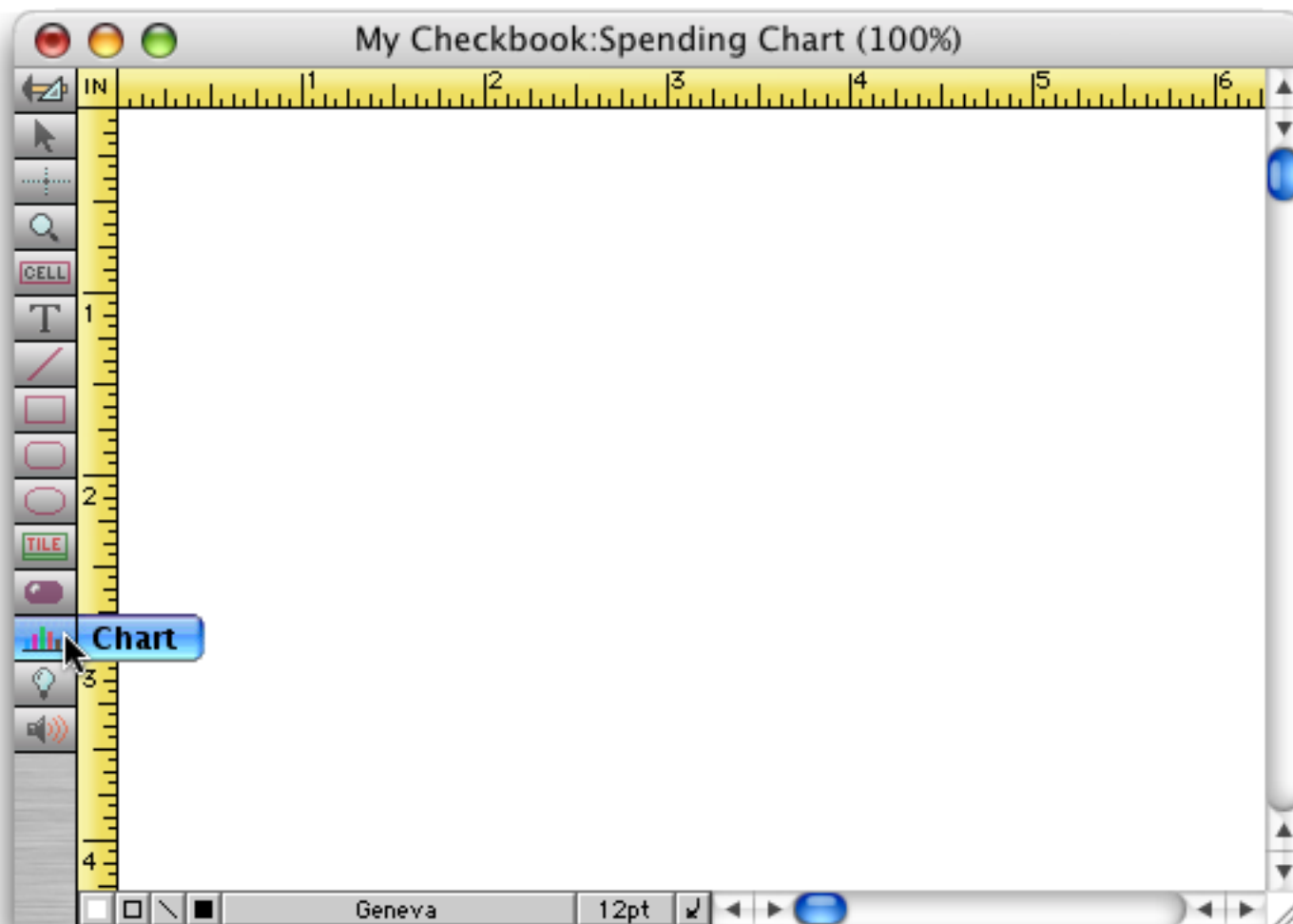
Move the mouse over the form and then drag from corner to corner to create the chart, just as you would to create a rectangle or a data cell.
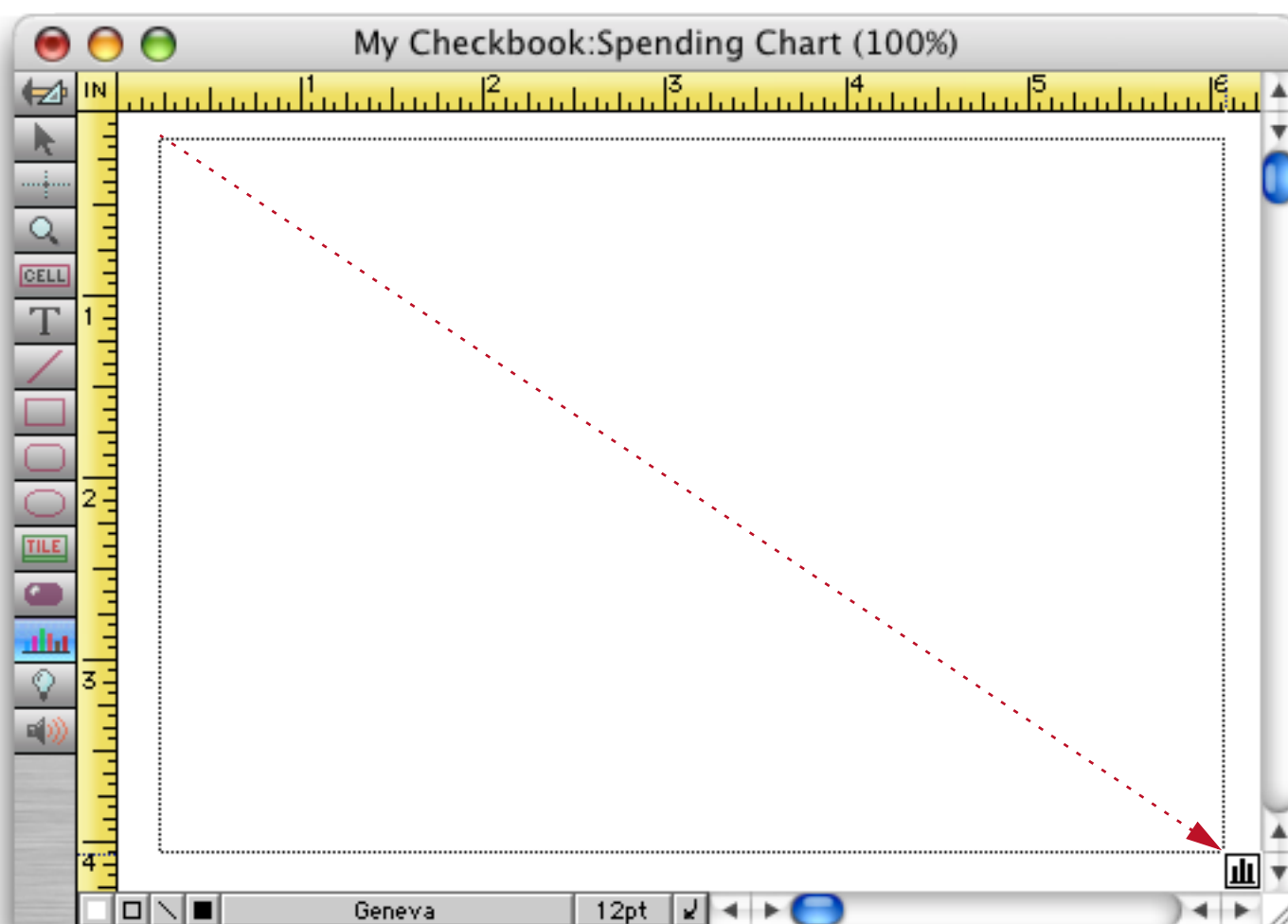
Your new chart doesn't look much like a chart yet, in fact it looks more like a dialog!
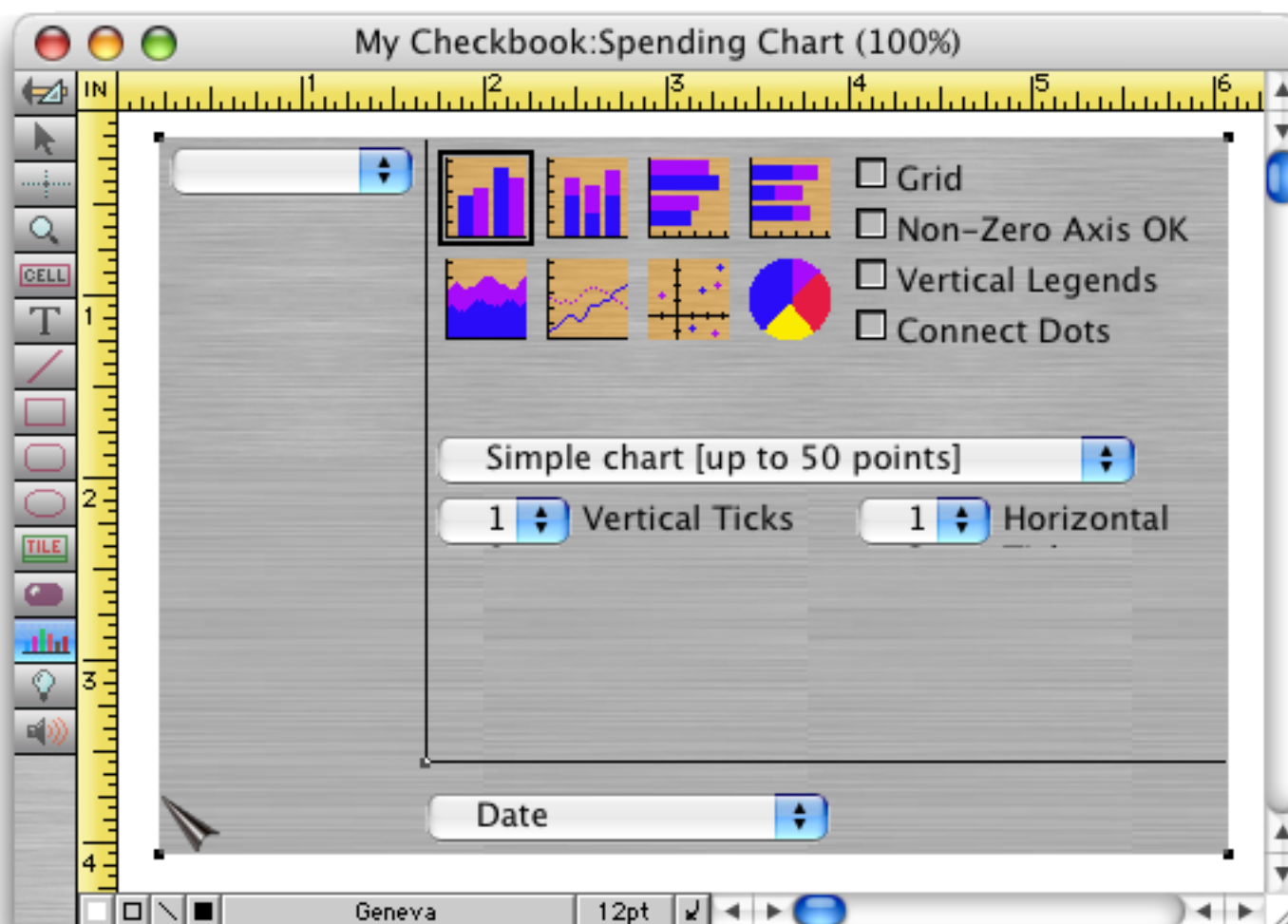
The buttons and pop-up menus in the dialog allow you to configure the chart. At a minimum, you must select a legend field and at least one value field (see "Setting Up Legend and Value Fields" on page 998 of the *Panorama Handbook*). In this case the legend field is already set to Date. Use the pop-up menu to set the value field to Debit.
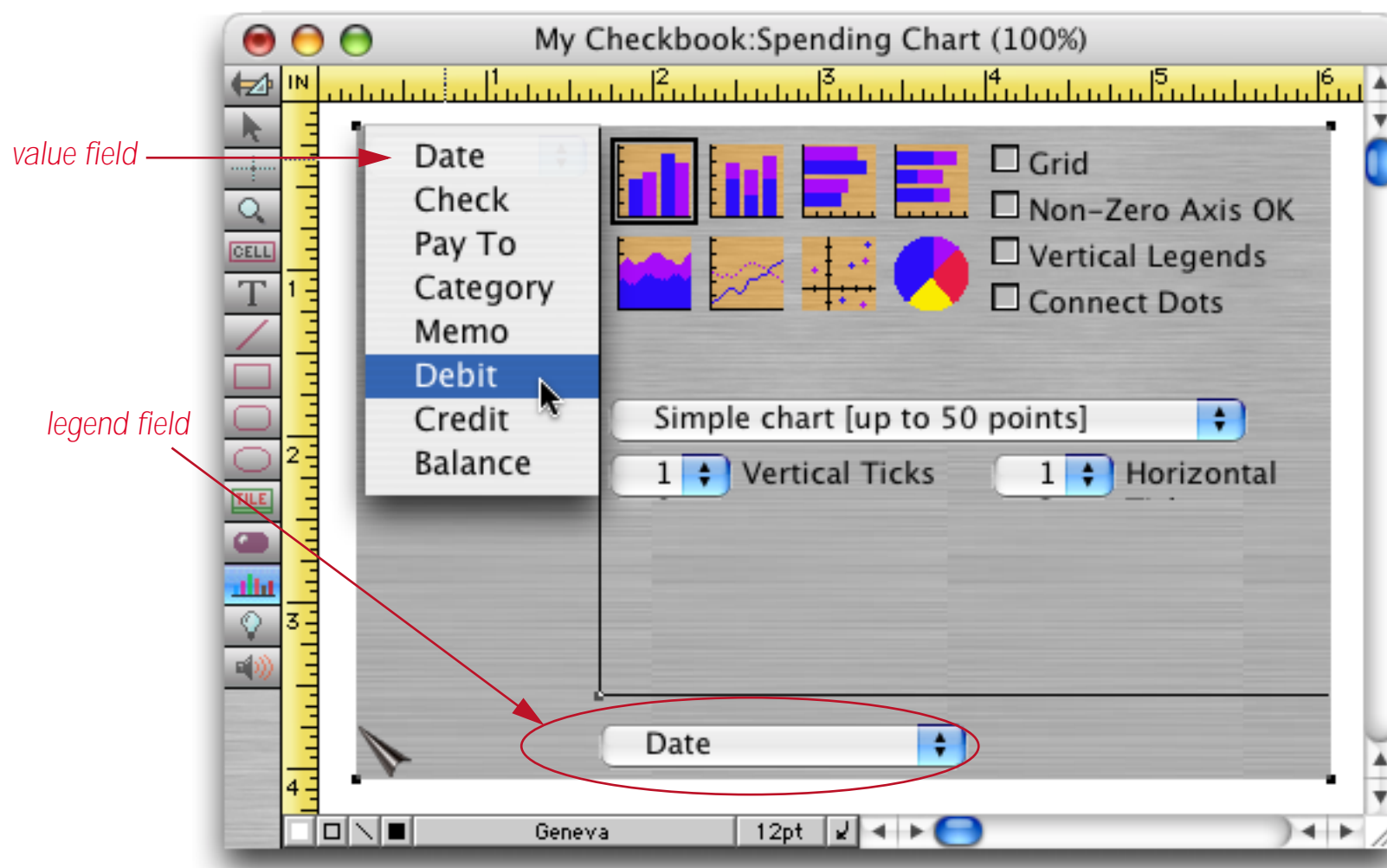
Switch to **Data Access Mode** to see the actual chart (see "Form Modes: Data Access vs. Graphic Design" on page 485 of the *Panorama Handbook*).
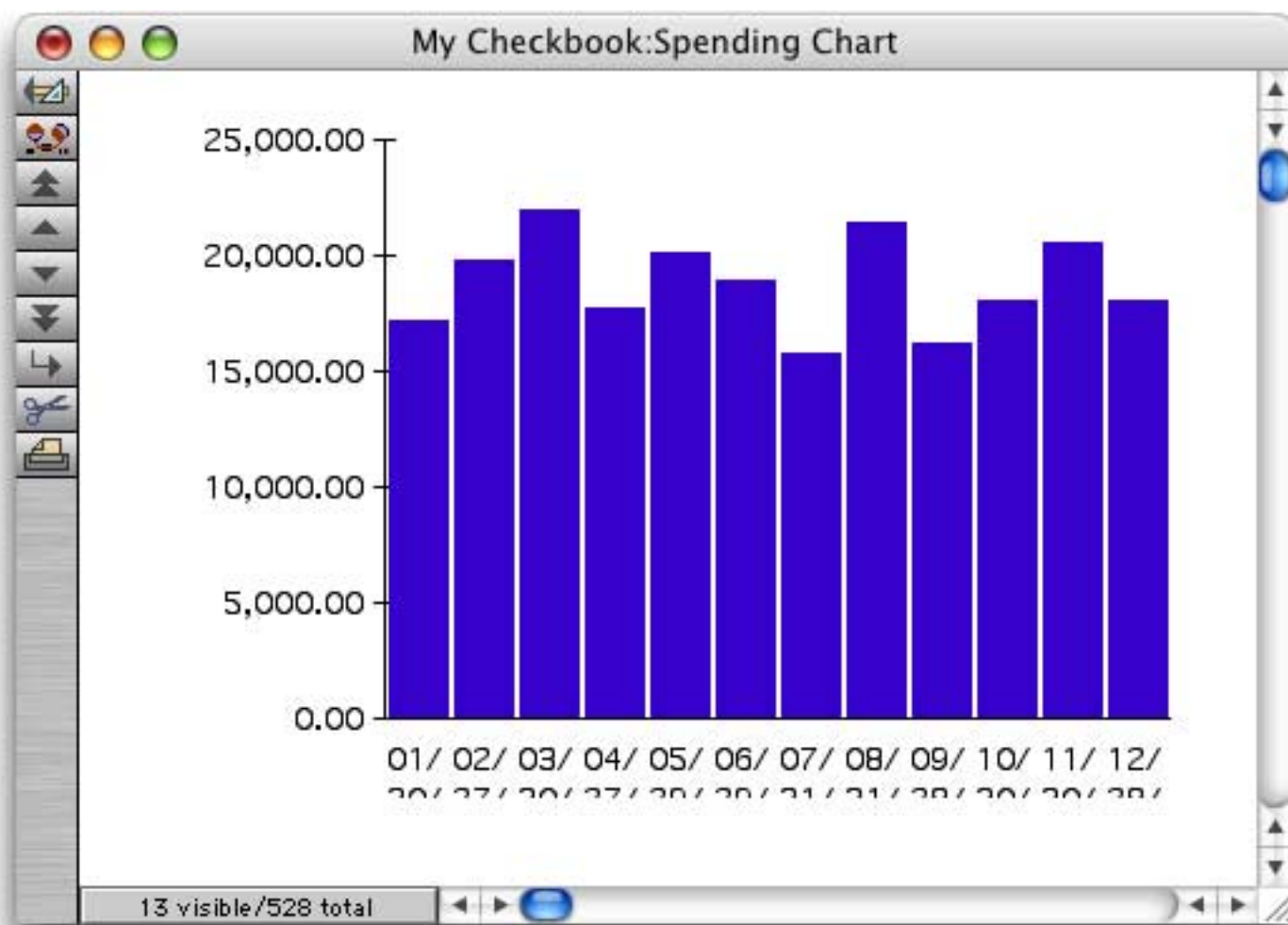
Customizing the Chart Appearance

Let's dress up the chart a little bit. To do that switch back to **Graphic Design Mode** (see "Form Modes: Data Access vs. Graphic Design" on page 485 of the *Panorama Handbook*). Then click on the chart and change the font size to 9 point.
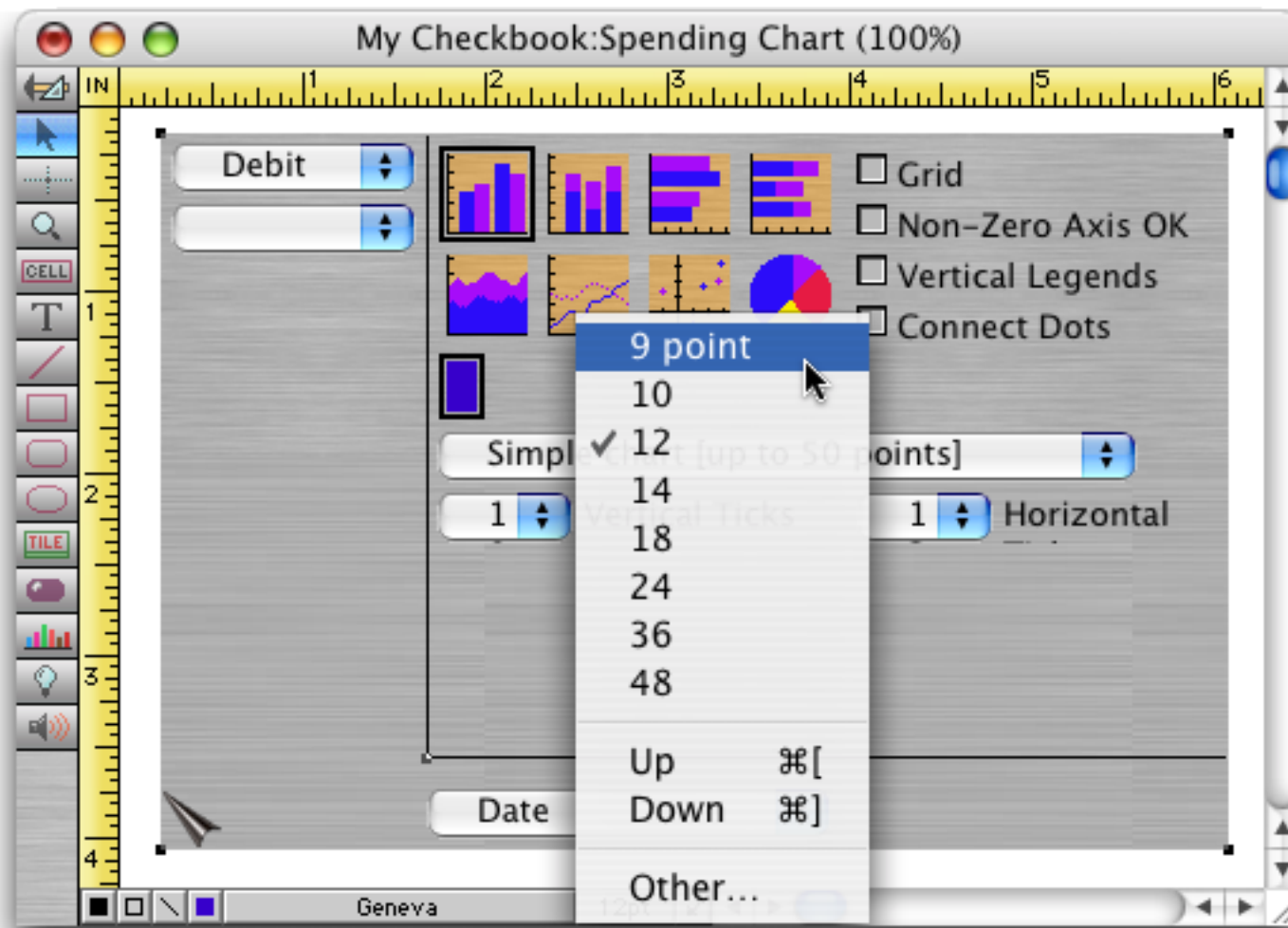
Now select the **Output Pattern** command from the Text menu.
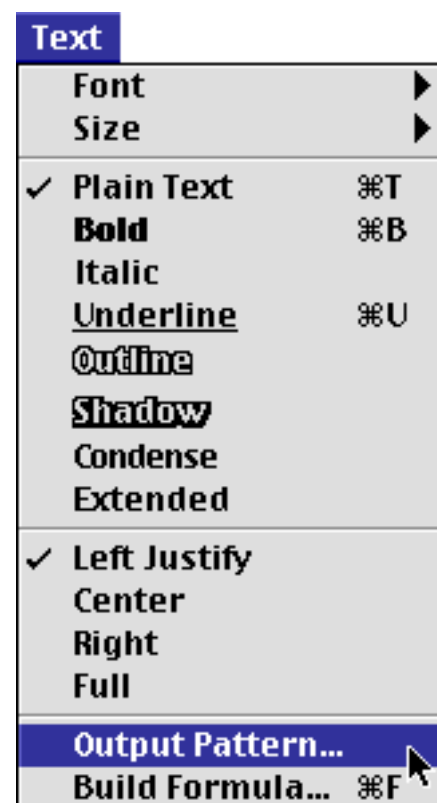
This command allows you to specify how the dates in the chart legend will be displayed. To display just the abbreviated month name (Jan, Feb, Mar, etc.) type in Mon (see "Date Output Patterns" on page 255 of the *Panorama Handbook*).
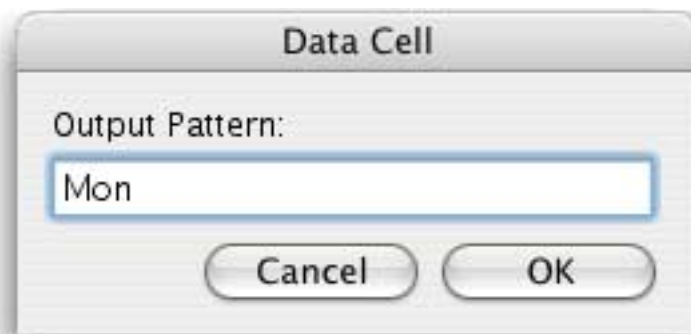
Use the color pop-up menu to select a different color for the chart bars (see "Graphic Attribute Icons" on page 1017 of the *Panorama Handbook*).
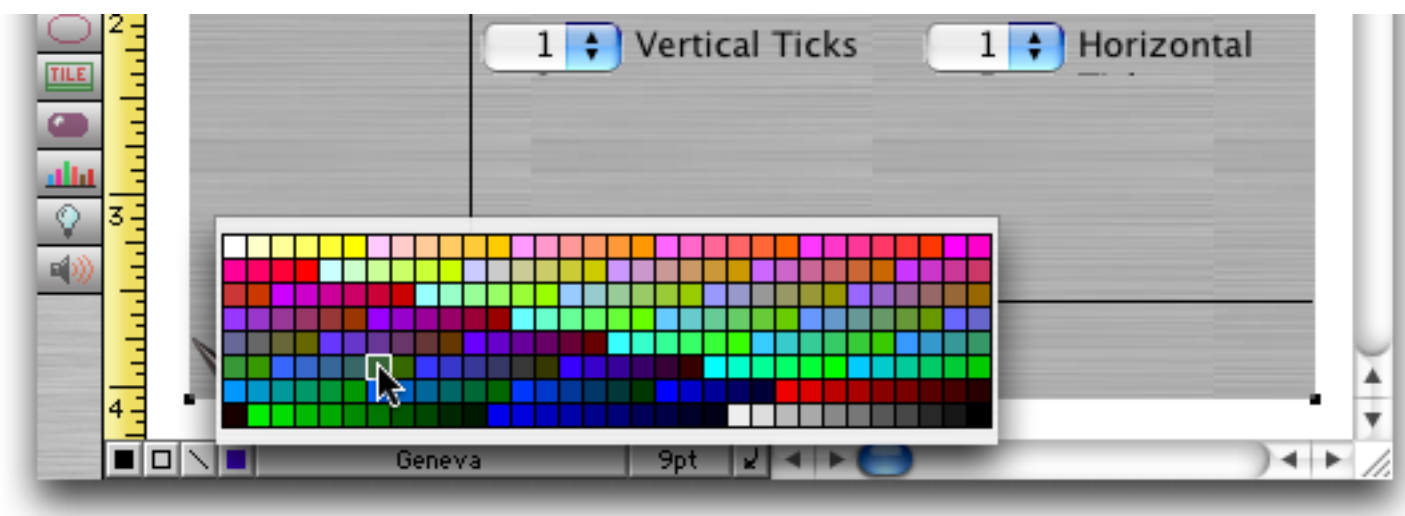
Click on the Grid option to display a dotted line from each tick mark.
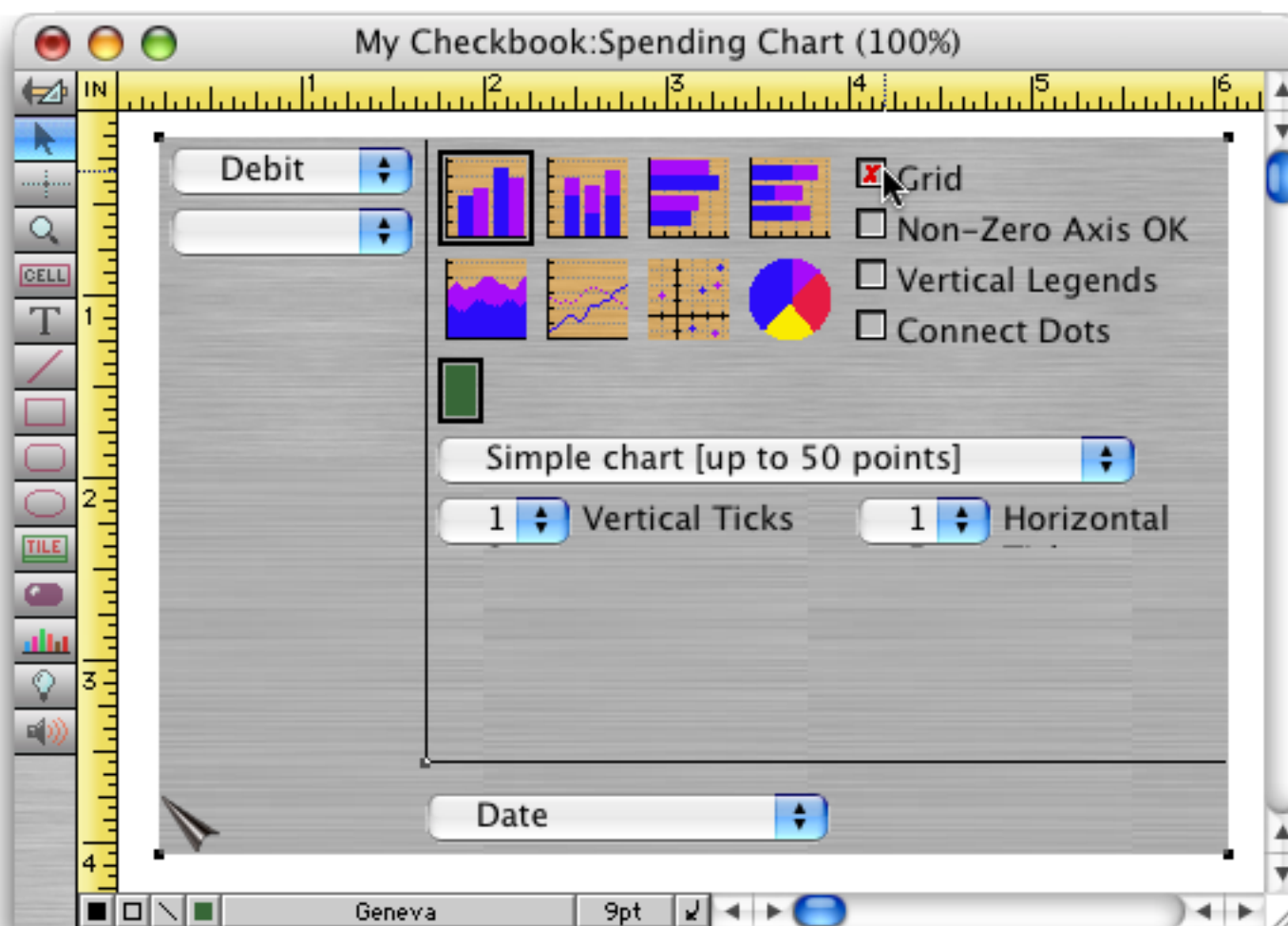
To preview the chart's appearance without going into Data Access Mode click on the **preview flap** in the lower left hand corner of the chart object. The preview flap is the small triangle that looks like a turned up page corner.

preview flap
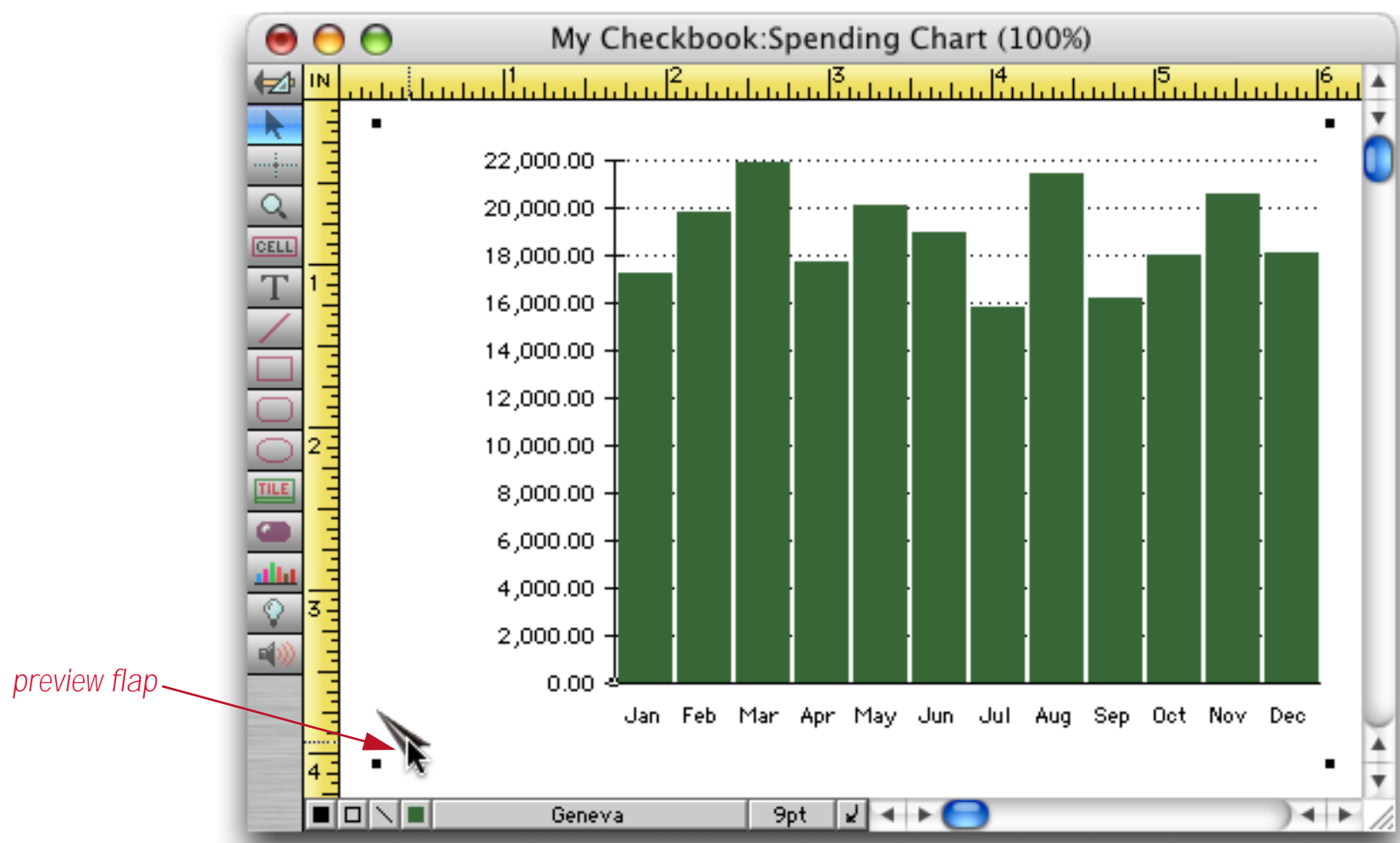
When in the preview mode you can use the extra fifth chart handle to adjust the margin where the chart legends appear.
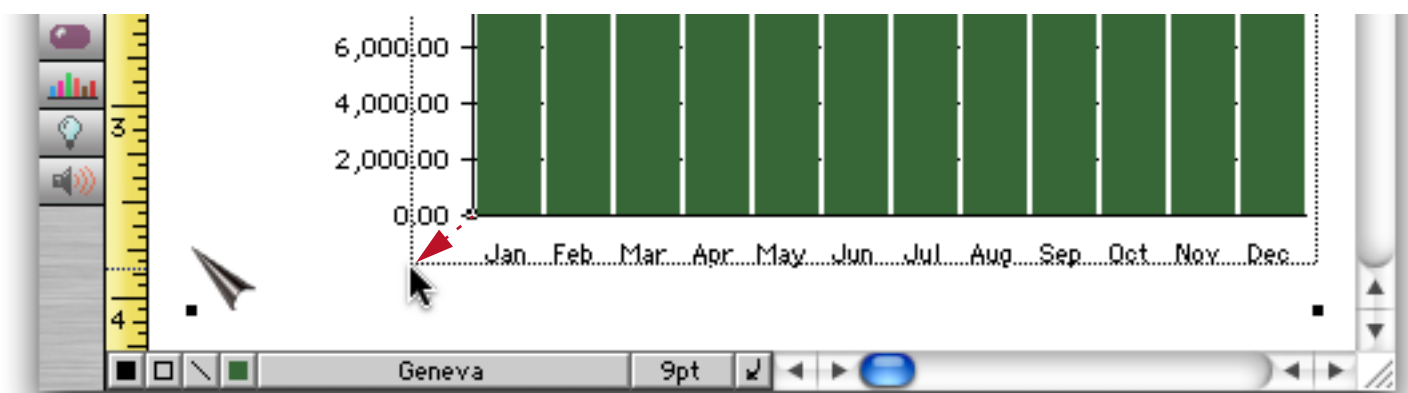
When the form is switched to Data Access Mode the chart will immediately show any changes made to the database.
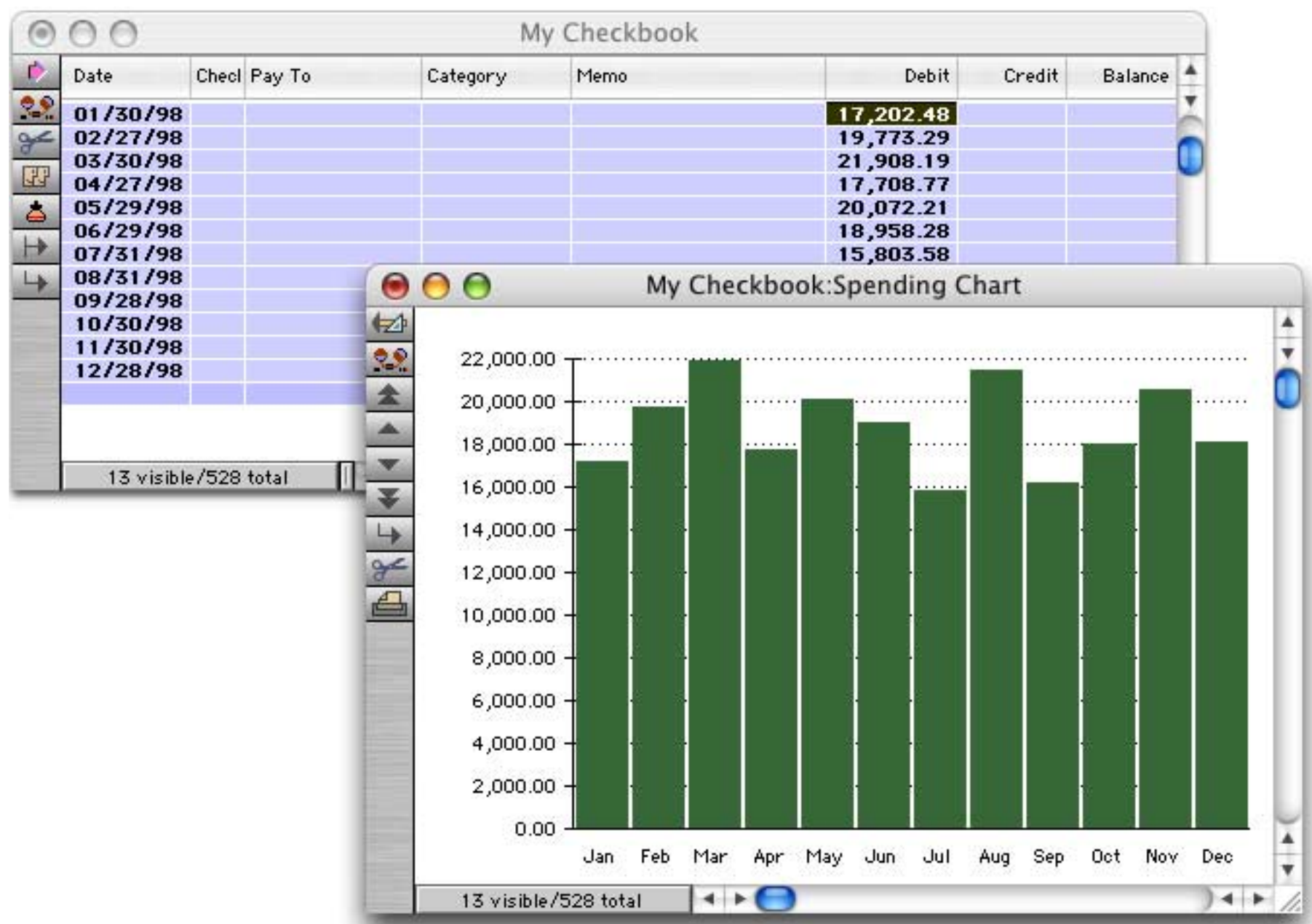
For example if you edit the summary value for March 1998 the chart will immediately update to reflect that change (of course it usually doesn't make any sense to edit a summary value like this). In the illustration shown below the summary value has been increased from 21908.19 to 27908.19.
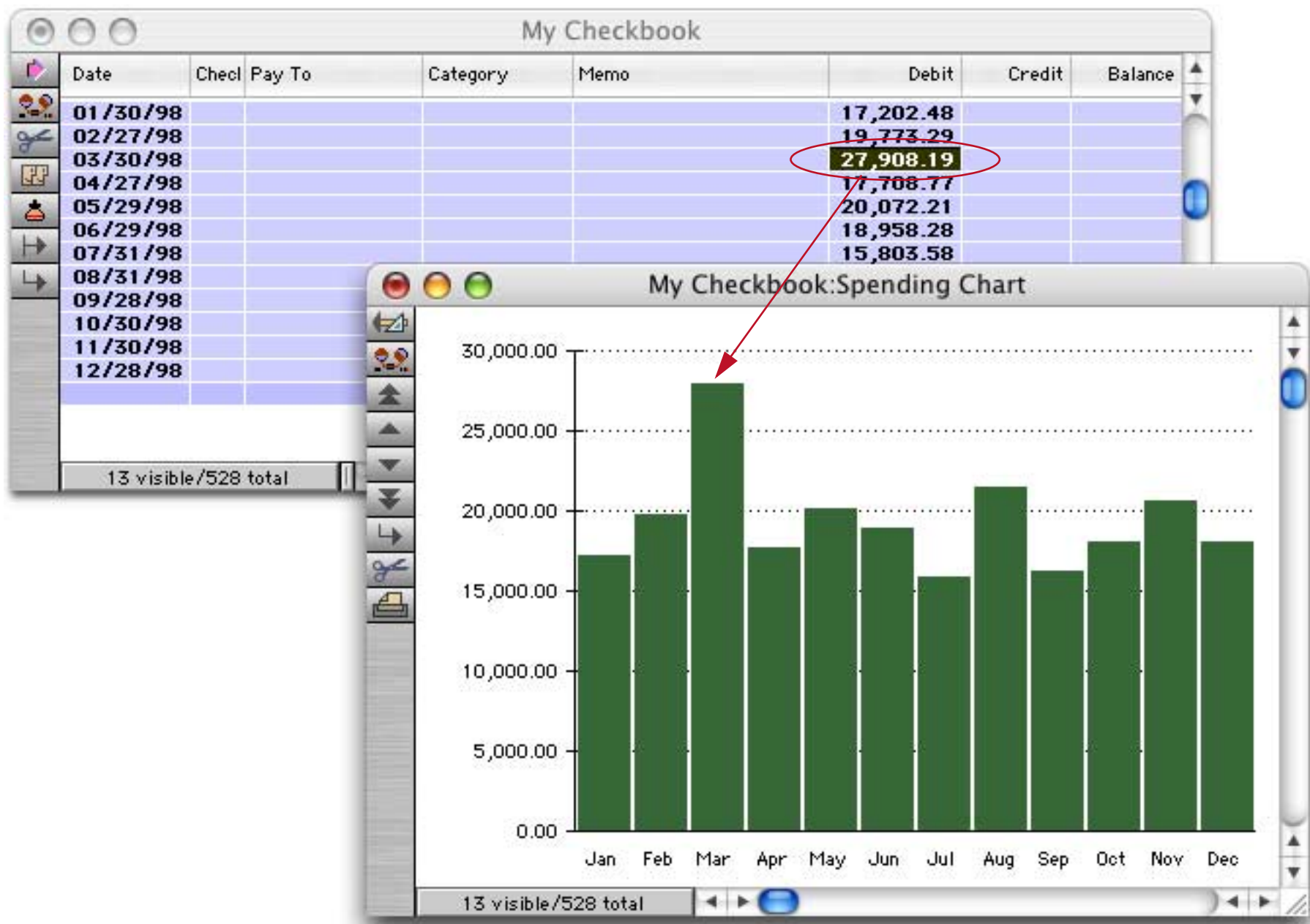
We're finished with the chart, so close the window. Choose **Restore Original Data** from the Action menu, then **Save** the database. To learn more about charts see "Charts" on page 993 of the *Panorama Handbook*.

Data Entry Helpers

Now let's switch gears. Before you can analyze data you have to get the data into the database, and that usually means data entry with the keyboard. This job is never easy, but Panorama does have tools that can make data entry faster and less error prone. The next few sections will look at how the data entry process can be improved for each of the fields in the checkbook database.

Dates

The first field in the database contains the check date. You can modify the way dates are displayed. Start by clicking anywhere in the Date field and then choose the **Field Properties** dialog from the Fields menu (see "Modifying the Properties of an Existing Field" on page 195 of the *Panorama Handbook*). (You can also open this dialog by double clicking on the field name at the top of the column.) The **Field Properties** dialog allows you to modify many of the attributes of each field. The **New Database Wizard** has already set up some of the options in this dialog, including the Field Name, Type and Default Value.
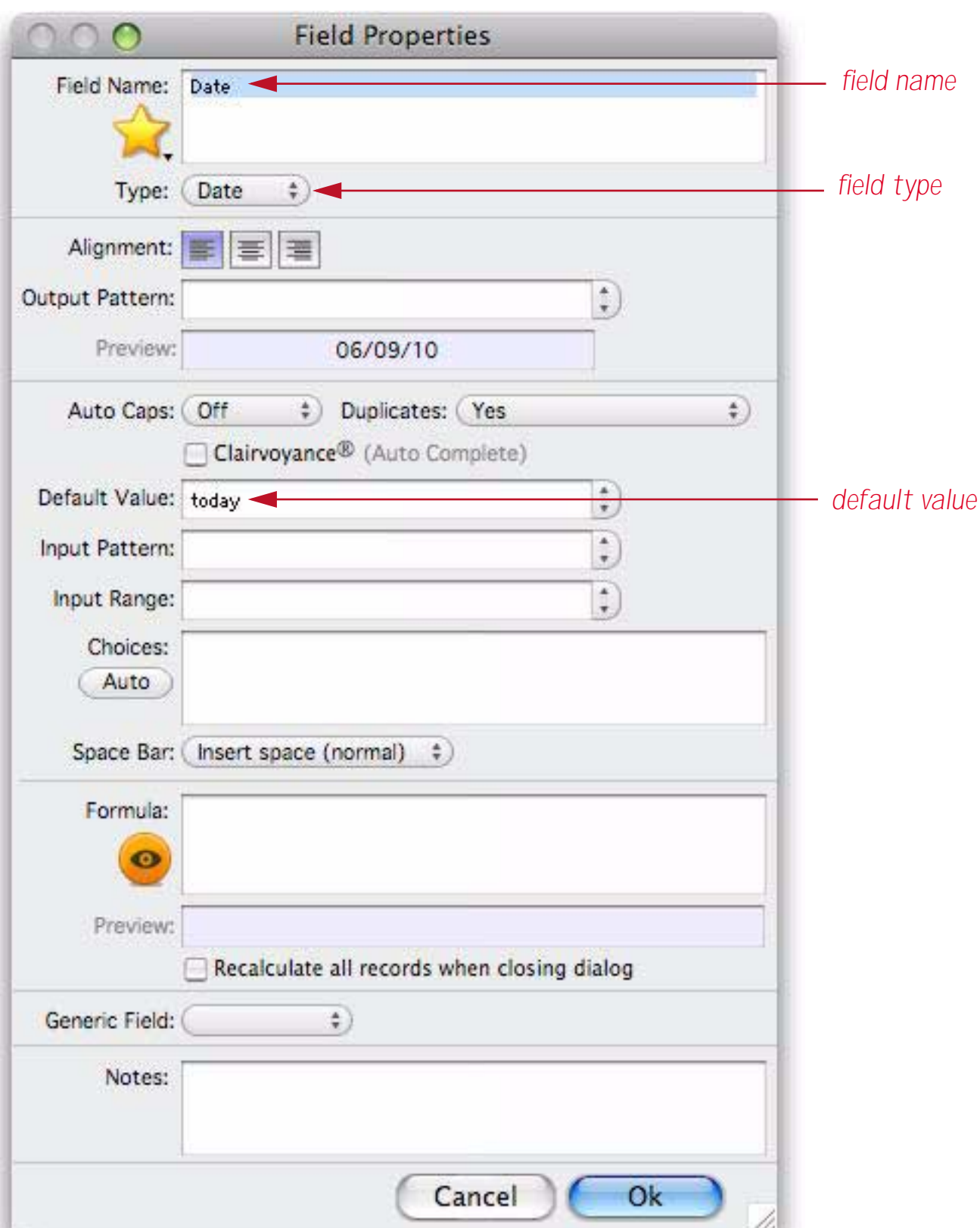
To change the output pattern, click on the icon and choose the option you want.

click here to change pattern
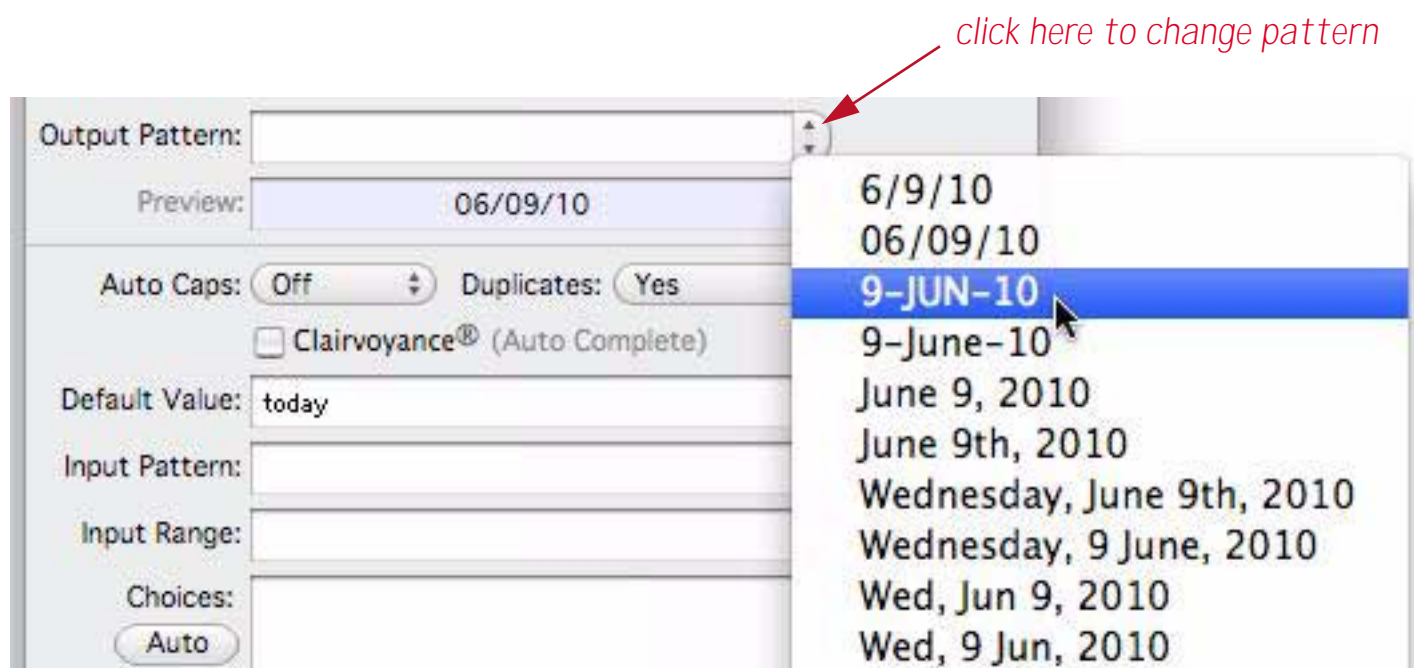
After you select the option press the **OK** button to get back to the data sheet. The dates are now displayed with your selected pattern.

The pattern can be changed at any time.

The New Database Wizard automatically set this date field to default to today's date. To see this in action, press the **Add New Record** tool (or select **Add New Record** from the Records menu).
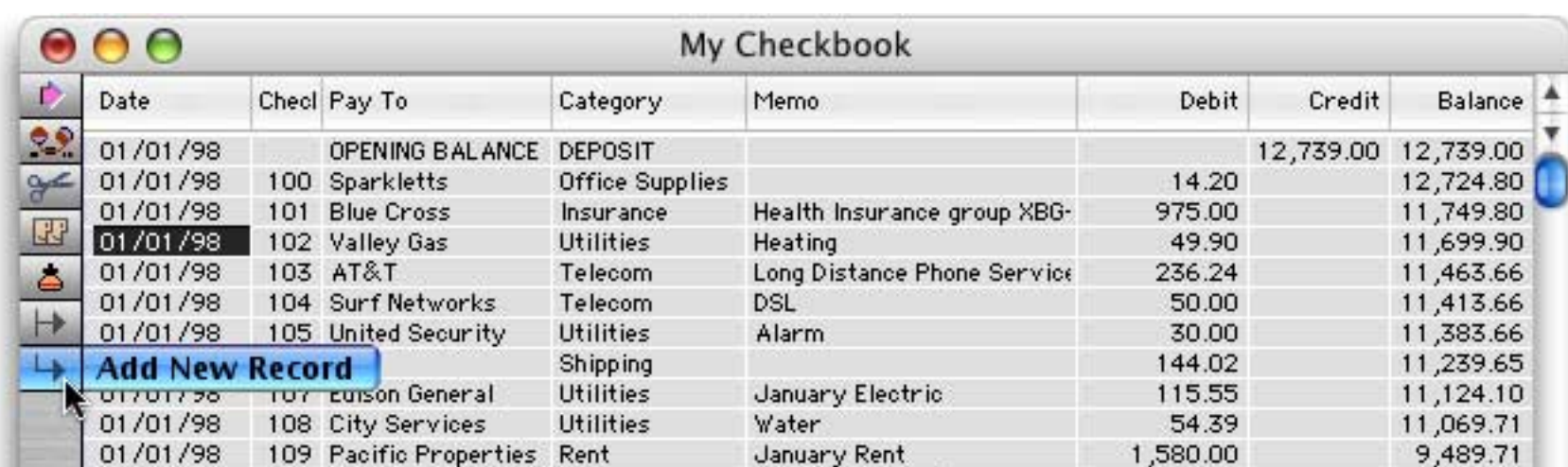
The new check automatically defaults to today's date.
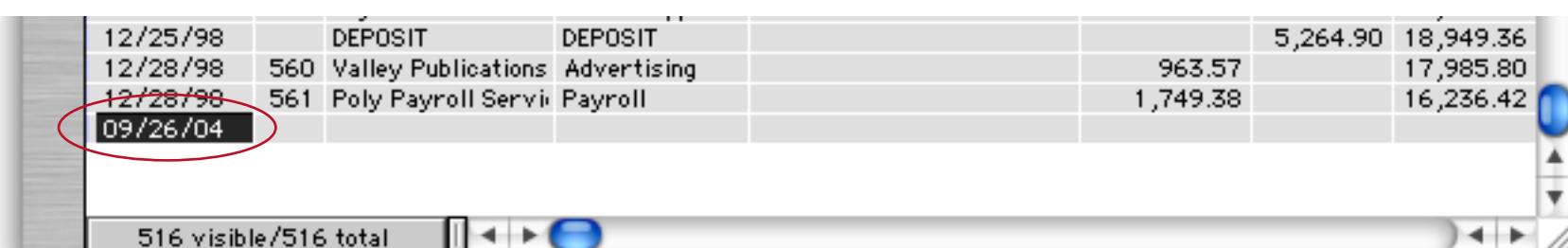
Smart Dates

Panorama is very flexible about how you type dates. We call this feature "smart dates." You can enter dates numerically (for instance **04/09/02** or **4/9/2**) or you can spell out the date (for instance **April 9th, 1997** or **Apr 9 97**). You can use any character as a separator between numeric dates, for example **4-9-01** or even **4.9.01**.

To enter today's date, simply type **today**. You can also enter **yesterday** or **tommorow**. Panorama will automatically convert these entries to the correct month, day and year.

If the date is in the current week, you can simply type in the name of the day, for example **saturday** or **tue**. To specify a day in the previous or upcoming weeks add the words last or next, for example **next tuesday** or **last saturday**.

Type…	Date Entered
today	10/26/00
may 17	05/17/00
yesterday	10/25/00
last friday	10/20/00
next wed	11/01/00

Play around with entering different dates, then use the **Cut Record** tool to delete the new record.

Check Number

The second field contains the check number. You can modify the Field Properties to automatically add one to create a new check number each time a new check is created. Click anywhere in the Check column and then choose the **Field Properties** dialog from the Setup menu (see "Modifying the Properties of an Existing Field" on page 195 of the *Panorama Handbook*). (You can also open this dialog by double clicking on the field name at the top of the column.) The **New Database Wizard** has already set up some of the options in this dialog, including the Field Name and the Type.
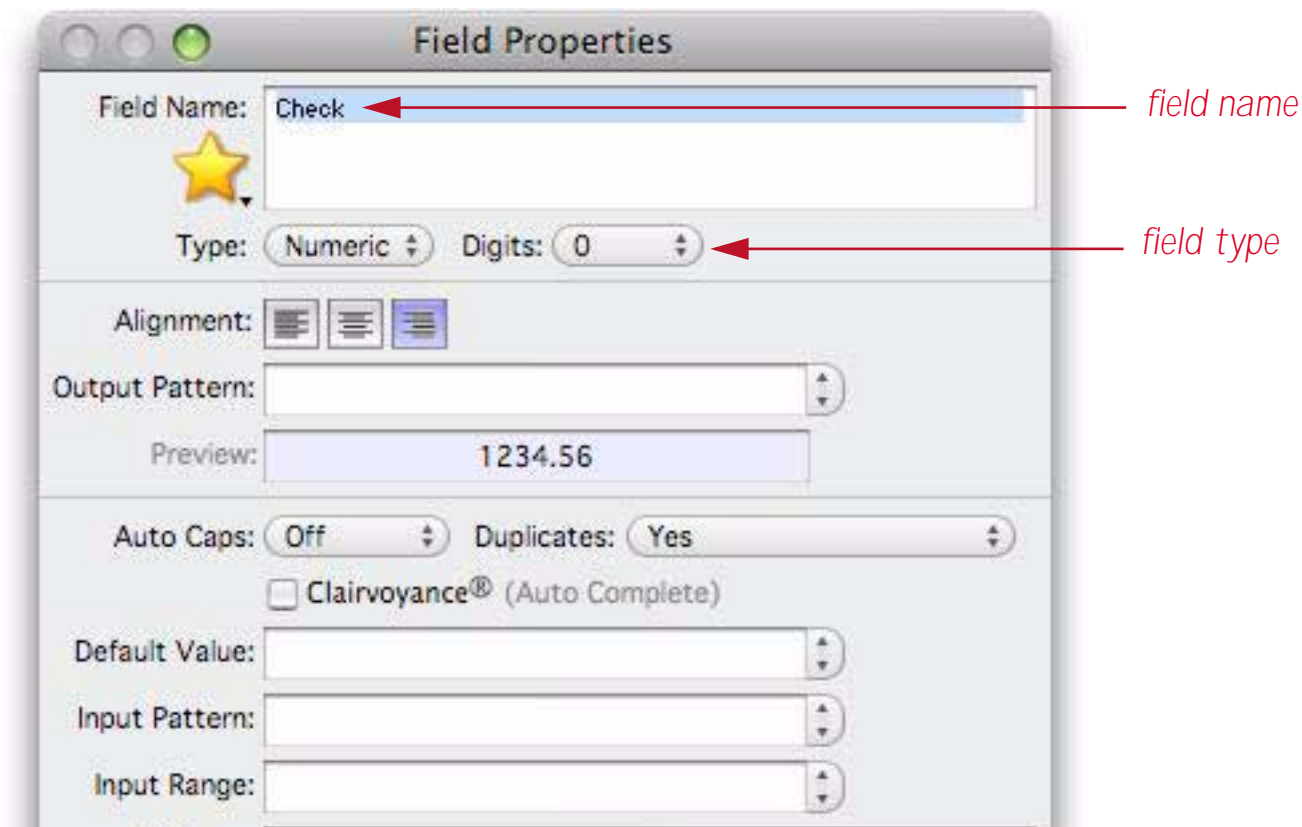
To set up the default value for this field, click on the icon and choose the option you want.
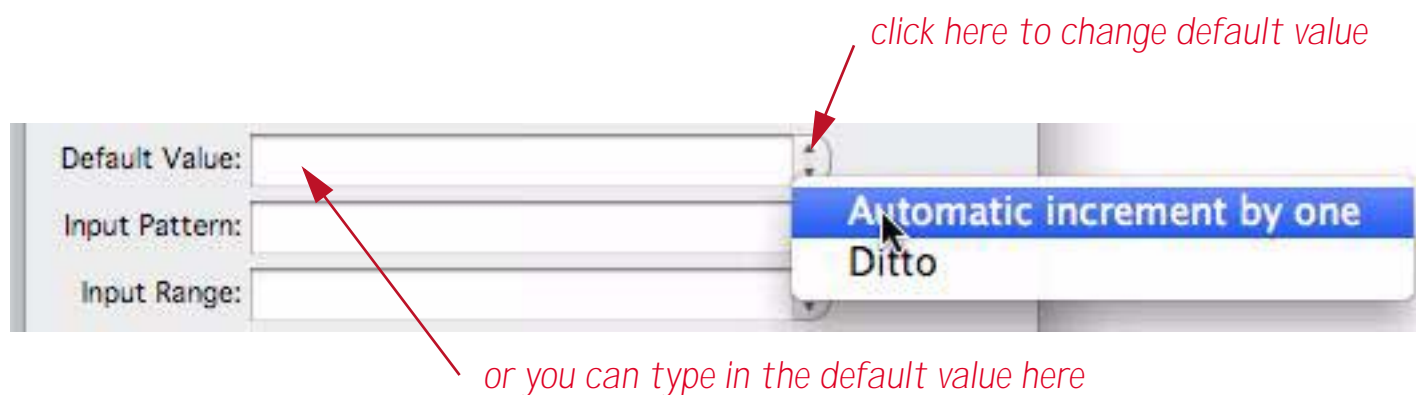
Choosing **Automatic increment by one** sets the default value to +1.

Press the **OK** button to get back to the data sheet. Then press the **Add New Record** tool (or select **Add New Record** from the Edit menu).

The new check automatically defaults to today's date and is assigned the next check number, in this case 562.

Pay To

The third field contains the name of the person or company the check is made out to. Since you will often write checks out to the same people over and over again you can take advantage of a very cool Panorama feature called Clairvoyance®. Clairvoyance automatically finishes your typing for you as soon as it thinks it can identify what you are about to type based on the previous entries (see "Clairvoyance®" on page 284 of the *Panorama Handbook*). Clairvoyance can be turned on and off with the **Field Properties** dialog. Click anywhere in the Pay To column and then choose the **Field Properties** dialog from the Setup menu (see "Modifying the Properties of an Existing Field" on page 195 of the *Panorama Handbook*). (You may have also heard that you can open this dialog by double clicking on the field name at the top of the column. It's really true!). The **New Database Wizard** has already set up some of the options in this dialog, including the Field Name and Type. Use pop-up menu to turn on the Auto Capitalize option, and the checkbox to turn on the Clairvoyance option, as shown below.

Press **OK** to close the dialog. Now try entering Blue Cross into the Pay To data cell. Leave your finger off the **Shift** key as you type because Panorama will automatically capitalize the first letter of each word for you! As soon as you press the letter l, Panorama's Clairvoyance® feature will complete the entry for you by typing ue Cross.
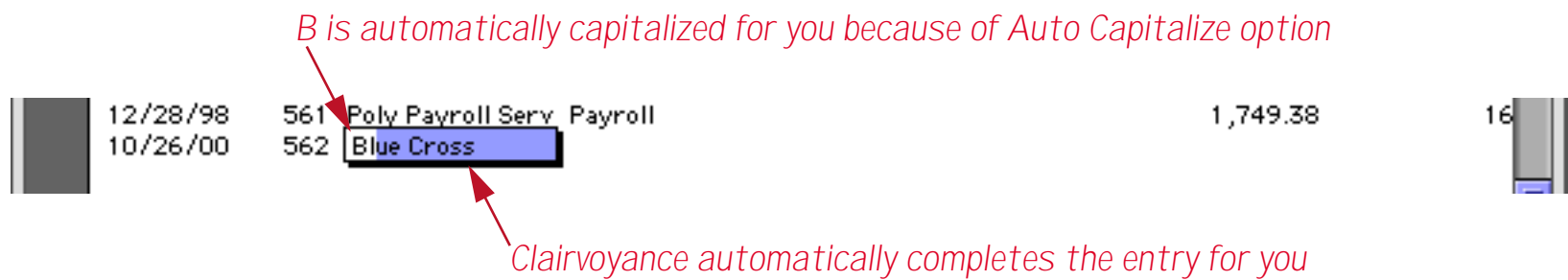
B is automatically capitalized for you because of Auto Capitalize option

| 12/28/98 | 561 | Poly Payroll Serv. Payroll | 1,749.38 | 16 |
| 10/26/00 | 562 | Blue Cross | | |

Clairvoyance automatically completes the entry for you

Clairvoyance automatically finishes your typing for you as soon as it thinks it can identify what you are about to type based on the previous entries. If Clairvoyance guesses wrong (because this is a new entry that hasn't appeared before) just keep typing and complete the entry yourself.

Clairrows

When you hold down the **Command** key (Mac) or **Control** key (Windows), the up and down arrows on the keyboard become clairvoyant arrows, or "**clairrows**." With the key held down you can use the arrows to scan through the values that are already in the database. Each time you press **Command/Control-Down Arrow** the next value appears, while each time you press **Command/Control-Up Arrow** the previous value appears. You can scan through the values until you find the information you are looking for, then press the **Enter** key to enter the value. To give the clairrows a head start you can type in the first few letters of the information you are looking for.

type b	B
l	Blue Cross
Cmd/Ctl-Down Arrow	Boston Direct
Cmd/Ctl-Down Arrow	Century Equipment
Cmd/Ctl-Down Arrow	Champion Trucking
Cmd/Ctl-Up Arrow	Century Equipment
Cmd/Ctl-Up Arrow	Boston Direct
Enter	Boston Direct
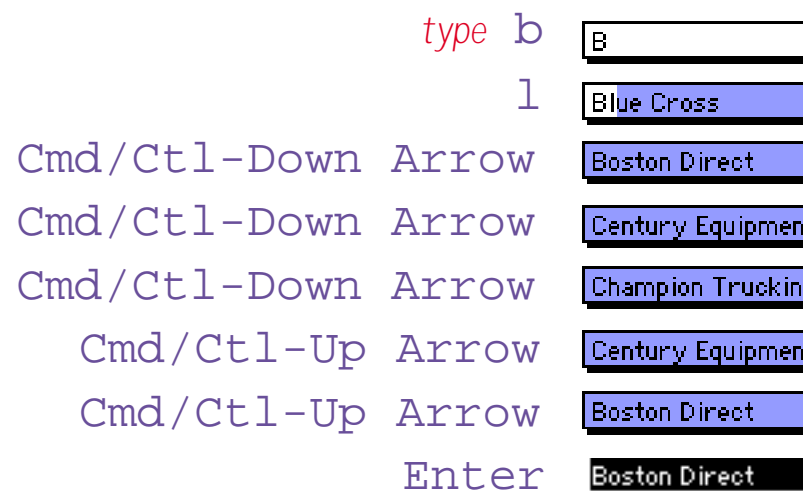
Category

The Category field places each check into one of 11 categories (Rent, Insurance, Telecom, etc.) One way to handle this field would be to use Clairvoyance® as described for the Pay To field. That way you would only have to type in the first letter or two of the category. However instead of using Clairvoyance you are going to set up a palette of radio buttons in the pop-up Input Box (see "The Choice Palette" on page 317 of the *Panorama Handbook*). This palette will have a radio button for each category. This palette is set up with the Choices option in the **Field Properties** dialog.
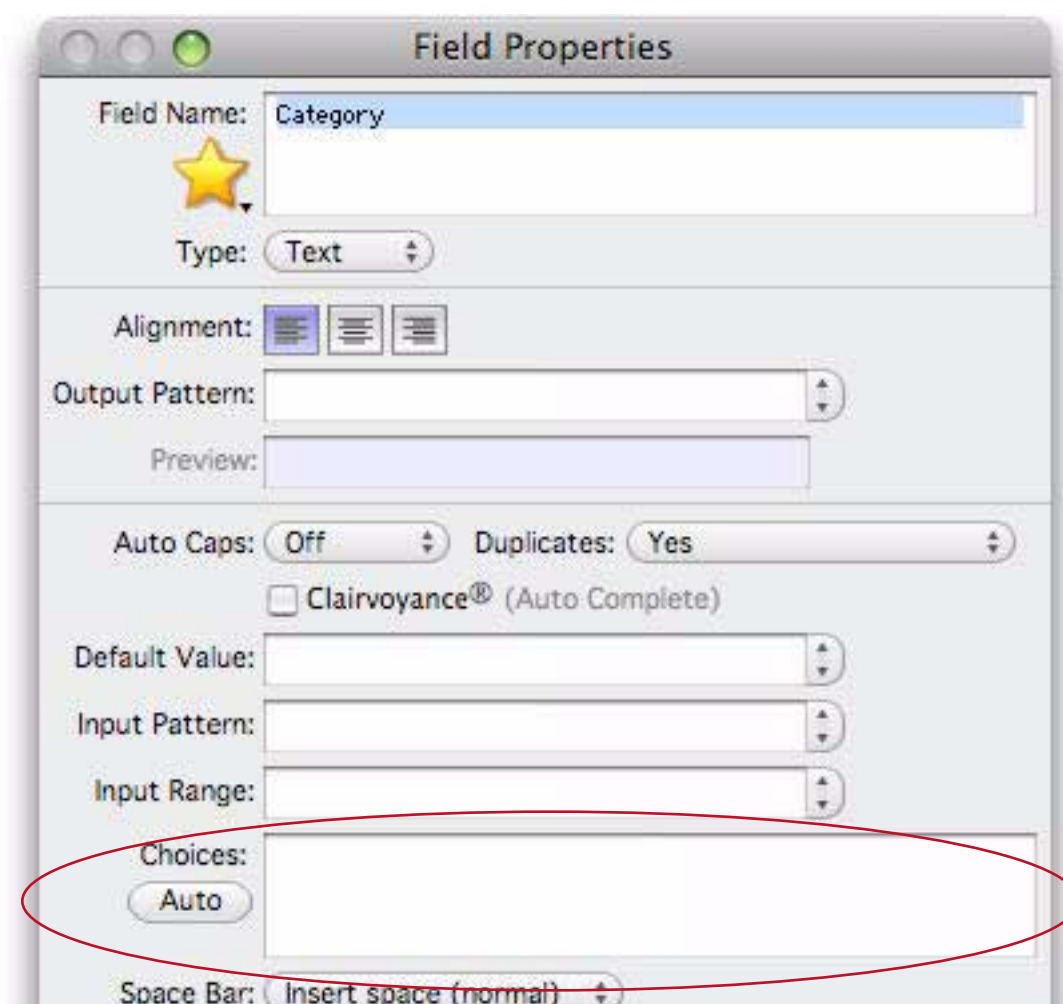
To manually set up choices simply type in each choice, separated by a space (if a choice contains a space use an underscore instead, for example New_York). However since this database already contains data, Panorama can fill in the choices for you. Simply press the **Auto** button to fill in the choices that already exist in the data.

*Click the **Auto** button…*

The choices are automatically filled in
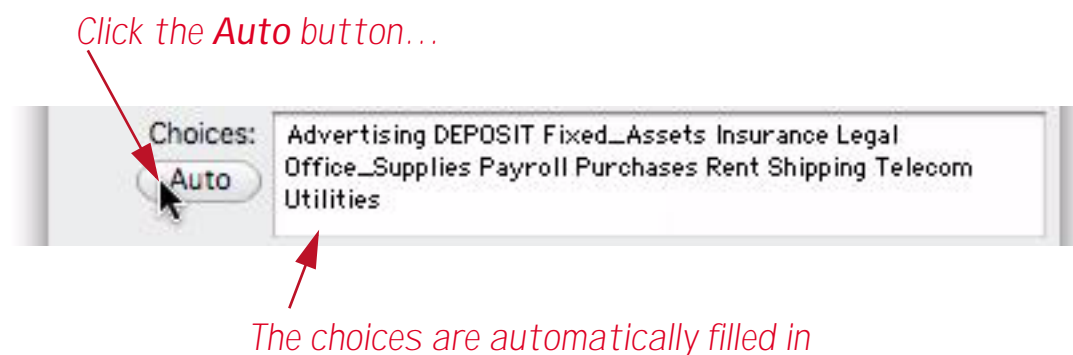
Press the **Ok** button to close the Field Properties dialog and go back to the data sheet, then double click on the empty data cell at the bottom of the **Category** column. The Input Box will appear, but it is so small you can only see the first button and part of the second.

12/25/98		DEPOSIT	DEPOSIT			5,264.90	18,949.36
12/28/98	560	Valley Publications	Advertising		963.57		17,985.80
12/28/98	561	Poly Payroll Servi	Payroll		1,749.38		16,236.42
09/26/04	562	Boston Direct	⊙ Rent ○ Le(				

516 visible/516 total
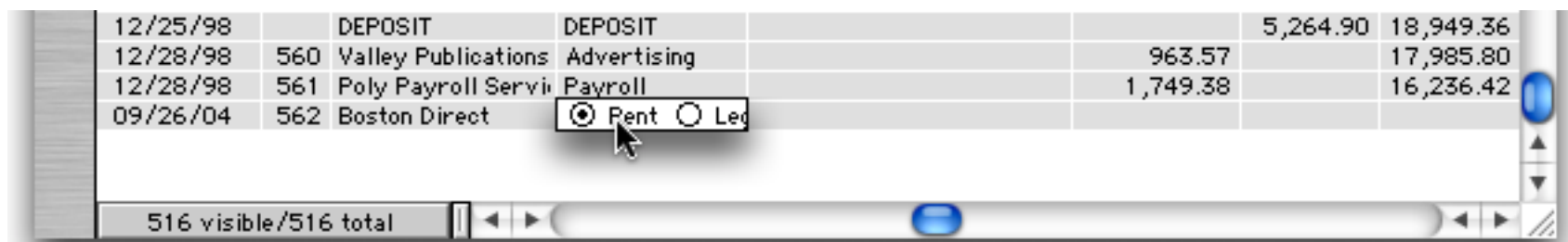
Move the mouse to the bottom right corner of the Input Box. The cursor will flip over (see "Expanding the Input Box" on page 273). Drag the mouse to expand the Input Box.

12/25/98		DEPOSIT	DEPOSIT			5,264.90	18,949.36
12/28/98	560	Valley Publications	Advertising		963.57		17,985.80
12/28/98	561	Poly Payroll Servi	Payroll		1,749.38		16,236.42
09/26/04	562	Boston Direct	⊙ Rent ○ Le(				

516 visible/516 total

The radio buttons will automatically flow into the expanded box as you change its shape.

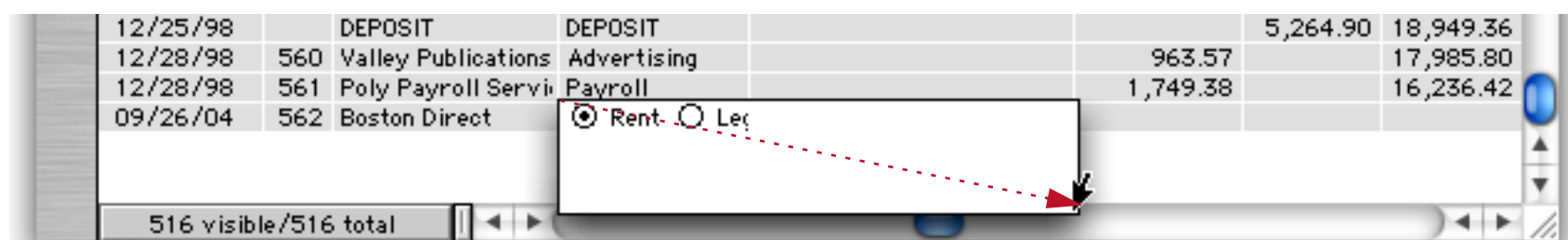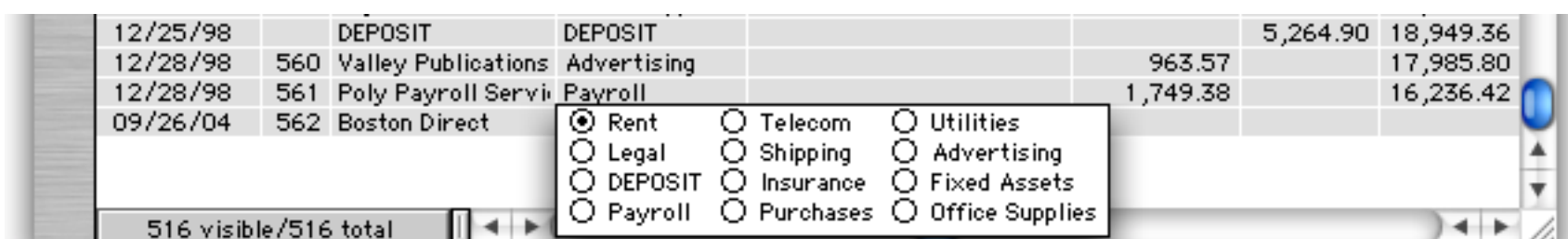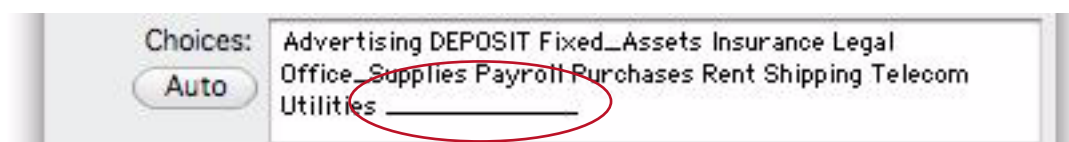| 12/25/98 | | DEPOSIT | DEPOSIT | | | 5,264.90 | 18,949.36 |
12/28/98	560	Valley Publications	Advertising		963.57		17,985.80
12/28/98	561	Poly Payroll Servi	Payroll		1,749.38		16,236.42
09/26/04	562	Boston Direct					

⊙ Rent   ○ Telecom   ○ Utilities
○ Legal   ○ Shipping   ○ Advertising
○ DEPOSIT ○ Insurance   ○ Fixed Assets
○ Payroll ○ Purchases   ○ Office Supplies

516 visible/516 total

The box can be tall and skinny, short and fat, or anything in between. To select a value just click on the button and press **Enter** or **Tab**, or simply double click on the button. You can also select a value by typing in the first few letters of the value, for example U for Utilities or Pu for Purchases.

The radio buttons are great if you want to select from one of the predefined categories, but what if you want to add a check in a new category? To allow this you'll need to go back to the Field Properties dialog and type a space and a dozen underscores at the end of the list of choices. (The underscore is just to the right of the **0** key, hold down the **Shift** key and press -).

Choices: Advertising DEPOSIT Fixed_Assets Insurance Legal
Auto   Office_Supplies Payroll Purchases Rent Shipping Telecom
          Utilities _____

Press OK to close the dialog and go back to the data sheet, then double click on the Category field.
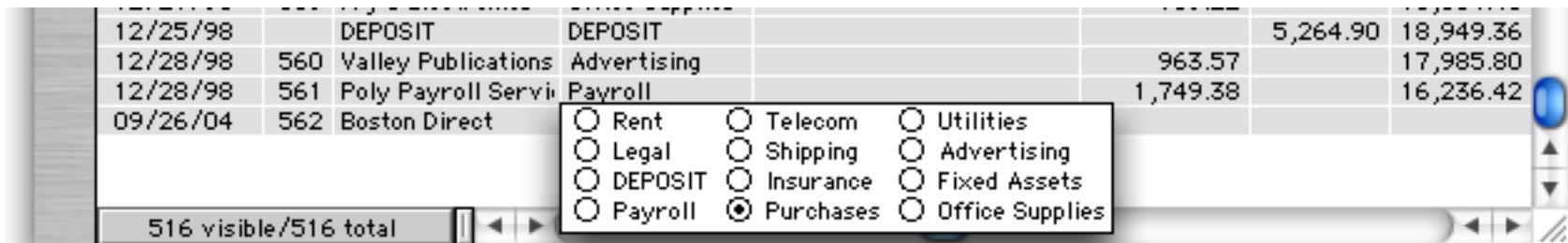
It looks just the same as before! What's up with that? To find out, expand the Input Box just a little bit more.

Now you can see that there is one additional radio button at the end of the list. To enter a new category click on this radio button and then type in the new category, in this case Auto.

Press the **Enter** key when the entry is completed.
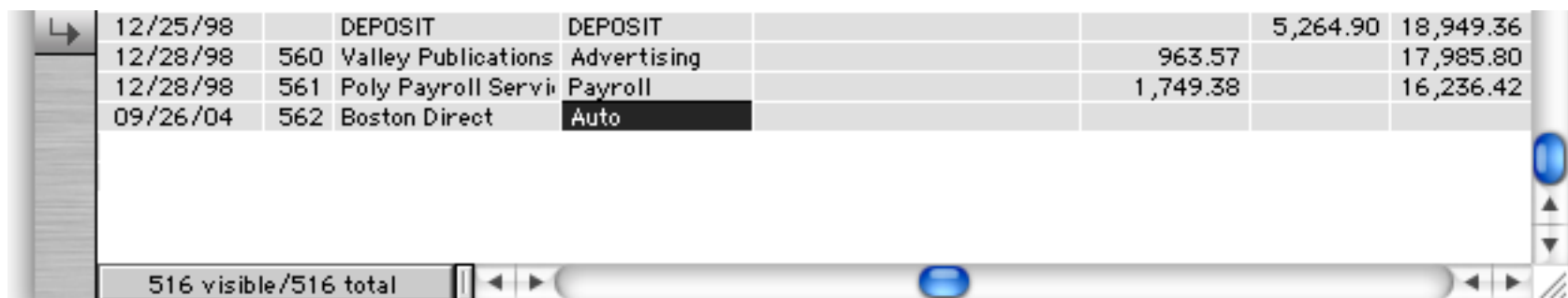
To learn more about this feature see "The Choice Palette" on page 317 of the *Panorama Handbook*. Before going on to the next step I recommend that you **Save** the database one more time.

**Looking Up the Category From a Previous Record**

In this database a particular Pay To will almost always go with a particular category. For example the category for checks to Blue Cross will always be Insurance, while the category for Staples will always be Office Supplies. Panorama can be set up to use a formula to automatically look up the category from the previous record, if any. To do this you'll use the **Field Properties** dialog again. Click on the Category field, then open the **Field Properties** dialog, then choose **Assistant** from the Formula menu.
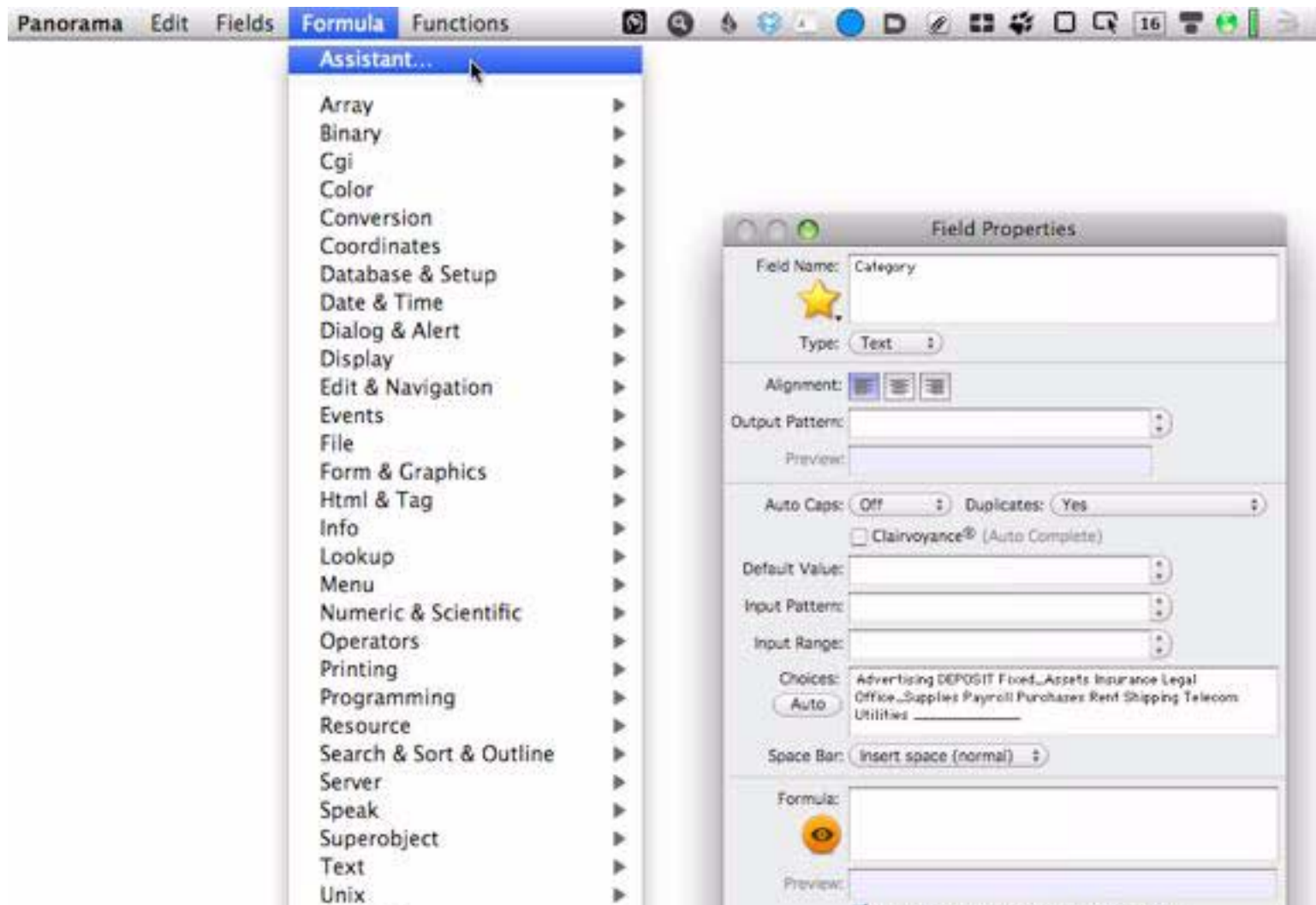


This assistant lists thousands of items. To find the one needed, type lookuplast(into the search box, then double click on the lookuplast(line (or simply press the **Insert** button).
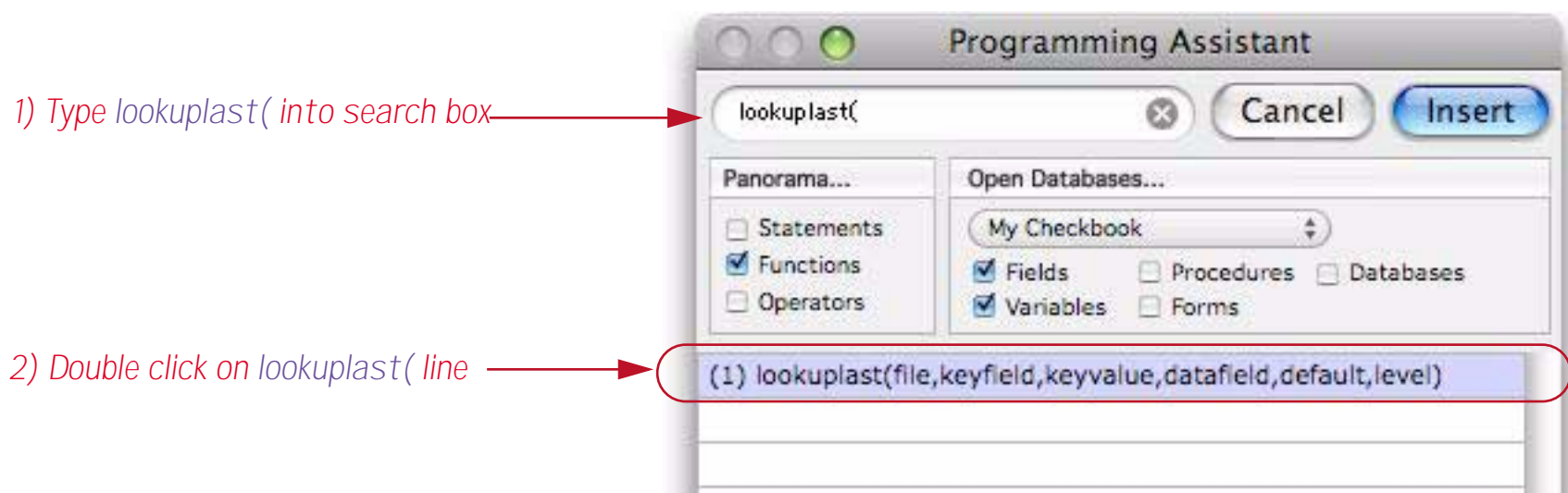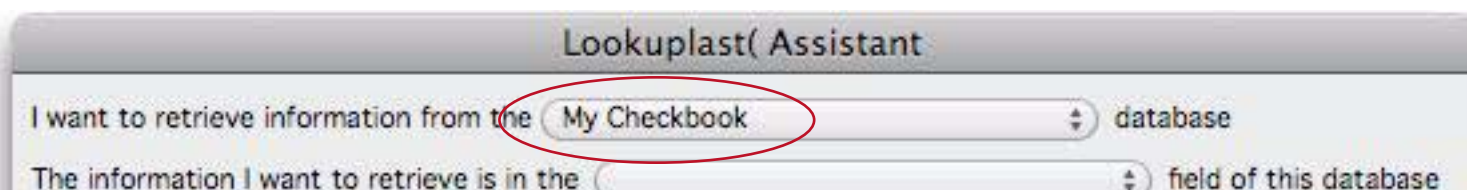
Double clicking this item (or pressing **Insert**) closes the Programming Assistant dialog and opens a dialog for setting up the `lookup(` function (see "Linking With Another Database" on page 131 of *Formulas & Programming*).
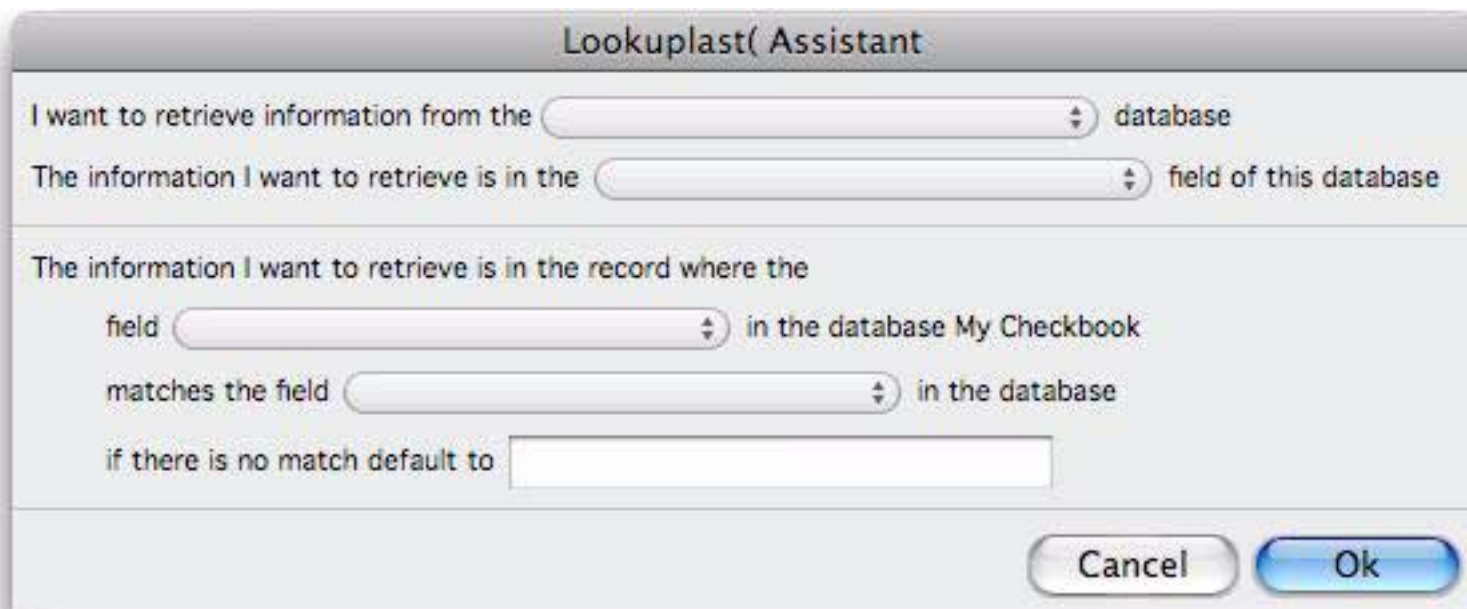
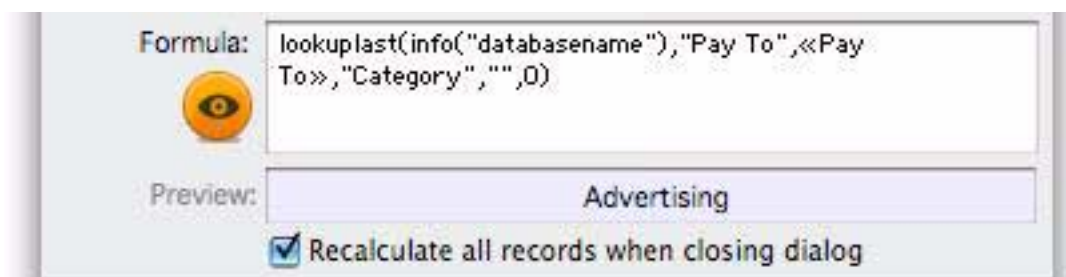Start by selecting the database you want to look up data from, in this case the current database.

Now tell Panorama what you want to look up, in this case the Category.
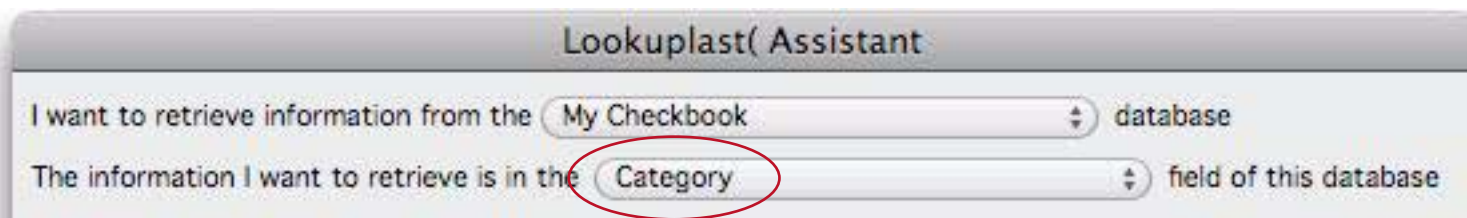
We want to look up the category in the last record in the database where the Pay To value matches the Pay To value in the current field. So select **Pay To** for both of the last two pop-ups. Here's the finished dialog with everything filled in.
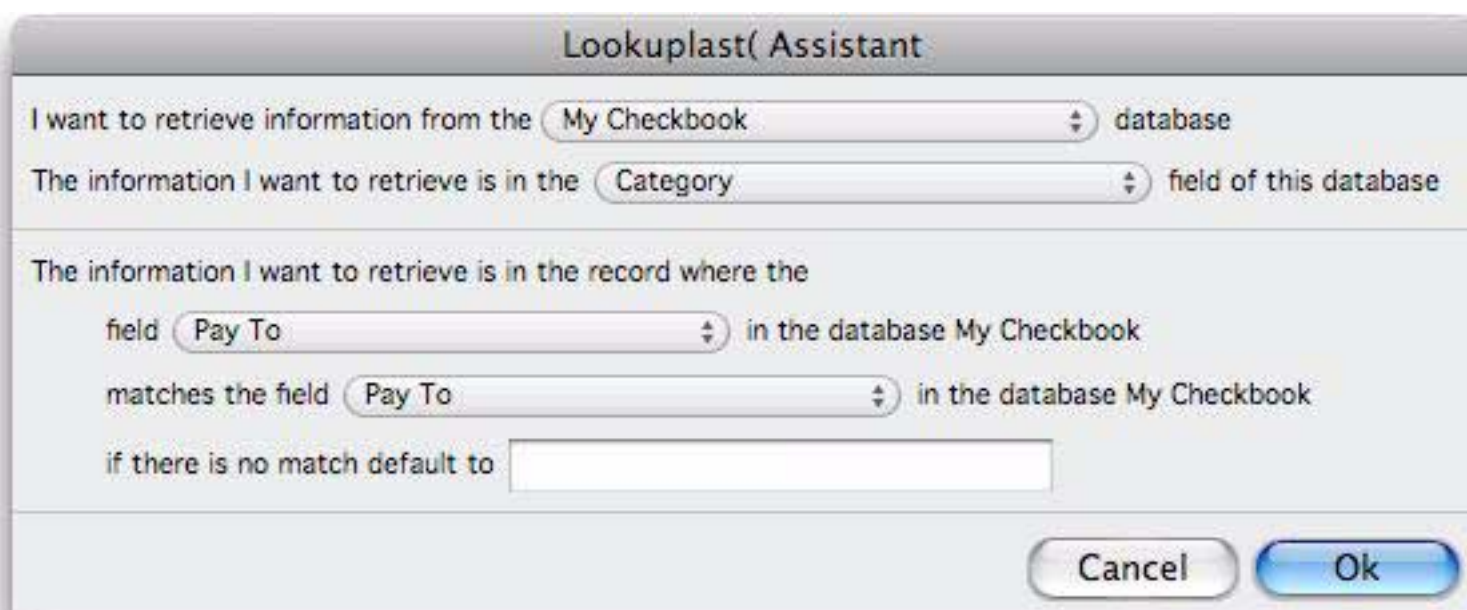
Press the **OK** button to build the formula for looking up the previous category. The formula is automatically placed into the **Field Properties** dialog, which is still open.

Formula: lookuplast(info("databasename"),"Pay To",«Pay To»,"Category","",0)

Preview: Advertising

☑ Recalculate all records when closing dialog

To learn more about how this formula works see "Linking With Another Database" on page 131 of *Formulas & Programming*. For now just press the Ok button to go back to the data sheet. Then start typing Staples into the Category field.

12/28/98	560	Valley Publications	Advertising			963.57		17,985.80
12/28/98	561	Poly Payroll Servi	Payroll			1,749.38		16,236.42
09/26/04	562	Staples						

When you press the **Enter** key Panorama will automatically look up the appropriate category, in this case Office Supplies.

12/28/98	560	Valley Publications	Advertising			963.57		17,985.80
12/28/98	561	Poly Payroll Servi	Payroll			1,749.38		16,236.42
09/26/04	562	Staples	Office Supplies					

Sometimes the check amount is the same from check to check also, for example a rent or subscription payment. You can go back to the design sheet and use the same technique to build a formula to look up the previous check amount. The formula is almost the same as before, but this time it looks up the Debit field and has a default value of **0** instead of **""** (see "Linking With Another Database" on page 131 of *Formulas & Programming*).
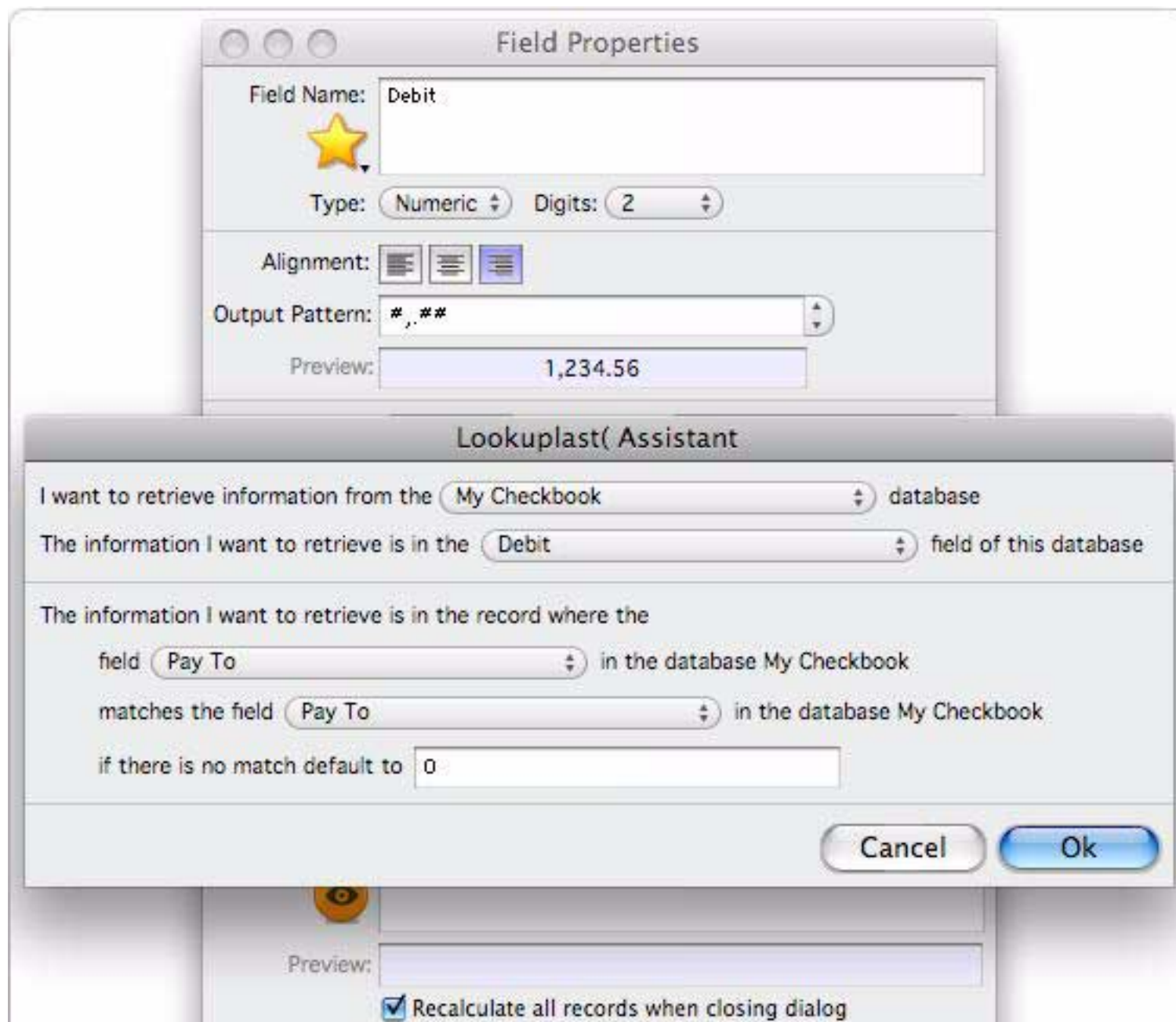
Press the **Ok** button to close the dialog and go back to the data sheet, then start typing Pacific Properties into the Category field.

When you press the **Enter** key Panorama will look up both the category and the amount from the previous check to Pacific Properties.

If this isn't the correct amount you can simply tab over to the Debit field and type in the actual amount. If you haven't done so already, **Save** the database again now.

Calculating the Checkbook Balance

Calculating the running checkbook balance is a two step process. Since you will probably want to do this multiple times, recording a procedure is a good idea. Start by turning the recorder on (see "Creating a Procedure with the Recorder" on page 212 of *Formulas & Programming*).

Scroll over to the Balance field and click somewhere in the field.

Now choose the **Manipulate Data in Field** command from the **Fields** menu, then use the pop-up menu to change the Start with Field from **Balance** to **Credit**.

change from Balance to Credit
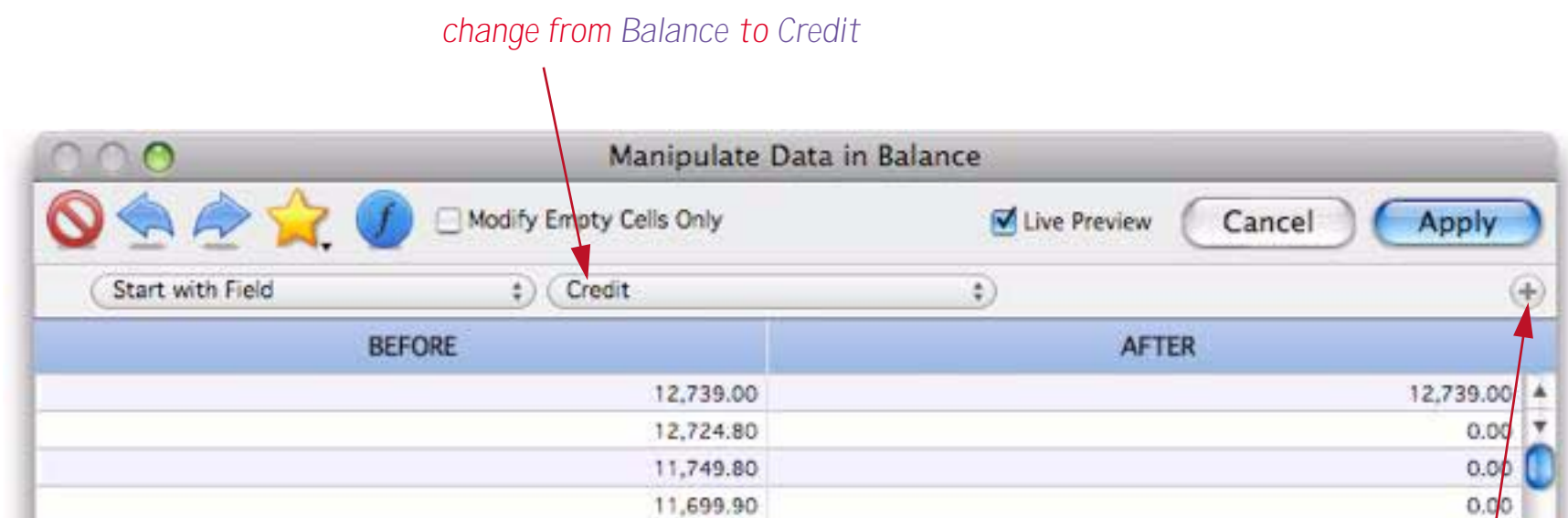
then press the + button

Next, press the + button to add another row. Then use the pop-up menus to set up the calculation as shown below.
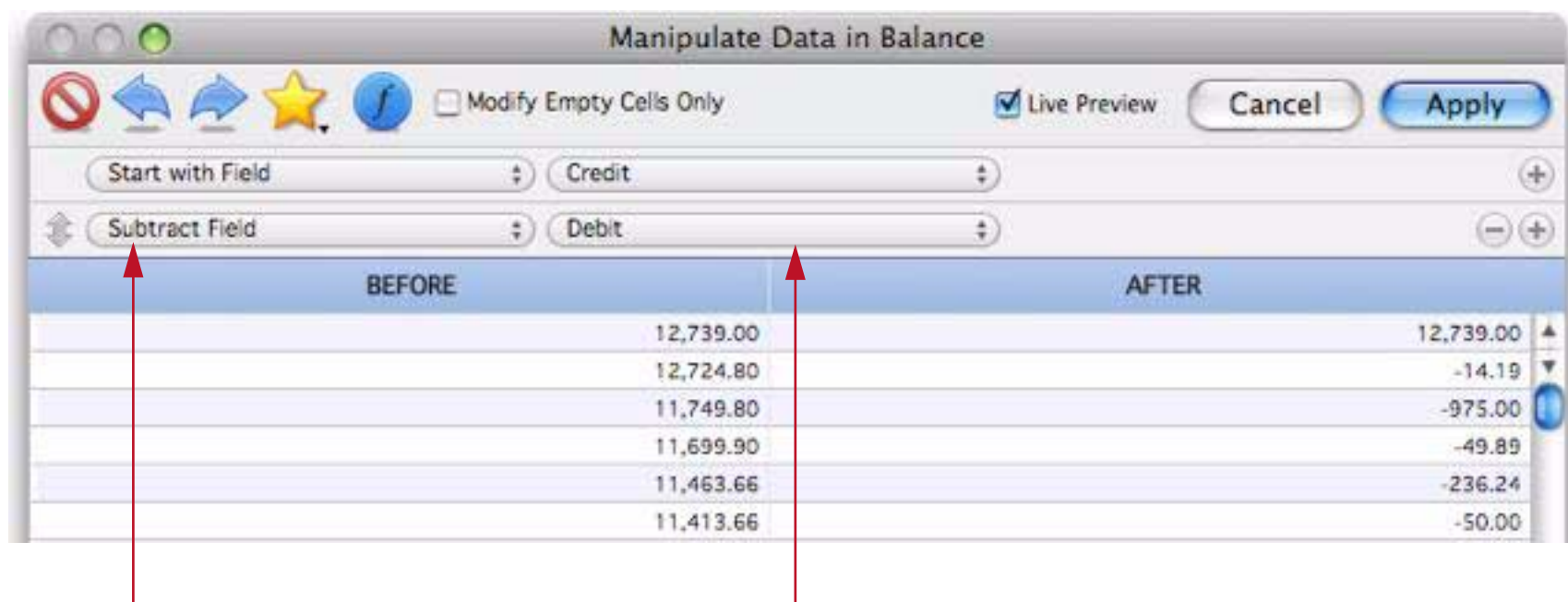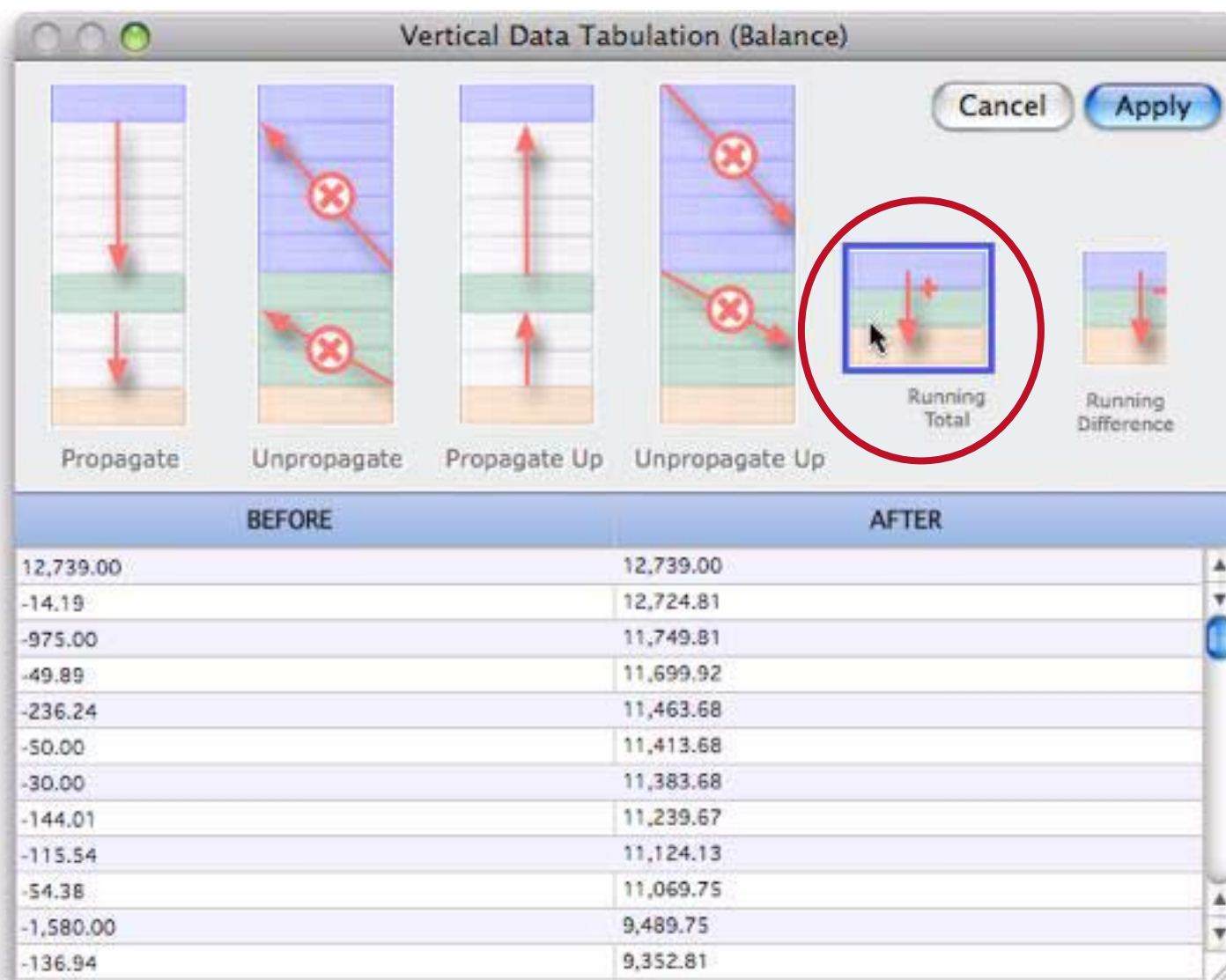

change *Add Number* to *Subtract Field*   change *Balance* to *Debit*

When you press the **Apply** button Panorama will perform this calculation over and over again for every record in the database.
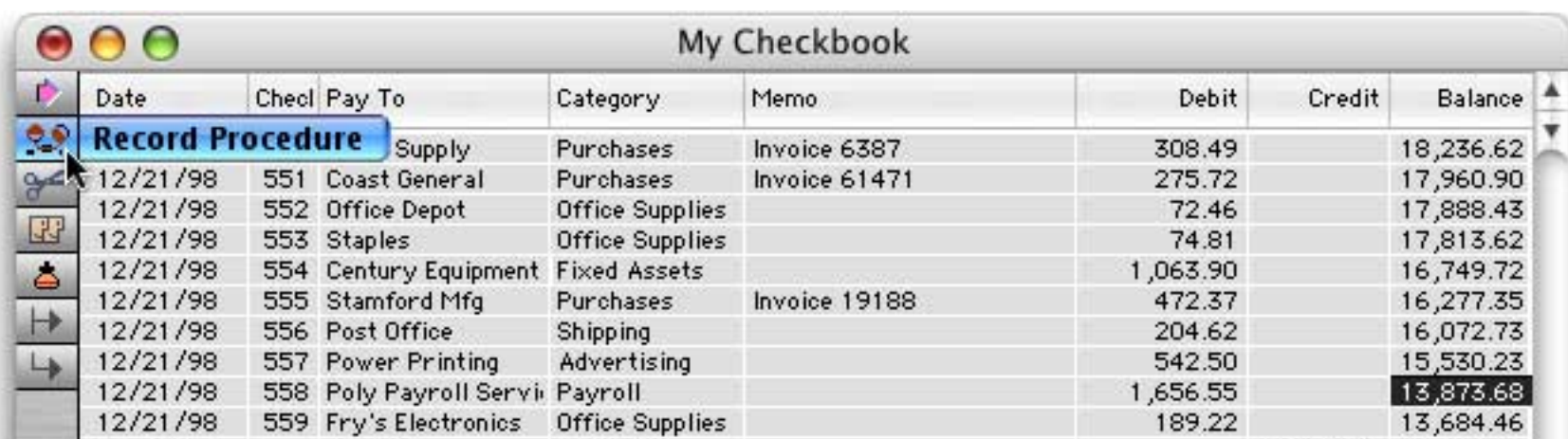
To complete the balance calculation choose the **Vertical Data Tabulation** command from the **Fields** menu. Then click on the **Running Total** option.

Then press the Apply button to calculate the balance after each check or deposit.

The balance calculation is complete, but remember that all this is being recorded? To finish the recording select the recorder tool again.

Pick a name for the new procedure and type it in, then press the **Create Procedure** button.
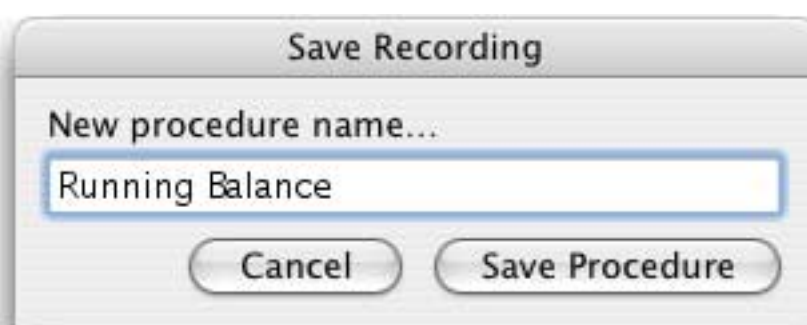
Now any time you need to update the checkbook balance you can simply select your new procedure from the **Action** menu.

If you are curious to see what the code in your new procedure looks like you can use the **View** menu to open it.
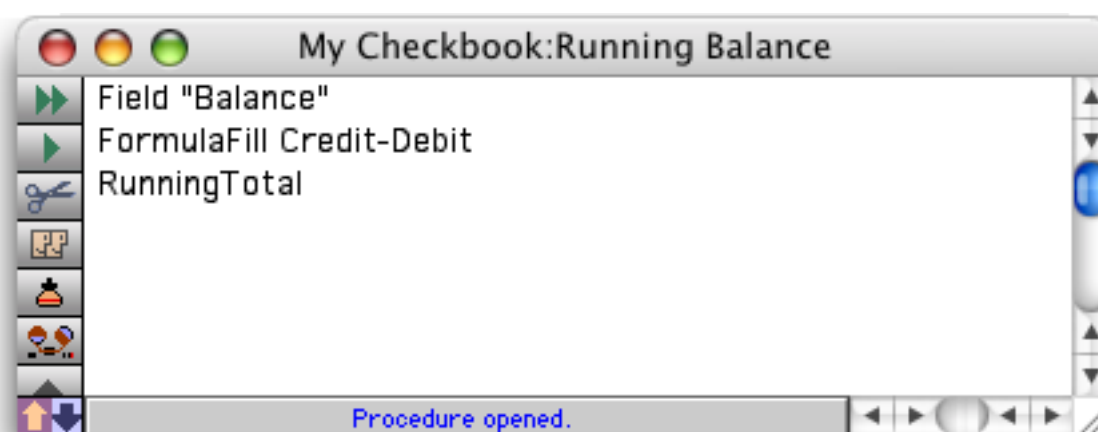
Before moving on to the next step it's a good idea to… you guessed it, **Save** the database.

Drawing a Check Form

To complete your check database you'll create a check form that can be used for data entry. If you are using a Windows PC hold down the **Alt** key, if you are using a Macintosh hold down the **Control** key. Either way, select **New Form** from the View menu (see "Creating a New Form" on page 487 of the *Panorama Handbook*). Type in the name of the new form (up to 25 characters).

Press the **Blank Form** button to create the new form, then adjust the window to the approximate size of a check.
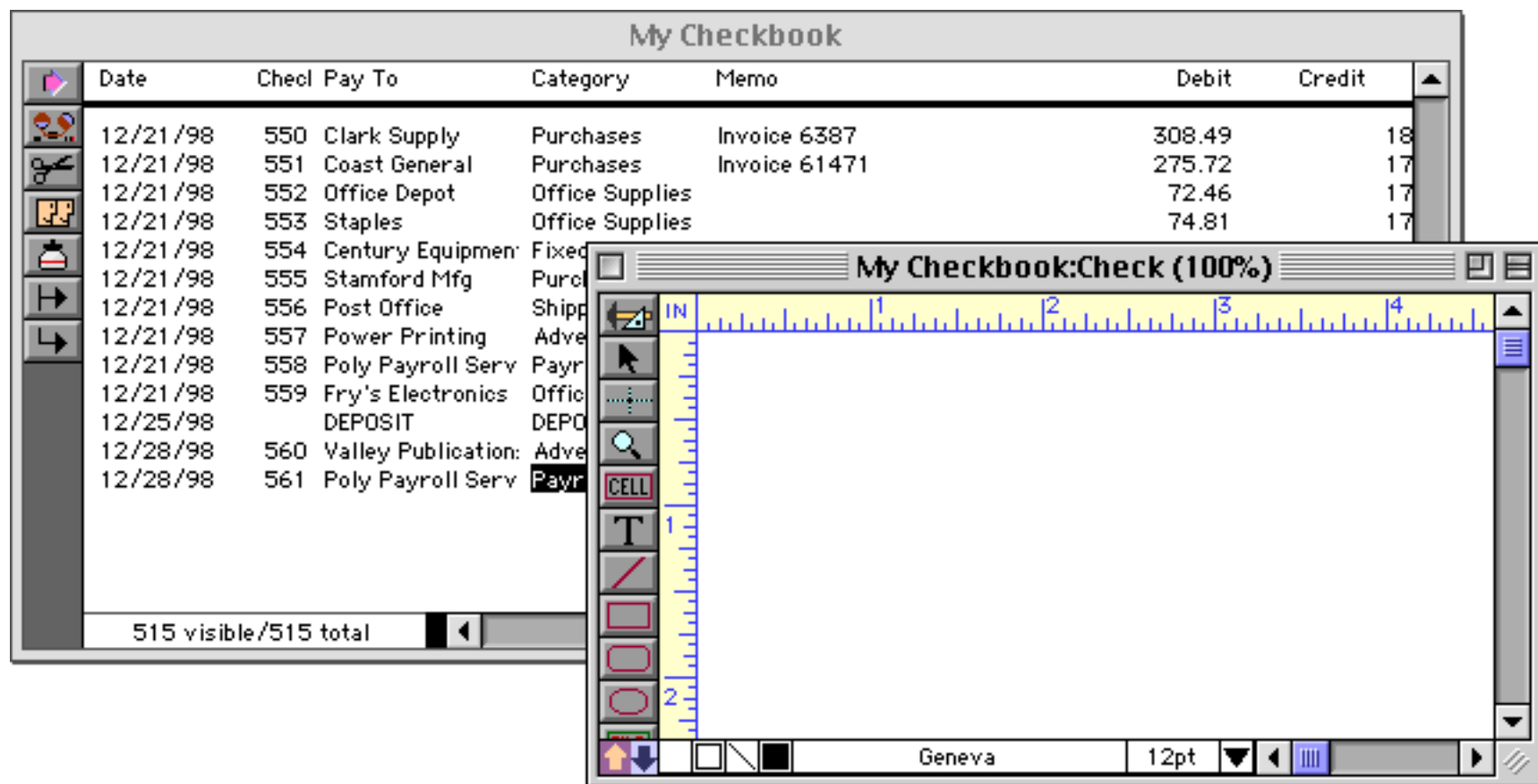
Now choose the **Form Preferences…** command from the Setup menu and use the pop-up menu to set the form's background color to light green.
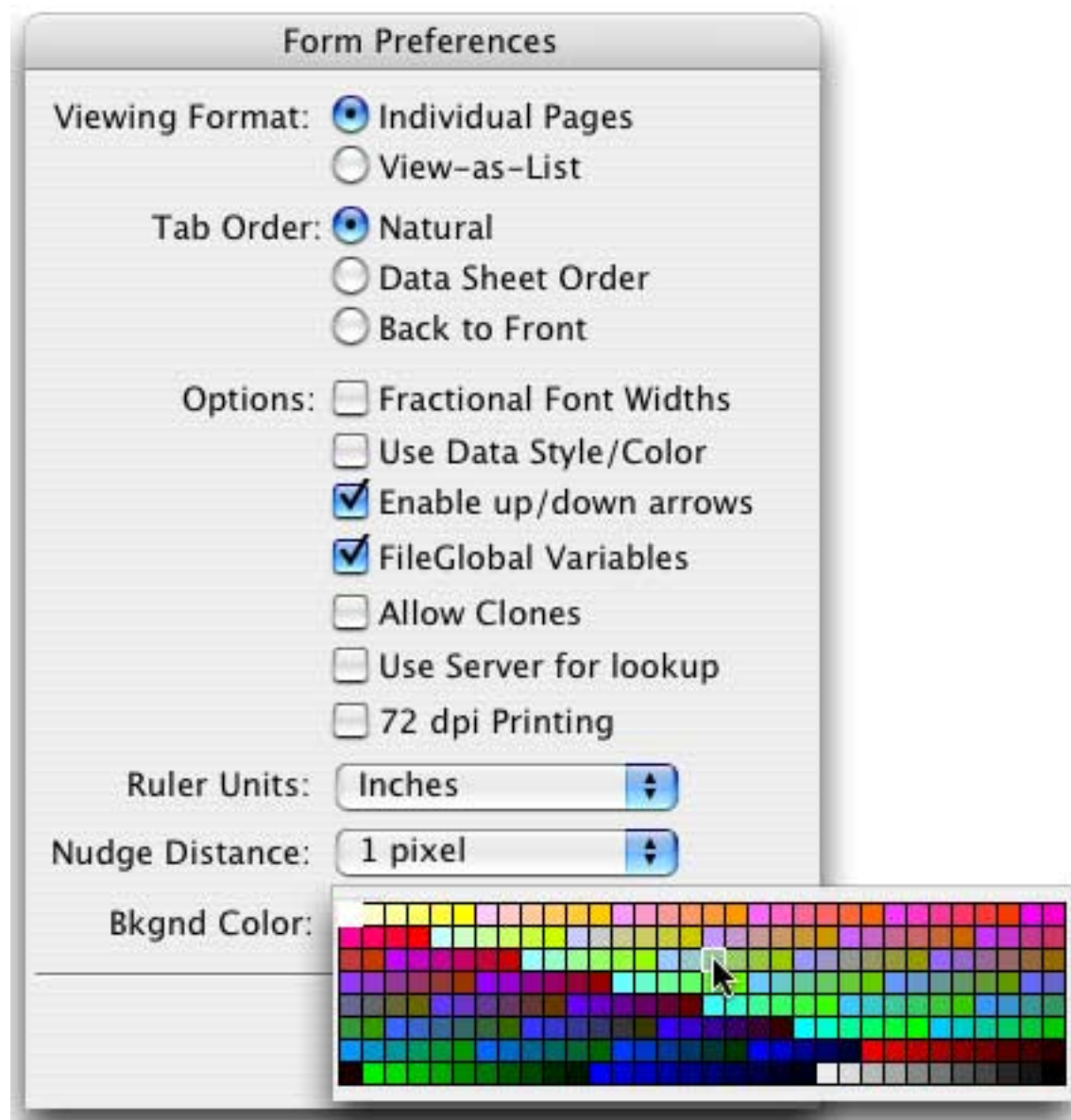
Before you actually start building the form you need to customize the graphic tool palette. Use the **Tool Palette** command in the Setup menu to open the tool configuration dialog.
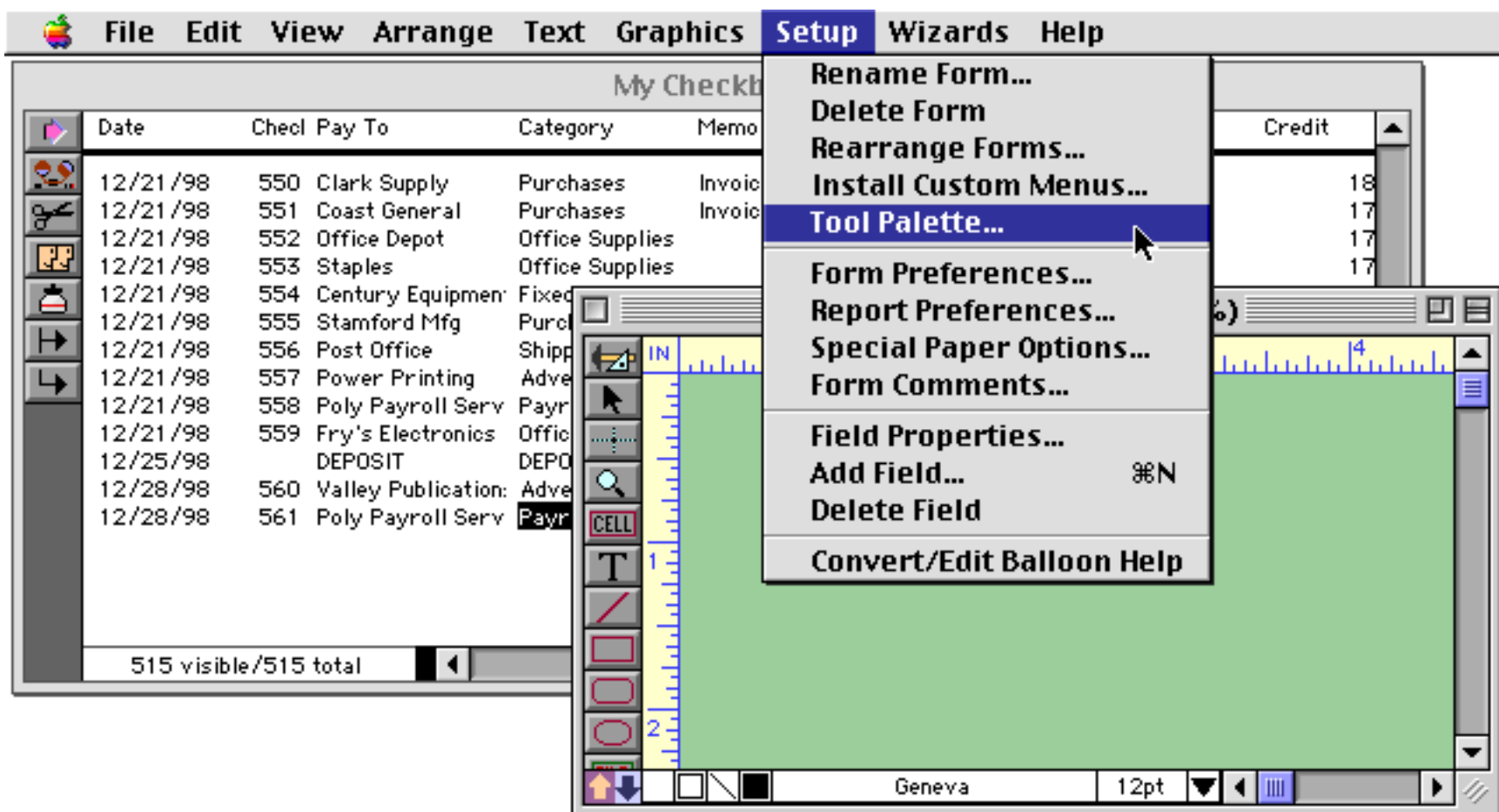
There are a total of 29 graphic tools available for use in Panorama (shown in the list below on the left). Many computer screens are not large enough to handle this complete palette of tools (and we expect the number of tools to increase in future versions). To get around this problem, Panorama allows you to customize the graphic tool palette on the fly (see "Customizing the Tool Palette" on page 497 of the *Panorama Handbook*). You can configure the palette to contain only the tools that you need right now in any order you want. If your needs change later, you can simply reconfigure the palette at any time.
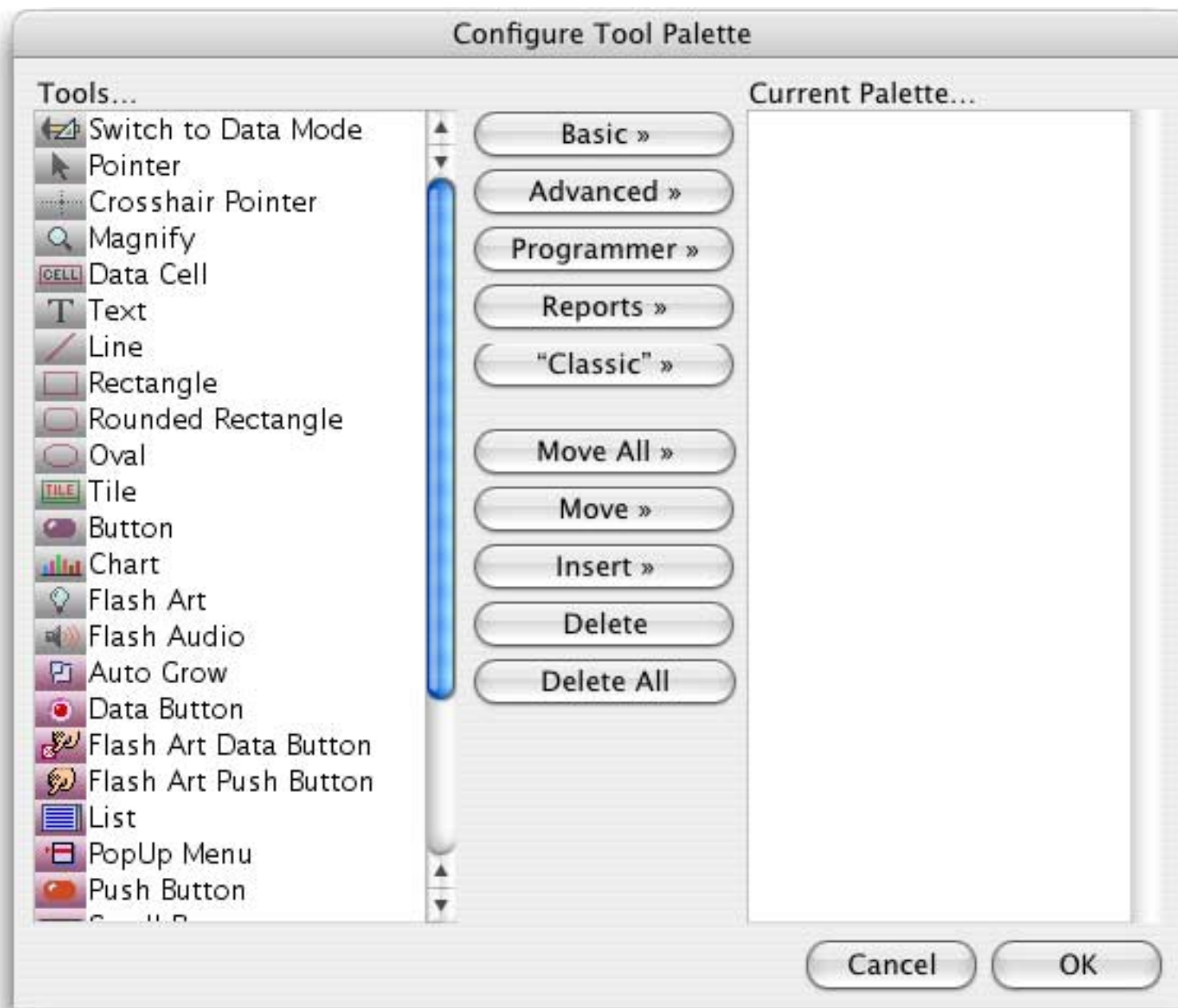
On the right is a list of the tools you currently have installed. If this list is empty, Panorama will use the default tool palette. To move a tool from the left to the right, double click on the tool in the left. Or you can select the tool (or tools) and press the **Move** or **Insert** button. Move the nine tools shown below into the list on the right.
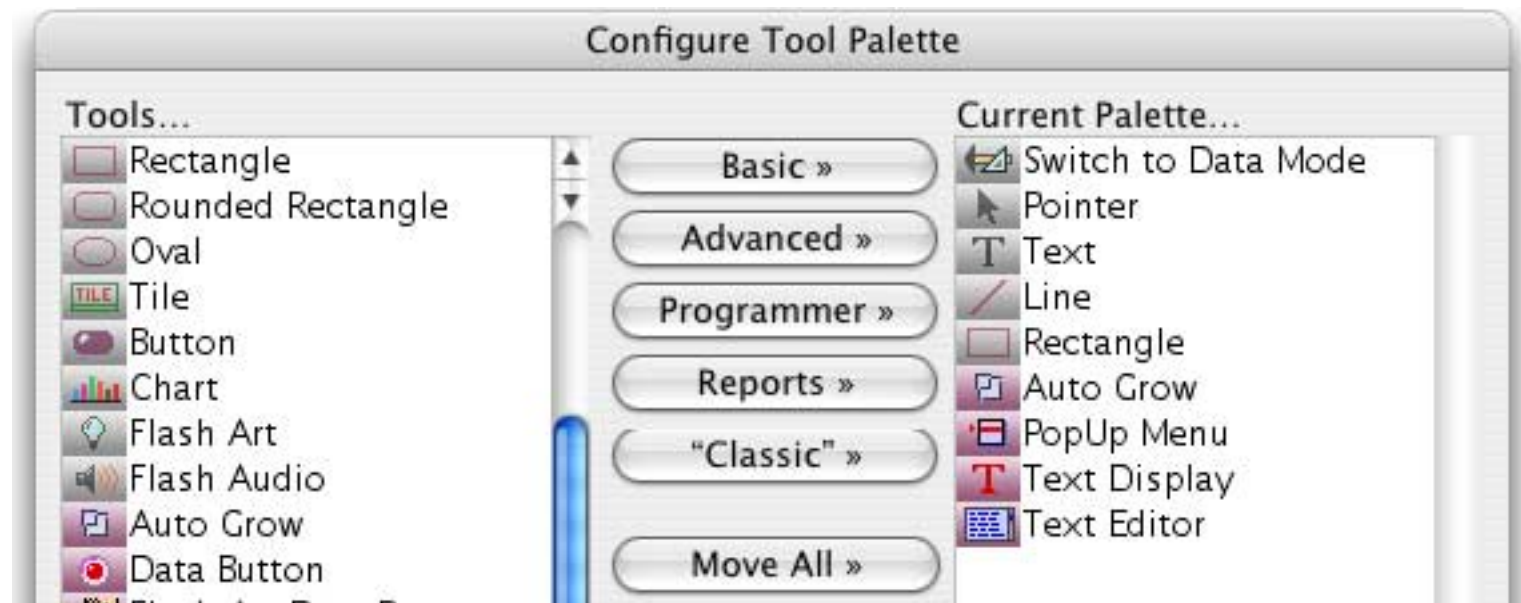
When you press the **OK** button the tool palette in the form will be updated.
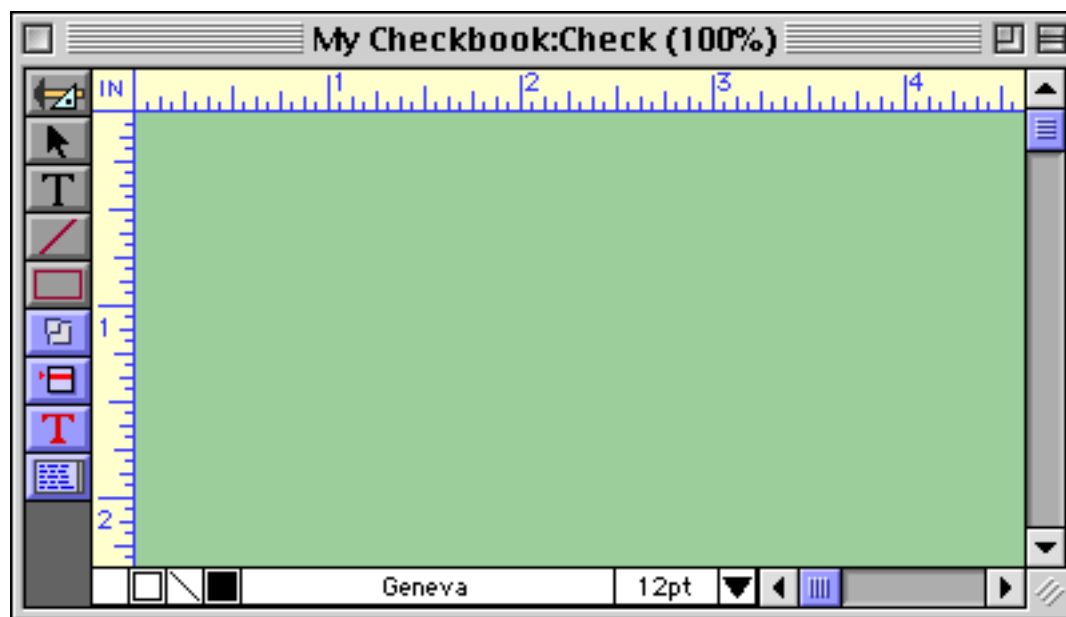
Creating the Text Editor SuperObjects

Using the **Text** menu or the Graphic Control Strip set the text size to 9 points (see "Text Font, Size and Style" on page 593 of the *Panorama Handbook*).
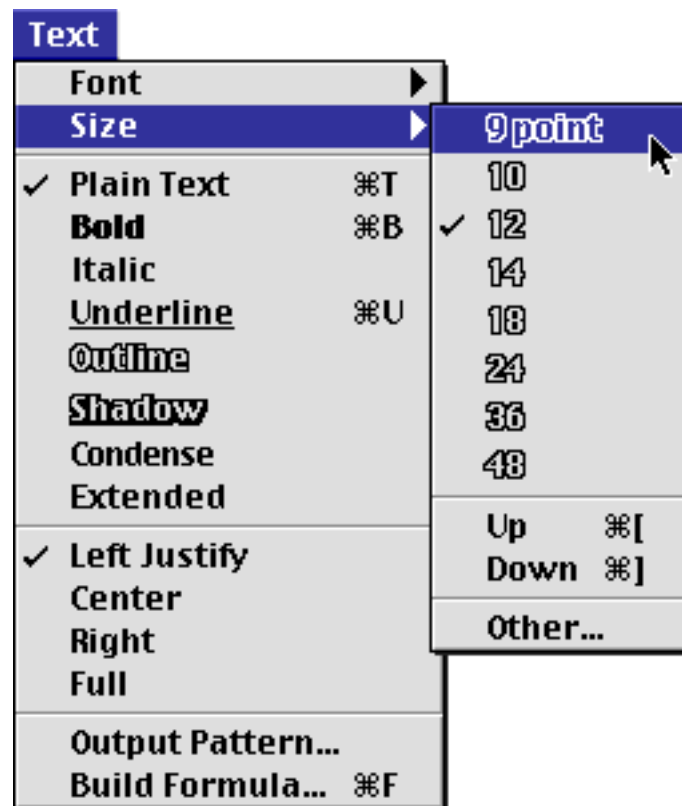
With the **Pointer** tool selected, click the mouse in approximately the location shown below.
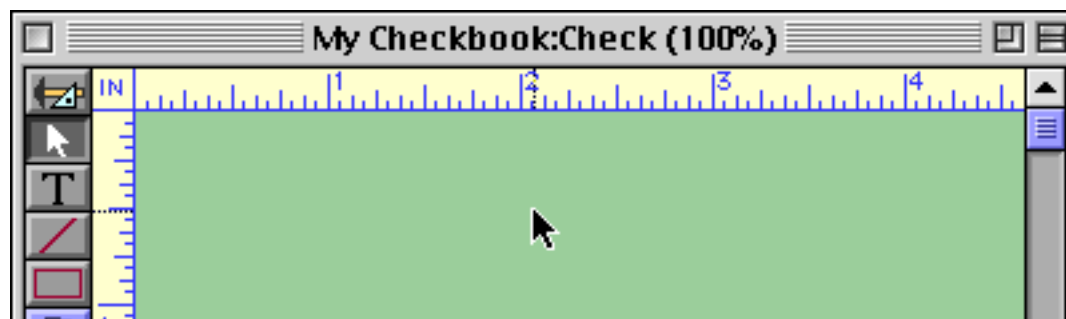
Now select the **Auto Cell Layout** command from the Arrange menu (see "Automatically Creating Rows or Columns of Data Cells or Text Editor SuperObjects" on page 662 of the *Panorama Handbook*). You used this command in your My Mailing List database to create data cells, now you'll use it to create **Text Editor Super-Objects** (see "Types of Data Editing Objects" on page 632 of the *Panorama Handbook*).
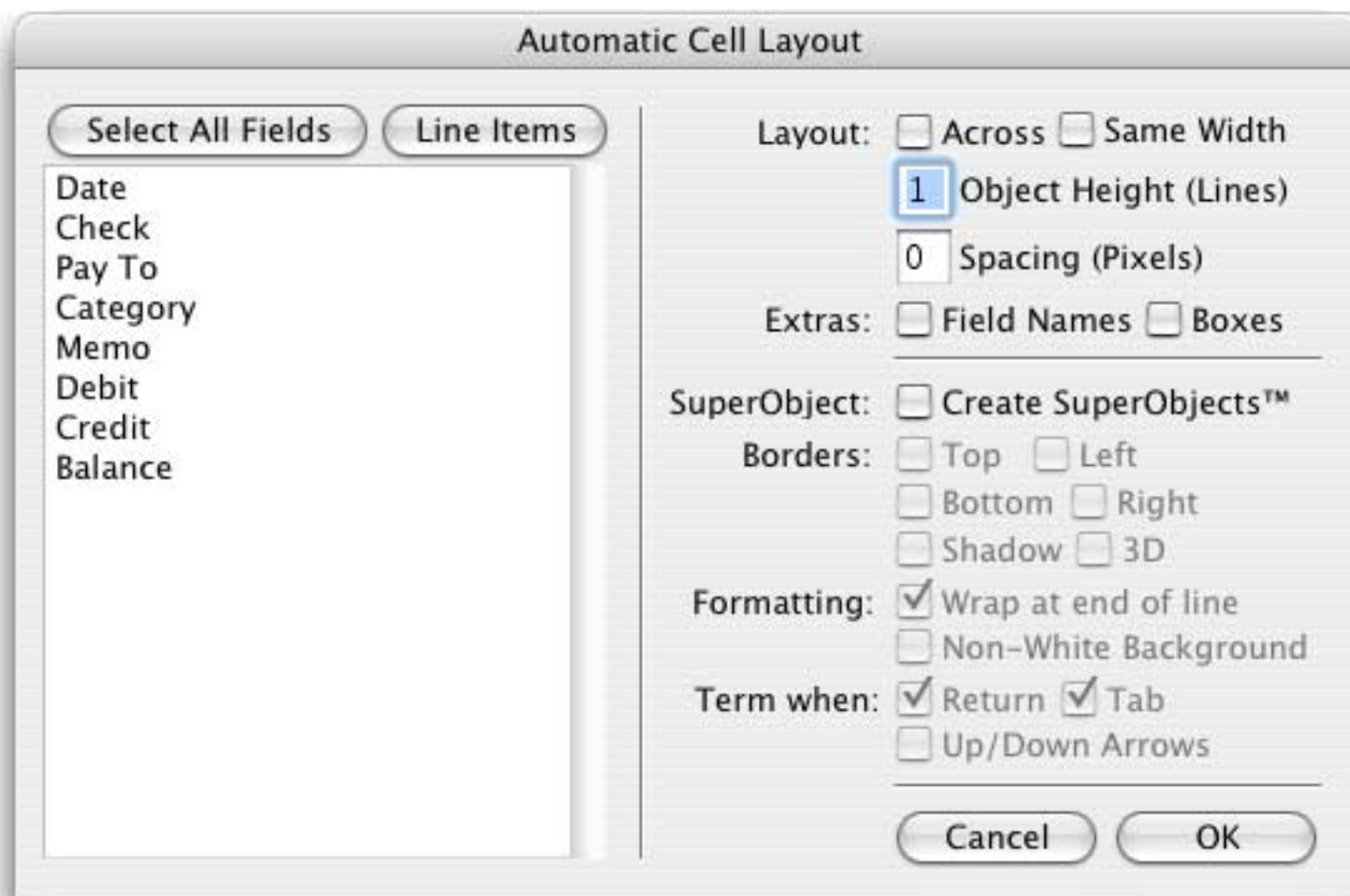
Start by holding down the **Shift** key and clicking on each of the first six fields.
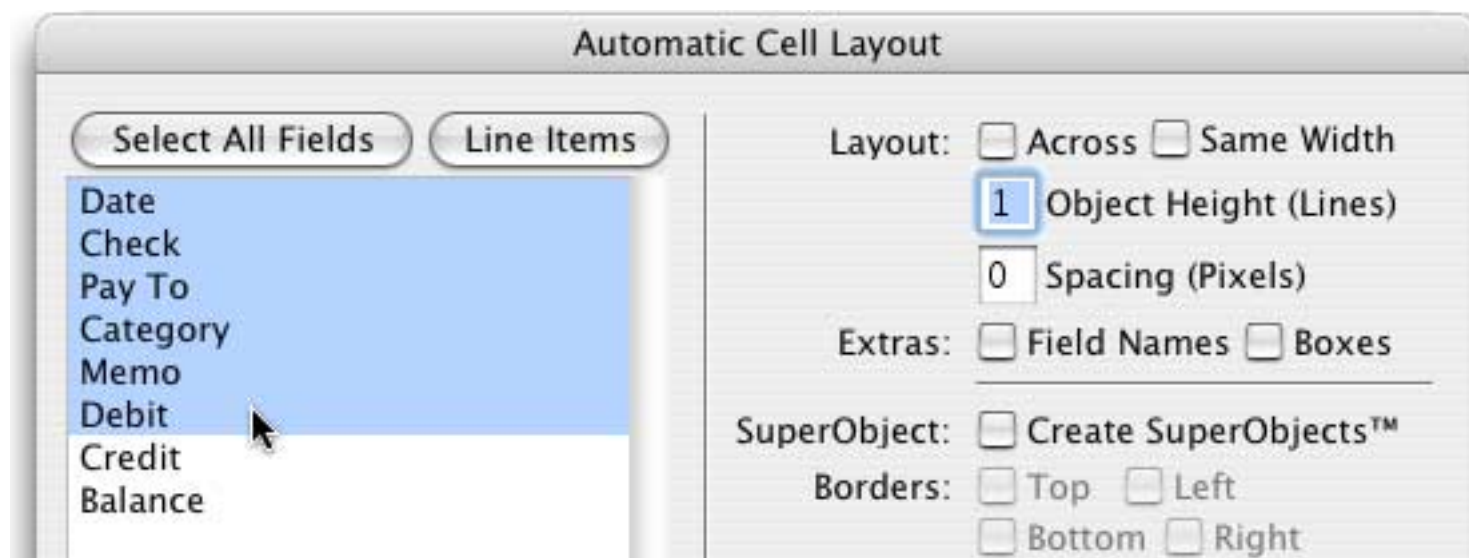
Next click on the Create SuperObjects™ and 3D checkboxes.
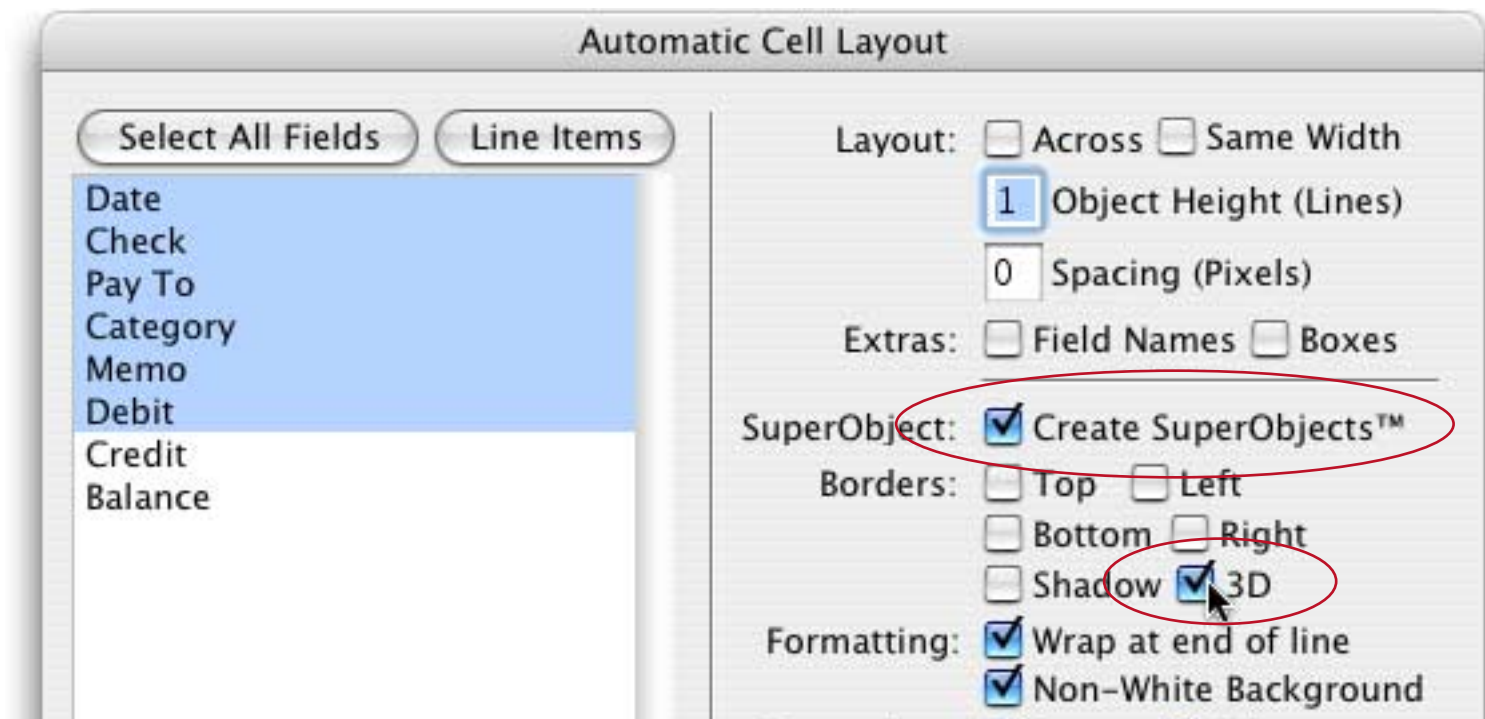
Press the **OK** button to create the Text Editor SuperObjects.
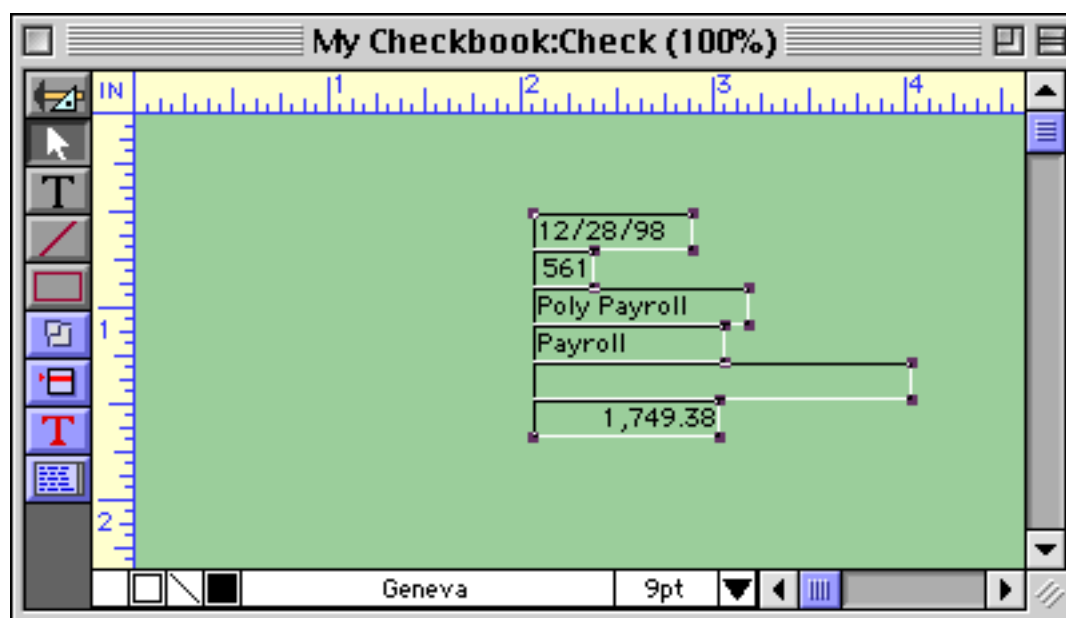
Text Editor SuperObjects may be used as an alternative to data cells for editing text within a form. You can already see one difference between these two types of objects — the Text Editor SuperObject displays data even in **Graphic Design Mode**, not the field name. To see the major difference between these two types of objects switch the form to **Data Access Mode** (see "Form Modes: Data Access vs. Graphic Design" on page 485 of the *Panorama Handbook*).
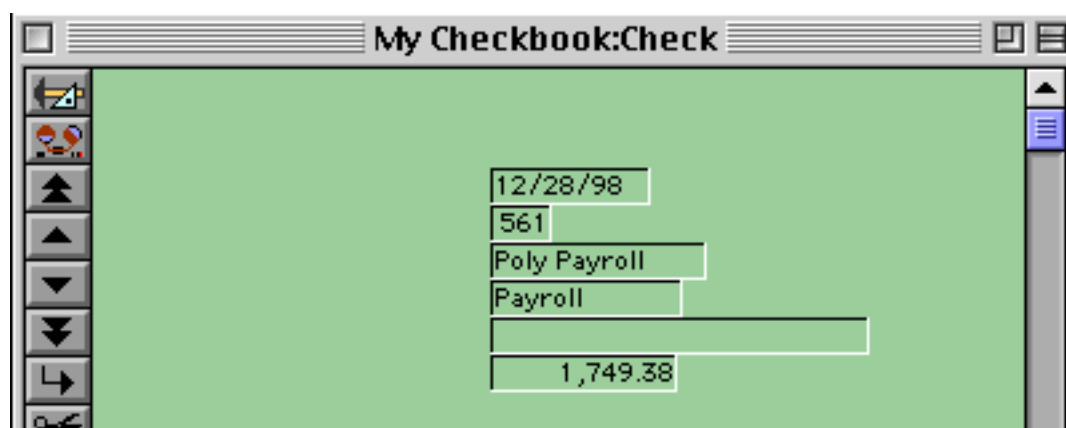
Text Editor SuperObjects allow you to edit text right in the form window—no double click is required. You can simply click or drag on the text to begin editing. Press **Enter** when you are finished. The illustration below shows the effect of double clicking on the word Poly. As you can see, instead of opening an Input Box this selects the word for editing.
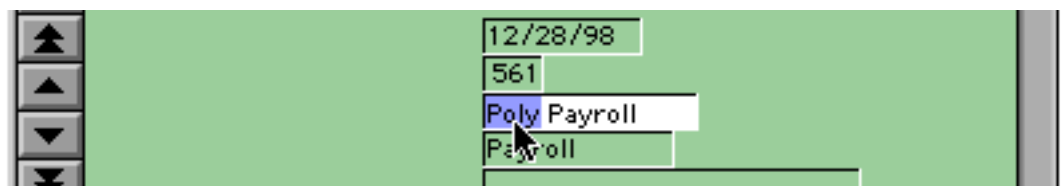
Since the Text Editor SuperObject doesn't use an Input Box, you cannot expand the size of the editing area "on-the-fly" the same way you can with data cells. The editing area must be defined in advance. On the other hand, the Text Editor SuperObject doesn't require the extra double click, and works more like other standard applications you may be used to. See "Creating and Modifying Text Editor SuperObjects" on page 639 of the *Panorama Handbook* to learn more about Text Editor SuperObjects. For now, however, switch the form back to Graphic Design Mode so that you can continue designing your new form.

Dressing Up the Check Form

Select the **Rectangle** tool and draw a rectangle next to the check date (see "Creating a Graphic Object" on page 494 of the *Panorama Handbook*).
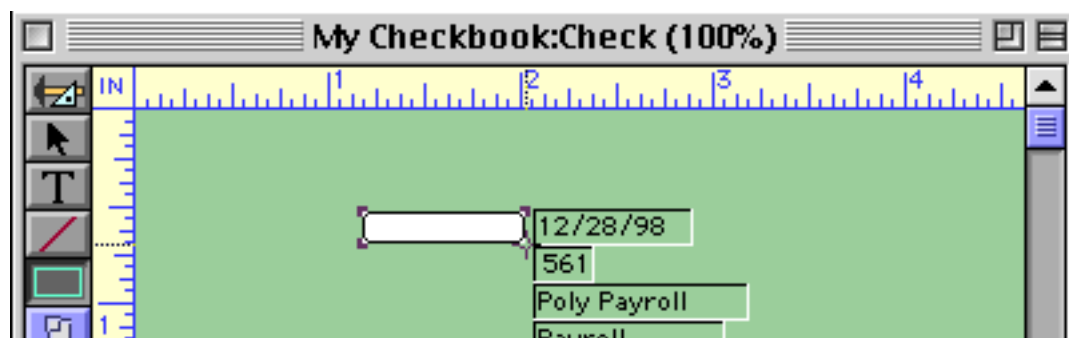
Change the **Fill Pattern** of the rectangle to solid black (see "Fill Pattern" on page 521 of the *Panorama Handbook*).
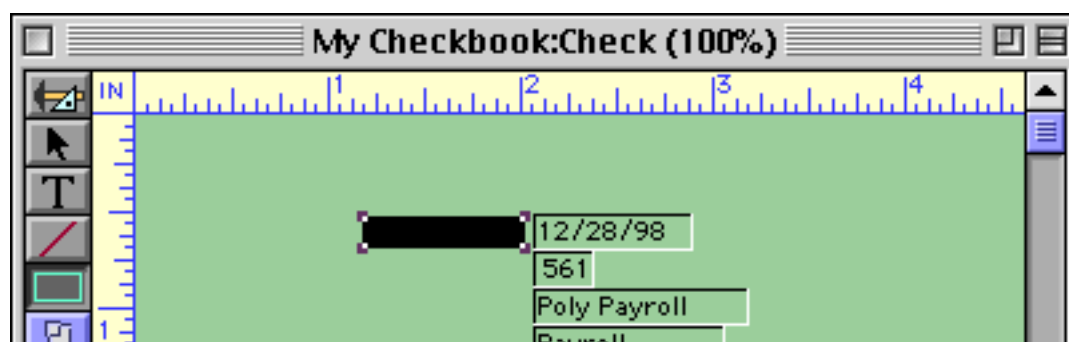
Select the **Text** tool and create a click-text object that says Date. (see "Fixed Text Objects" on page 587 of the *Panorama Handbook*).
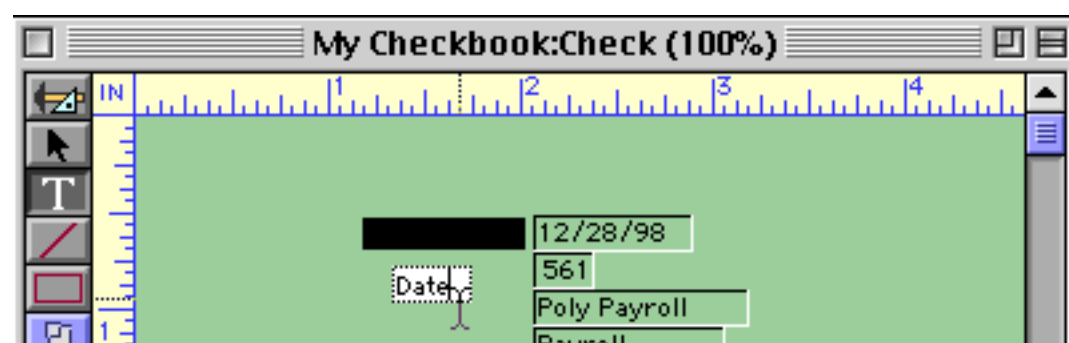
Select the **Pointer** tool and then click on the new text object.
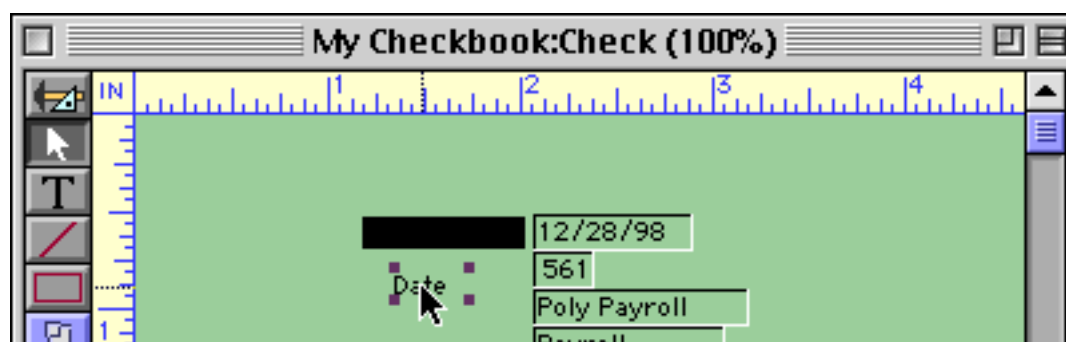
Use the **Graphic Control Strip** to set the text color to light yellow (see "Color" on page 526 of the *Panorama Handbook*).
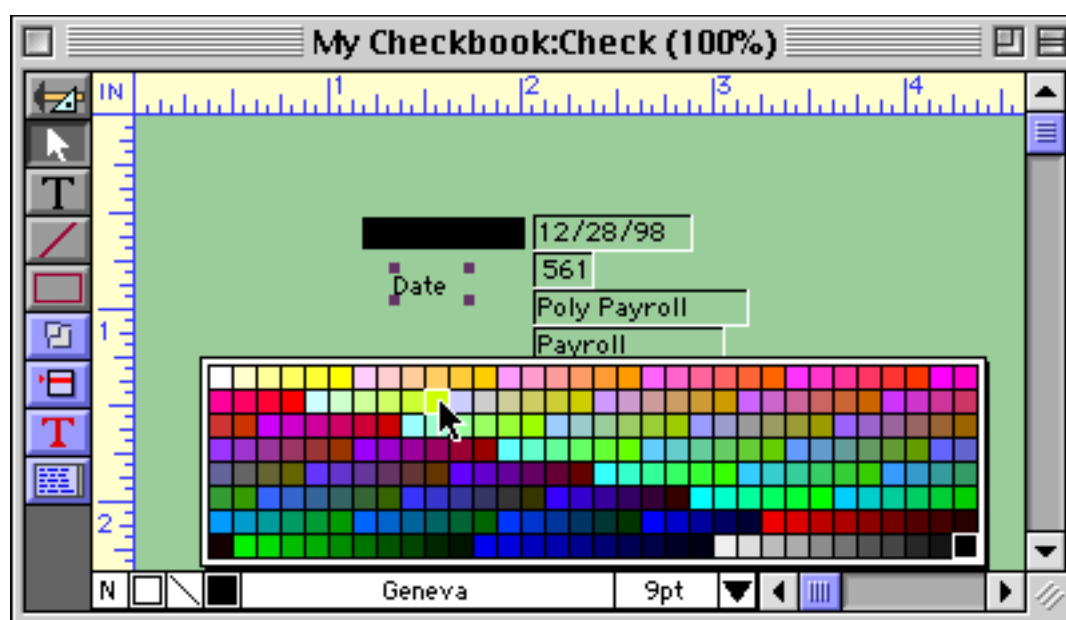
Drag the text over the black box.
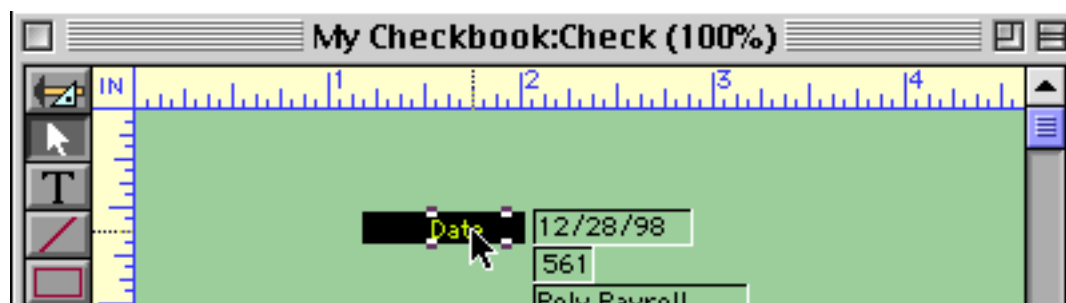
Adjust the black box and the text until they line up with the Text Editor SuperObject as shown below. To adjust these objects you can drag them (see "Moving a Single Object" on page 508 and "Changing the Size of a Single Object" on page 513 of the *Panorama Handbook*) and nudge them with the arrow keys (see "Nudging an Object (or Objects)" on page 509 and "Nudging the Size of an Object" on page 513 of the *Panorama Handbook*).
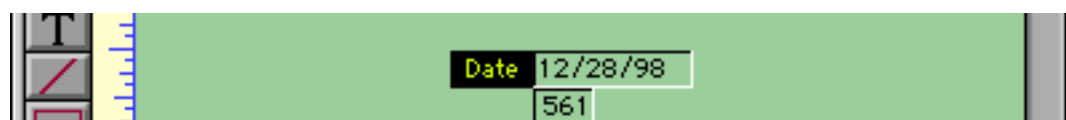
Drag a marquee around these objects to select them (see "Selecting Multiple Objects at Once" on page 502 of the *Panorama Handbook*).
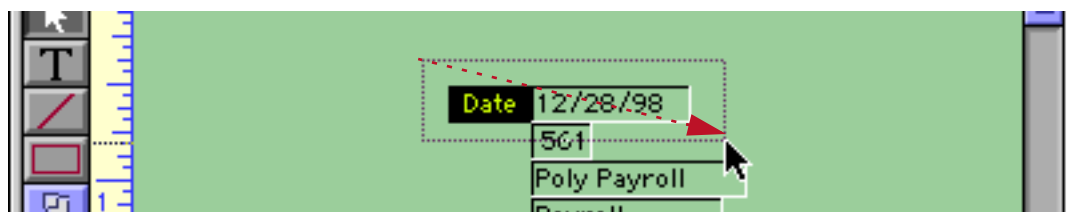
Then drag the objects into the upper left hand corner of the form.
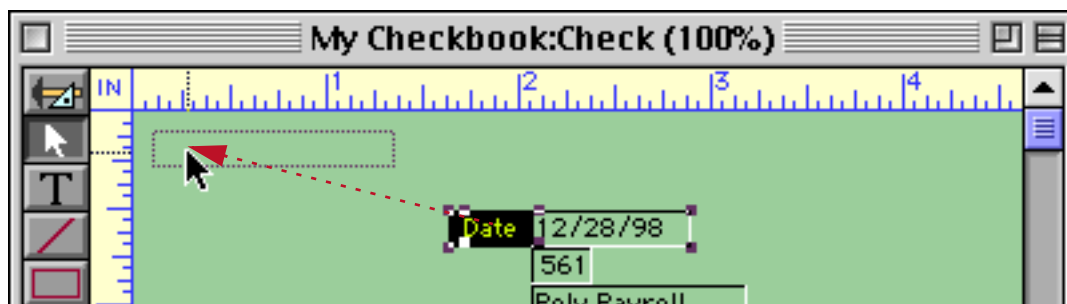
Now drag a marquee just around the box and text objects.
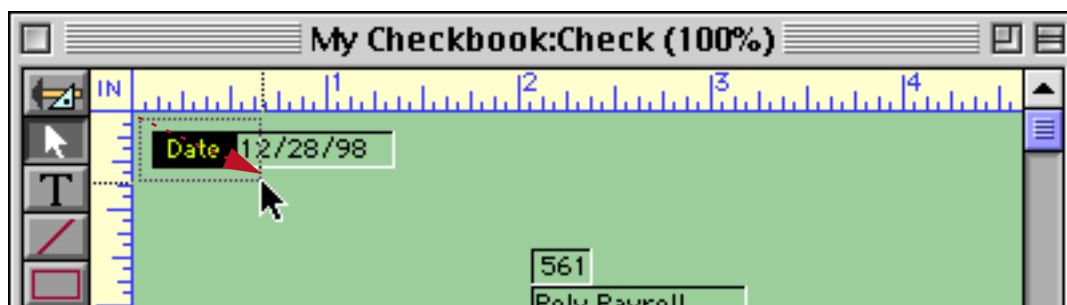
Hold down the **Shift** and **Option** keys on the Mac, or **Shift** and **Alt** keys on the PC. With these two keys held down drag the two objects to the right.
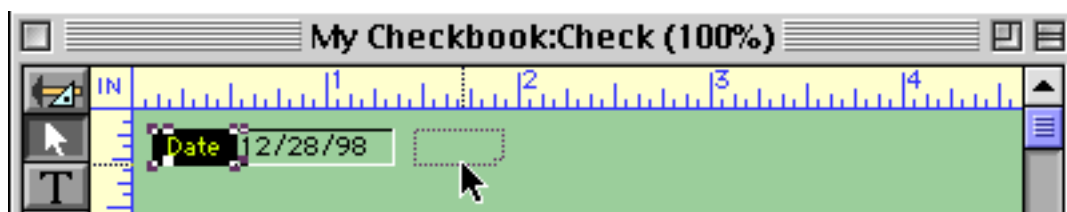
Holding down the **Shift** key insures that you drag the objects at 90 degrees, either perfectly up and down or perfectly left and right (as in this case). Holding down the **Option/Alt** key tells Panorama to duplicate the objects. When you release the mouse you'll have two copies of these objects.
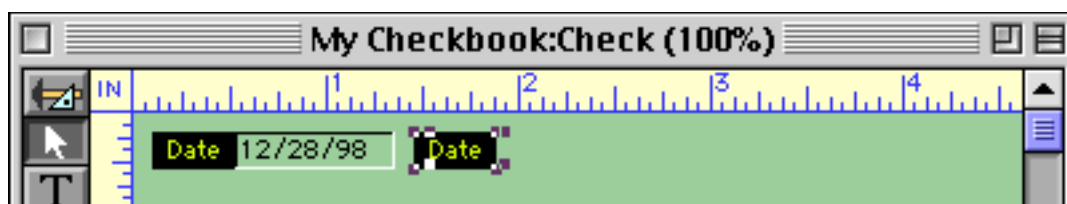
Select the **Text** tool and click on the new text object.
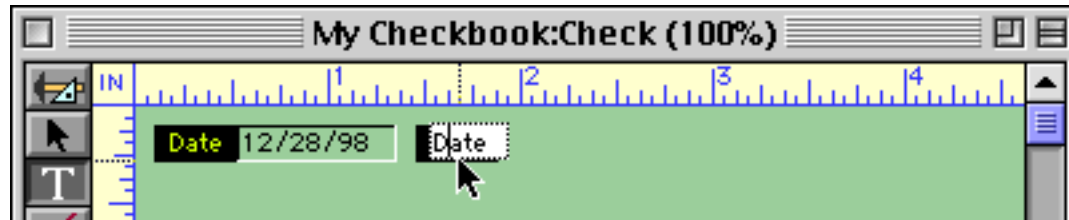
Edit the text to say Number instead of Date.
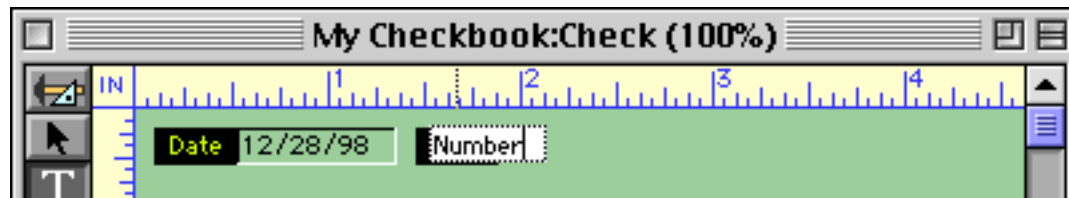
Select the **Pointer** tool and adjust the rectangle size to match the new text.
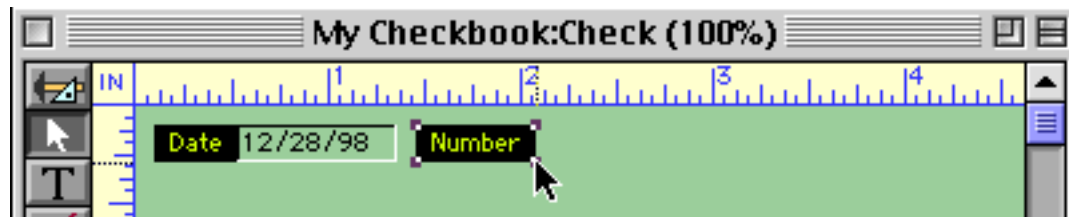
Drag the check number up next to these objects.
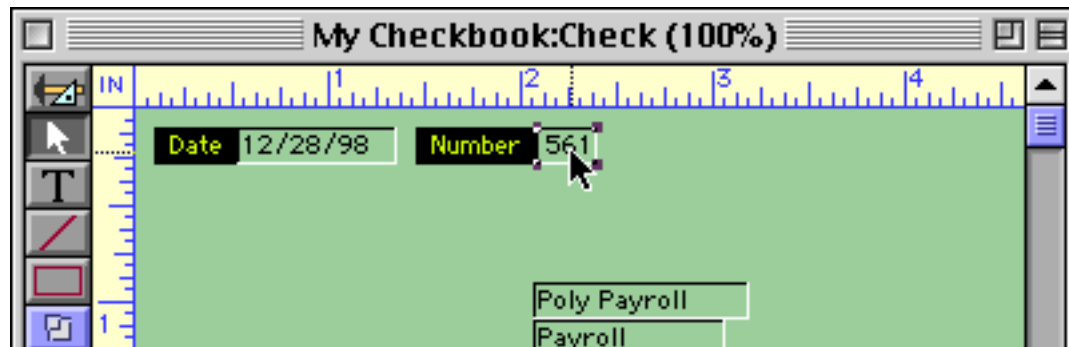
Using the techniques you've just learned continue re-arranging the form until it looks like this.
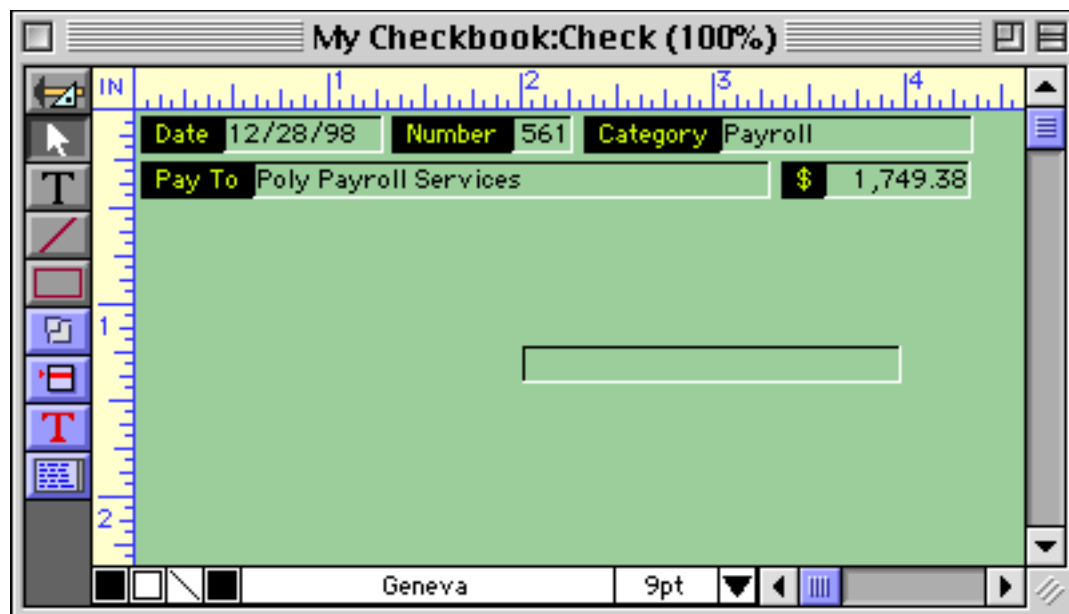
Make a copy of the Pay To caption.
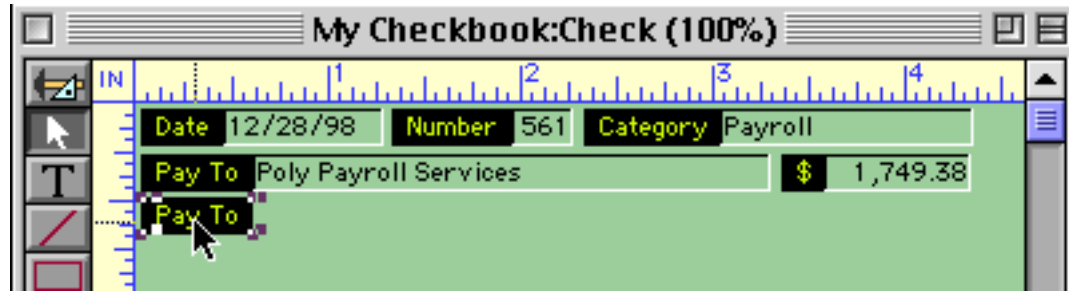
Change the text to Memo and expand the rectangle to about 1 inch high.
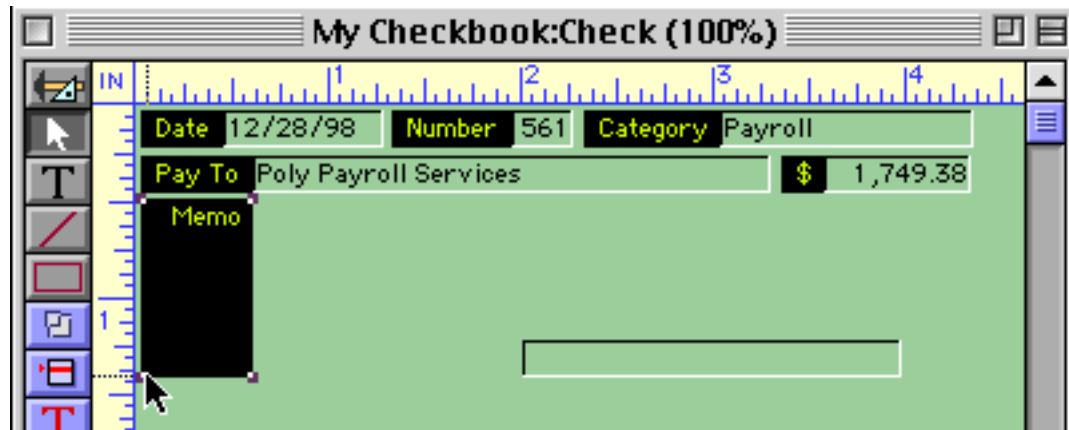
Slide and resize the memo field itself into place.
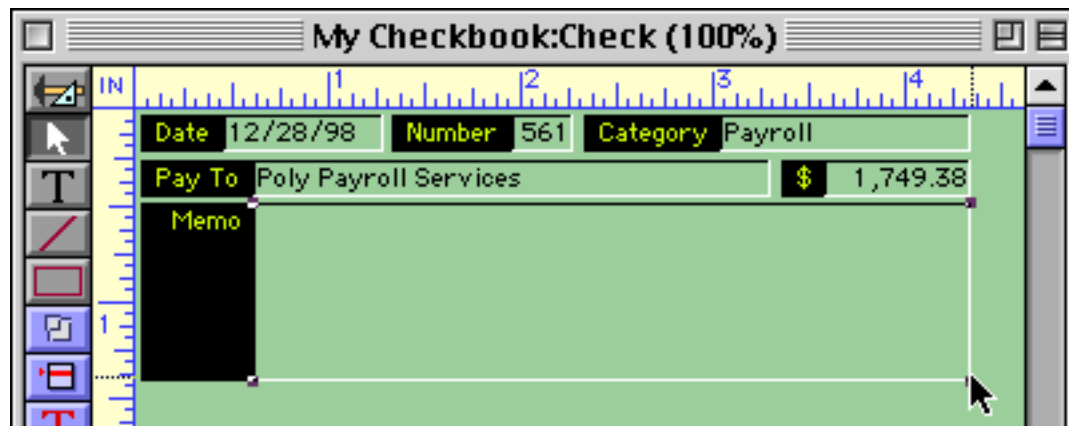
To add a scroll bar to the memo field double click on the Text Editor SuperObject to open the object properties dialog. This dialog lets you turn various object options on and off. Click on the Vertical Scroll Bar checkbox.
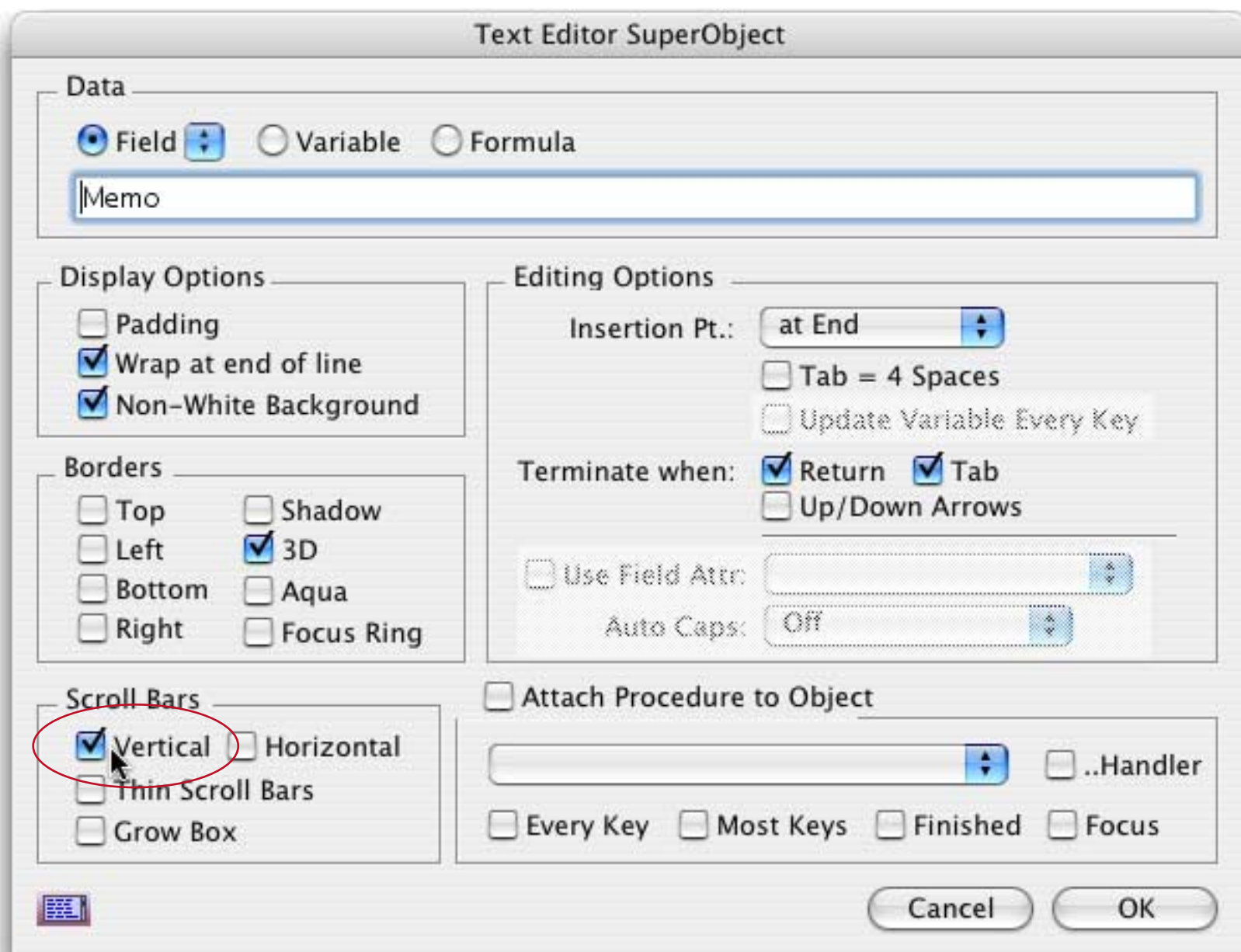
When you press the **OK** button the memo field gets a vertical scroll bar.
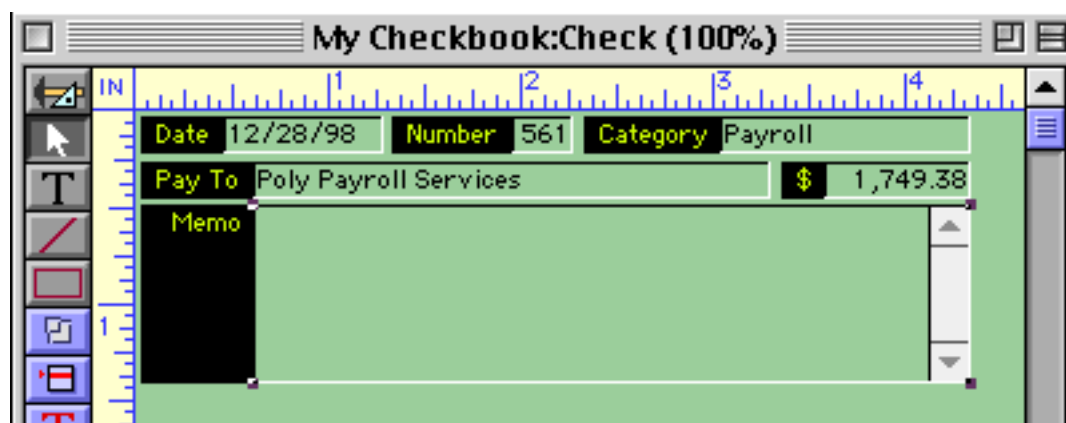
To actually use the form you must switch into Data Access Mode. Notice that the background of the field being edited turns white (in this case the memo field).
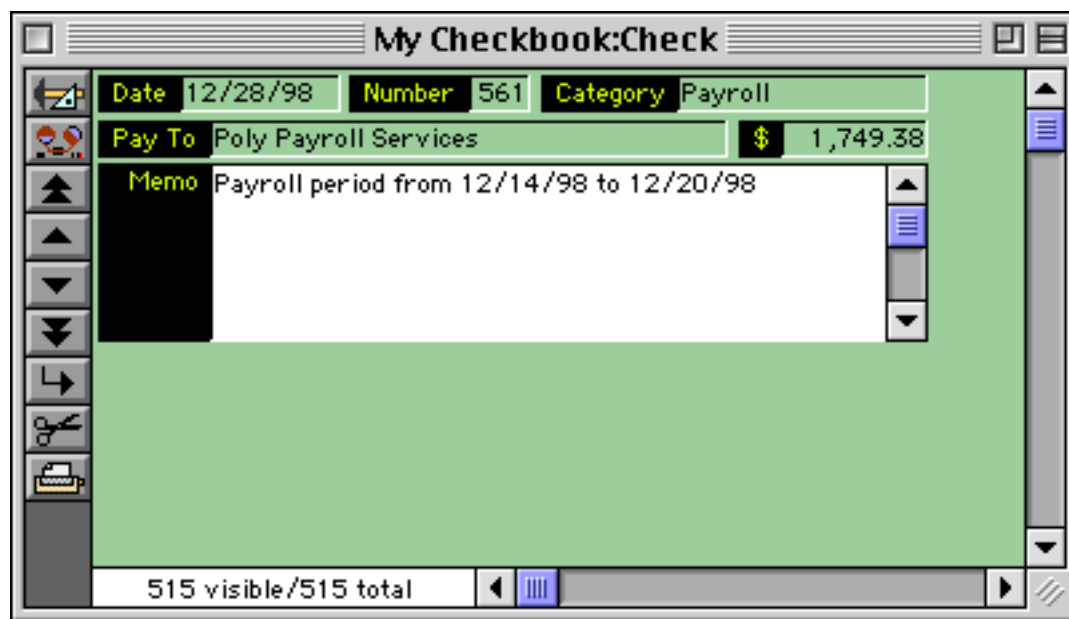
Use the **Tab** key to move from field to field.
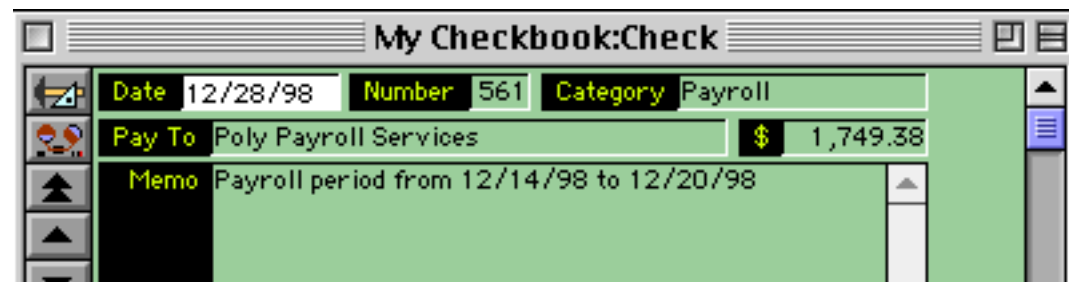
Making the Form Elastic

An ordinary form is fixed — it stays the same no matter what the size of the window is. By adding a single object to your form you can make it **elastic**. An elastic form adjusts automatically to fit the window — it grows when the window grows and shrinks when the window shrinks. Start by switching back to Graphic Design Mode. Then double click on the memo field to open the object properties dialog.
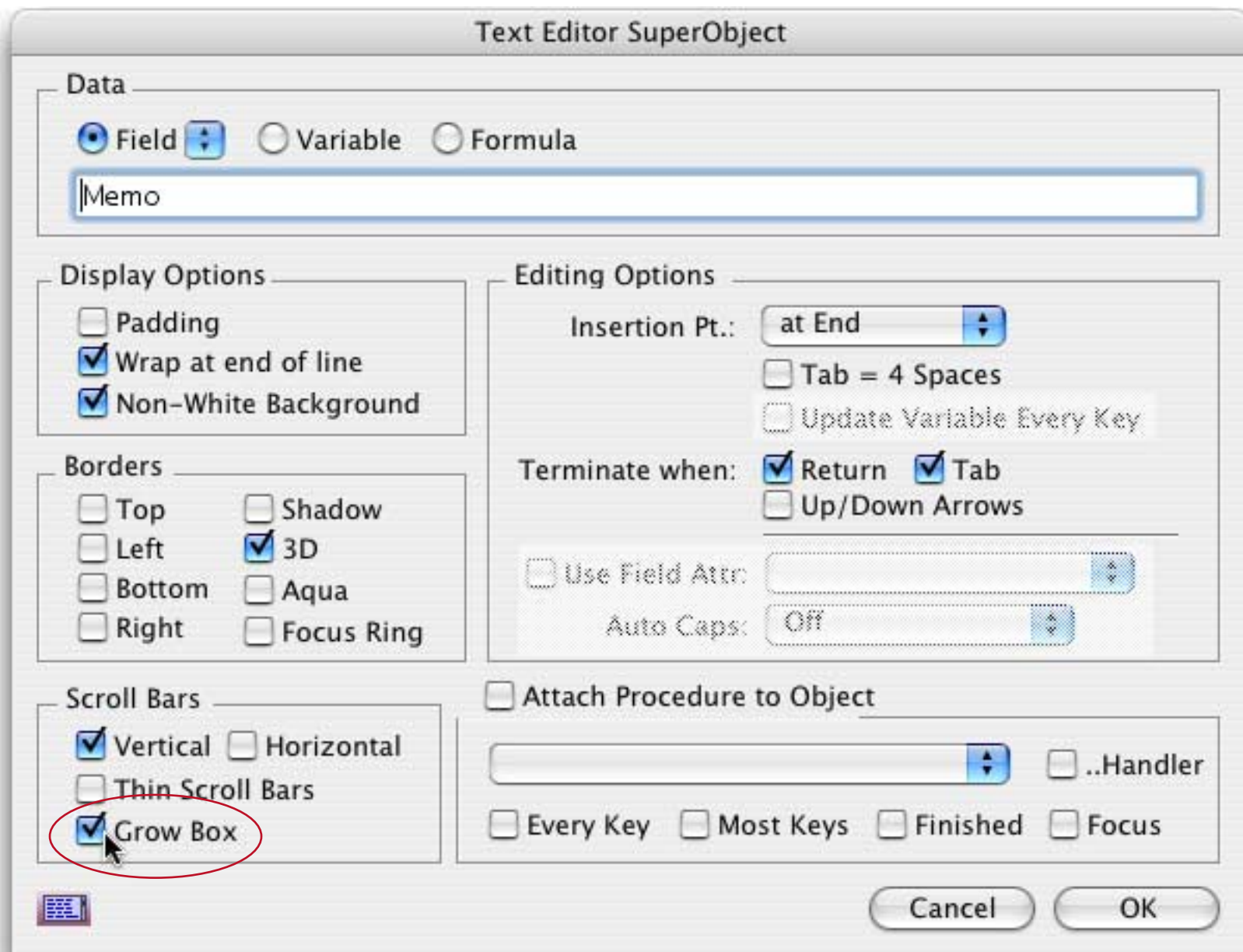
Turn on the Grow Box option, then press the OK button. The memo field now reserves a spot for the window's grow box.

corner reserved
for grow box
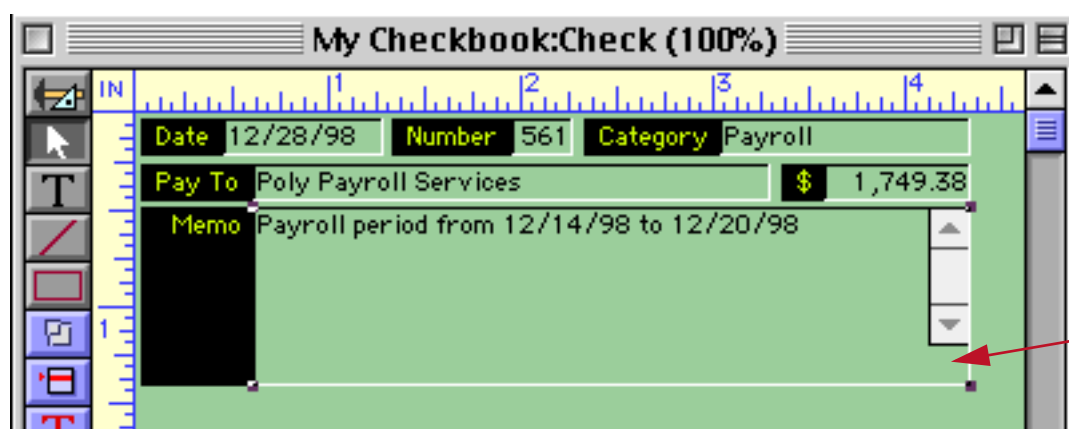
Using the **Rectangle** tool draw a box in the spot reserved for the grow box.
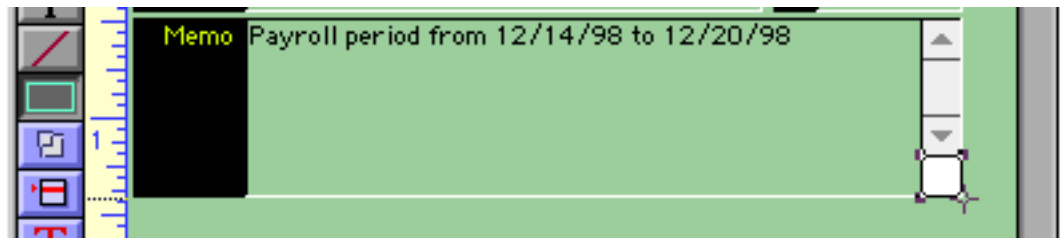
Using the **Duplicate** command in the Edit menu, make a copy of the box (see "Duplicate" on page 561).

Set the Fill Pattern of the new box to solid black (see "Fill Pattern" on page 521).

Set the color of the new box to the same green color as the background (see "Color" on page 526).

Use the arrow keys to nudge the green box until it covers the white area but leaves the black border.

Now to make the form elastic. Start by selecting the **Auto Grow** tool. (If you can't find the **Auto Grow** tool you need to customize the tool palette. See "Customizing the Tool Palette" on page 497 of the *Panorama Handbook*.)
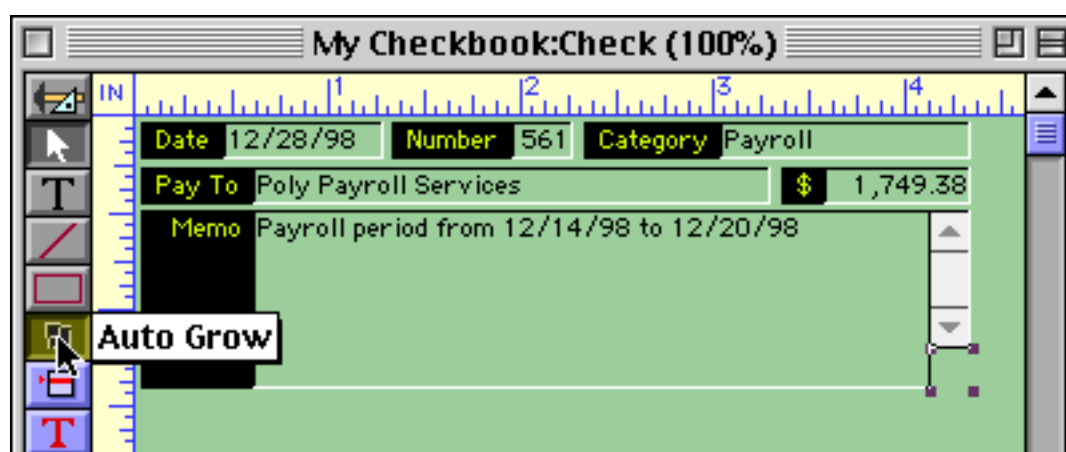
Starting from the bottom right hand corner of the form, drag the mouse up and to the left. Release the mouse somewhere between the left edge of the Category field and the right edge of the Pay To field, as shown in the illustration below. (The blue and green lines in the illustration below have been added to highlight the location of these edges.)
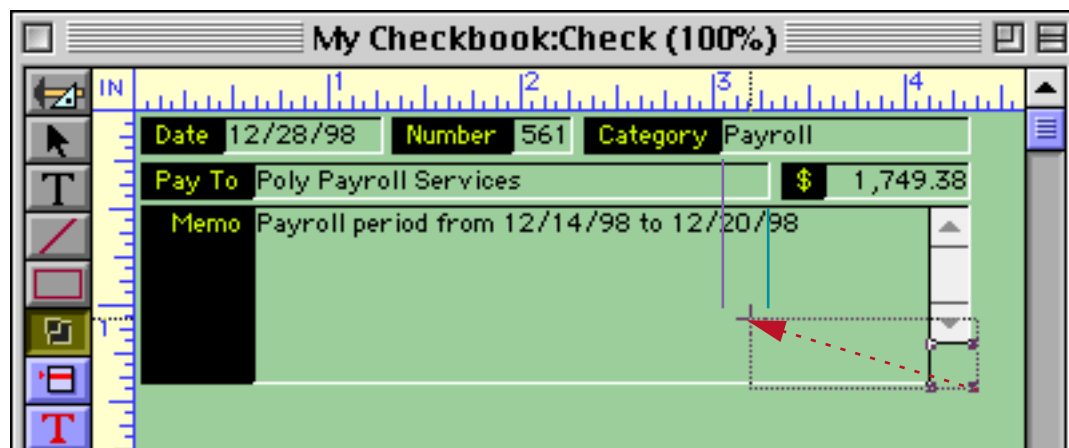
When you release the mouse the **Auto Grow** configuration dialog appears. The dialog is already filled out for you except that you need to turn on the Draw Grow Icon checkbox.
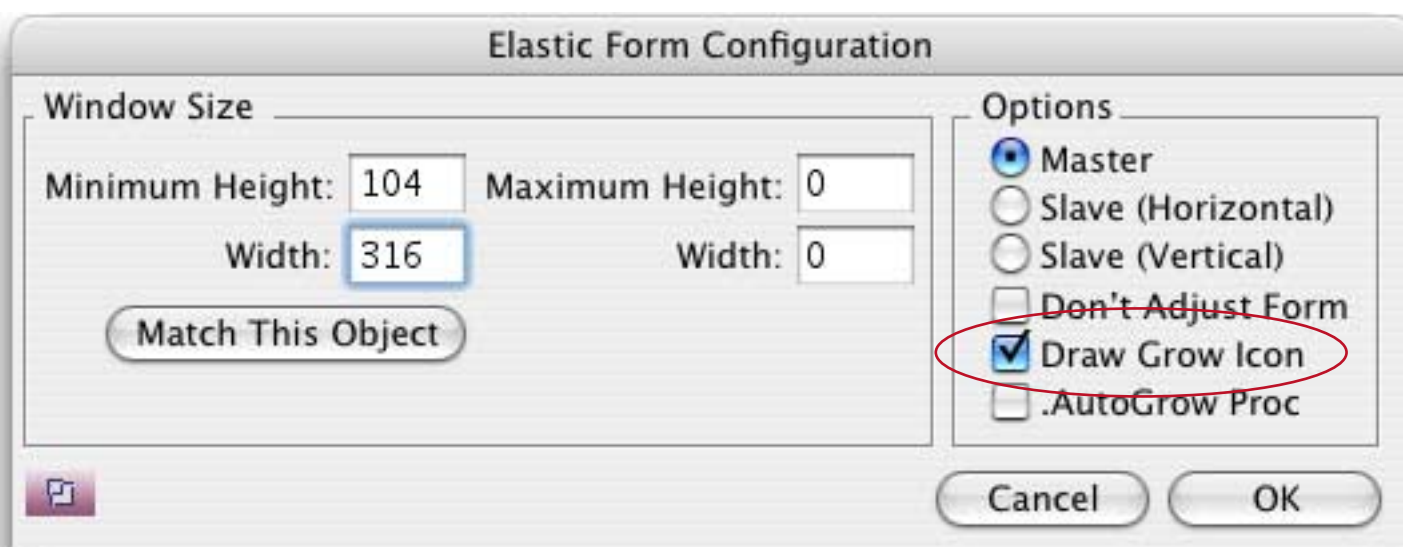
Press the **OK** button to finish creating this object.
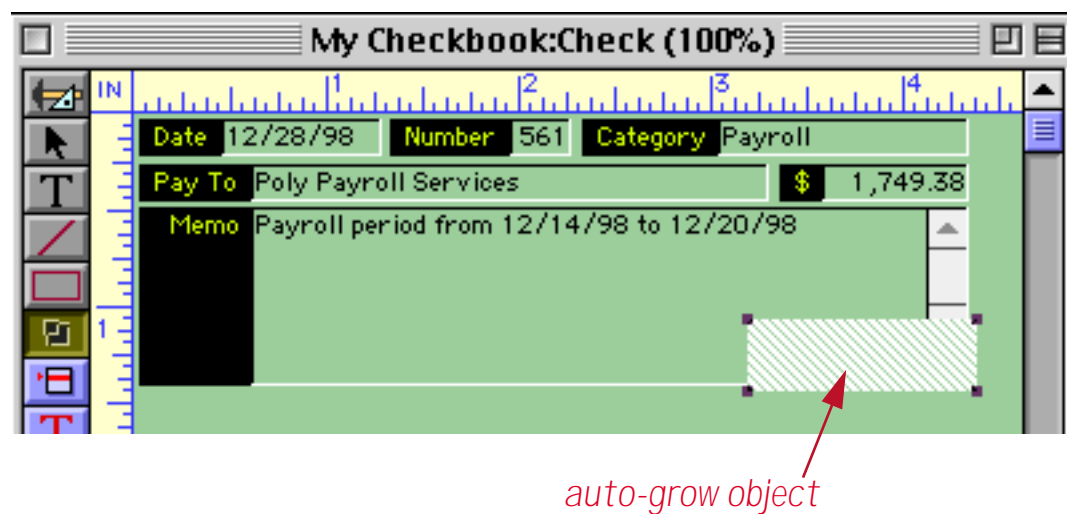
auto-grow object

The auto-grow object is covering up some of the memo field. To fix this use the **Send To Back** command in the Arrange menu (see "Changing the Stacking Order" on page 569 of the *Panorama Handbook*).
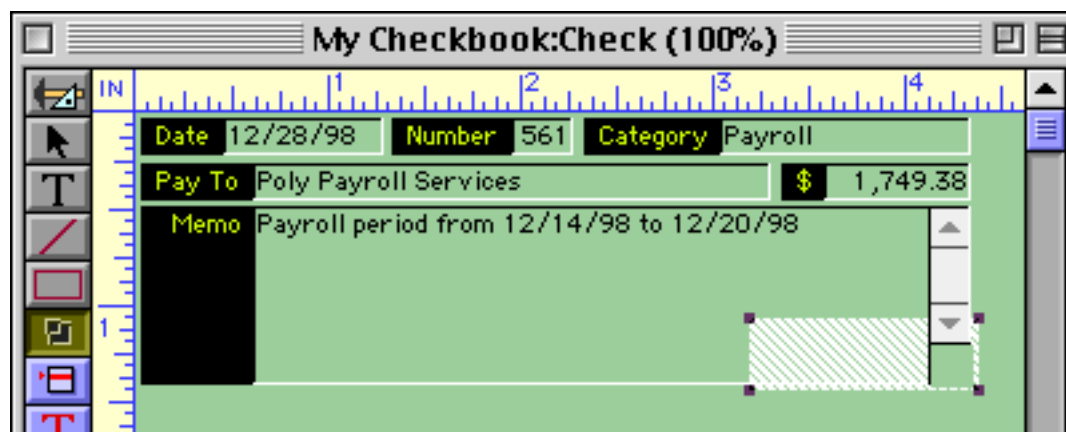
When you switch the form to Data Access Mode the auto-grow object completely disappears.
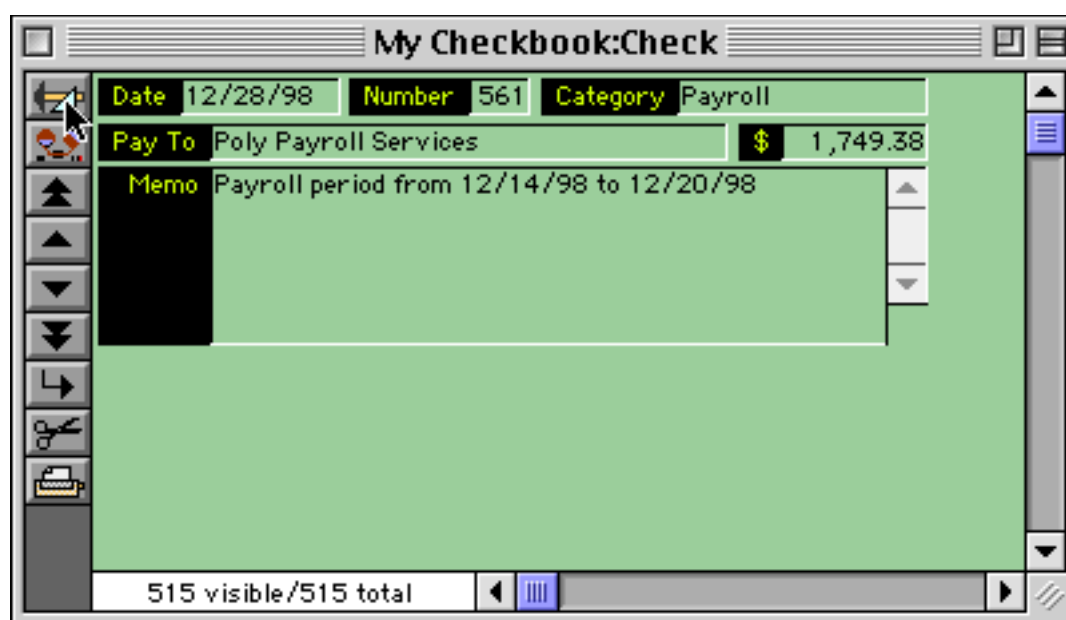
But the real fun starts when you adjust the size of the window. The form adjusts automatically to the new size! See "Elastic Forms" on page 922 of the *Panorama Handbook* for a complete explanation of how this magic works.
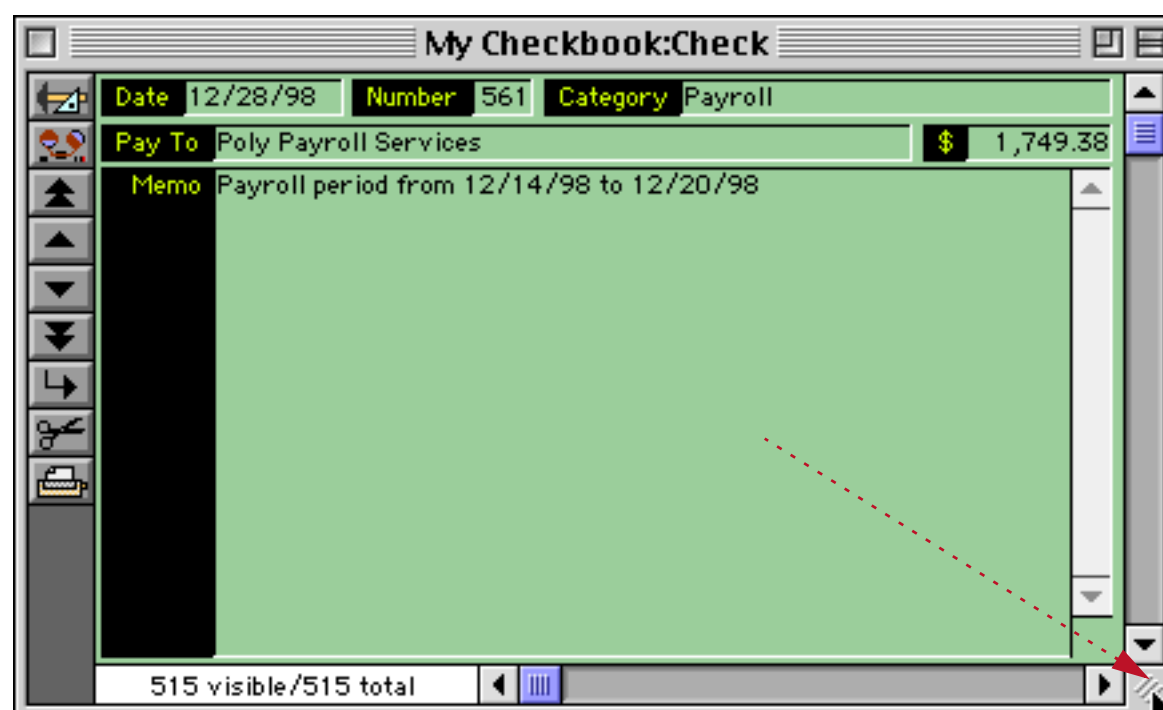
To get rid of the extra scroll bars and tool palette choose the **Window Tweak** command from the Form Tools submenu of the Wizard menu (see "Turning Window Components On and Off (Window Tweak Wizard)" on page 150 of the *Panorama Handbook*).
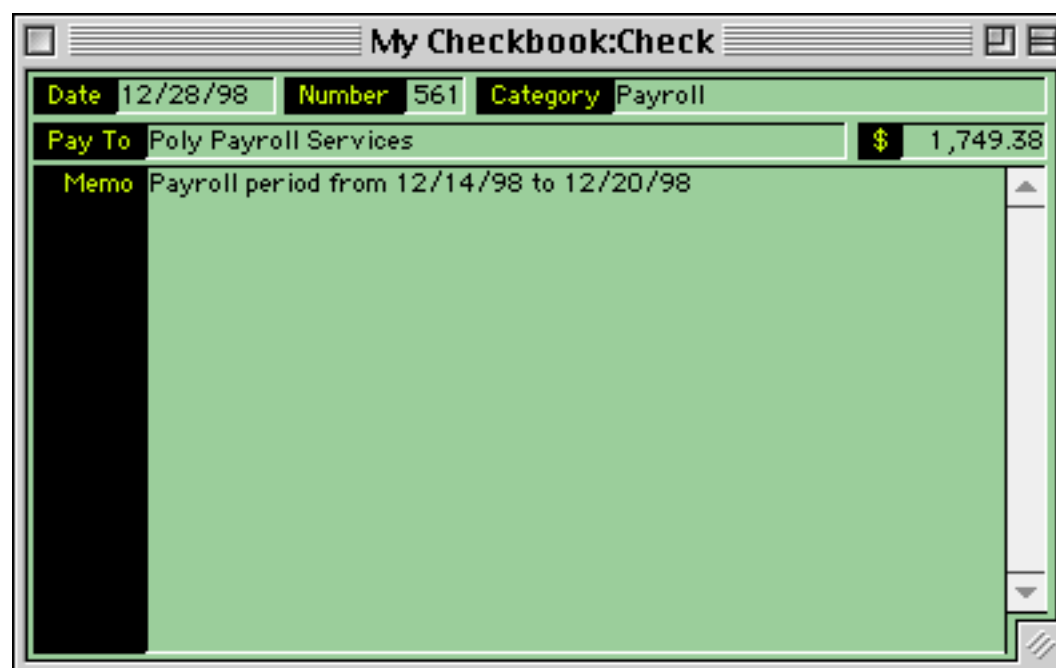
In this case you may want to use the tool palette. To get it back uncheck the Tool Palette option in the Window Tweak window.

Then press the **Tweak** button twice. Here's the final result.
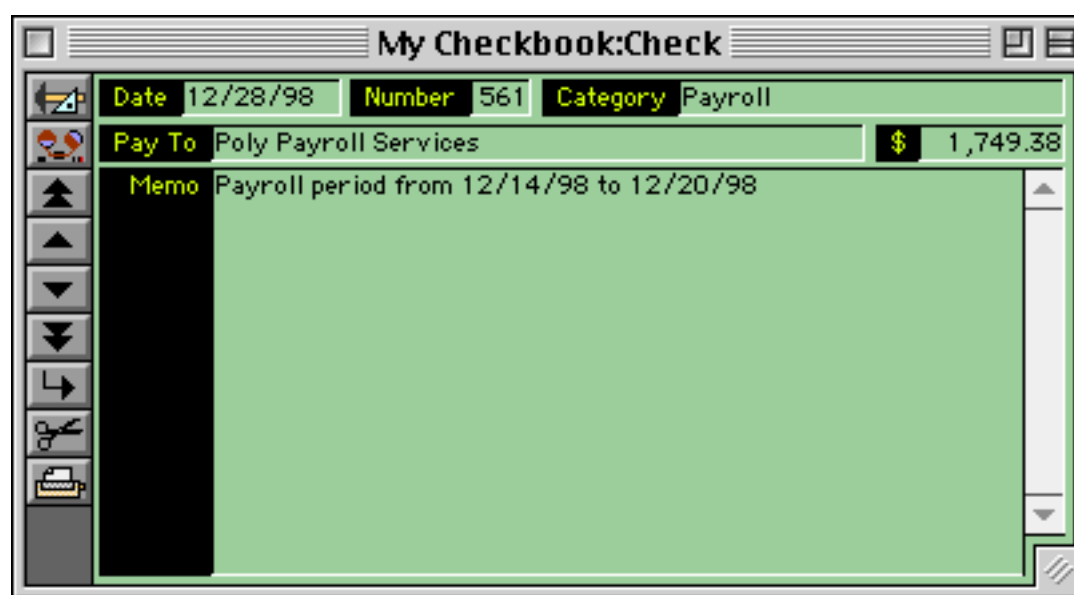
Oh yeah, one more thing. You have been remembering to **Save**, right? Well, go for it now, and you're done.

Lesson 3: Building an Invoice Database

Now that you've mastered basic skills in building databases, forms and procedures you're ready to tackle a more complicated task. Organizing invoices (or similar forms like statements, purchases, quotes, expense reports etc.) is one of the most common jobs performed by database programs. Just as with the databases in the earlier two lessons you'll start by launching Panorama and the **New Database Wizard**. Instead of building this database from scratch you're going to use the pre-built Invoice favorite. To do this click on the yellow star and choose **Invoice**.

When you select this template the wizard will call up a list of definitions for the twenty fields required for an invoice, including default values and calculations.
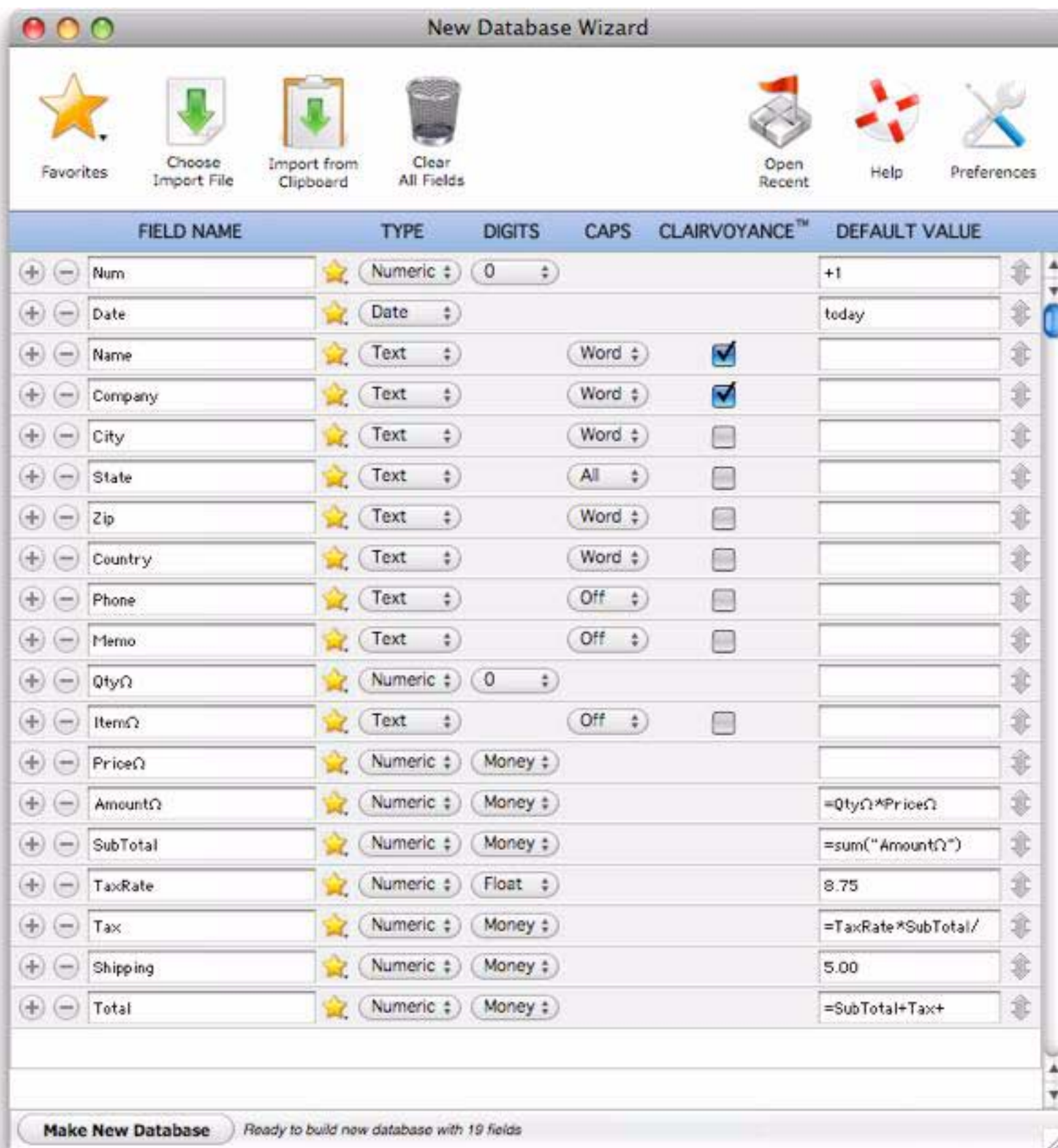
Press the **Make New Database** tool to actually create the database. Since this database contains line items, Panorama will ask you how many line items you want. By default the wizard will create a database that allows up to six **line items** per invoice. Let's increase this to twelve line items per invoice

The new database has so many fields that we can only see a small portion of them at once using the data sheet. In a moment we'll create a form that is much better suited to displaying this data.

Before going any further you should **Save** the new database. Give it the name My Invoices and save it in the same folder as your first two databases. Be sure to check the Save Window Positions option in the **Save As** dialog if it isn't already checked.

Line Item Fields

The New Database Wizard invoice template contained 20 fields. However, if you look in the design sheet (use the **View** menu) you will see that the database actually contains 64 fields.

Untitled:DESIGN

| Field Name	Type	Digits	Align	Output P	Input Pattern	Range	Chc	Link	Clair	Tab	Caps	Dup	Default	Equation
Num	Numeric	0	Right	#,		Any			Off	Off	Off	Yes	+1	
Date	Date	0	Left			Any			Off	Off	Off	Yes	today	
Name	Text	0	Left			Any			Off	Off	Word	Yes		
Company	Text	0	Left			Any			Off	Off	Word	Yes		
Address	Text	0	Left			Any			Off	Off	Word	Yes		
City	Text	0	Left			Any			Off	Off	Word	Yes		
State	Text	0	Left			Any			Off	Off	All	Yes		
Zip	Text	0	Left			Any			Off	Off	All	Yes		
Country	Text	0	Left			Any			Off	Off	Word	Yes		
Phone	Text	0	Left		(___) ___-__	Any			Off	Off	Off	Yes		
Memo	Text	0	Left			Any			Off	Off	Off	Yes		
Qty1	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item1	Text	0	Left			Any			Off	Off	Off	Yes		
Price1	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount1	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
Qty2	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item2	Text	0	Left			Any			Off	Off	Off	Yes		
Price2	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount2	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
Qty3	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item3	Text	0	Left			Any			Off	Off	Off	Yes		
Price3	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount3	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
Qty4	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item4	Text	0	Left			Any			Off	Off	Off	Yes		
Price4	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount4	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
Qty5	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		

Field Name	Type	Digits	Align	Output P	Input Pattern	Range	Chc	Link	Clair	Tab	Caps	Dup	Default	Equation
Qty10	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item10	Text	0	Left			Any			Off	Off	Off	Yes		
Price10	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount10	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
Qty11	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item11	Text	0	Left			Any			Off	Off	Off	Yes		
Price11	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount11	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
Qty12	Numeric	0	Right	#,		Any			Off	Off	Off	Yes		
Item12	Text	0	Left			Any			Off	Off	Off	Yes		
Price12	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		
Amount12	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		$Qty\Omega * Price\Omega$
SubTotal	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		Amount1+Amount2+Amou
TaxRate	Numeric	Float	Right			Any			Off	Off	Off	Yes	7.75	
Tax	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		TaxRate*SubTotal/100
Shipping	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes	5.00	
Total	Numeric	Float	Right	#,.##		Any			Off	Off	Off	Yes		SubTotal+Tax+Shipping

The solution to this mystery is that four of the fields in the template, QtyΩ, ItemΩ, PriceΩ and AmountΩ, are actually a special kind of field called line item fields. The wizard expanded each of these into 12 fields, Qty1, Qty2, Qty2, etc., Item1, Item2, Item3, etc. This allows the invoice to contain information about up to 12 separate items. It's difficult to work with so many fields in the data sheet view, so you'll create a form that allows you to display and edit the data in a format that looks like a traditional paper invoice.

Creating an Invoice Form

You already know how to create a new form, so make one named Order Entry. There's no need to open it in a separate window, you won't be needing the data sheet again.
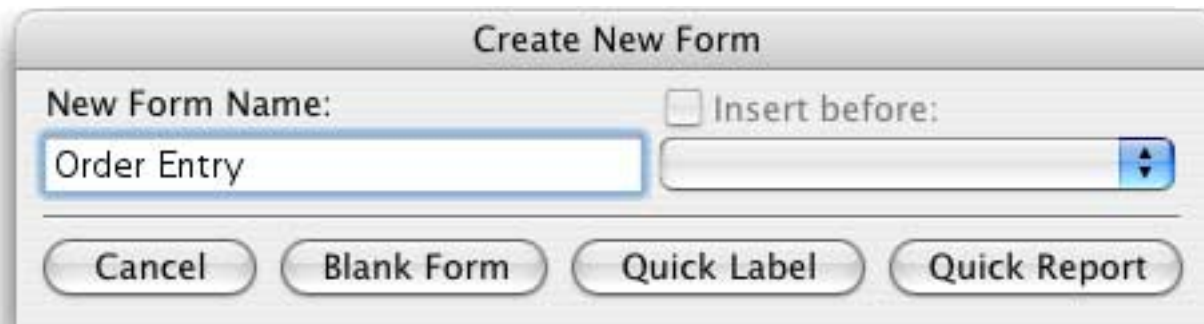
Using the techniques you've learned make the form look like the illustration below. If you need to review these techniques see "Creating a Data Entry Form" on page 62 and "Drawing a Check Form" on page 166. You may find it easier to switch the rulers to **pixels** instead of inches as shown in the illustration below, see "Rulers" on page 506 of the *Panorama Handbook* to learn how to do this.
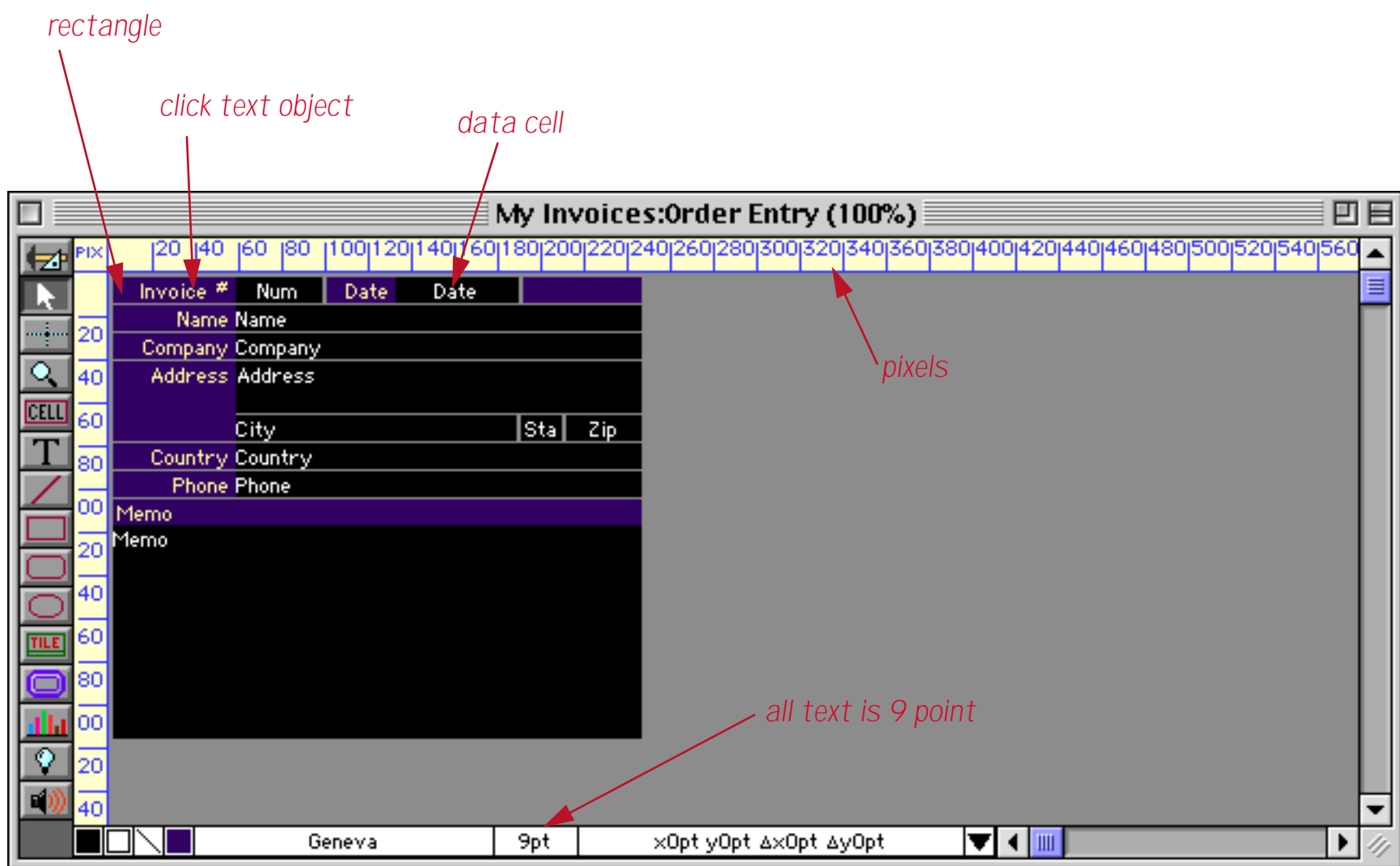
Adding Line Items to the Form

The heart of the order entry form is the line items. This section of the form will contain 56 objects — 48 data cells (4 columns by 12 rows) plus 4 text objects and 4 rectangles for column captions. Fortunately the **Auto Cell Layout** dialog will create most of these objects for you automatically. You're going to create the line items in the blank area to the right of the objects you've already created. Start making sure that black is the currently selected color (see "Color" on page 526), then click the mouse in the upper left hand corner of this blank area.
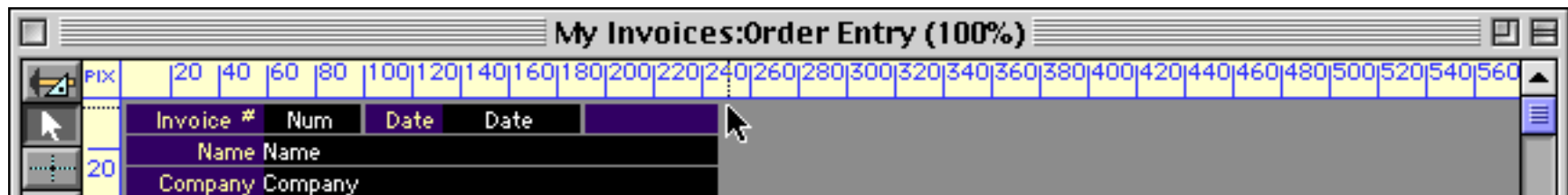
Now choose the **Auto Cell Layout** command from the Arrange menu. You've seen this dialog before. Since we want to create line items press the **Line Items** button. This selects all of the line item fields.
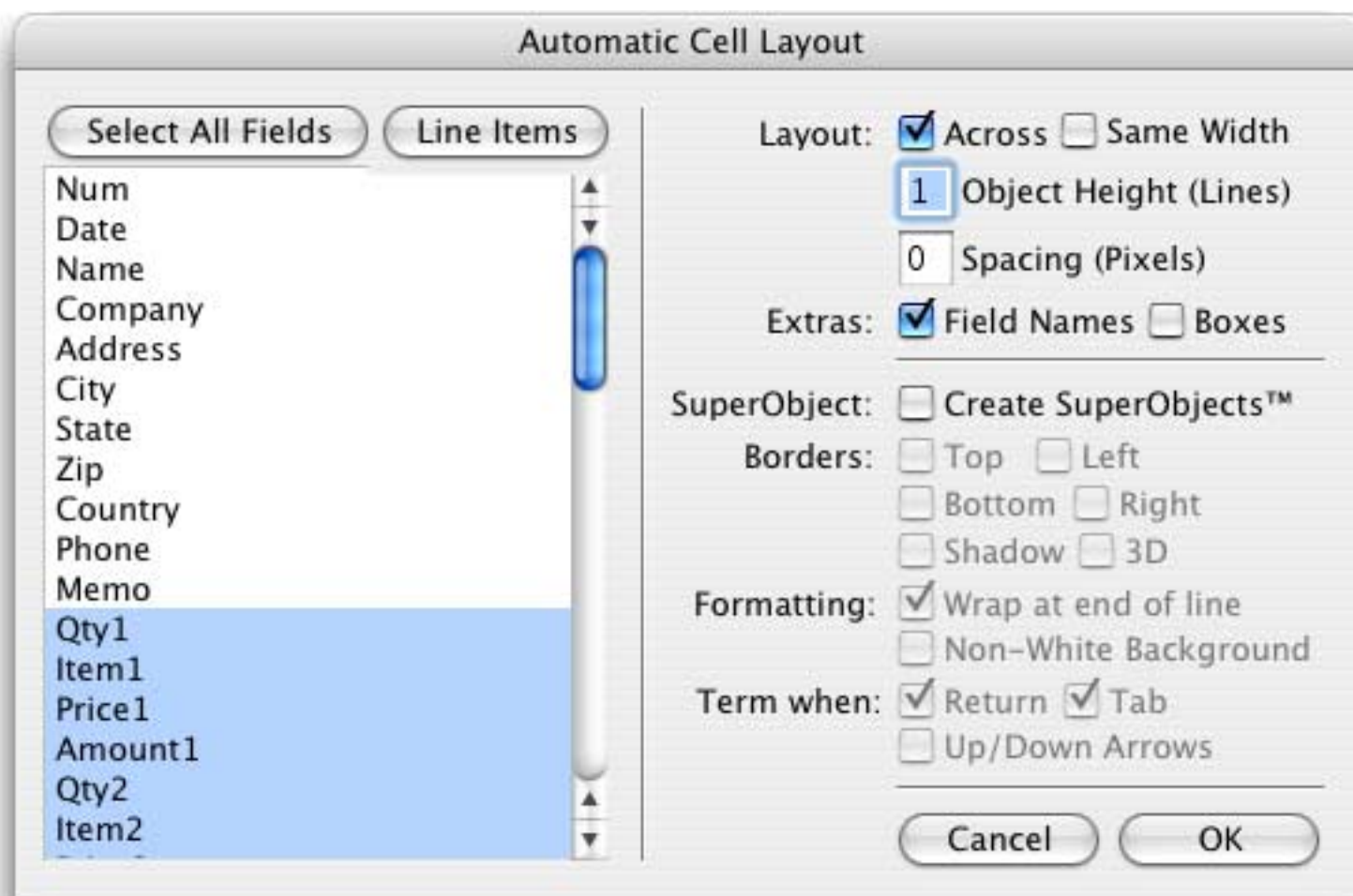
You don't need to change any of the other options, just press the **OK** button. Panorama will automatically create all 48 data cells you need in 12 rows by 4 columns.
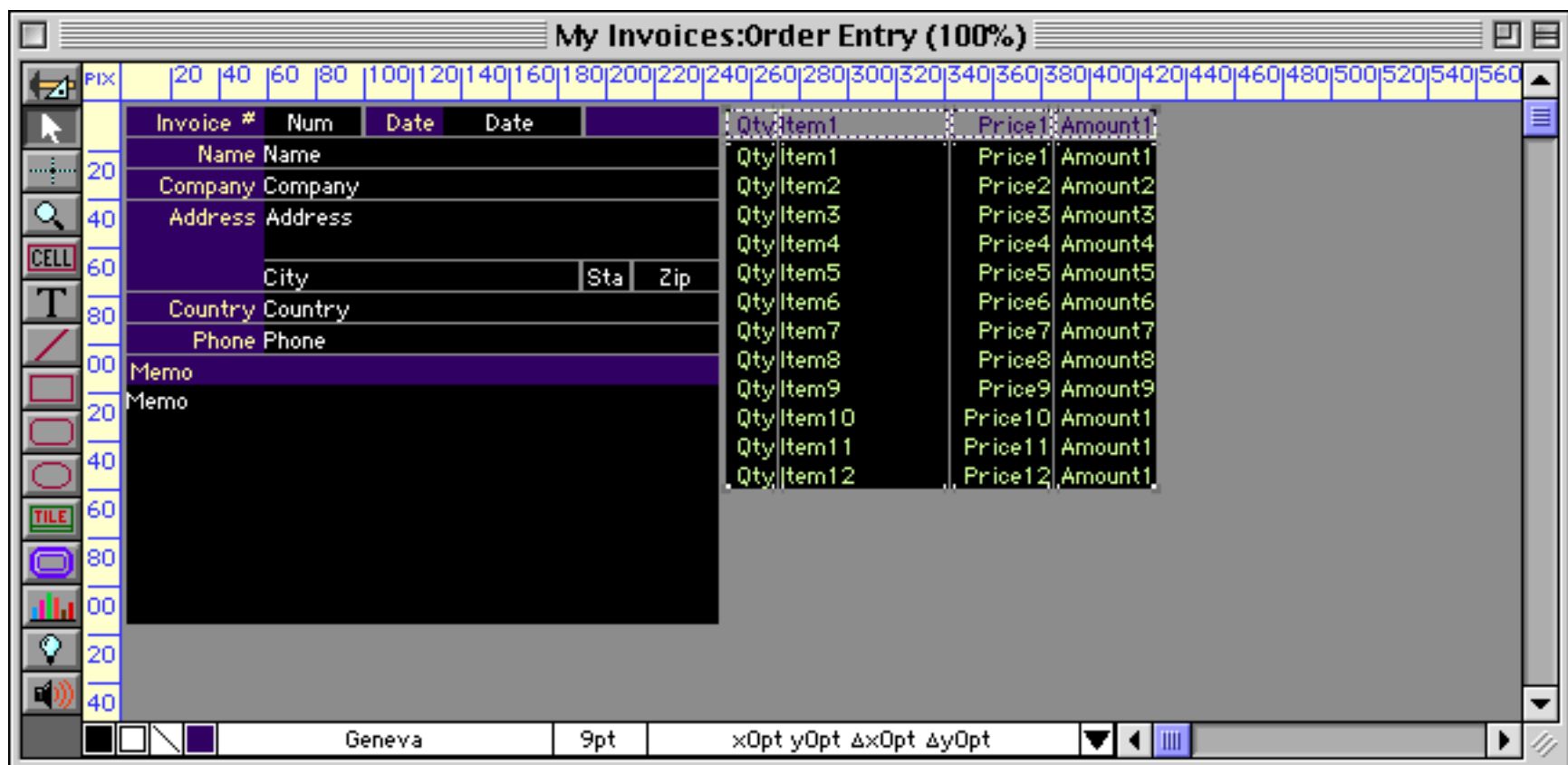
You'll need to make some adjustments to make the line items look right in your invoice. Start by choosing the **Spacing** command in the Edit menu (see "Adjusting Spacing Between Multiple Objects" on page 556 of the *Panorama Handbook*).
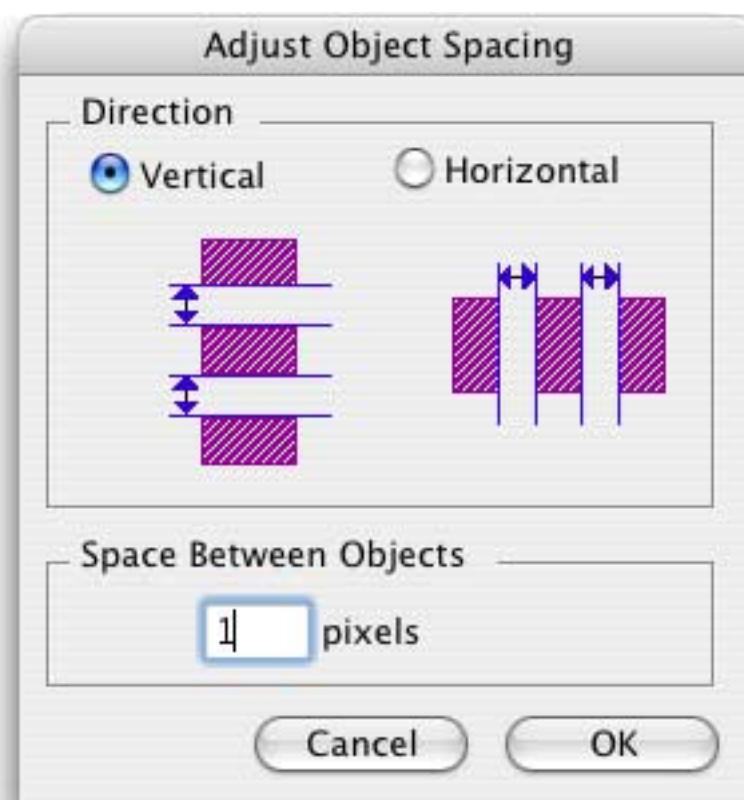
Click the Vertical option and type in 1 for the pixel spacing. Then press **OK** to adjust the vertical spacing between the lines. There is now one pixel in between each line.
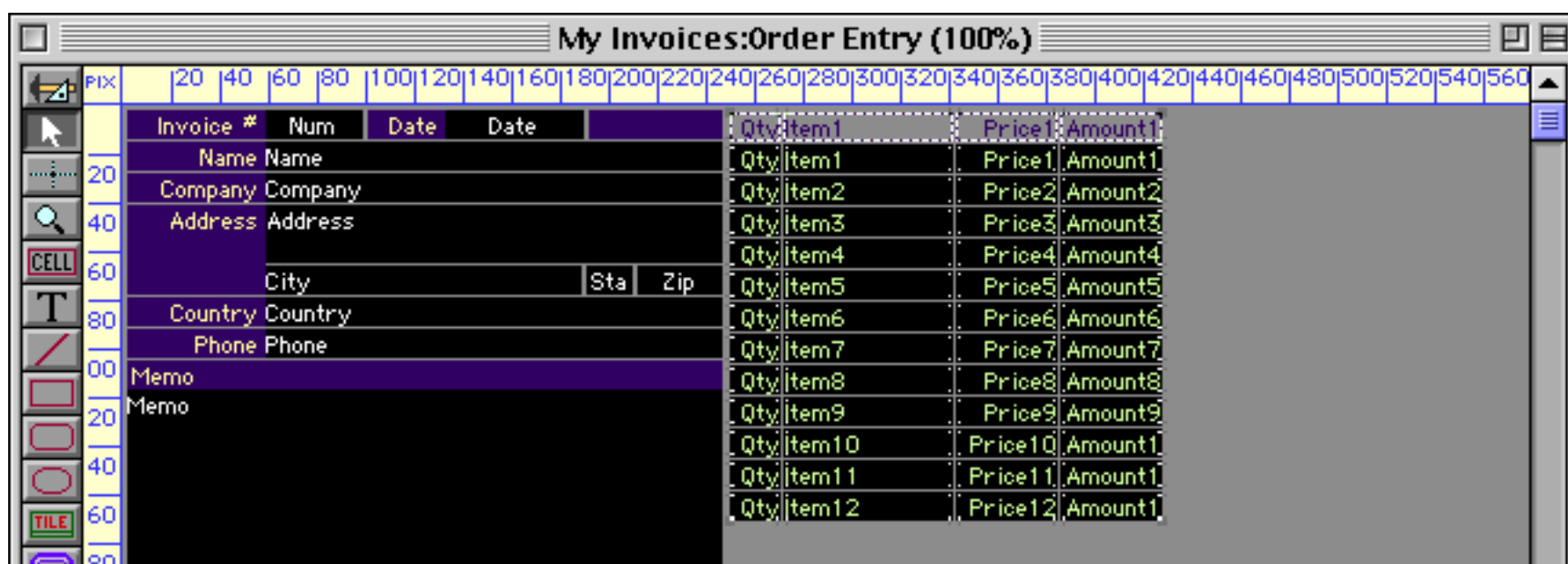
Next you'll want to adjust the width of the columns, starting with the Item column. To adjust the width, move the mouse over the lower right hand handle of one of the objects in the column, then press and drag to the right. Hold down the **Shift** key to make sure that you don't change the height of the object, only the width. If you hold down the ⑤ key (the letter **S**) you don't have to exactly press on the handle itself, anywhere close to the bottom right hand corner of the object will do (see "Resizing Without Handles" on page 516 of the *Panorama Handbook*).
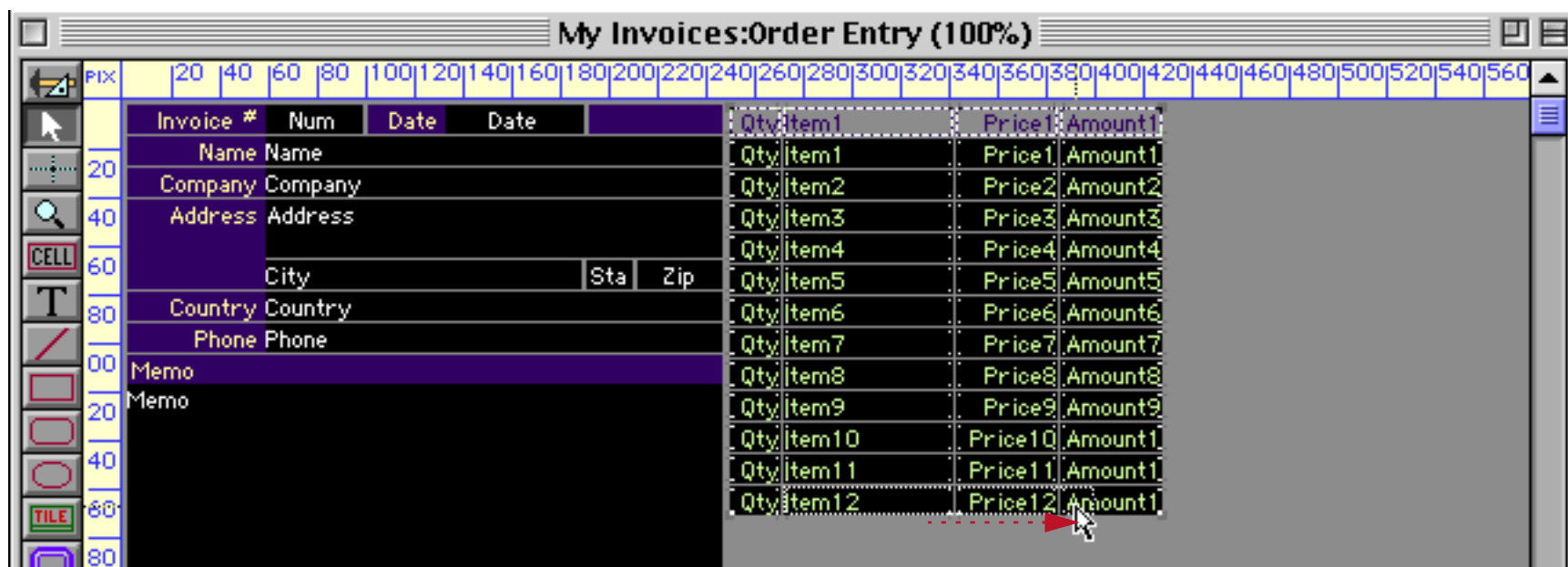
When you release the mouse all of the selected objects will adjust to the new width (see "Cluster Resize" on page 541 of the *Panorama Handbook*).
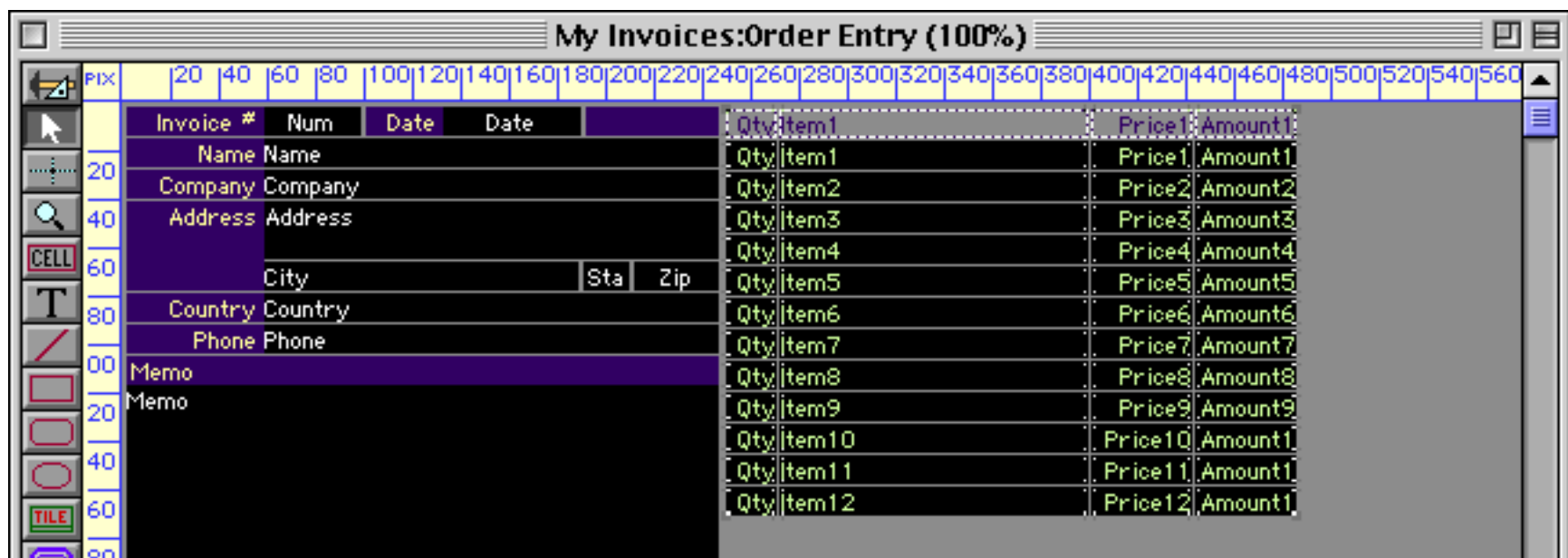
Repeat as necessary until all the widths look the way you want. You can also nudge the widths with the arrow keys for fine adjustments (after dragging the width, see "Nudging the Size of an Object" on page 513 of the *Panorama Handbook*).
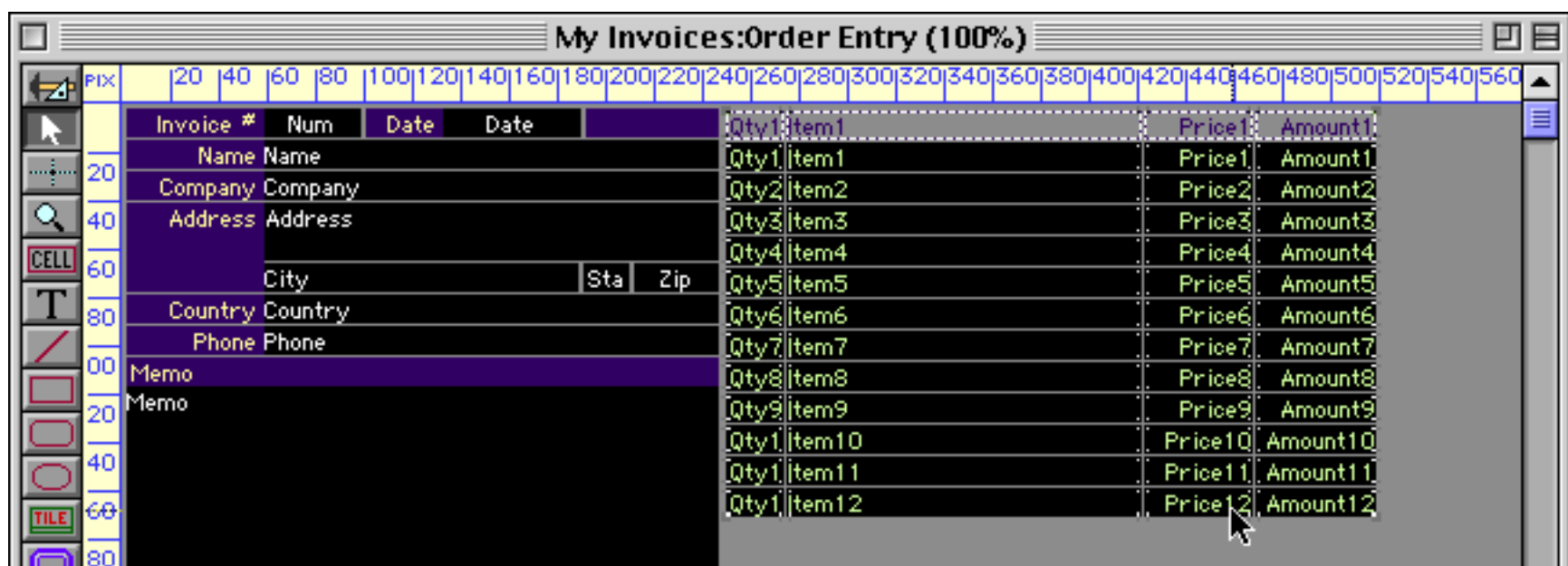
While holding down the **Option** key (Macintosh) or **Alt** key (PC) drag the small purple rectangle next to the Date cell over the Qty1 text.
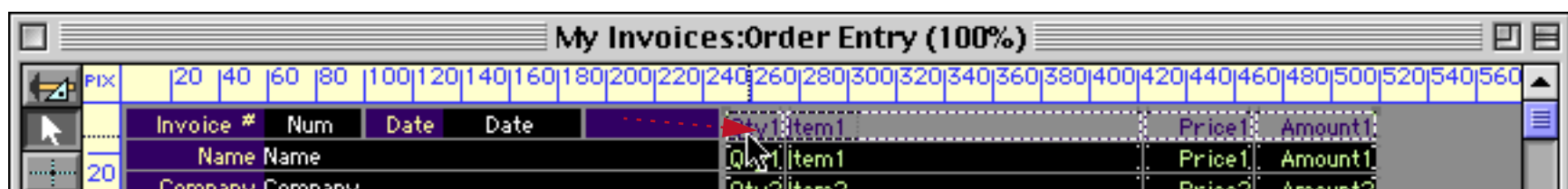
When you release the mouse there will be a new purple rectangle covering the text.
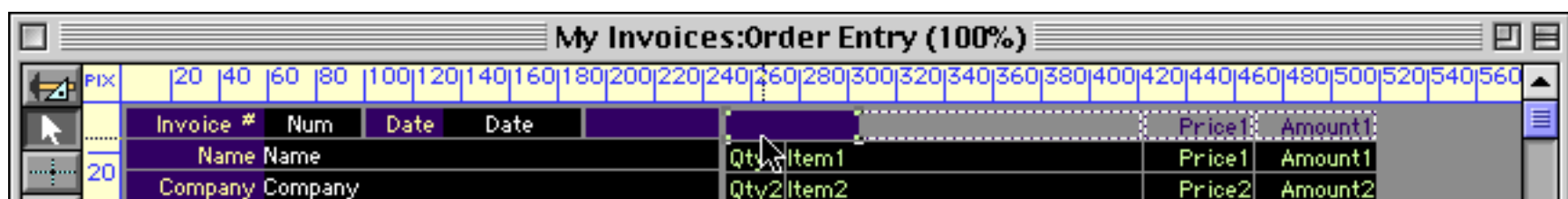
Adjust this rectangle so that it exactly covers the Qty1 text (see "Nudging the Size of an Object" on page 513 of the *Panorama Handbook*).
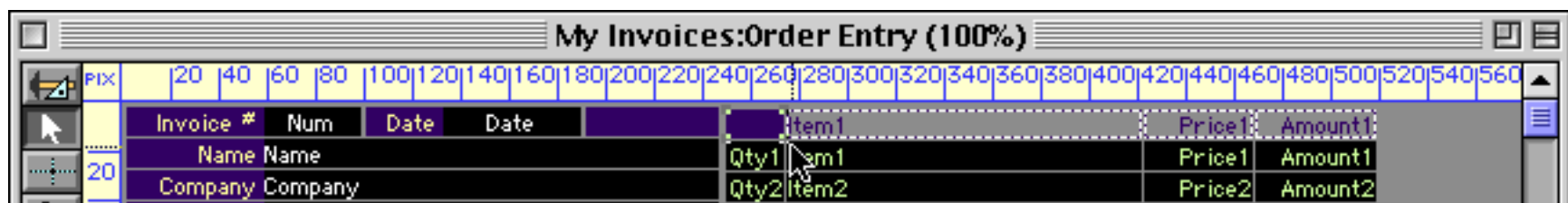
While holding down the **Shift** key and the **Option** key (Mac) or **Alt** key (PC) drag this rectangle to the right over the Item1 text.
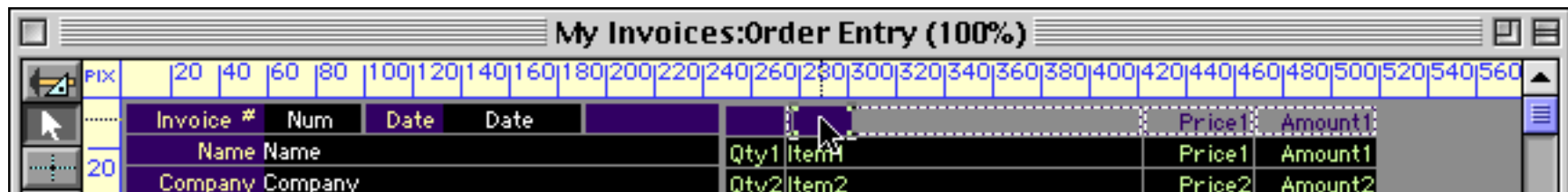
Adjust this new rectangle so that it covers the Item1 text.
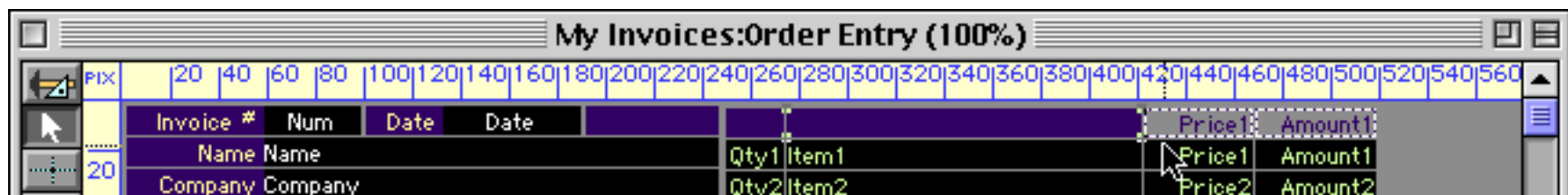
Repeat for the Price and Amount columns.

While holding down the **Shift** key, click on each of the four purple rectangles you just created. This selects all four objects (see "Selecting Multiple Objects at Once" on page 502 of the *Panorama Handbook*).

hold down SHIFT key and click on each object you want to select
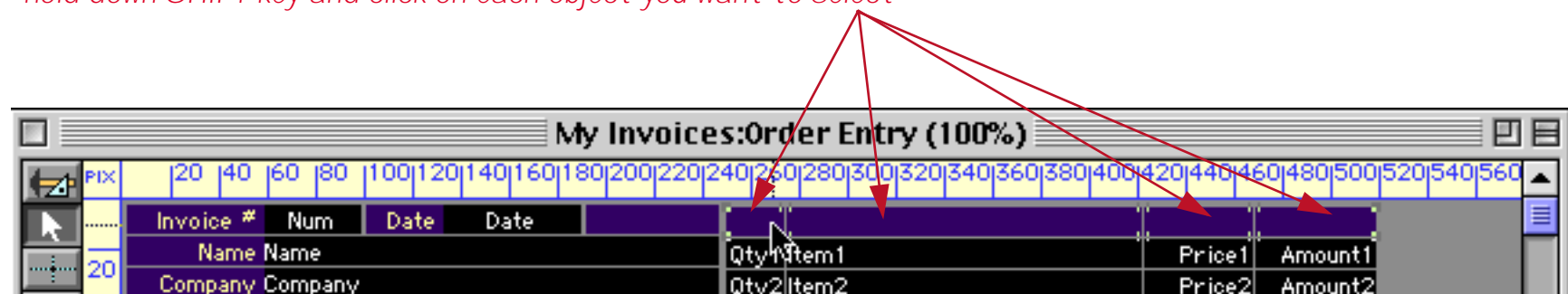
Now choose the Send to Back command from the Arrange menu (see "Changing the Stacking Order" on page 569 of the *Panorama Handbook*).

Using this command moves the four purple rectangles behind the four text objects, making the text objects visible again (see "Overlapping Objects" on page 568 of the *Panorama Handbook*).

Because the text objects are black on a purple background they aren't very easy to see. To change that, start by clicking on an empty spot on the form. Clicking on an empty spot makes sure that the four purple rectangles are no longer selected.
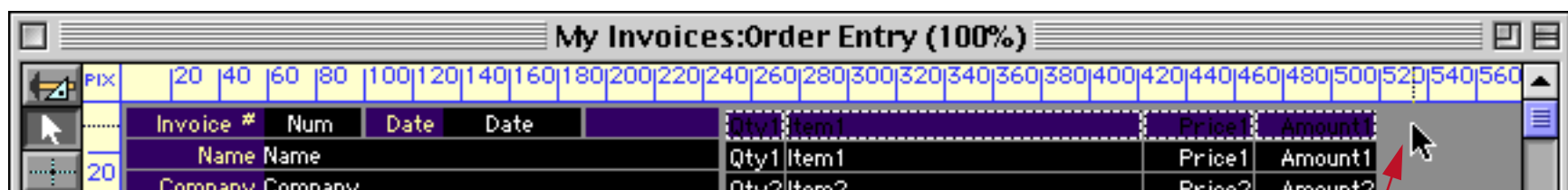
click on any empty spot to make sure that no objects are selected

Now hold down the **Shift** key and click on each of the four text objects. With the four objects selected change the color to light blue to match the other caption text (see "Color" on page 526 of the *Panorama Handbook*).

hold down SHIFT key and click on each object you want to select
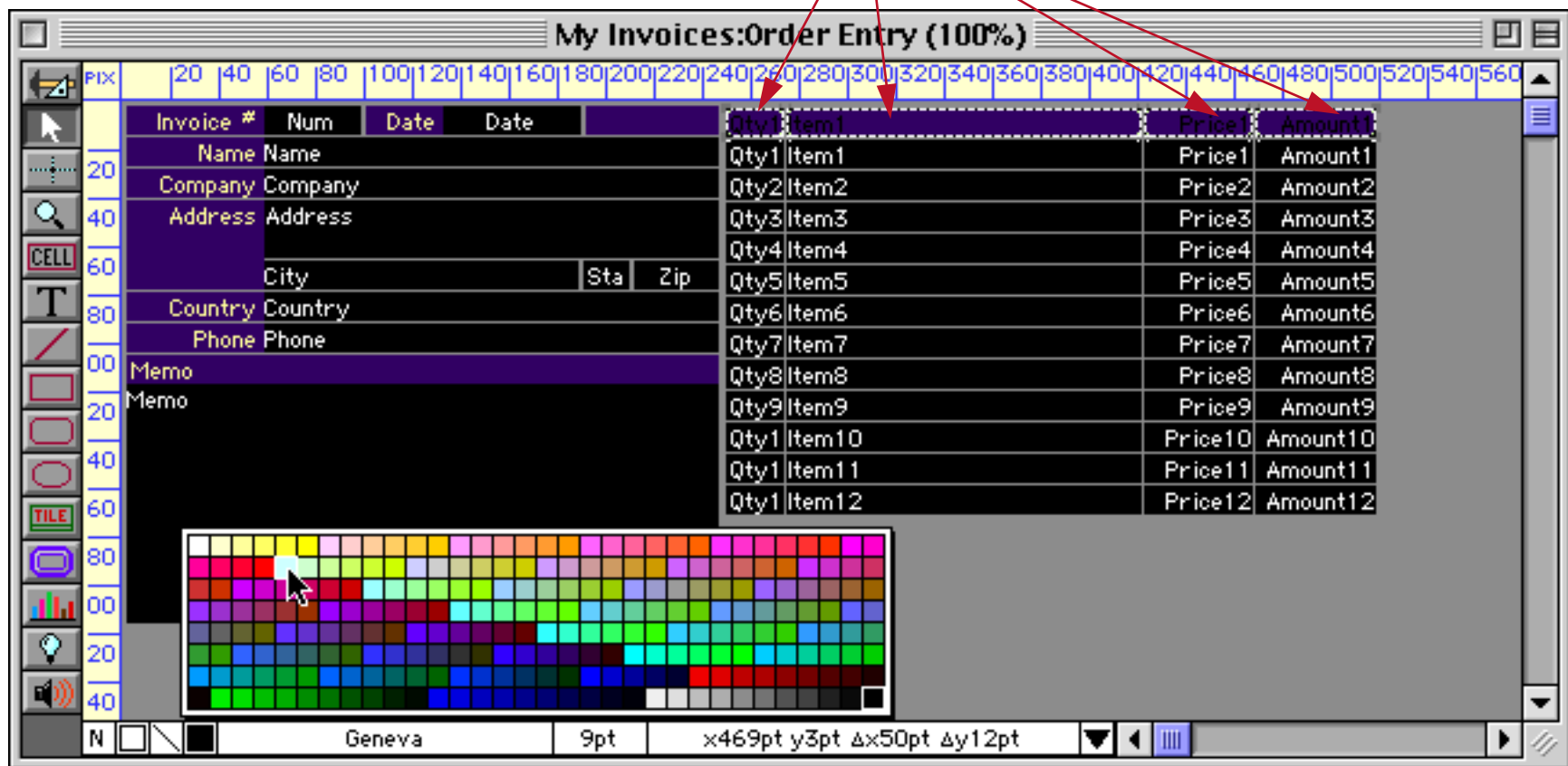
The text will turn light blue, almost white.

The annoying white border around the text objects is because these are auto-wrap text objects (see "Fixed Text Objects" on page 587 of the *Panorama Handbook*). The border will go away when you switch to Data Access Mode. However, we are going to convert these objects from Auto Wrap text into Click text. To do this drag the lower right hand handle of the object up over the upper right hand handle (see "Moving and Resizing Fixed Text Objects" on page 590 of the *Panorama Handbook*).

When you release the mouse the text is converted into click text, and the annoying border disappears.

converted to click text

Repeat this conversions for each of these four objects.

Now select the **Text** tool and edit the text to remove the 1 from the end of each object.

Switch back to the **Pointer** tool and drag a marquee around all of the line item objects (see "Selecting Multiple Objects at Once" on page 502). Because of the arrangement of objects in the form it is probably easiest to do this from the bottom right to the upper left.
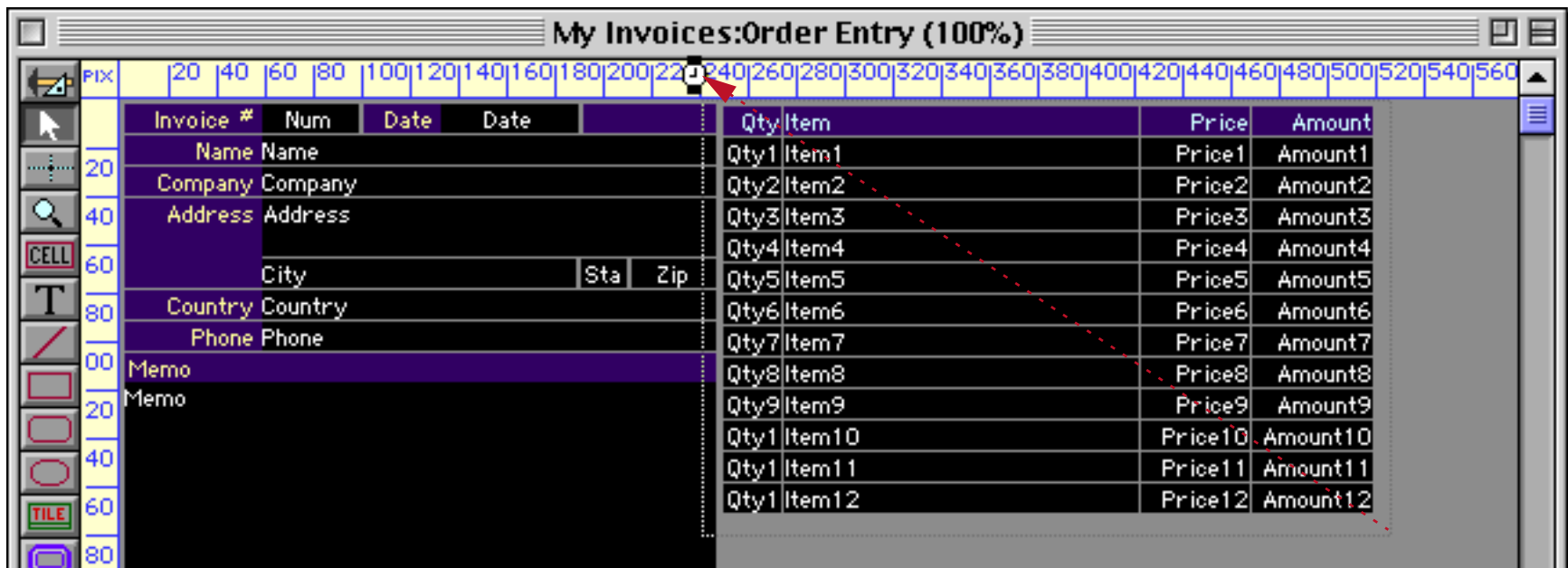
Now nudge the objects into alignment with the objects on the left hand side of the form (see "Nudging an Object (or Objects)" on page 509 of the *Panorama Handbook*).

Now you need to create the data cells for the subtotal, tax, shipping and grand total. Start by clicking on an empty spot on the form (to make sure no objects are selected) and then drag a marquee around the Amount9 through Amount12 data cells.

While holding down the **Shift** key and the **Option** key (Mac) or **Alt** key (PC) drag these four rectangles down below the other line items (see "Drag Duplicating" on page 561 of the *Panorama Handbook*).

Use the up arrow key to nudge the objects so that they are snuggled up with the Amount12 cell, then select the **Data Cell** tool.
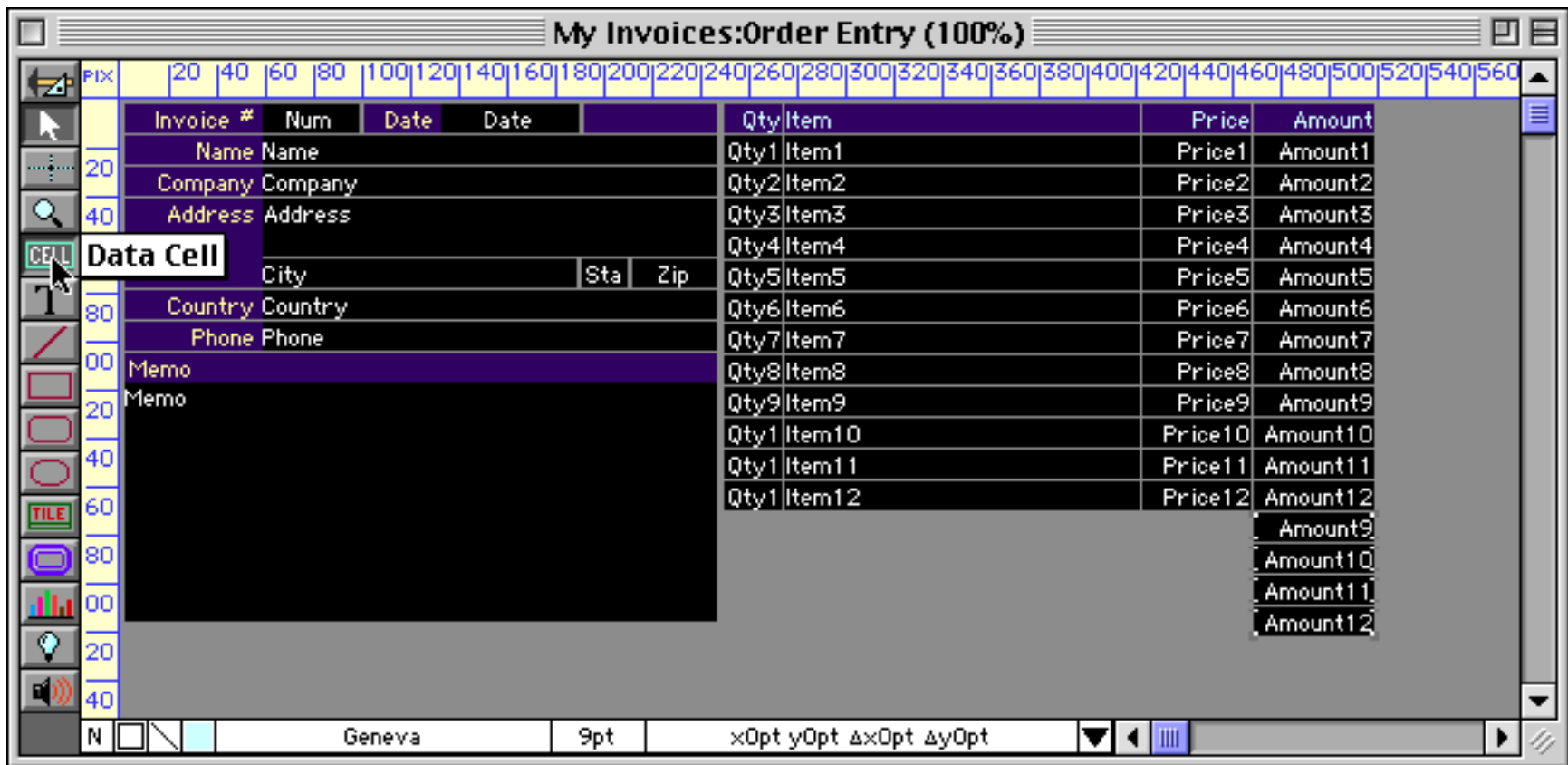
Move the mouse over the new Amount9 data cell you have created. The mouse arrow will turn into a tiny menu icon (see "Working with Data Cell Objects" on page 635).
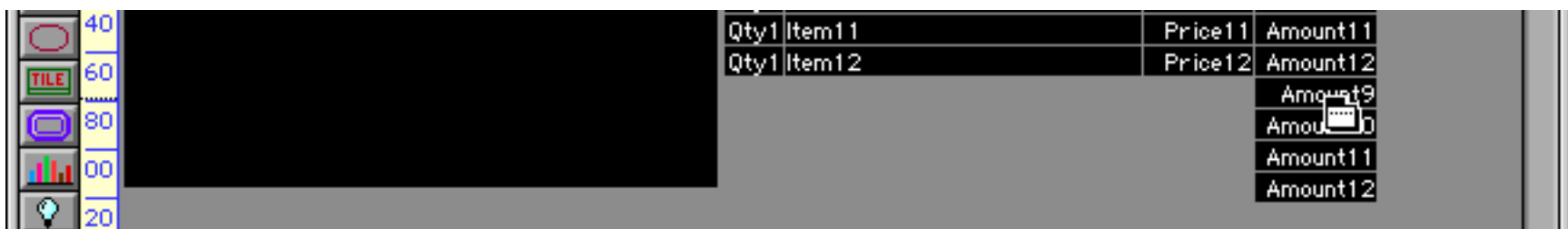
Press the mouse and select **SubTotal** from the pop-up menu.
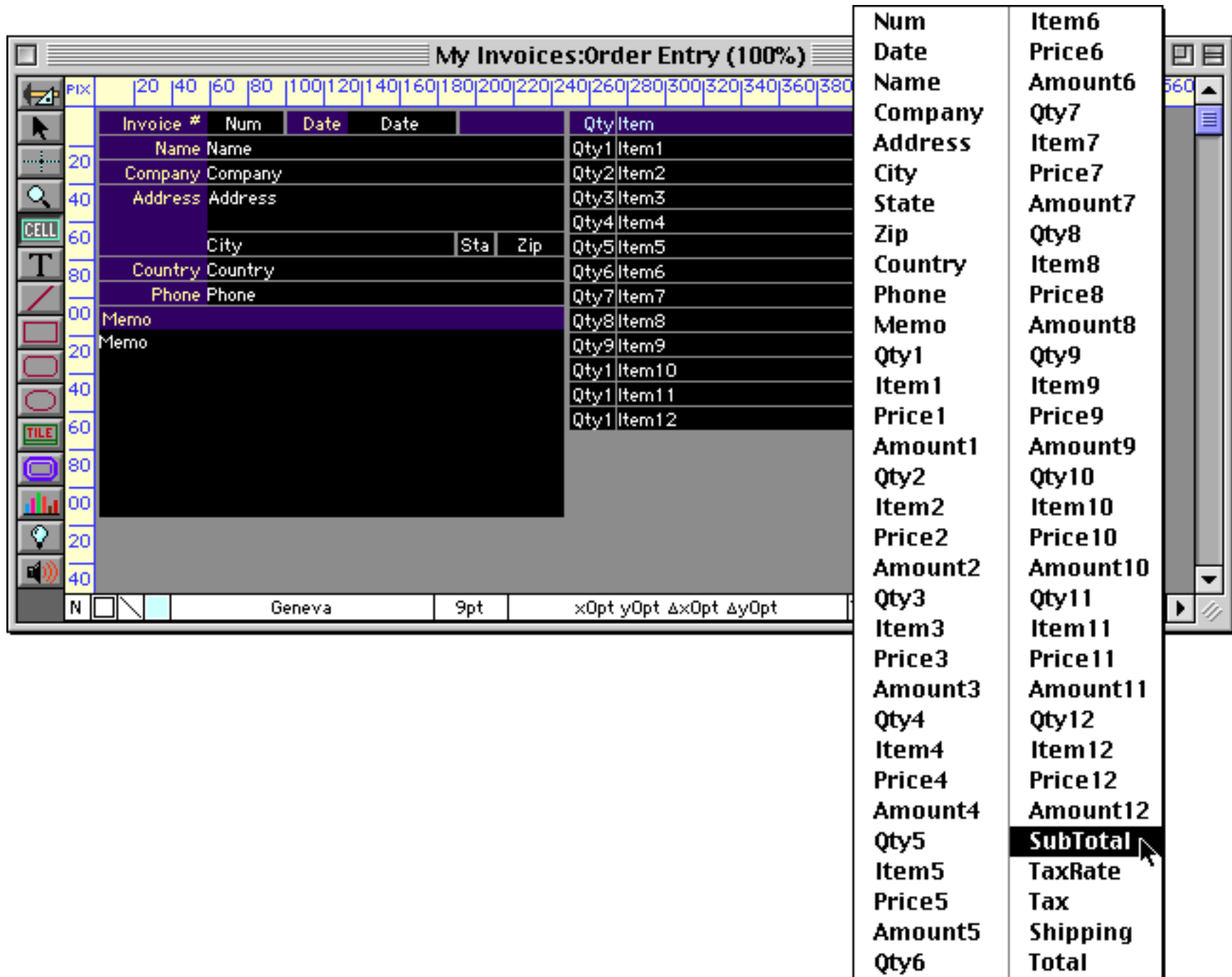
When you release the mouse the data cell will be assigned to the SubTotal field.
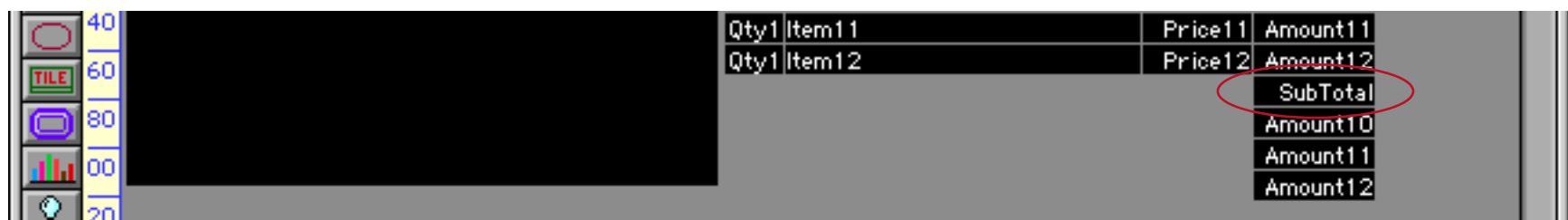
Repeat this for each of the other three data cells.
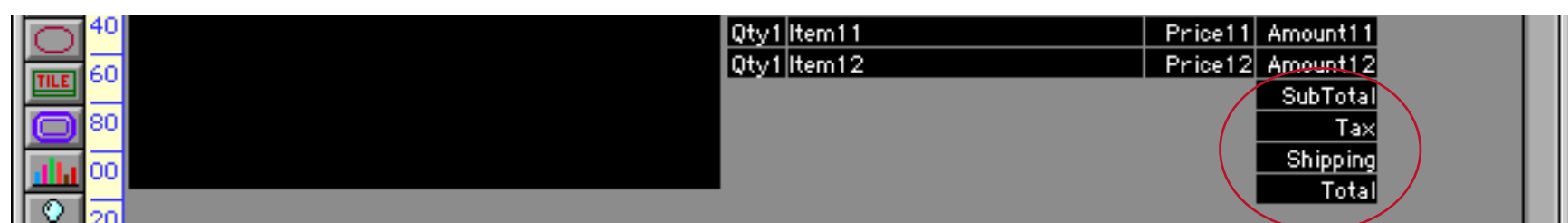
Since you're pretty much a professional by now you should have no problem finishing up this form so that it looks like this.
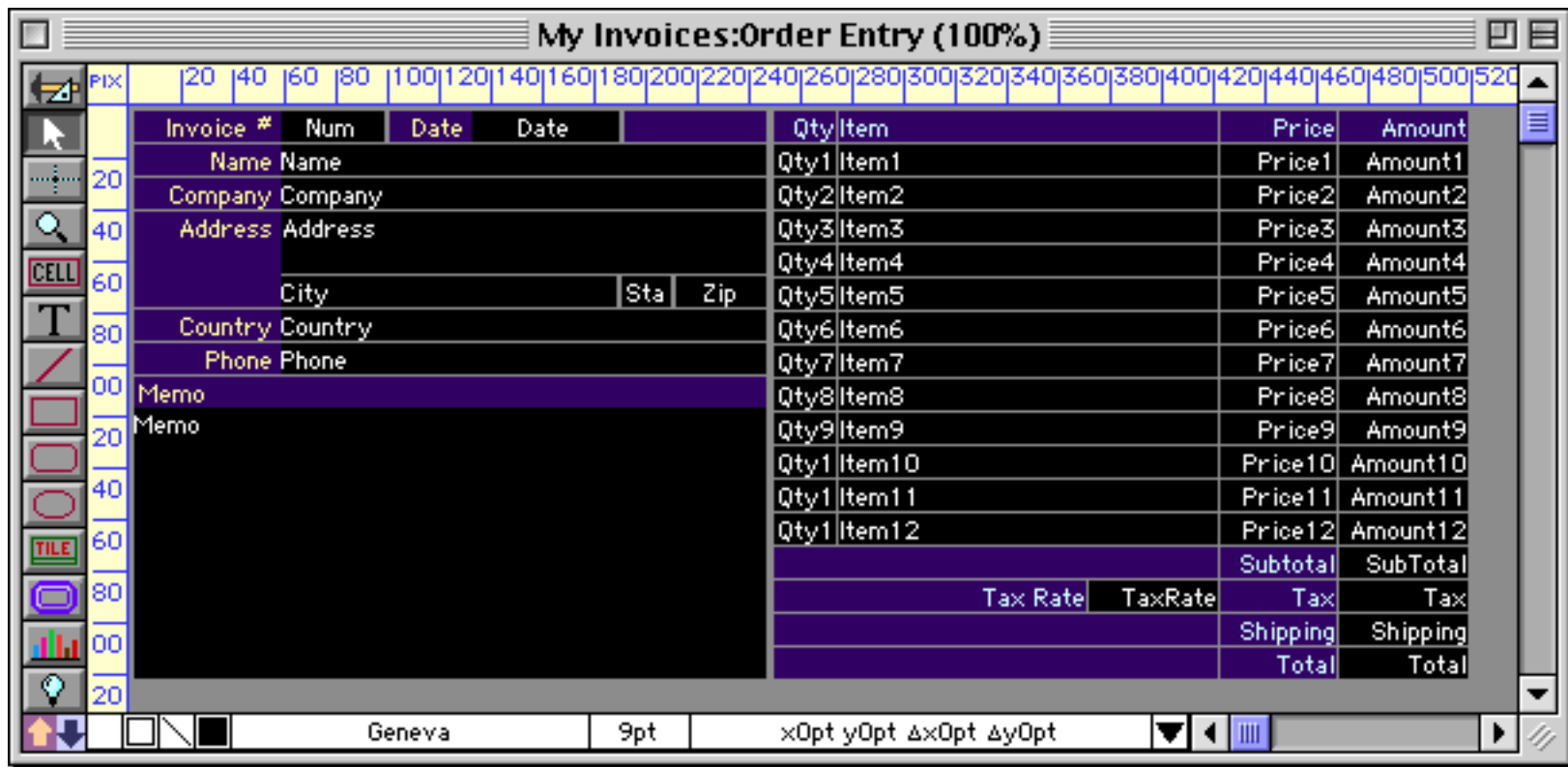
Be sure to **Save** this masterpiece before you go any further.

Entering Data into the Invoice

Before you can enter data into the invoice you must switch to Data Access Mode. You may also want to adjust the size of the window to match the size of your form.
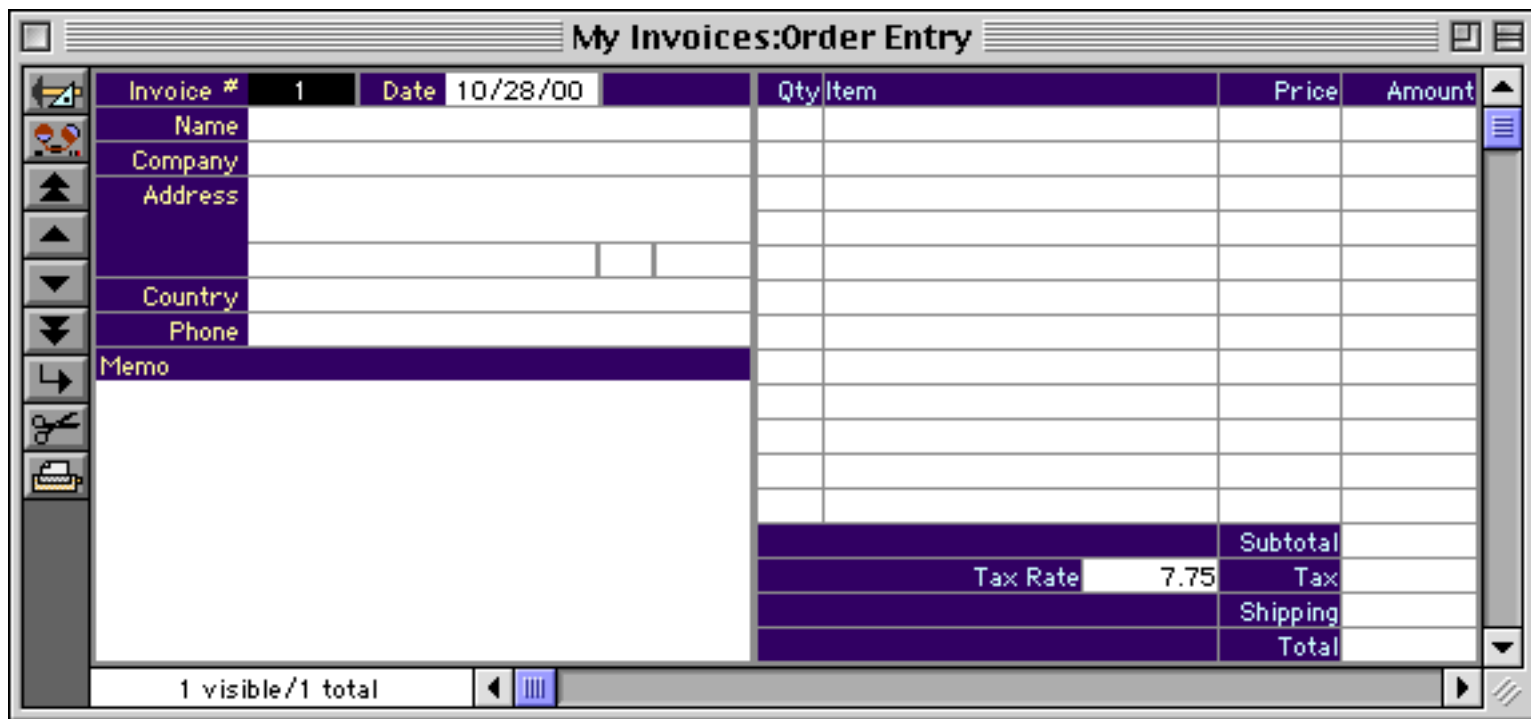
As you start typing data you'll quickly discover a problem. Pressing the **Tab** key after you enter the name causes Panorama to tab into the first Qty line item instead of the Company field. Oops!
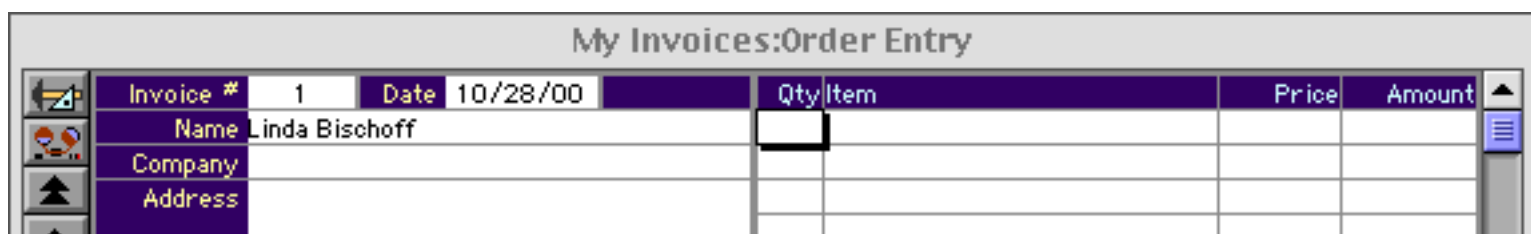
To fix this problem switch back into Graphic Design Mode. While holding down the **Shift** key click on the Name, Company, Address, City, State, Zip, Country, Phone and Memo data cells
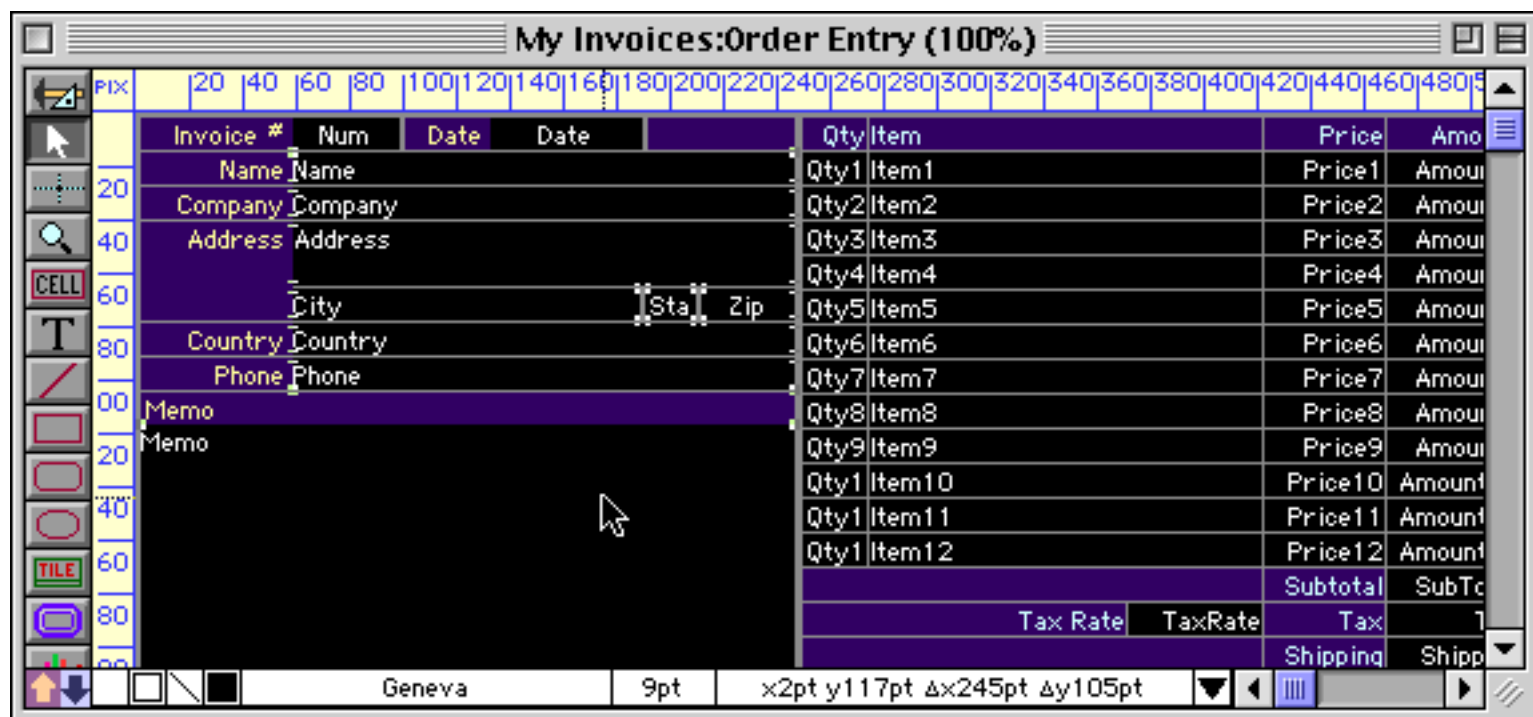
Now select the **Group** command from the Arrange menu.

This command combines the nine objects into one combined object (see "Grouping Objects Together" on page 536 of the *Panorama Handbook*). Instead of having handles around each individual object (see illustration above) there are now only four handles around the four corners of the combined object.
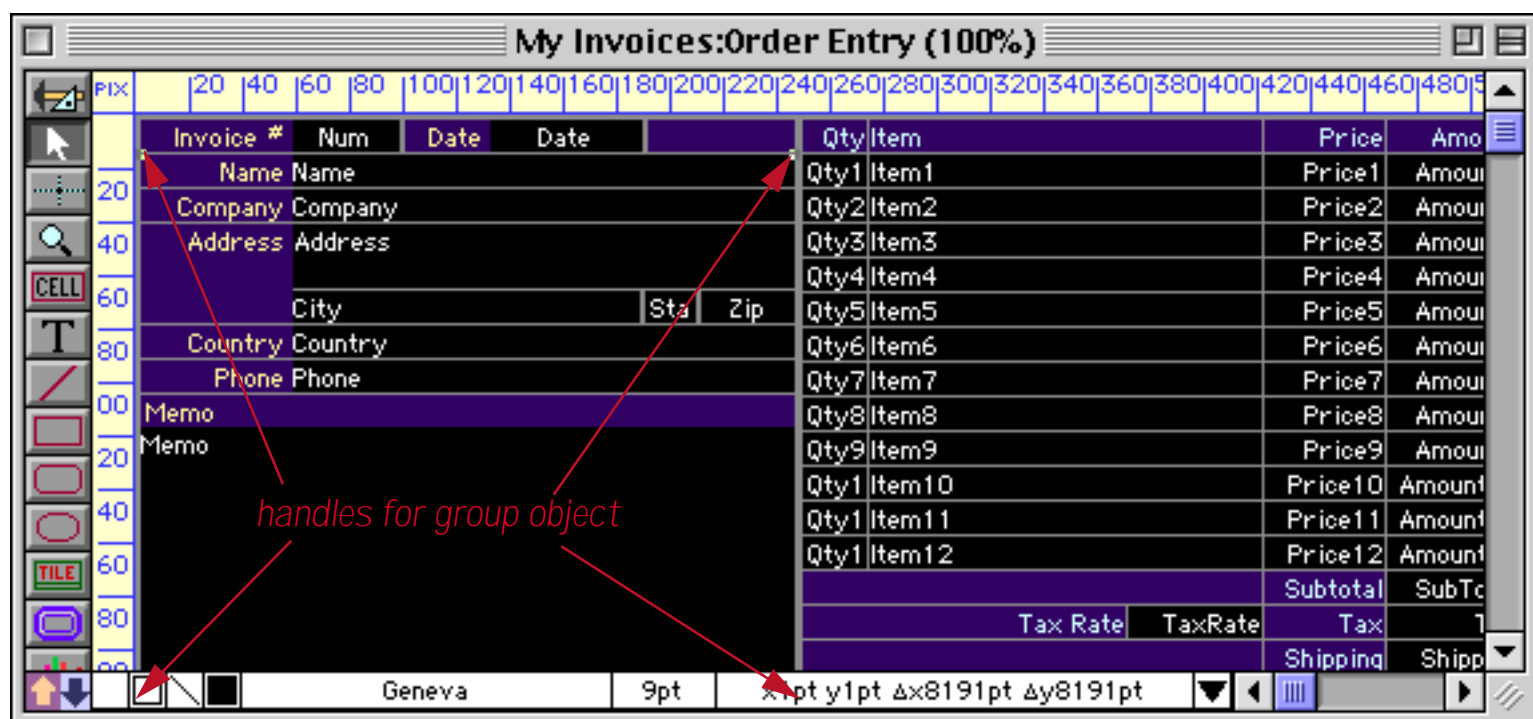
Now each time you press the **Tab** key Panorama will advance to the next cell within the group (see "Tab Order in Forms" on page 670 of the *Panorama Handbook*).

The next tab will bring you to the first line item field. Enter the quantity, item and price.

When you press the **Enter** key Panorama will calculate the line item total, subtotal, tax and grand total.

These calculations were set up for you by the **New Database Wizard**. To learn how to set up or modify these calculations yourself see "Automatic Calculations" on page 303 of the *Panorama Handbook*.

Lesson 4: Building a Price List

Now that the invoice is complete you will build a price list database and link the price list to the invoice. Start by launching Panorama and the **New Database Wizard**. The price list database will have two fields — Item and Price, so fill in the wizard as shown below.
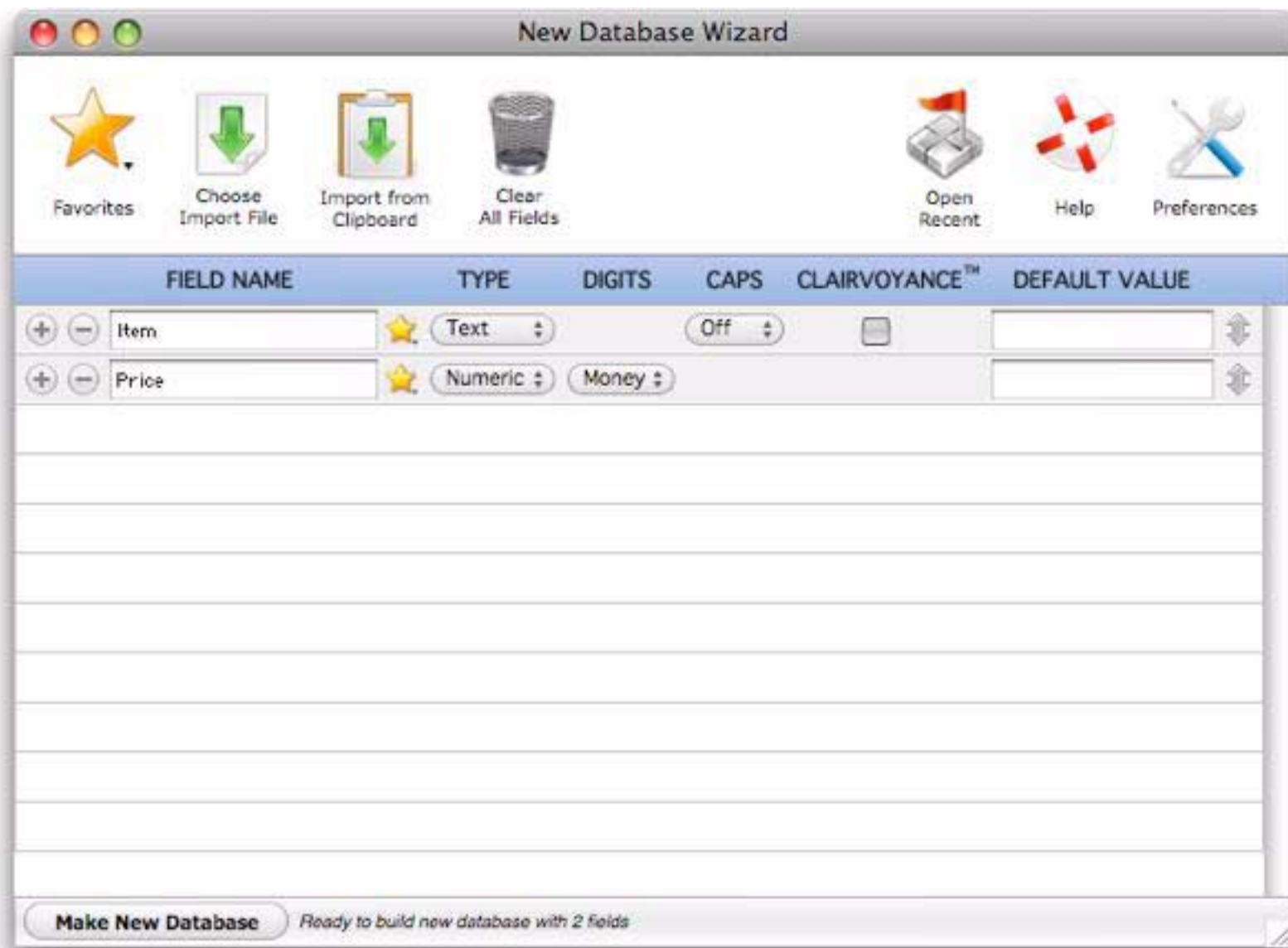
When you press the **Make New Database** button the wizard will create a new database for you, then it will offer to pre-fill the database with sample data. Press **Yes** and the new database will appear, complete with data.

Before continuing you should use the **Save** command in the File menu to save your new creation. The first time you save any file Panorama will ask you to give it a name. When everything is set up press the **Save** button. (To see what this dialog looks like on the PC see "Saving Your Work" on page 12.)

select folder you want to save file in

type in name of file
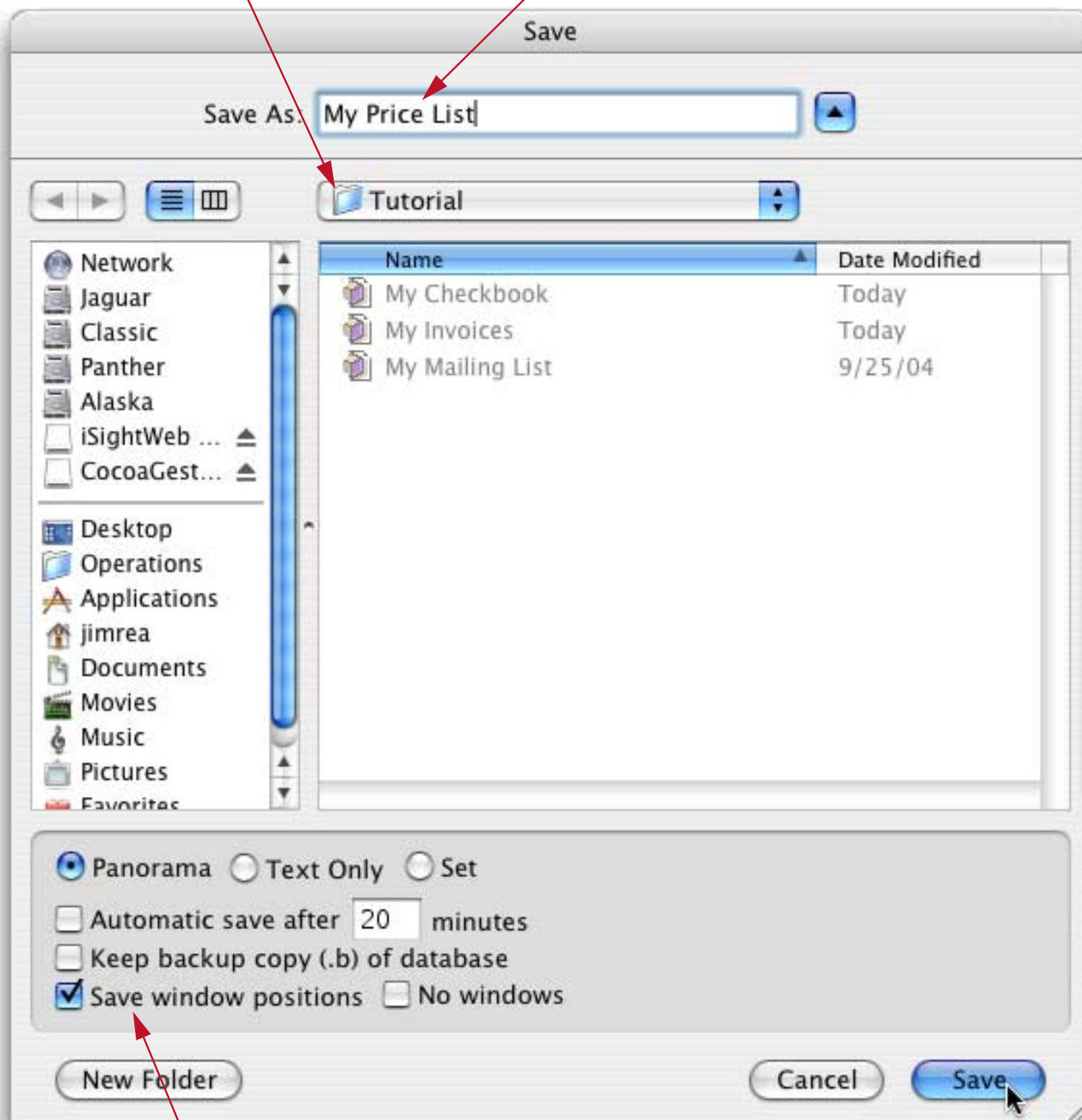
tell Panorama to save window positions

Linking the Price List to the Invoice

The price list is now ready to link to the invoice. The link will be designed to look up a price automatically when an item is entered into the invoice. Start arranging the invoice and price list windows so that both are visible, with the invoice window on top (something like the illustration shown below).
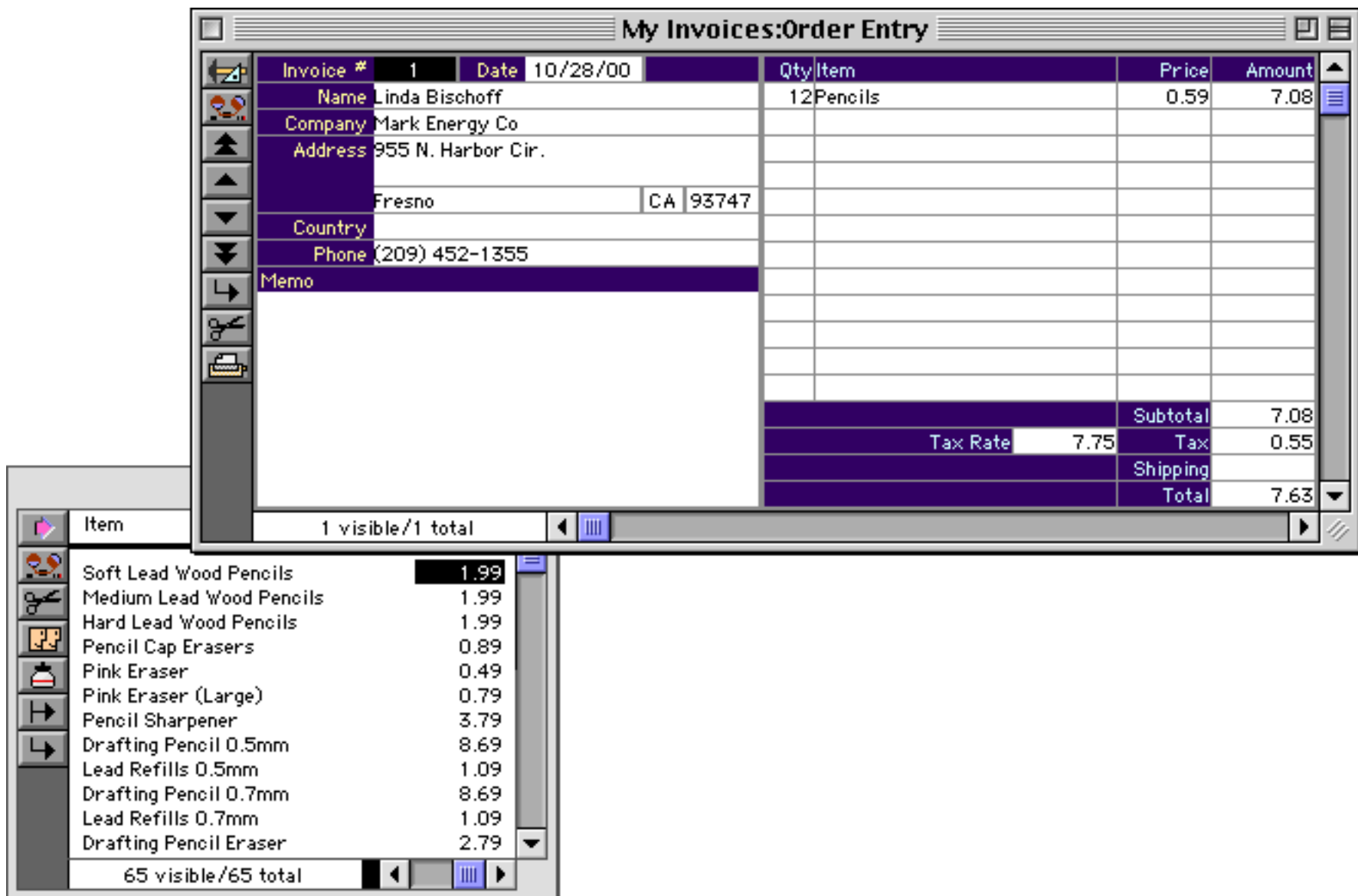
Using the **View** menu, switch from the invoice form to the invoice design sheet (see "The Design Sheet" on page 212 of the *Panorama Handbook*).
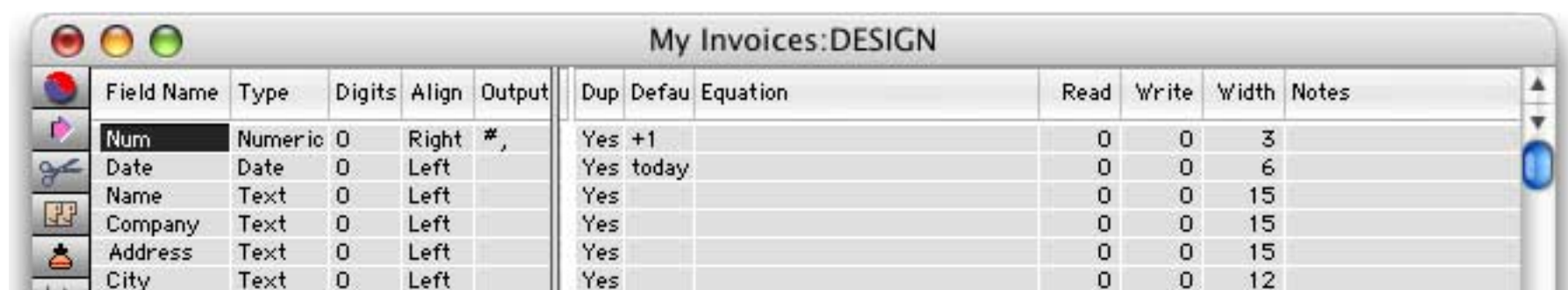
Double click on the Equation cell in the Price1 row.
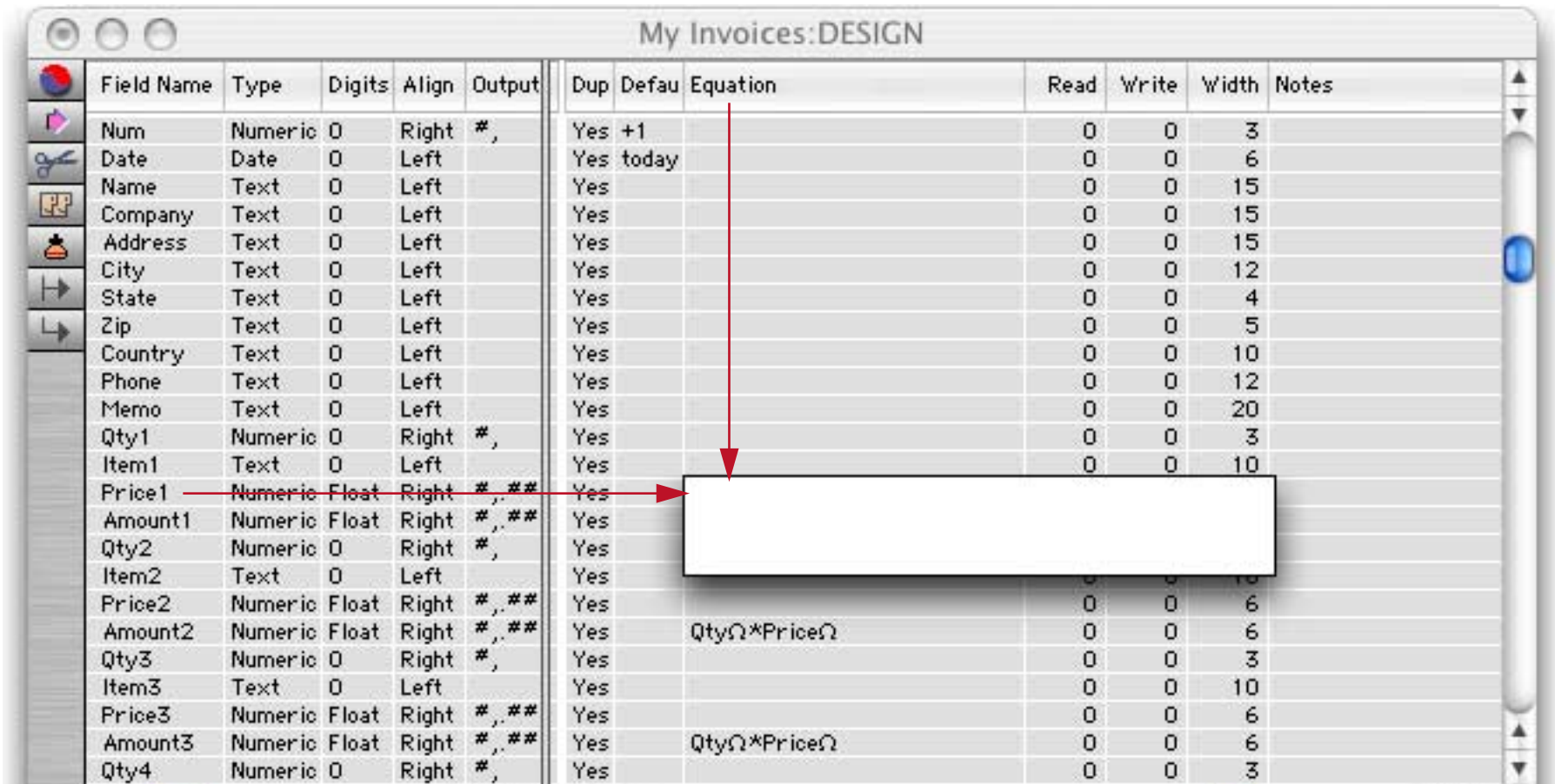
Now choose **lookup(…)** from the Functions menu (see "Functions Menu" on page 45).
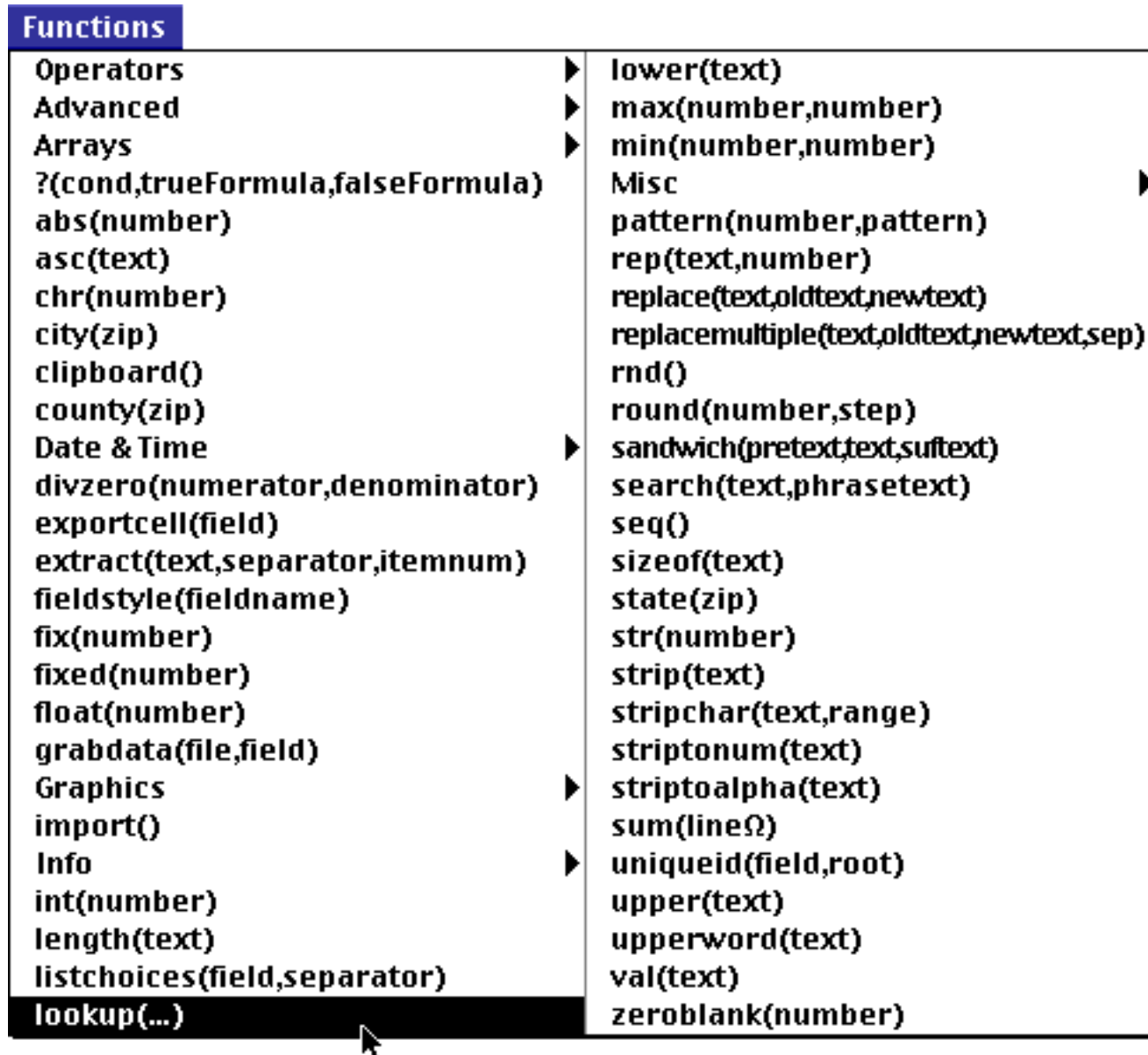
Choosing this menu item opens a dialog for setting up the `lookup(` function (see "Linking With Another Database" on page 131 of *Formulas & Programming*).
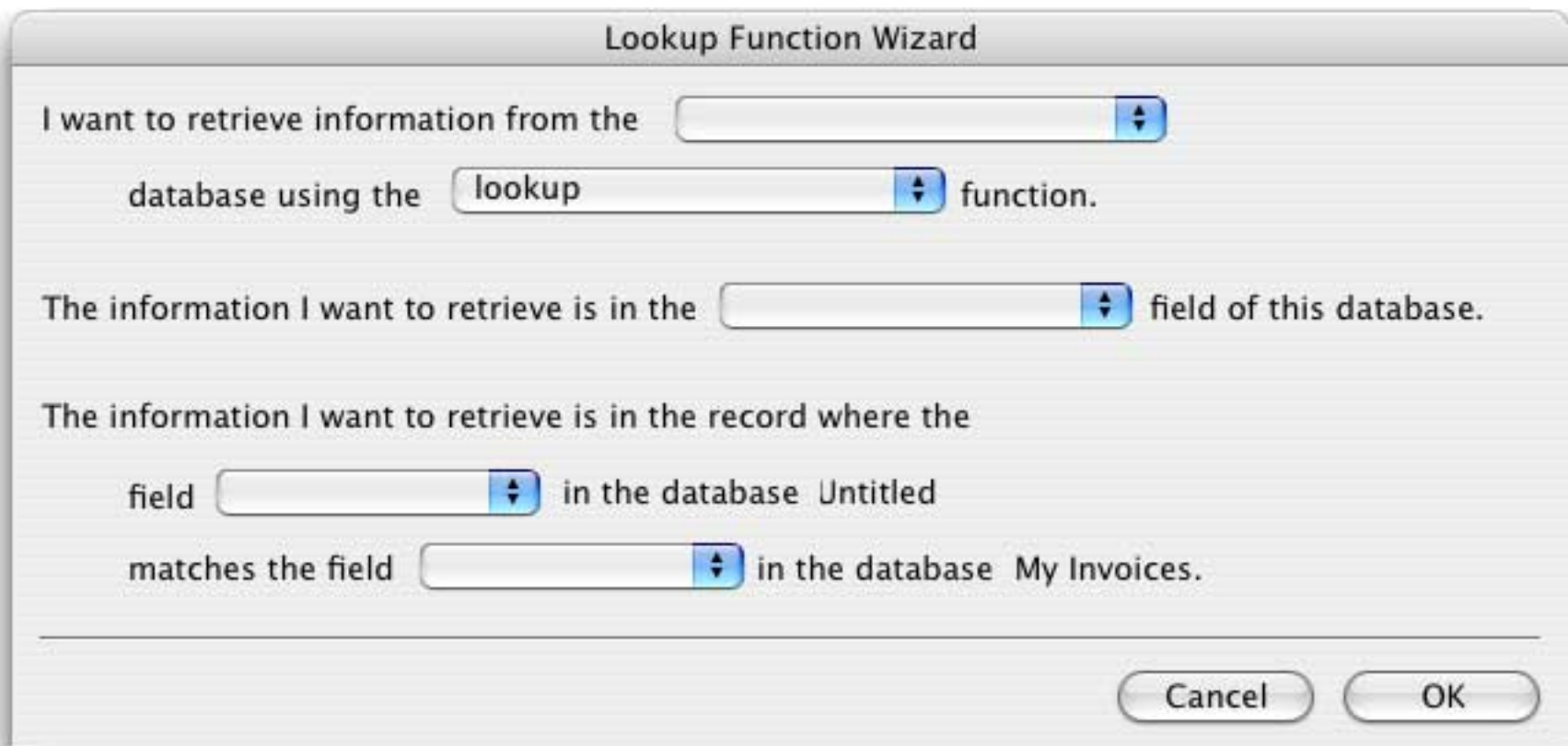
Start by selecting the database you want to look up data from, in this case the My Price List database.
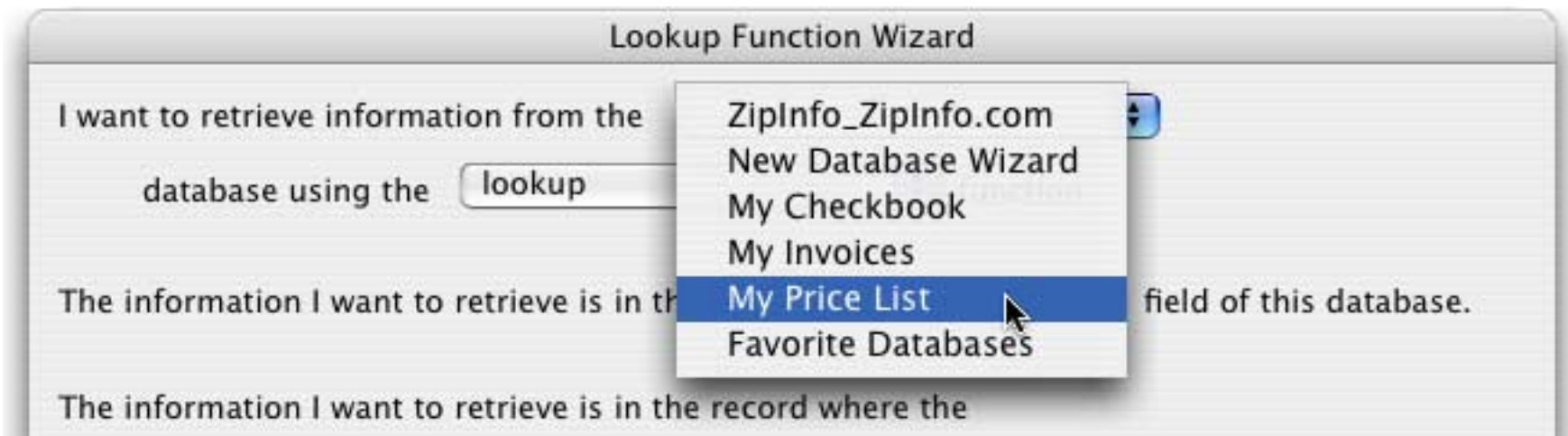
Now tell Panorama what you want to look up, in this case the Price.

We want to look up the price where the Item in the price list matches the Item value in the invoice. So select Item from My Price List.

The information I want to retrieve is in the record where the

field [**Item**] [⬍] in the database My Price List

match ⬍s the field [ ] [⬍] in the database My Invoices.

Item
Price

Cancel   OK
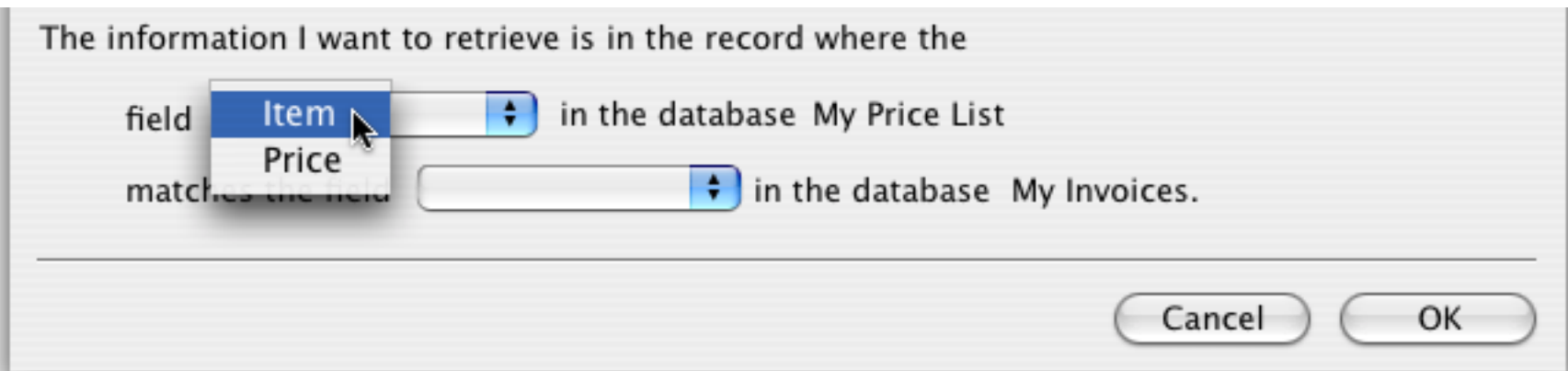
Select **Item1** for the last pop-up.

The information I want to   record where the

field [Item]   database My Price List

matches the field [⬍] in the database My Invoices.

Company
Address
City
State
Zip
Country
Phone
Memo
Qty1
Item1
Price1
Amount1
Qty2

Cancel   OK

Here's the finished dialog with everything filled in.

Press the **OK** button to build the formula for looking up the price.

Field Name	Type	Digits	Align	Output	Dup	Defau	Equation	Read	Write	Width	Notes
Num	Numeric	0	Right	#,	Yes	+1		0	0	3	
Date	Date	0	Left		Yes	today		0	0	6	
Name	Text	0	Left		Yes			0	0	15	
Company	Text	0	Left		Yes			0	0	15	
Address	Text	0	Left		Yes			0	0	15	
City	Text	0	Left		Yes			0	0	12	
State	Text	0	Left		Yes			0	0	4	
Zip	Text	0	Left		Yes			0	0	5	
Country	Text	0	Left		Yes			0	0	10	
Phone	Text	0	Left		Yes			0	0	12	
Memo	Text	0	Left		Yes			0	0	20	
Qty1	Numeric	0	Right	#,	Yes			0	0	3	
Item1	Text	0	Left		Yes			0	0	10	
Price1	Numeric Float	Right	#,.##	Yes		lookup("My Price List","Item",«Item1»,"Price",0,0)					
Amount1	Numeric Float	Right	#,.##	Yes							
Qty2	Numeric	0	Right	#,	Yes						
Item2	Text	0	Left		Yes						
Price2	Numeric Float	Right	#,.##	Yes				0	0	6	
Amount2	Numeric Float	Right	#,.##	Yes		QtyΩ*PriceΩ		0	0	6	

To learn more about how this formula works see "Linking With Another Database" on page 131 of *Formulas & Programming*. The formula generated by the dialog needs one slight adjustment — `Item1` must be replaced by `ItemΩ`. To type the Ω character use **Option-Z** on the Macintosh and **Alt-0166** on the PC (see "Special Characters" on page 57 and "Line Item Fields" on page 52 of *Formulas & Programming*).

Memo	Text	0	Left		Yes						
Qty1	Numeric	0	Right	#,	Yes			0	0	3	
Item1	Text	0	Left		Yes			0	0	10	
Price1	Numeric Float	Right	#,.##	Yes		lookup("My Price List","Item",«ItemΩ»,"Price",0,0)					
Amount1	Numeric Float	Right	#,.##	Yes							
Qty2	Numeric	0	Right	#,	Yes						
Item2	Text	0	Left		Yes						
Price2	Numeric Float	Right	#,.##	Yes				0	0	6	
Amount2	Numeric Float	Right	#,.##	Yes		QtyΩ*PriceΩ		0	0	6	
Qty3	Numeric	0	Right	#,	Yes			0	0	3	

Once this adjustment has been made press the **Enter** key. Panorama will respond with this dialog (see "Modifying Line Item Fields" on page 225 of the *Panorama Handbook*).
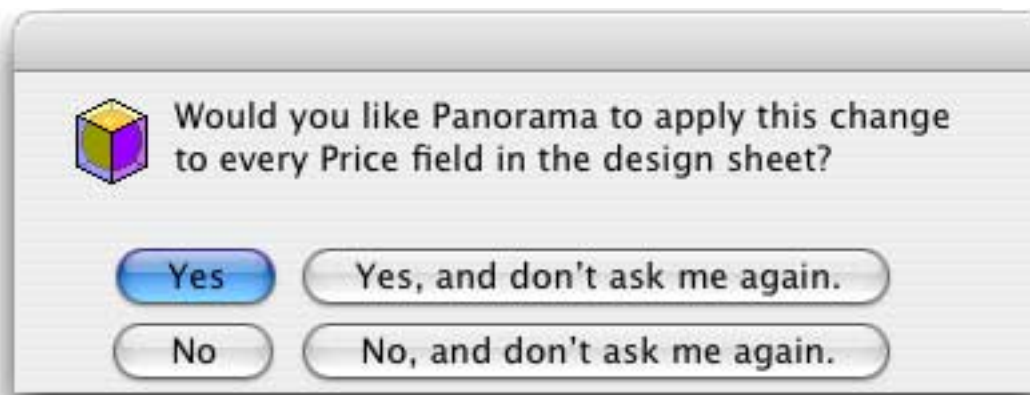
Press the **Yes, and don't ask me again** button. Panorama will update not only the Price1 field definition, but also Price2, Price3, Price4 etc. You can see this by scrolling down the design sheet. (We've split the window into two panes (see "Splitting a Window" on page 145 of the *Panorama Handbook*) and expanded the width of the Equation column to make this easier to see.)

Now click on the Item1 field name (we've also unsplit the window and reduced the width of the Equation column).

Choose the **Set Up Link** command from the Special menu (see "Clairvoyance® Across Multiple Files" on page 286 of the *Panorama Handbook*).
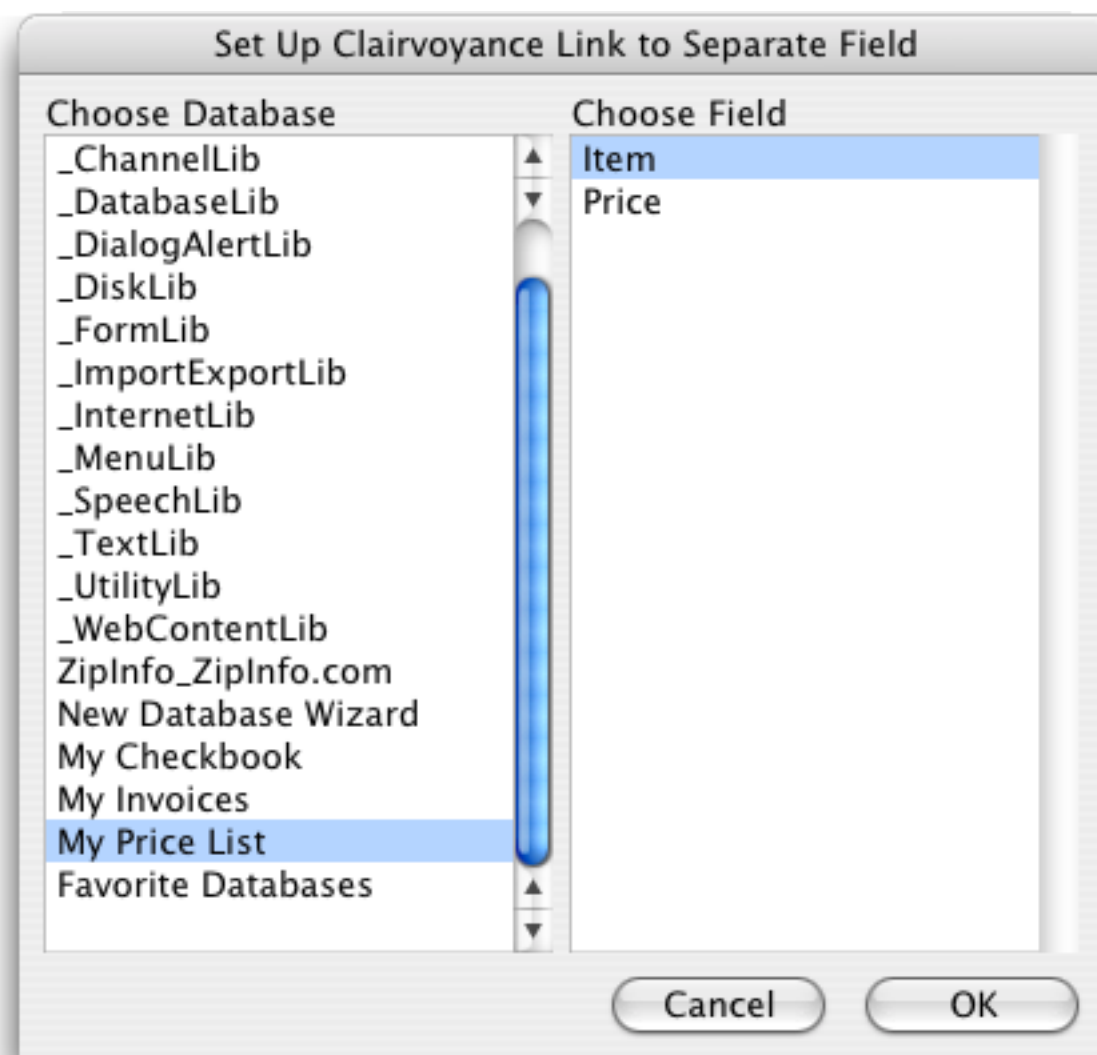
On the left hand side select My Price List. Then select Item on the right hand side (as shown above).

Press **OK** to set up the link.

The link must be copied to all of the other item fields (Item2, Item3, Item4, etc.) To do this, double click on the link.

When you press the **Enter** key the link specification will be copied to all of the other Item fields.

Use the **View** menu to switch back to the **Order Entry** form. When Panorama asks you if you want to create a new generation, press the **Yes** button (see "Database "Generations"" on page 212 of the *Panorama Handbook*). Then **Save** the database before continuing.

Using the Linked Invoice & Price List

Since you've set up a Clairvoyant link between the invoice and the price list you'll only need to enter the first few letters of a description.

When you press the **Enter** key Panorama will look up the price from the Price List database. Once the price is looked up Panorama will then automatically calculate the subtotal, tax and grand total.
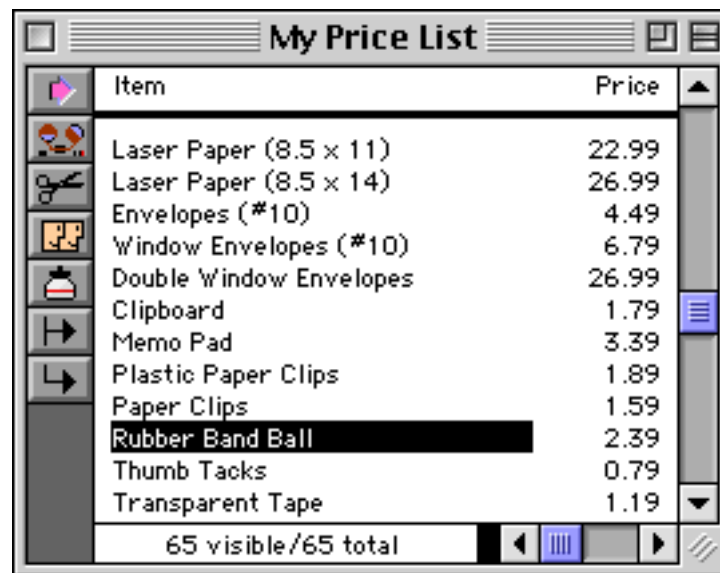
You can enter up to 12 items in each invoice.

Creating a Procedure to Add an Item

Now you'll write a very short procedure. Start by clicking on the Price List database.

Use the **View** menu to create a new procedure named Add Item to Invoice (see "Writing a Procedure from Scratch" on page 216 of *Formulas & Programming*). Type in the four lines shown below, exactly as they are shown. (Remember, the Ω character is typed in by pressing **Option-Z** on the Macintosh or **Alt-0166** on the PC. Depending on the fonts installed on your system the character may not look like Ω, but it will work if you press the right keys.)
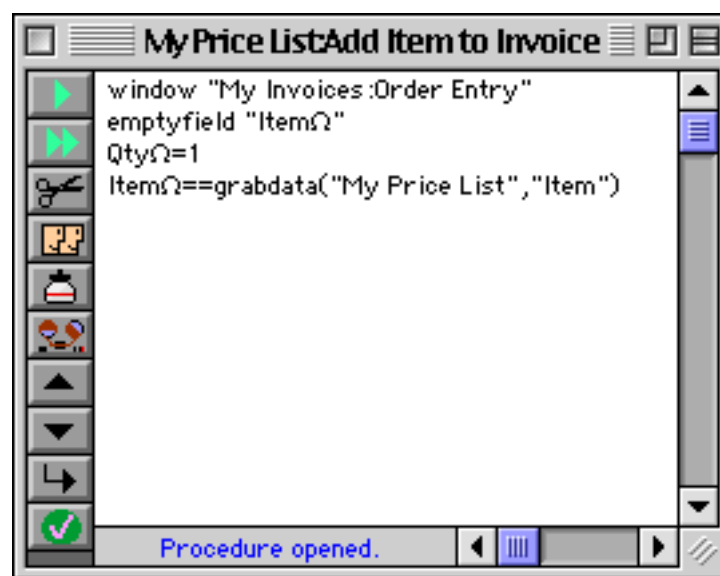
To check your typing use the **Check Procedure** tool. This tool can spot most typing mistakes (see "Checking for Mistakes" on page 220 of *Formulas & Programming*).
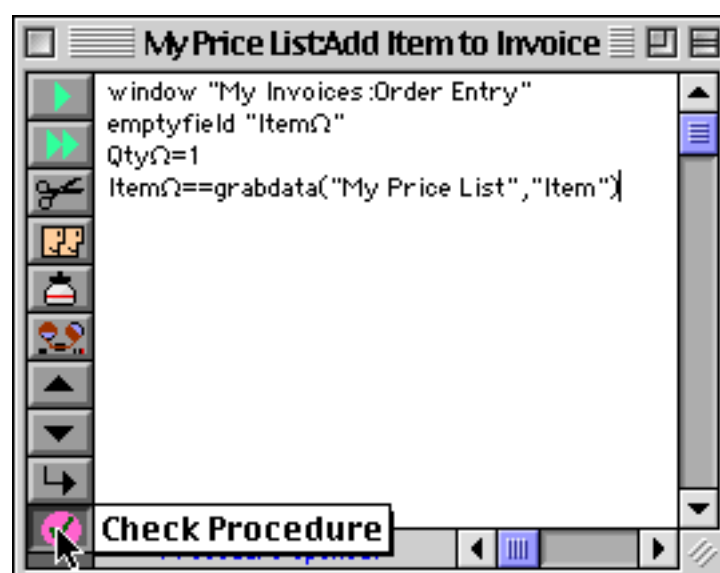
Assuming there are no errors use the **View** menu to switch back to the data sheet. (If there are any errors - fix them!) Then pick the item you want to add to the invoice and choose **Add Item to Invoice** from the Action menu.

The procedure will automatically add the selected item to the invoice.

To learn more about how this procedure actually works see "Assignment Statements" on page 243, "Windows" on page 445 and "Moving Left and Right" on page 515 of *Formulas & Programming*.

Creating a Price List Form with Buttons

Now you'll create a price list form with buttons for adding items to the invoice. Start by using the **View** menu to create a new form named Add.
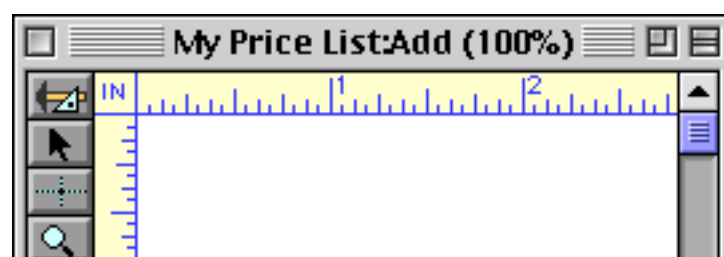
You're going to make a **View-As-List** form (see "View-As-List Forms" on page 899 of the *Panorama Handbook*). To do this start by selecting the **Tile** tool. You may need to scroll the tool palette to access this tool (see "Scrolling the Tool Palette" on page 143 of the *Panorama Handbook*).
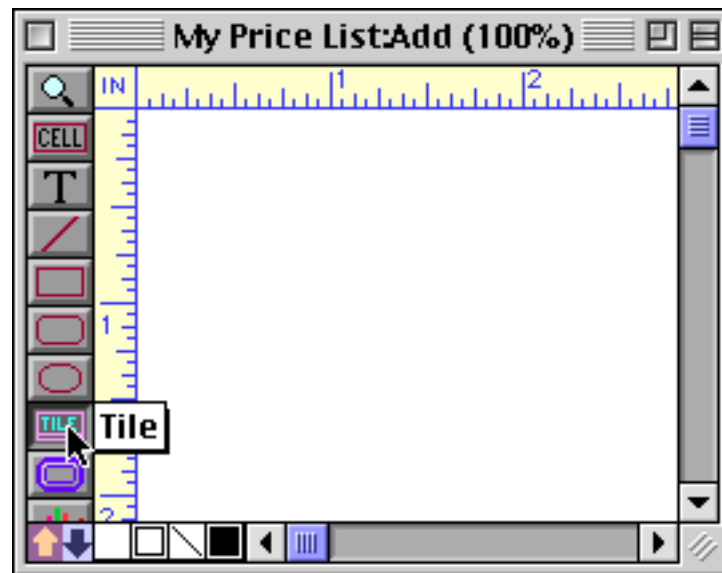
Expand the width of the window slightly, then drag the mouse across the form to create a tile (see "Working with Tiles" on page 908 of the *Panorama Handbook*).
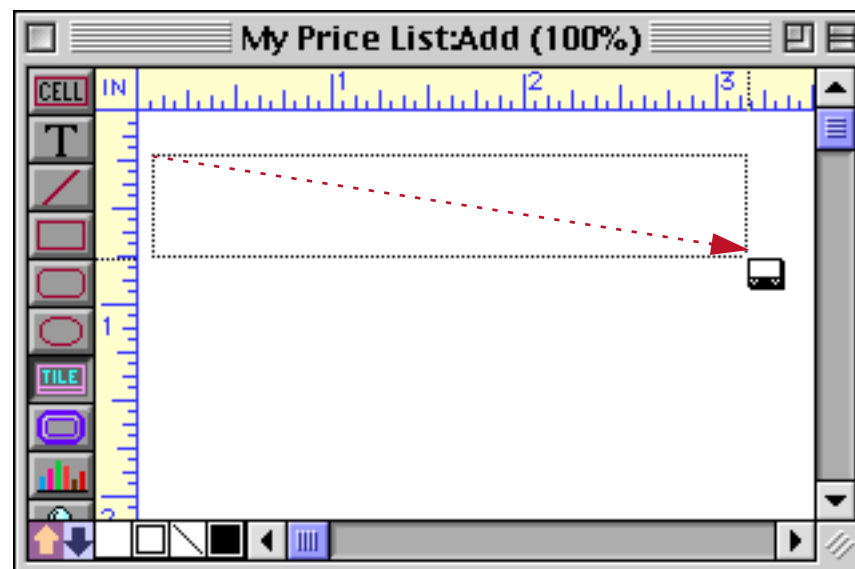

When you release the mouse a new **data tile** appears.
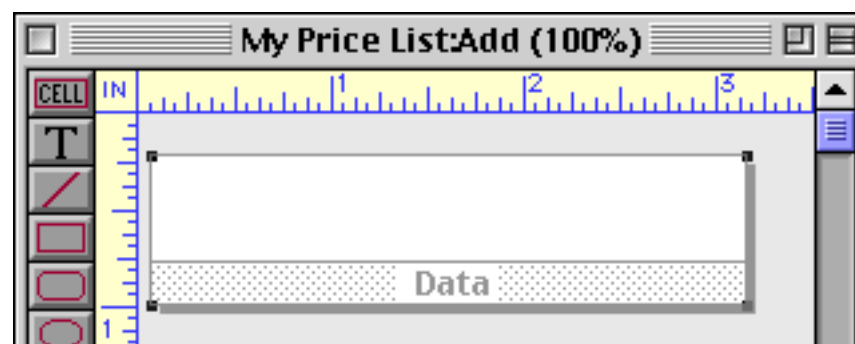
Before you continue with the next step you'll need to customize the tool palette. To do this choose **Tool Palette** from the Setup menu and then arrange the tools as shown below (see "Customizing the Tool Palette" on page 497 of the *Panorama Handbook*).
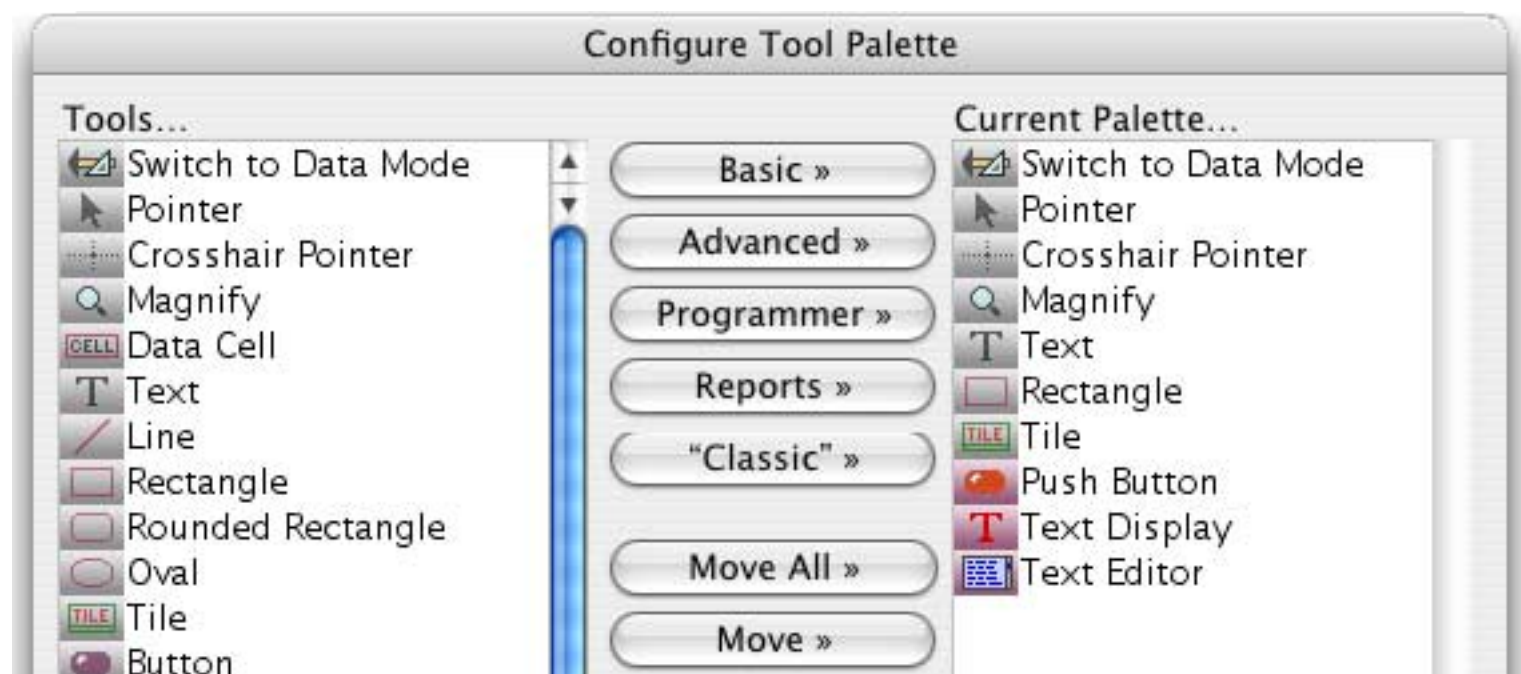
Press the **OK** button, then select the **Push Button** tool (see "Push Buttons" on page 823 of the *Panorama Handbook*).
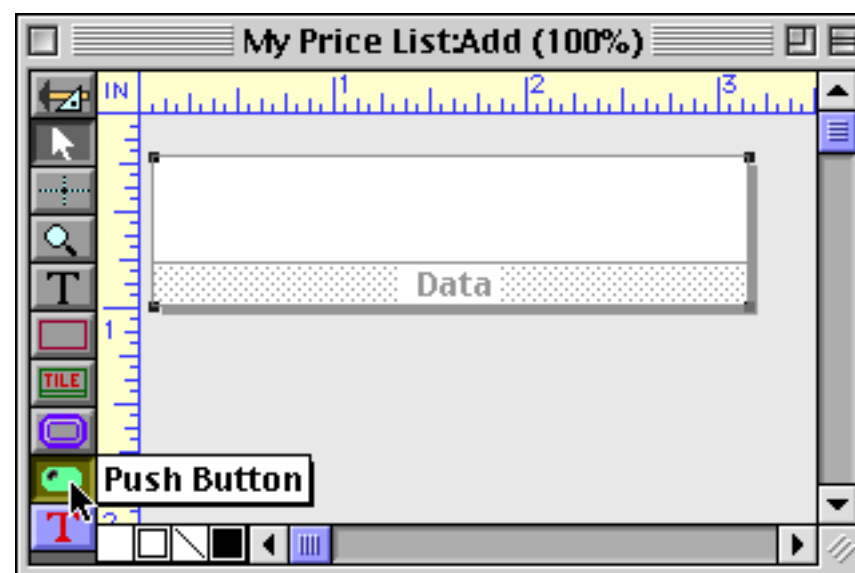

Now drag to create a button in the upper left hand corner of the data tile.
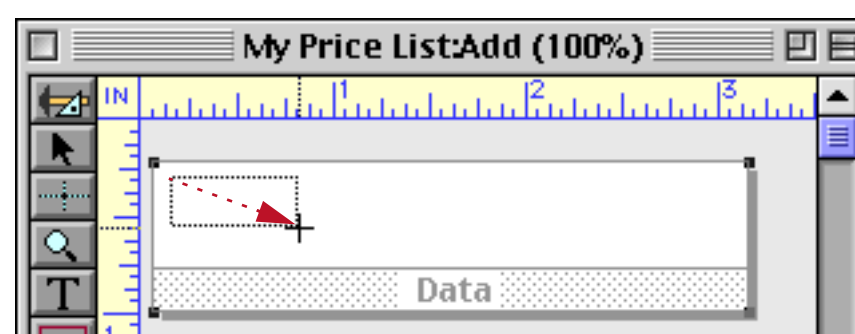
Now you'll need to select three options for the new push button. Using the pop-up menu select the procedure linked to this button, in this case Add Item to Invoice. (This means that when this button is pressed the Add Item to Invoice procedure will be triggered, just as if you had selected it from the **Action** menu.) Type in the title you want to appear in the button, in this case Add. Click on the button style you want to use, in this case 3D Rounded Rectangle.
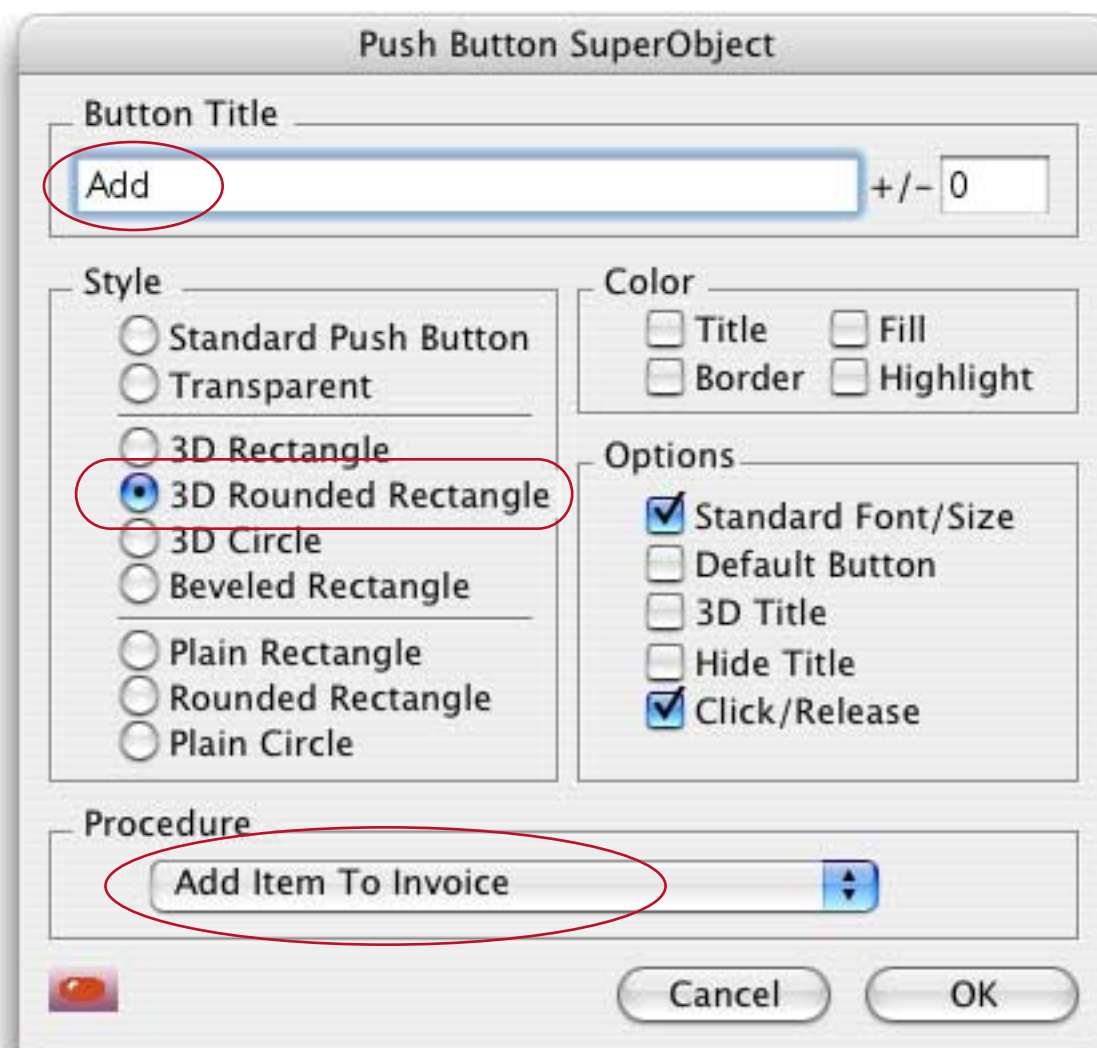
When you press the **OK** button the new push button will appear on your form.
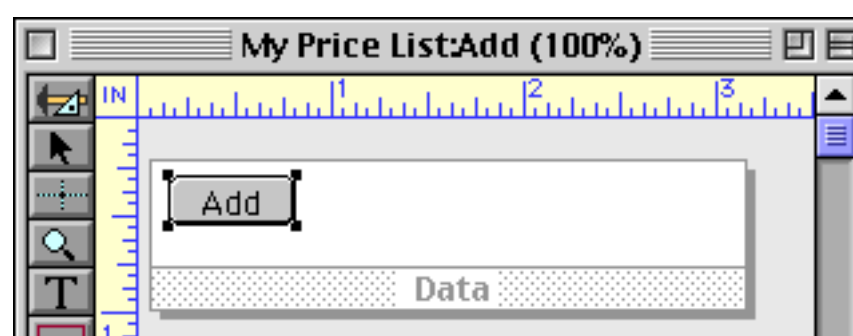
Select the **Pointer** tool and adjust the text size and overall dimensions of the button (see "Text Size" on page 531).

Now select the **Text Editor** tool (see "Text Editor SuperObject" on page 639 of the *Panorama Handbook*).
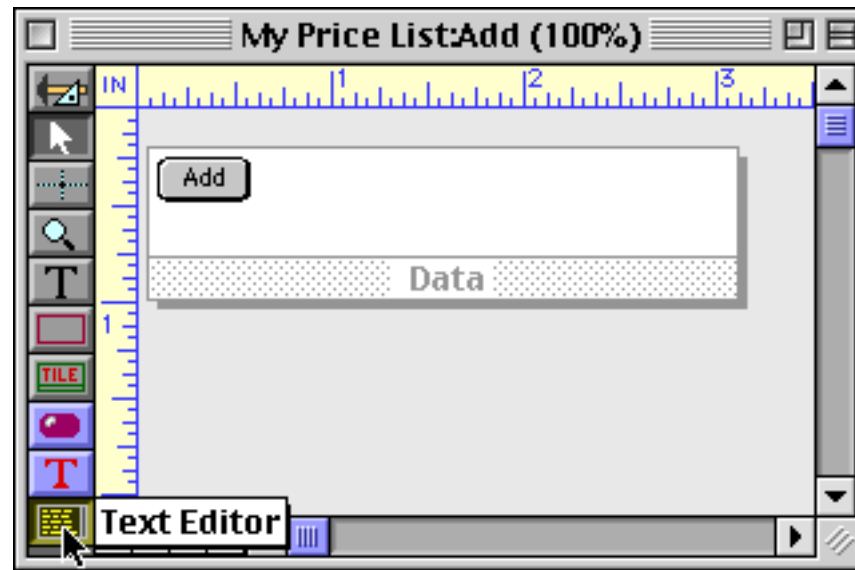

Drag the mouse to create a text editor object.
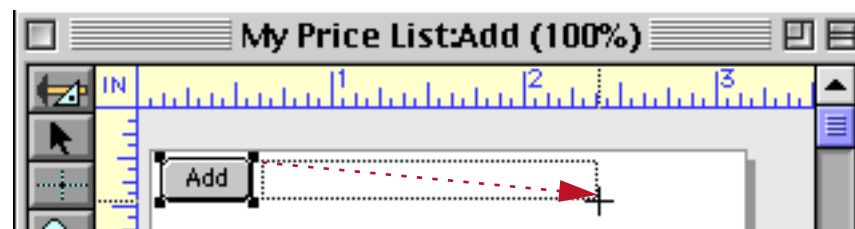
When you release the mouse the Text Editor SuperObject configuration dialog appears (see "Text Editor Options" on page 643 of the *Panorama Handbook*). Set the options as shown in the illustration below.
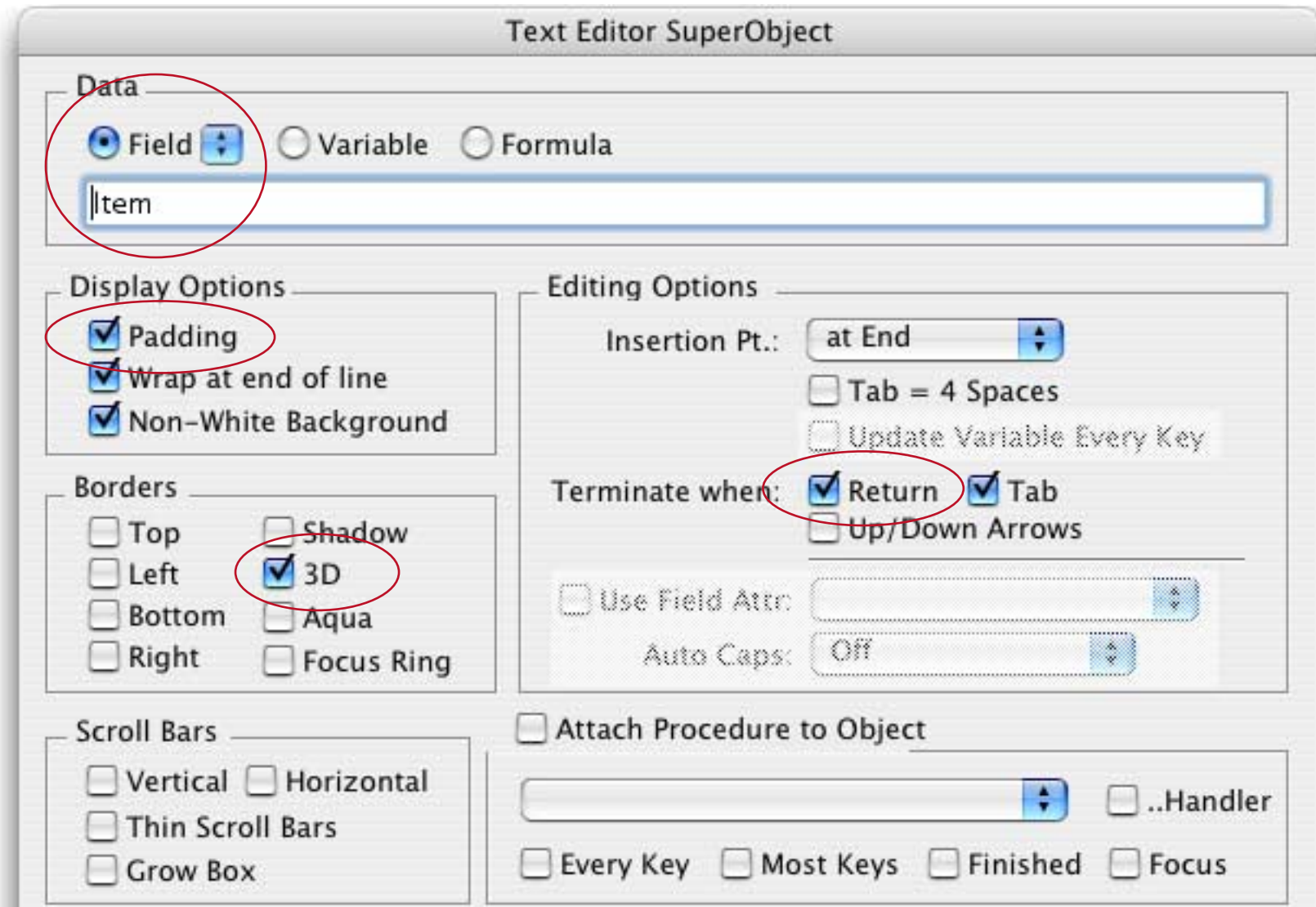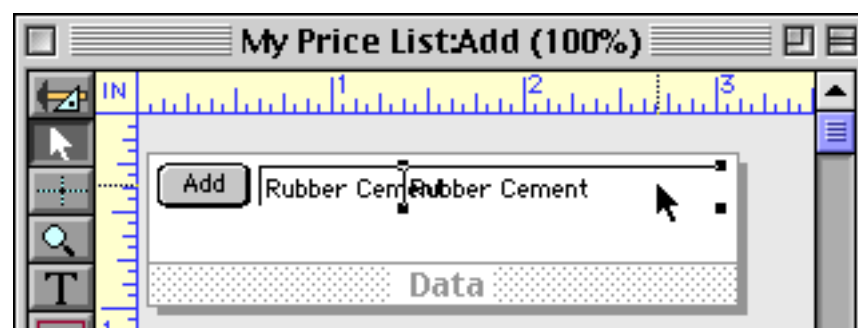
When you press the **OK** button the new Text Editor SuperObject will appear.
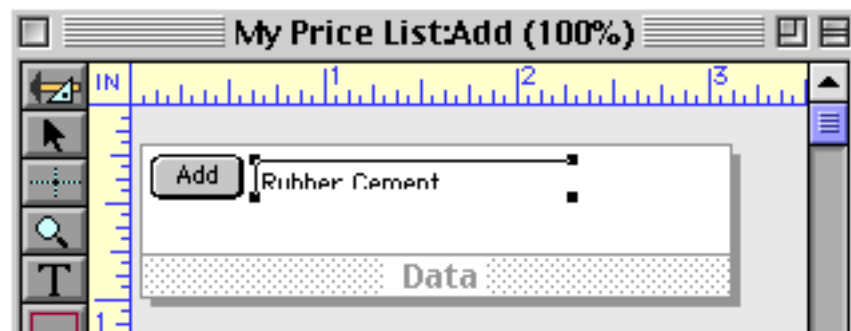
Select the **Pointer** tool and adjust the size and position of the new object (see "Nudging the Size of an Object" on page 513 of the *Panorama Handbook*).
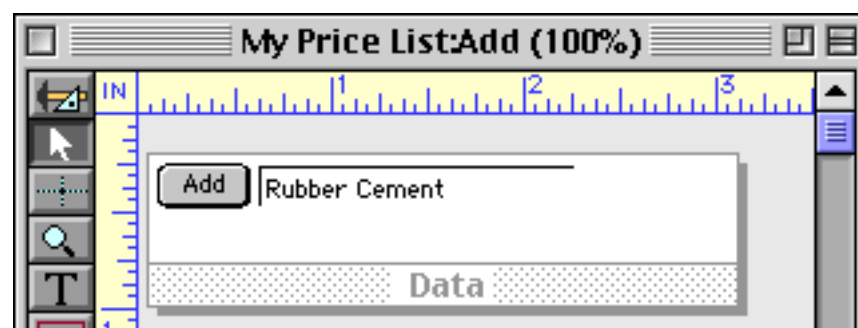
Hold down the **Option** key (Mac) or the **Alt** key (PC) and drag the Text Editor object to the right (see "Drag Duplicating" on page 561 of the *Panorama Handbook*).

Adjust the size of the new object and select the **Right** command from the Text menu (see "Text Alignment" on page 594 of the *Panorama Handbook*).
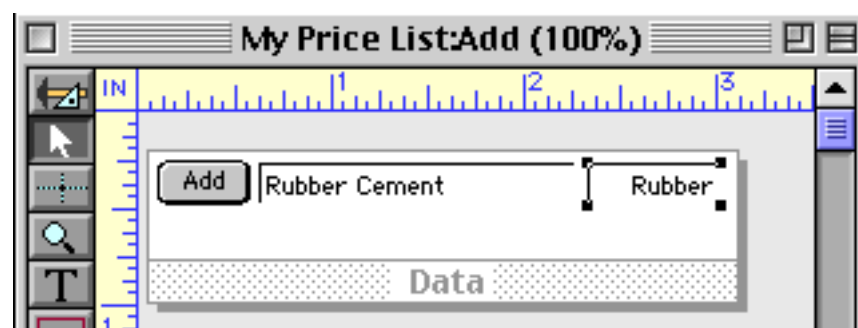
Double click on the new text editor object (see "The Object Properties Dialog" on page 534 of the *Panorama Handbook*) and change the field to Price.
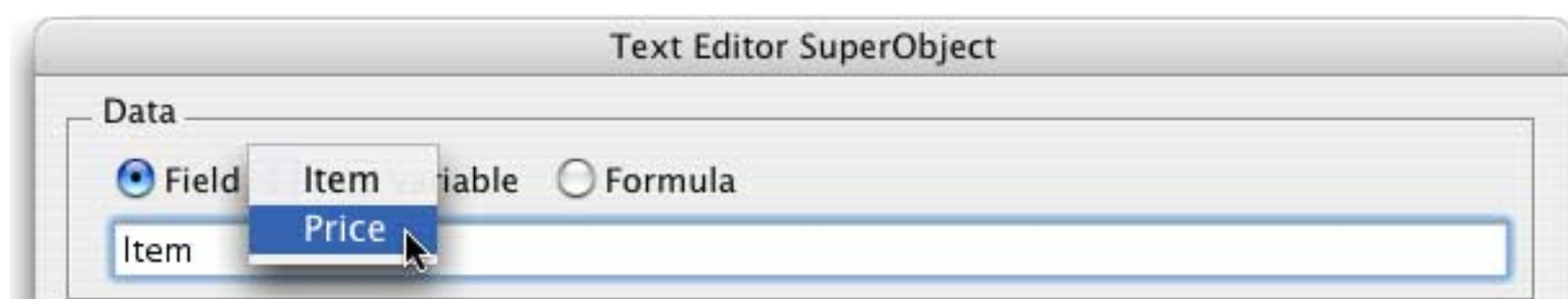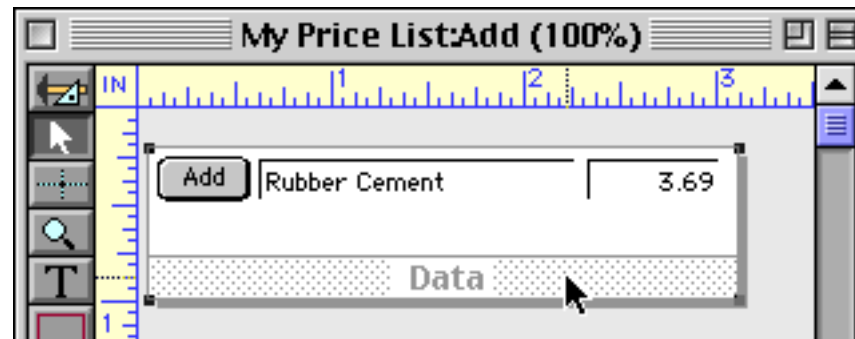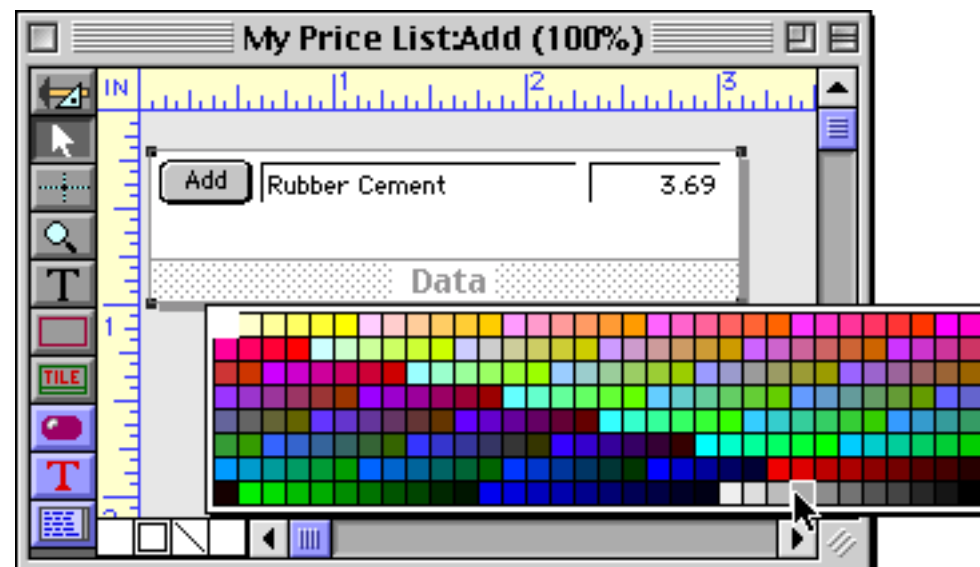
Press **OK** to update the object.
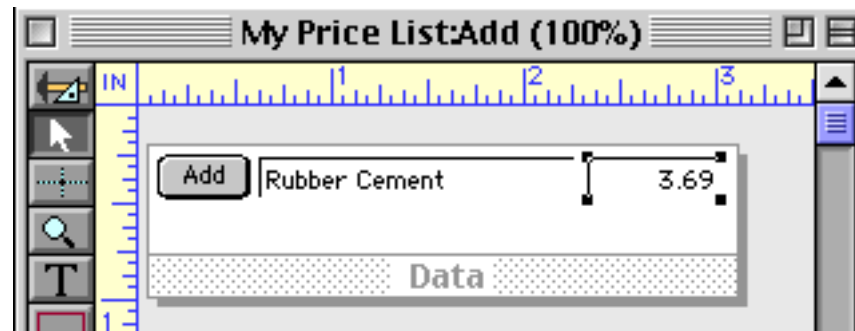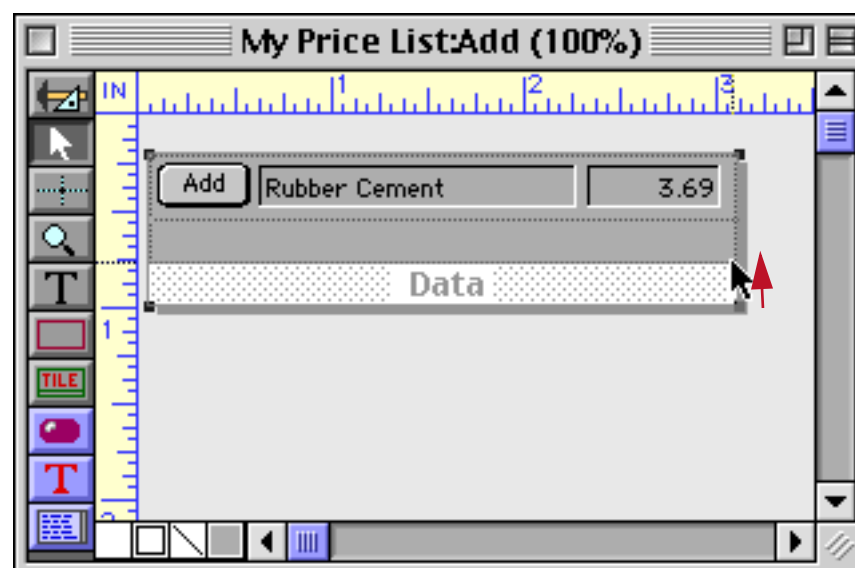

Click in the tiles' drag bar to select it (see "Working with Tiles" on page 908).
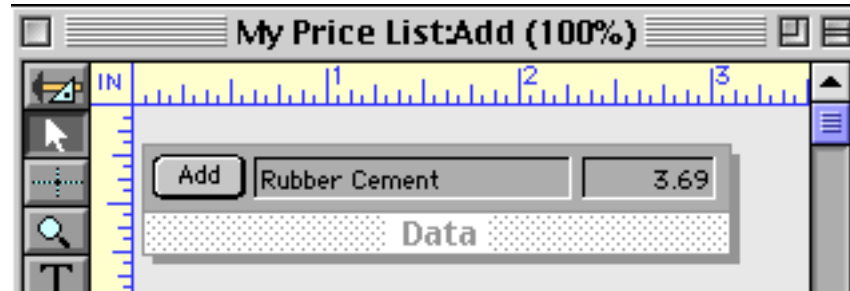

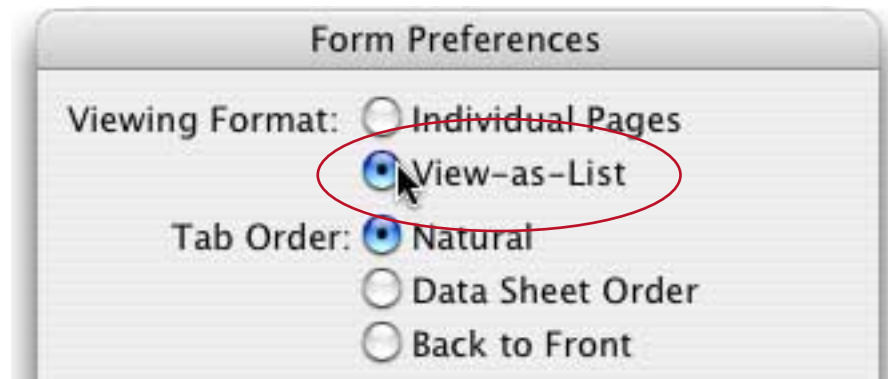Use the color menu to change the tile to light gray.

Drag the lower left hand handle of the tile up until there is an equal margin around the button and text editor objects.
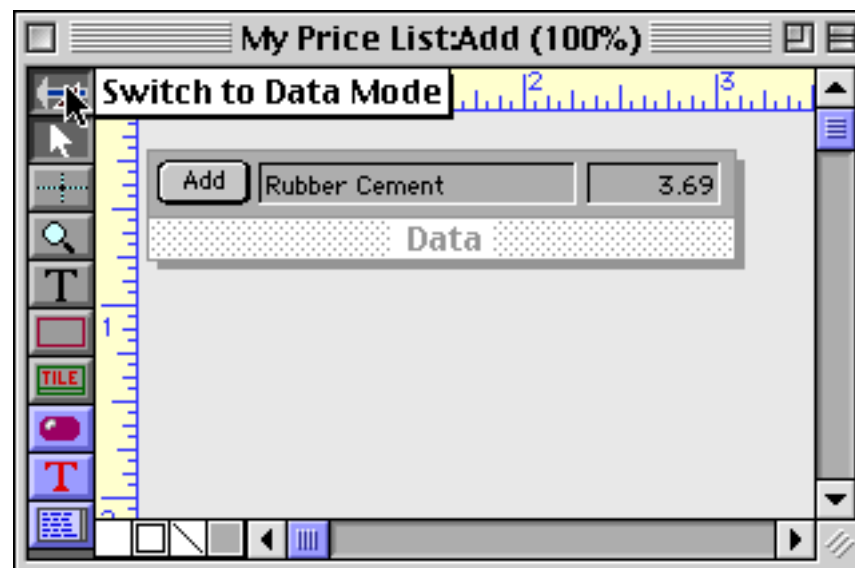
The finished form should look something like this.

Using the **Form Preferences** dialog in the Setup menu, change the viewing format for the form to View-As-List.

Press the OK button, then switch back to Data Access Mode.

Here's what the form should now look like in Data Access Mode. The graphics on the tile are repeated over and over again for each record in the database.

To add a particular item to the current invoice just click on the **Add** button for that item.

Clicking this button will trigger the procedure which adds the item to the invoice.


Now **Save** both databases and you are done.

Saving a File Set

Before continuing, make sure that the My Invoice and My Price List files are the only two databases open in Panorama. Then choose the **File Save** command from the File menu. Type in the name of the file set you want to create (in this case Order Entry) and click on the Set option.
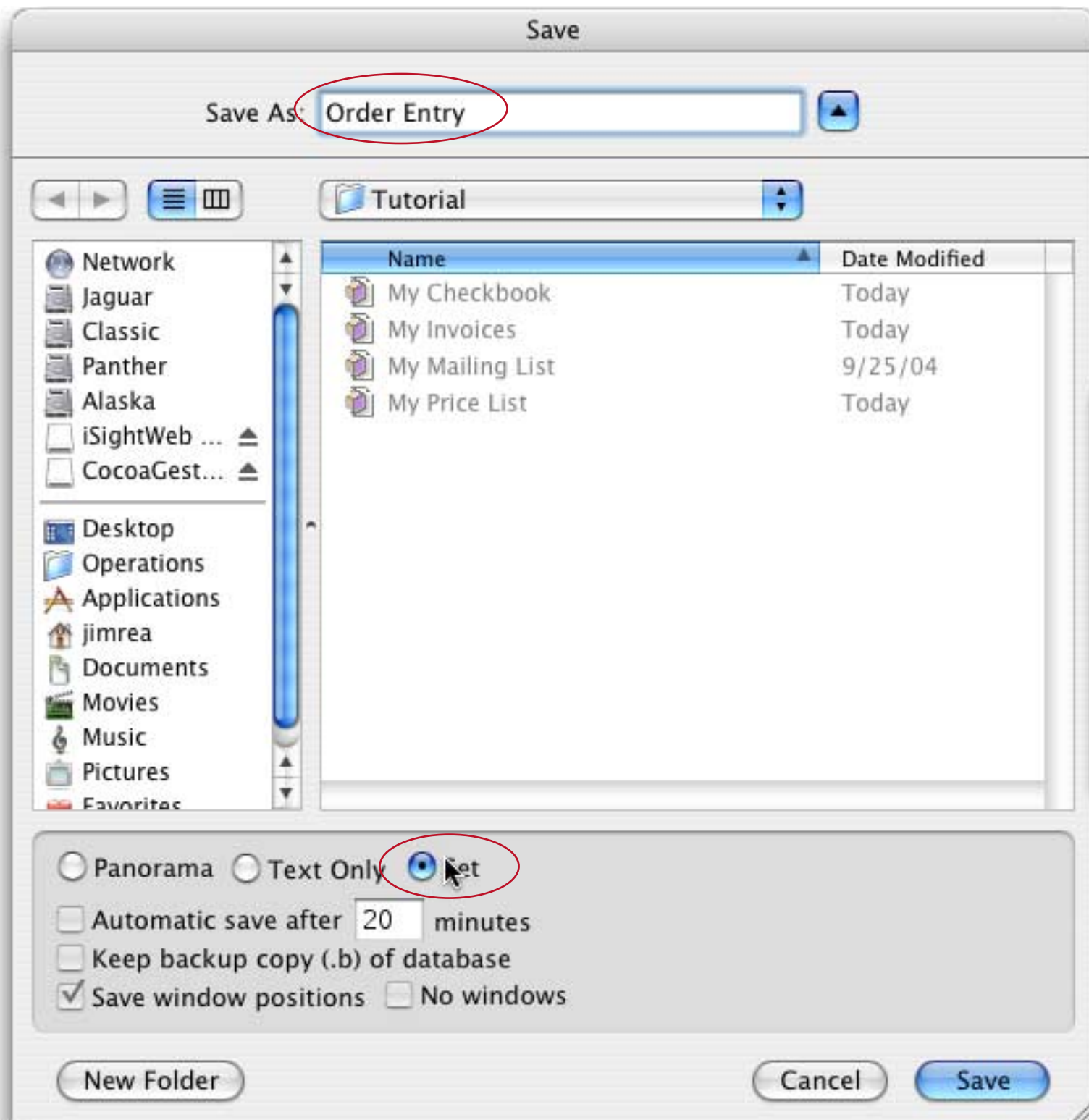
If you are using a Windows PC computer use the combo box to choose the Panorama File Set {*.pnz} option
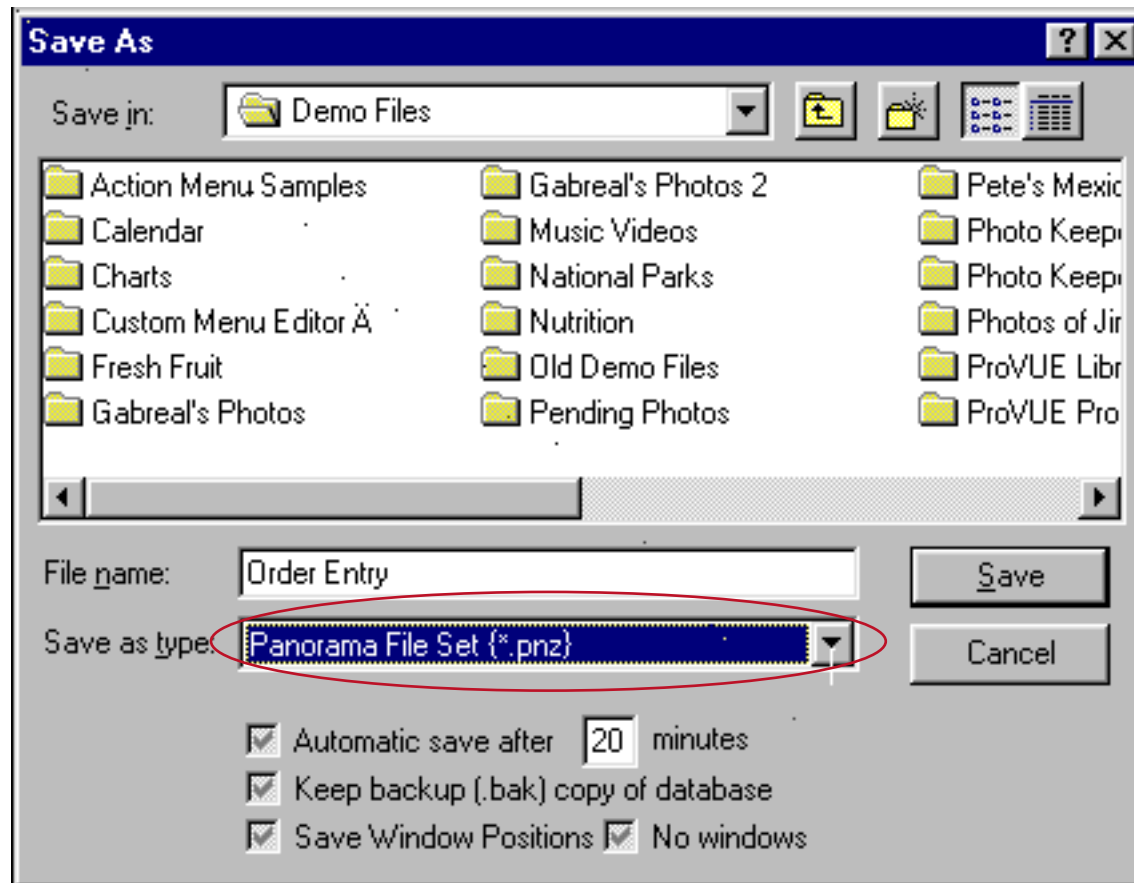
Press the **Save** button to create the file set document.
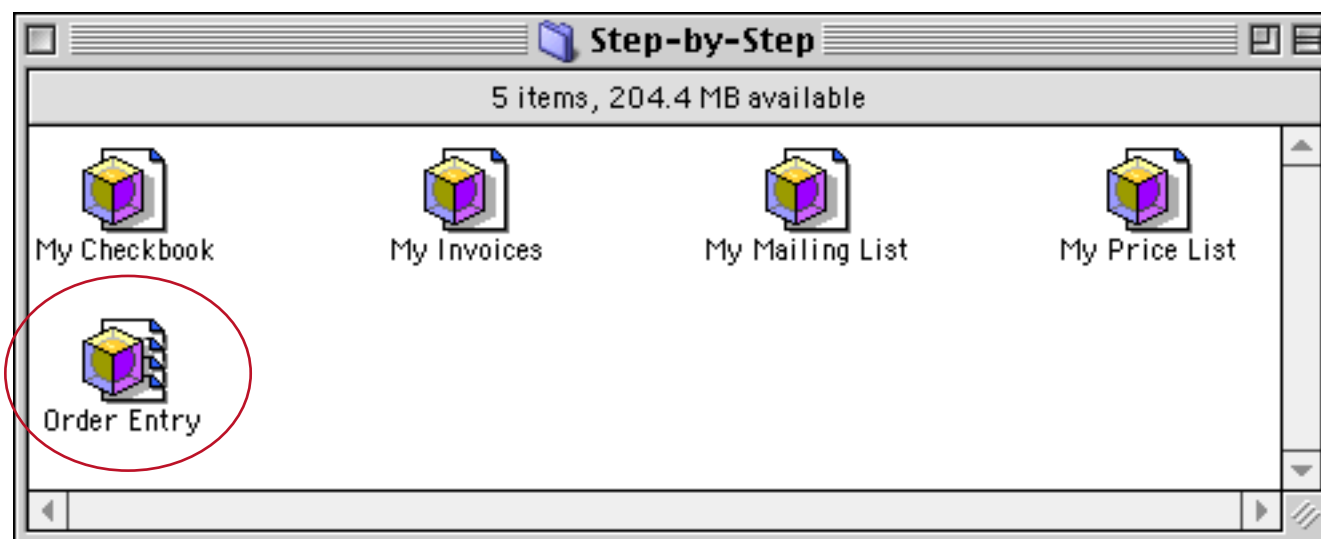
Later if you want to open both the My Invoices and My Price List files together you don't need to open them separately. Instead you can simply double click on the Order Entry icon, and Panorama will open both files automatically. See "File Sets" on page 75 of the *Panorama Handbook* to learn more.