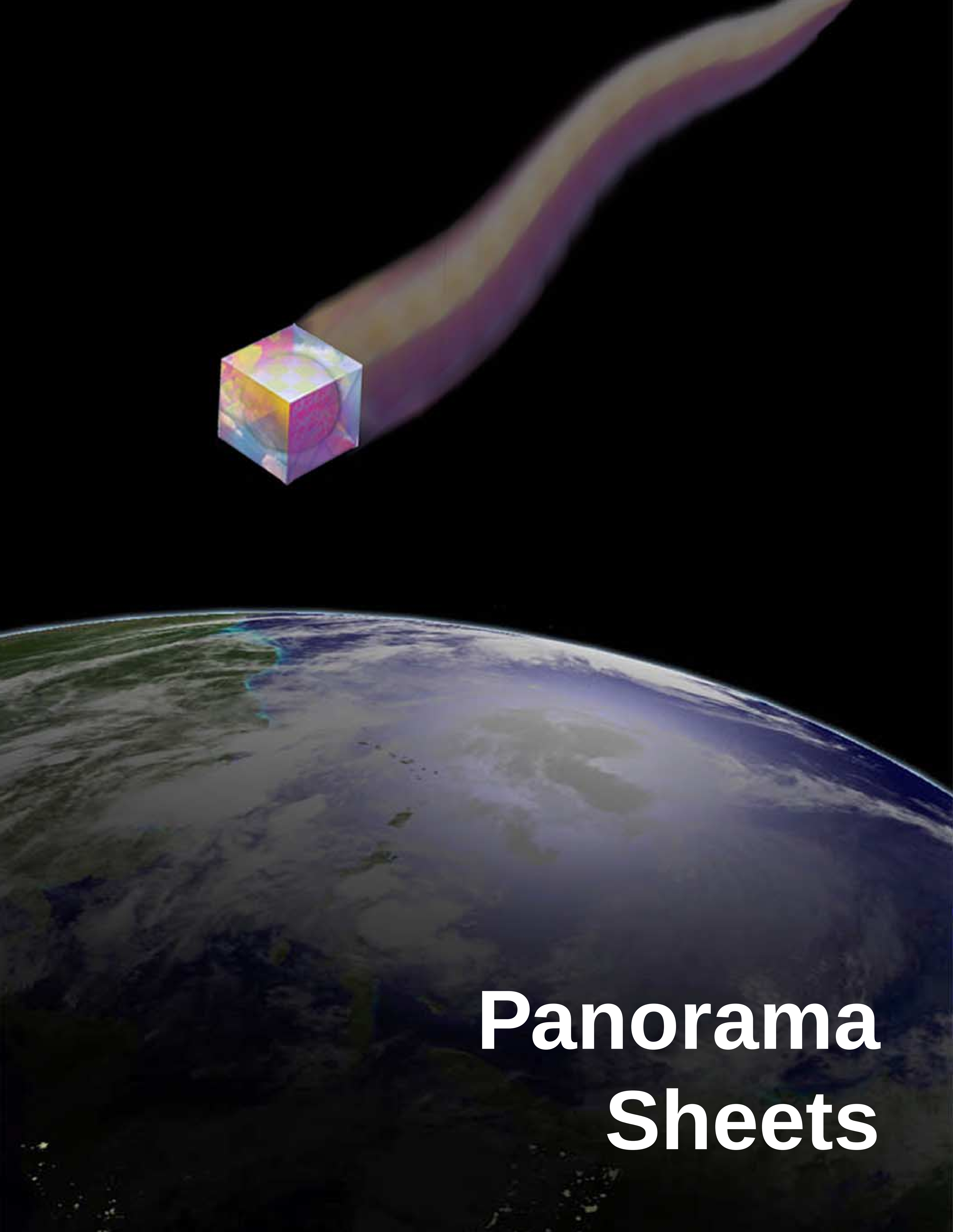

Panorama Sheets

Panorama Sheets (Version 6.0)

ProVUE Development
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USA

www.provue.com

Table of Contents

– Click on any entry to jump to the page —

Calculations & Formulas 273

Welcome to Panorama

Welcome to Panorama! The product you are about to use, *Panorama Sheets*, is one member of the larger Panorama family of super fast RAM based databases. Other products in this family include *Panorama Pro* and *Panorama Runtime*. Each of these products has different levels of capabilities, but all of them feature super fast RAM based searching and sorting and an easy to use, fluid, user experience.

All of the products in the Panorama family also share a common file format. This means that different users using different products in the Panorama family can easily swap data back and forth. It also males it easy to transition from one Panorama product to another. For example, if you start with *Panorama Sheets* but later decide you need the full power of *Panorama Pro*. you can simply upgrade the software and continue working with your existing databases without so much as a hiccup.

Let me introduce you to each of the members of the Panorama family.

Panorama Sheets is a hybrid that combines the power of a database with the familiar user experience of a spreadsheet. All data entry, searching, sorting, data analysis and data manipulation is handled using a straightforward spreadsheet like interface. Data can be easily imported or exported to/from text files and spreadsheets, and can be printed either as a table or as mailing labels. Our unique *Total Recall* technology protects your data thru just about anything, including power outages and system crashes.

Panorama Pro starts with all of the features of panorama sheets and adds two major capabilities: forms and procedures. Forms allow you to graphically design you own user interface for data entry, display and printed reports. The built-in graphical editor makes it easy to lay out your forms any way you want. Each database can have dozens or even hundreds of forms, so you can build a form for every possible application. (of course you can always use the basic spreadsheet interface as well.)

Panorama Pro is also completely programmable, allowing the automation of common, and not so common tasks. Basic repetitive tasks can be automated by anyone using the “watch me” recorder - no programming knowledge required. If you do have programming skills, *Panorama Pro* has all the tools you’ll need to rapidly build sophisticated custom database applications. You can even include code written in PHP, Ruby, Perl or Python.

Panorama Runtime is an affordable companion for *Panorama Pro*. It includes all of the capabilities of *Panorama Pro*, but without the design tools. It allows a developer or expert user to build a custom application using *Panorama Pro*, and then distribute that application to client users without requiring the client users to purchase a full copy of the pro version. It’s perfect for distributing panorama databases within a company, or for consultants that develop custom applications for clients.

This table summarizes the features of each member of the Panorama family.

Feature	Panorama Sheets	Panorama Pro	Panorama Runtime
Price	39.95	299.00	129.95
Spreadsheet style row / column grid	yes	yes	yes
Forms and Reports	no	yes	runtime
Mailing Labels	yes	yes	runtime
Programmable	no	yes	runtime
Sorting	yes	yes	yes
Searching	yes	yes	yes
Select Duplicates	1 field	multiple fields	runtime
Relational	yes	yes	yes
Shared databases (with Panorama Server)	no	yes	runtime
Design Sheet	no	yes	no
Security	no	yes	runtime
Customizable Hotkeys	no	yes	runtime
Display Maps	no	yes	runtime
Tool Palette	no	yes	yes
Speech Synthesis	no	yes	runtime
Send Email	no	yes	runtime
Import / Export Text	yes	yes	yes
Import / Export VCards	no	yes	runtime
Import Financial Data (OFX, QFX, QIF0	no	yes	runtime
Custom Menus	no	yes	runtime

Note: *Runtime* means the capability is available, but must be set up using Panorama Pro.

For more information about different members of the Panorama family, including pricing, please visit the www.ProVUE.com website.

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 Sheets effectively.

This tutorial is divided into two lessons. Each lesson builds on the previous lessons and introduces more advanced topics. In “Lesson 1: Building Your First Mailing List Database” on page 12 you’ll learn how to create and set up a simple mailing list database. In “Lesson 2: Building and Organizing a Checkbook” on page 65 you’ll not only build a simple checkbook register file but also learn several techniques for organizing and summarizing the checkbook data. 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 Sheets on your computer. If you haven’t done so already, see the ProVUE web site, www.provue.com, for installation instructions. It’s not necessary to activate Panorama Sheets to complete the operations in this tutorial. If you haven’t purchased Panorama Sheets yet you can try out the tutorials before you decide that you want to purchase Panorama Sheets.

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

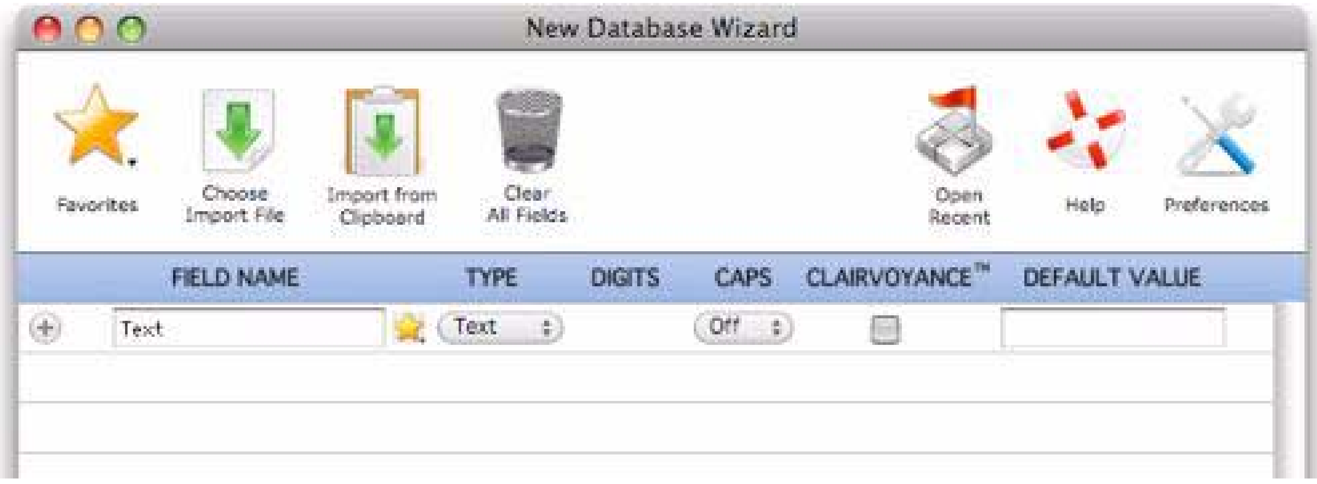
Sincerely,

Jim Rea, President

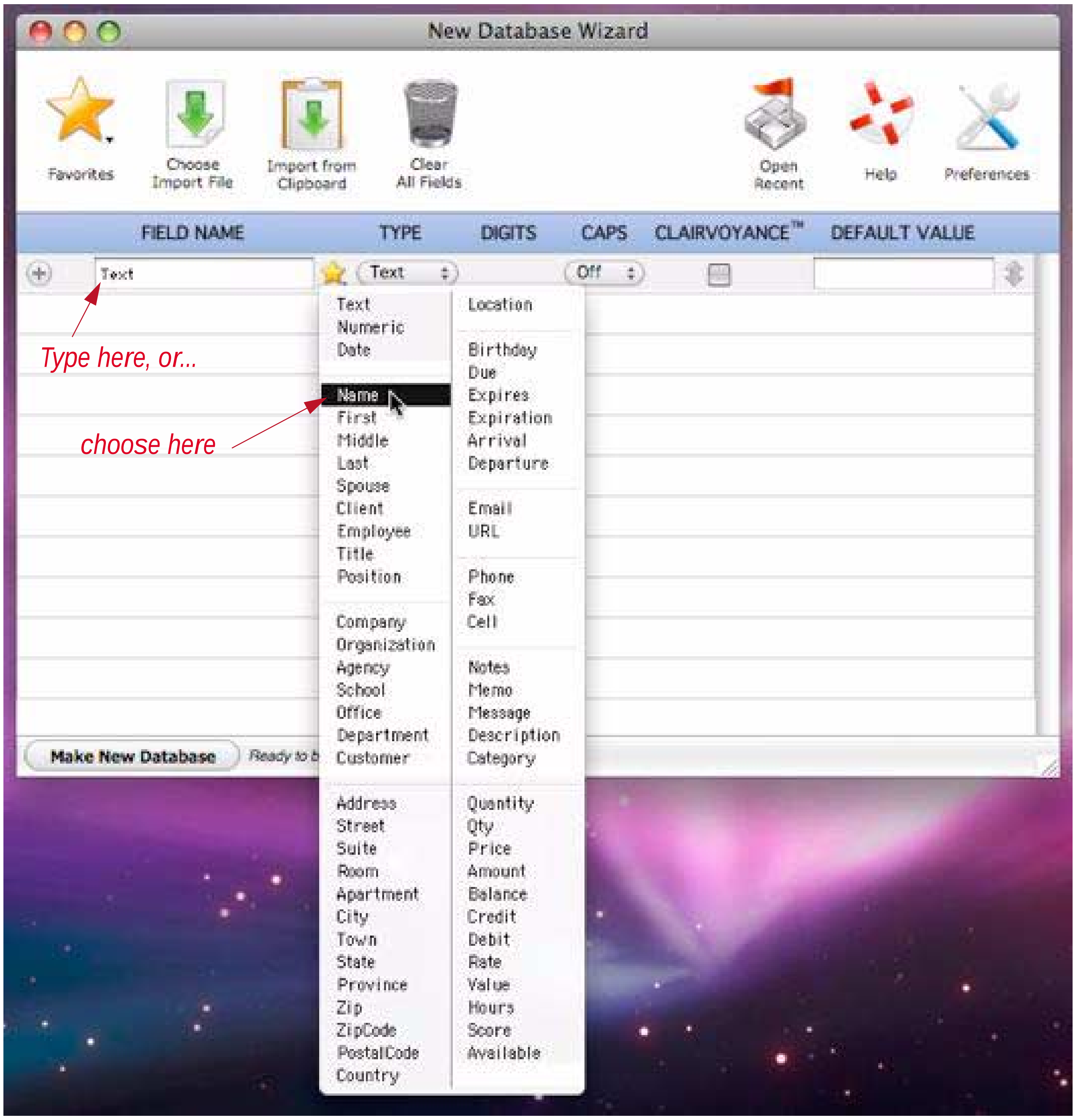
P.S. This tutorial teaches you how to work with Panorama. It assumes, however, you already are familiar with your computer and operating system. You should be able to point, click, and drag selections, and be able to make selections from menus, use scroll bars, and edit text. If you are not familiar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



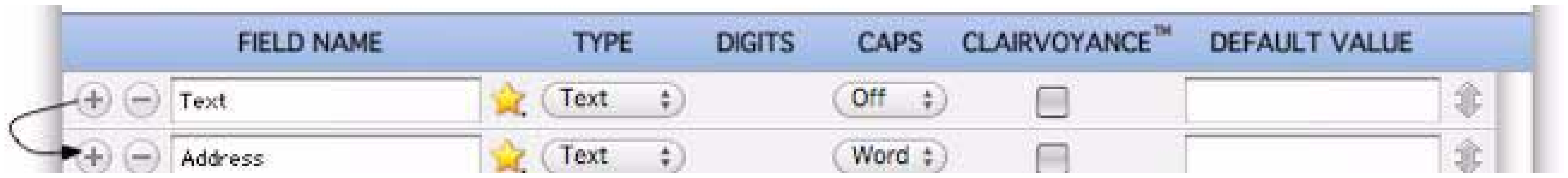
To create a database start by typing in the name of the first field. You can also click on the yellow star to choose from a list of common field names.



Type here, or...

choose here

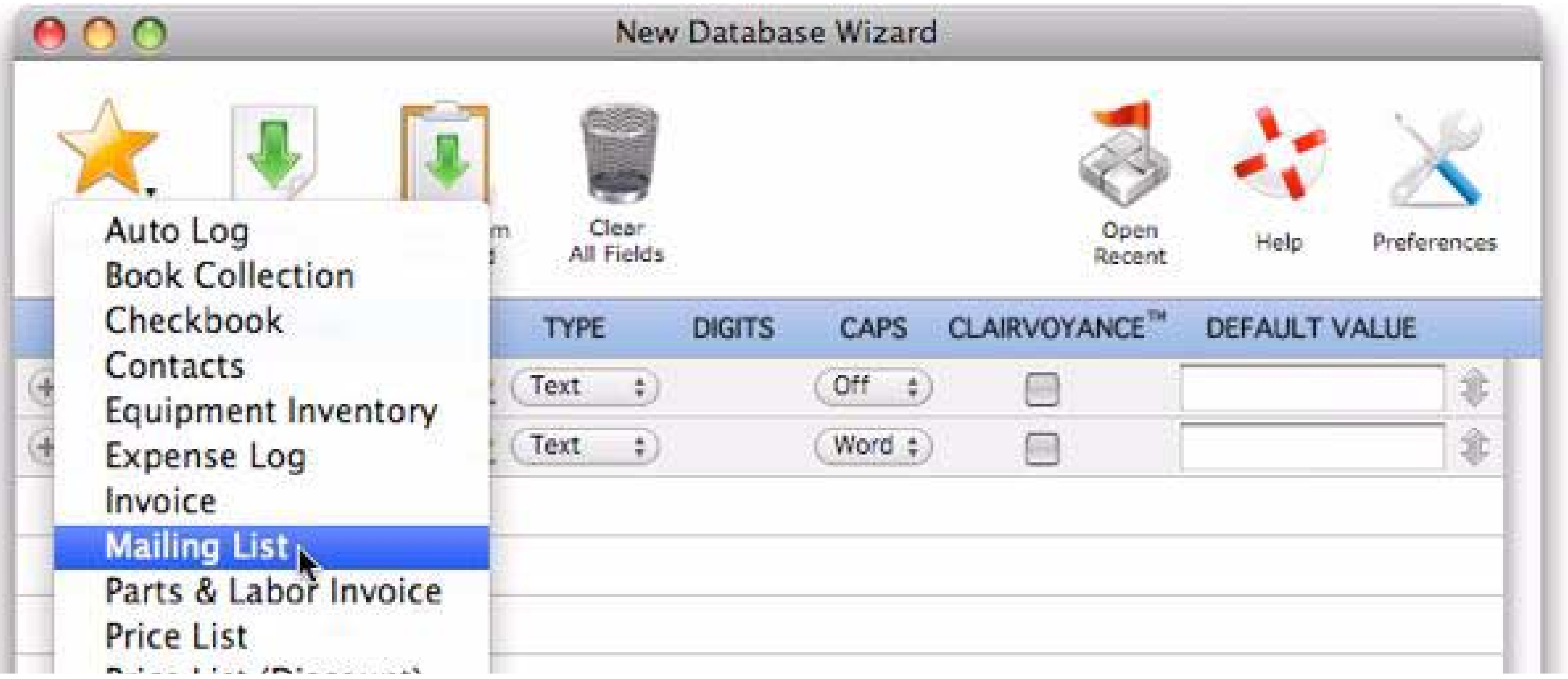
To add a second field, press the + button and fill in the field name, like this:



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Text	Text		Off	□	
Address	Text		Word	□	

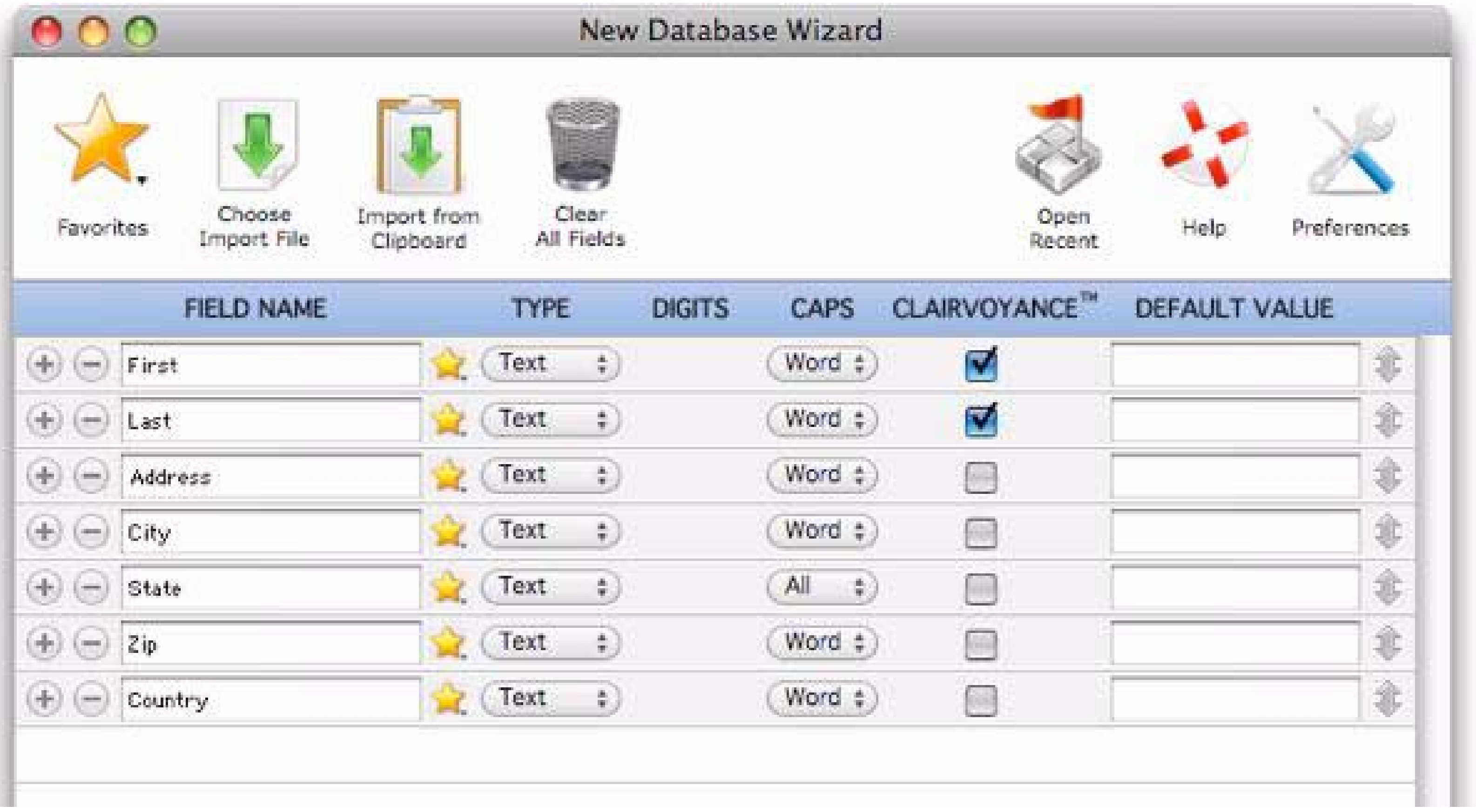
There's a shortcut if you're creating a field with a common name — right click on the + button (or Control-Click), then choose the field name from the pop-up menu.

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 104 for a mor detailed 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.



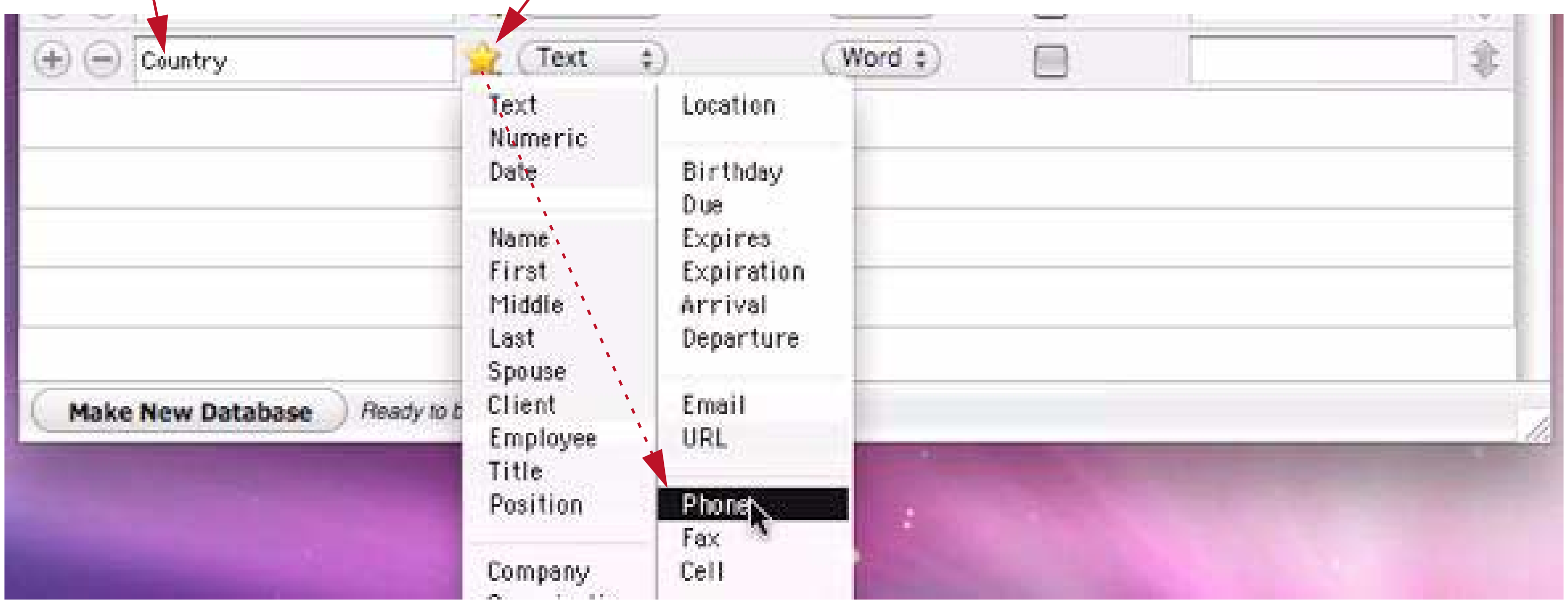
TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Text		Off	□	
Text		Word	□	

The fields for a mailing list are automatically filled in for you.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
First	Text		Word	☑	
Last	Text		Word	☑	
Address	Text		Word	□	
City	Text		Word	□	
State	Text		All	□	
Zip	Text		Word	□	
Country	Text		Word	□	

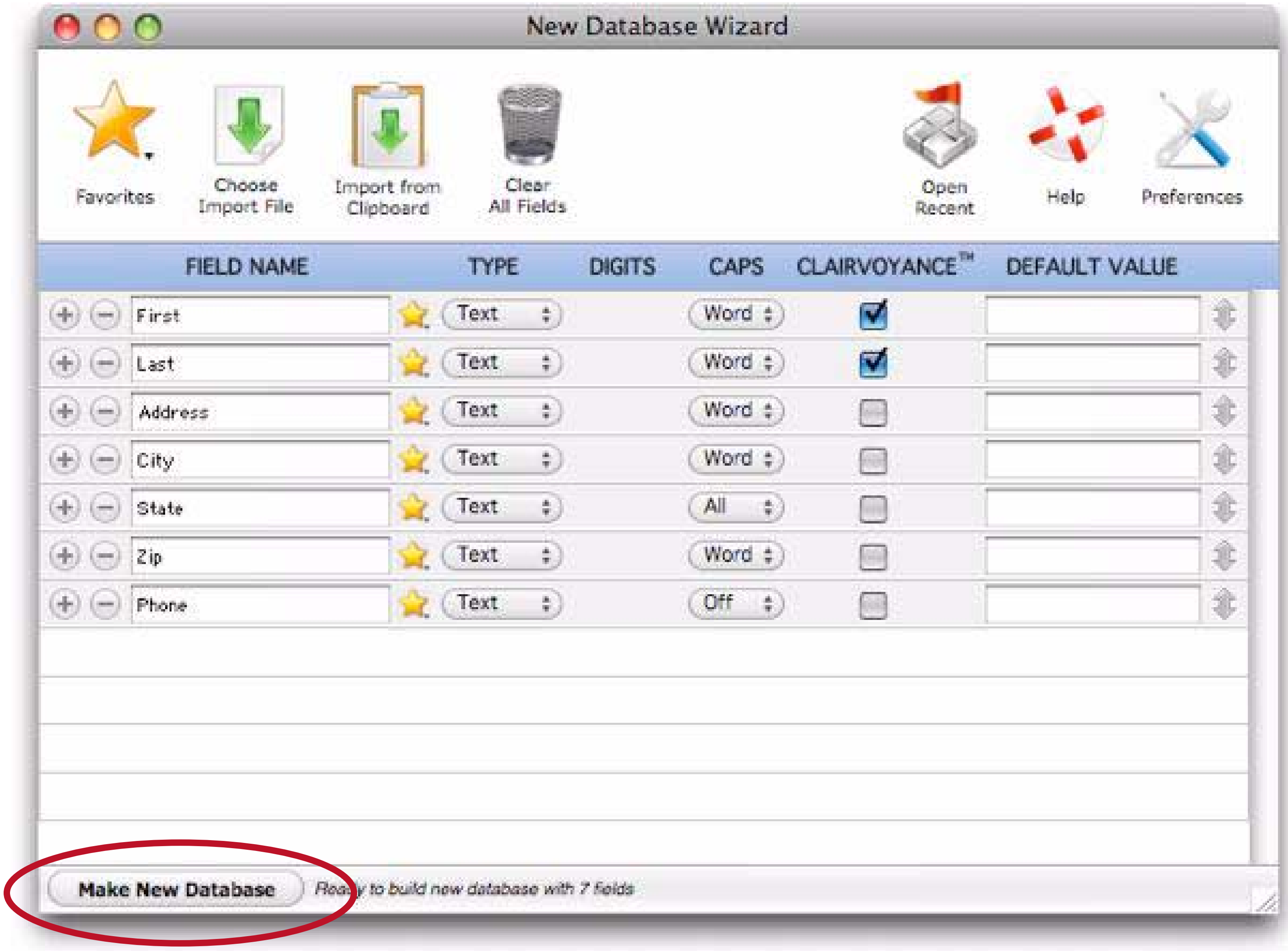
This template isn't quite what we wanted for our new database — we don't need a Country field but we do need a Phone field. To fix this simply click on and edit the field name, or click on the yellow star and choose Phone from the pop-up menu.


click here to edit field name ...

or choose name from pop-up menu

Country	Text		Word	□

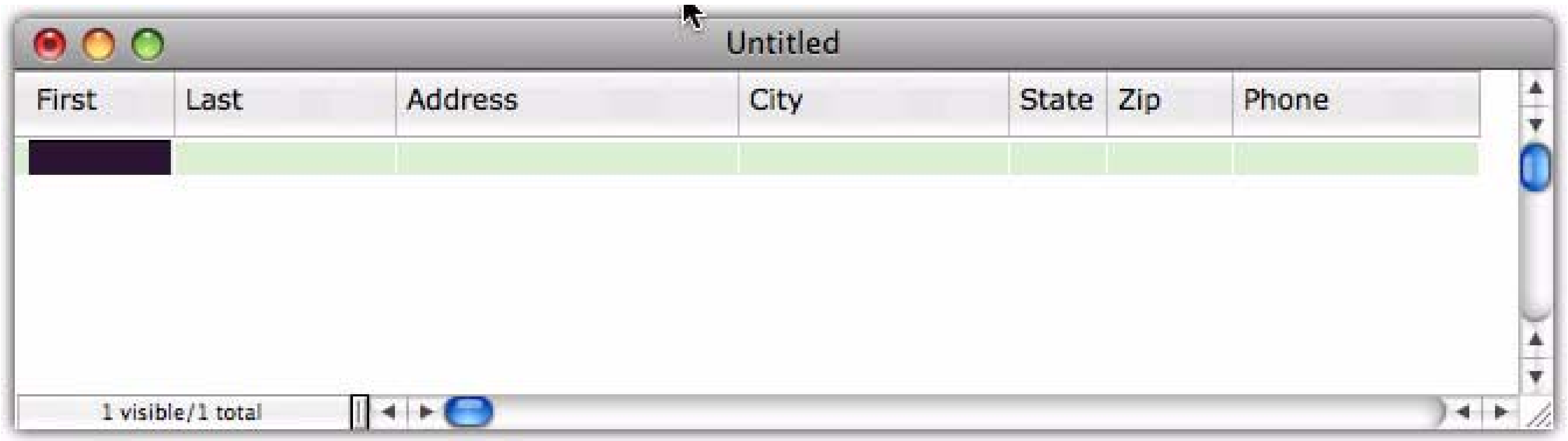
At this point you could add more fields, or edit or re-arrange the existing fields, but for this example we are done and ready to create the new database. To do this simply press the **Make New Database** button at the bottom of the window.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
First	Text		Word	☑	
Last	Text		Word	☑	
Address	Text		Word	□	
City	Text		Word	□	
State	Text		All	□	
Zip	Text		Word	□	
Phone	Text		Off	□	

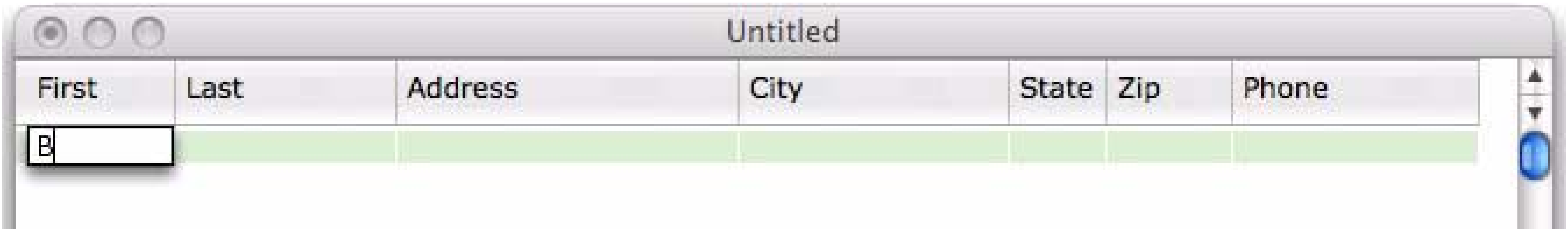
Ready to build new database with 7 fields

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).

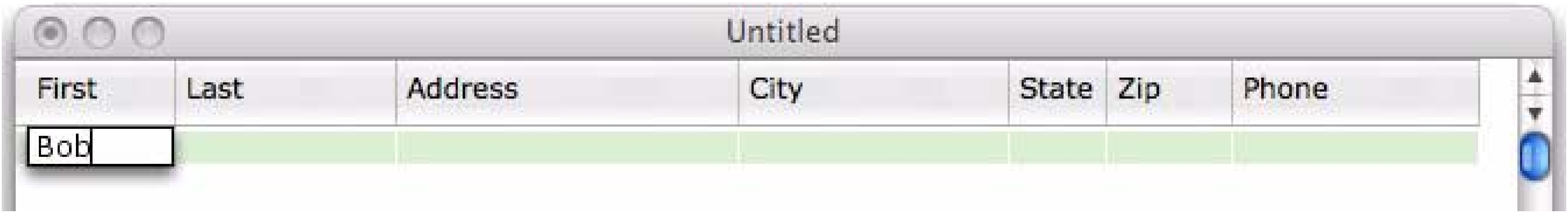


Entering Data Into Your New Database

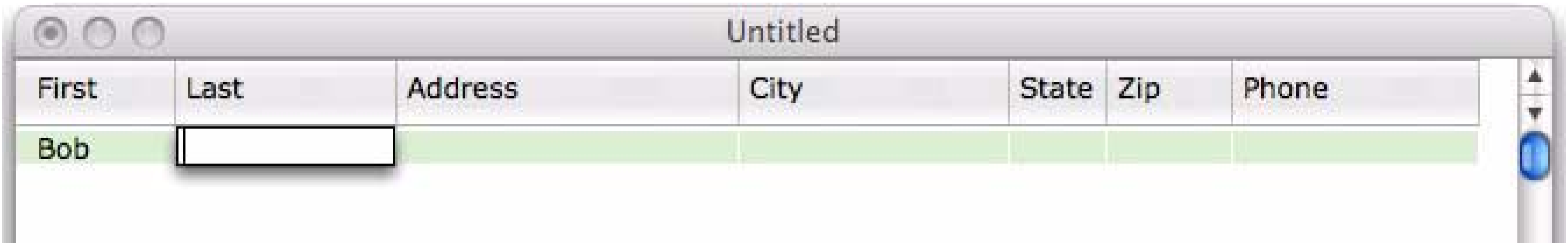
The new database is ready to use immediately — you can just start typing to enter data. For example, to enter the name Bob simply start by pressing the b key. A small pop-up window will appear over the current cell. This pop-up window is called the **Input Box** and is used for all data entry in the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



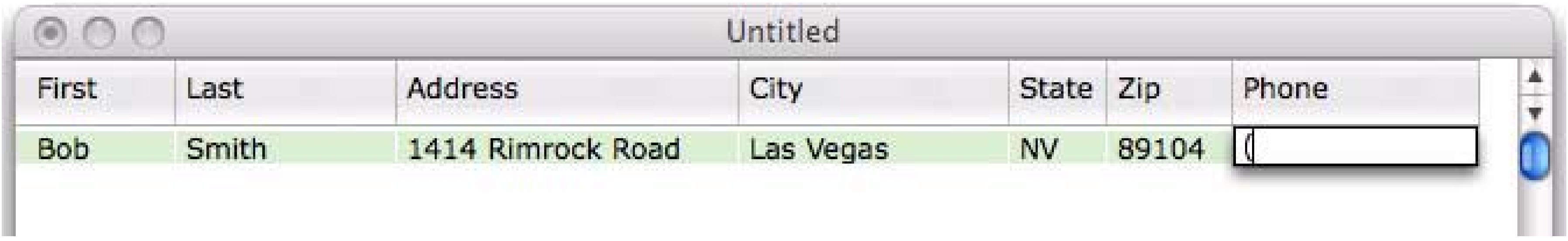
Complete the entry of the name by pressing o b. Notice that Panorama automatically capitalized the first letter of the name. We'll show you how to turn this feature on and off later (see "Automatic Capitalization" on page 201 if you can't wait).



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

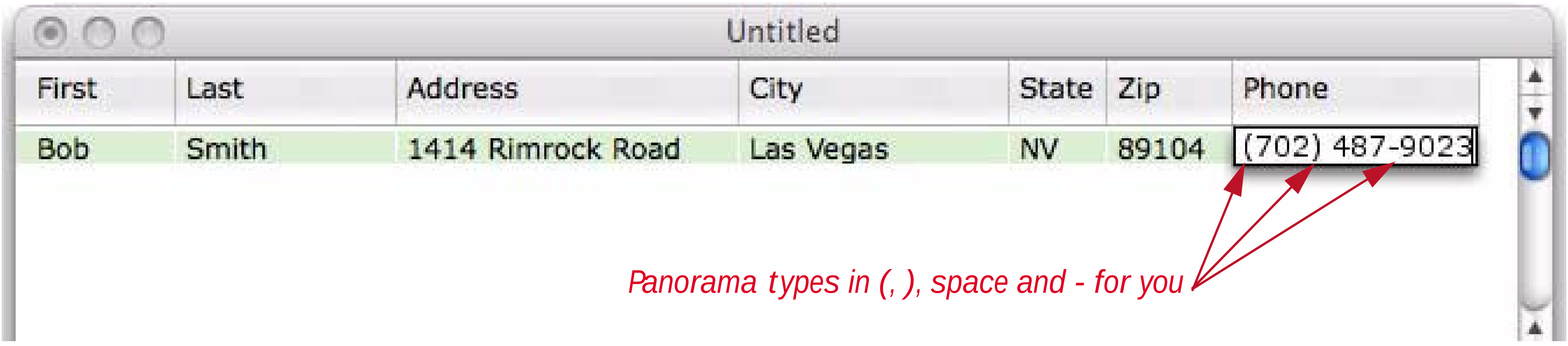


Continue typing and pressing the **Tab** key until you get to the phone number. When you tab into the Phone field you'll notice that Panorama automatically types in the (for you.



First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	Las Vegas	NV	89104	(

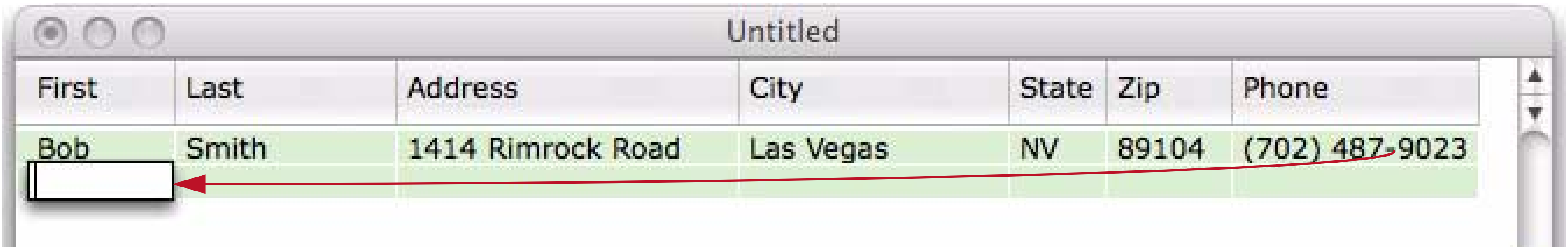
The **New Database Wizard** has set up an **Input Pattern** to make typing the phone number easier (see "Input Patterns" on page 207 for more information). All you have to type is the numbers, for example 7024879023. Panorama will type in the punctuation for you.



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

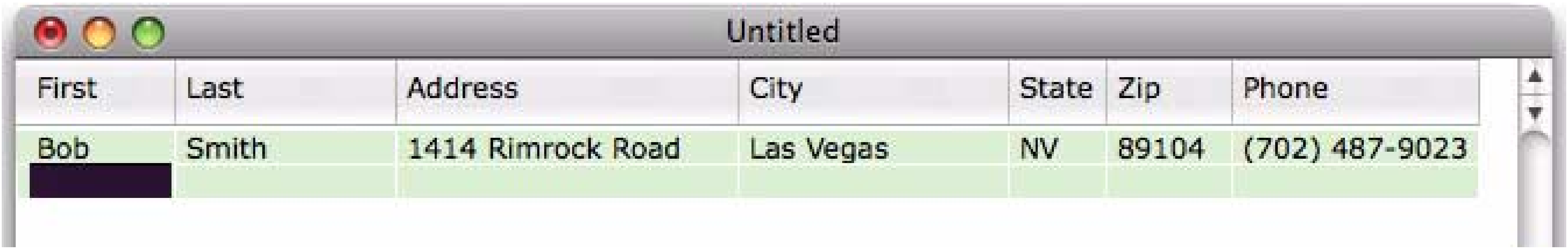
Panorama types in (,), space and - for you

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.



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

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

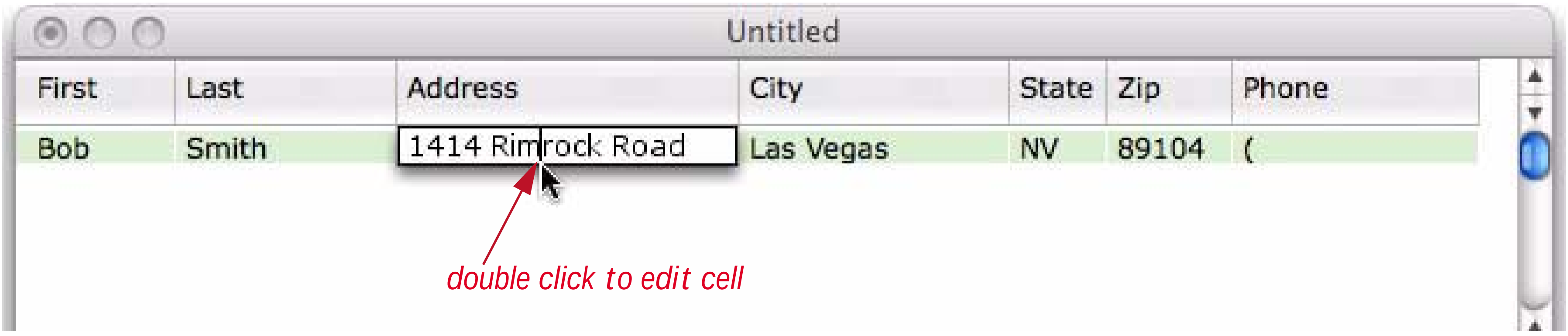


First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	Las Vegas	NV	89104	(702) 487-9023

If you want to delete this new record choose **Delete Record** from the **Edit** menu, or simply press the **Delete** key.

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.



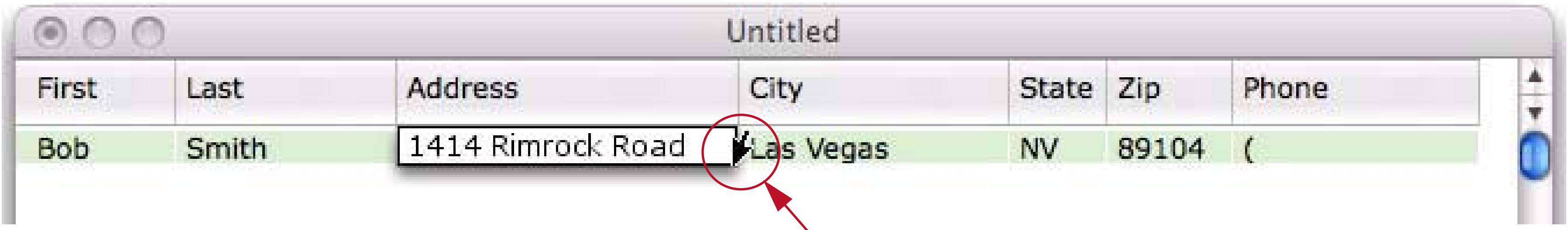
First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	Las Vegas	NV	89104	(

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

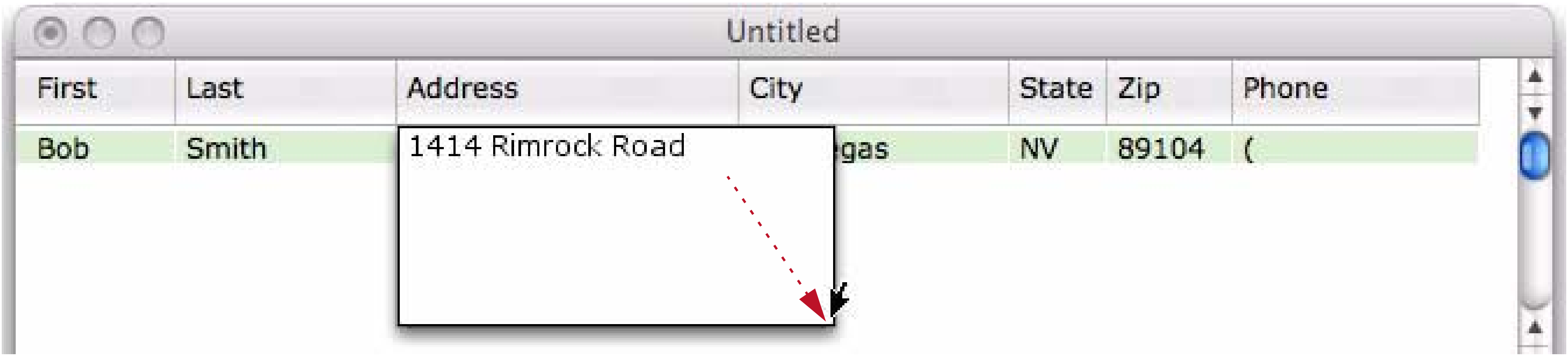
If you need more room to enter your data, you can expand the size of the Input Box. For example, you might need to expand the Input Box to enter an address with more than one line. To expand the Input Box, move the arrow to the lower right hand corner of the box. When the mouse reaches the corner, the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



First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	Las Vegas	NV	89104	(

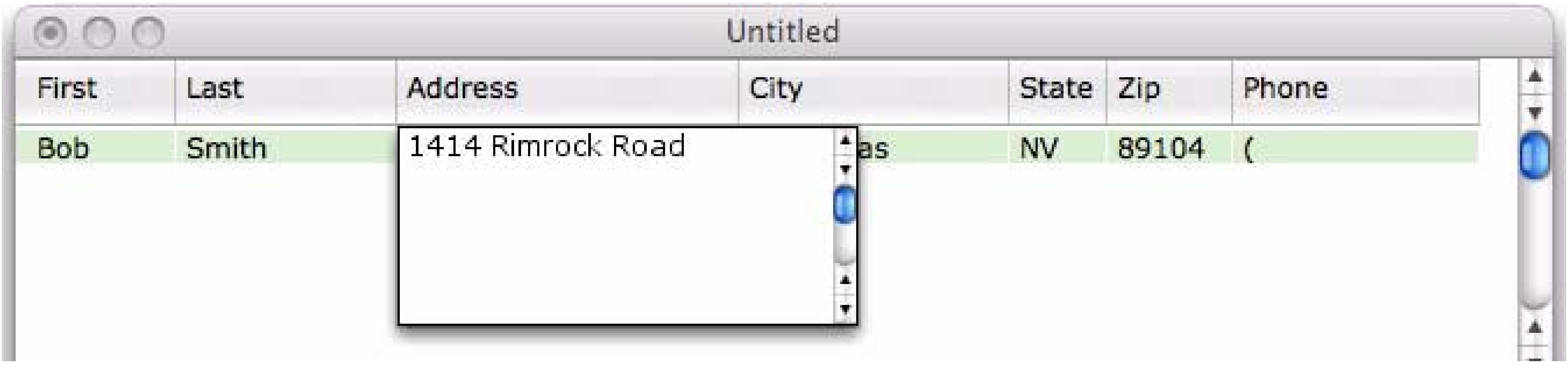
mouse "flips over" in lower right hand corner

When you see the arrow flip over, press the mouse and drag the corner of the box to the size you want.



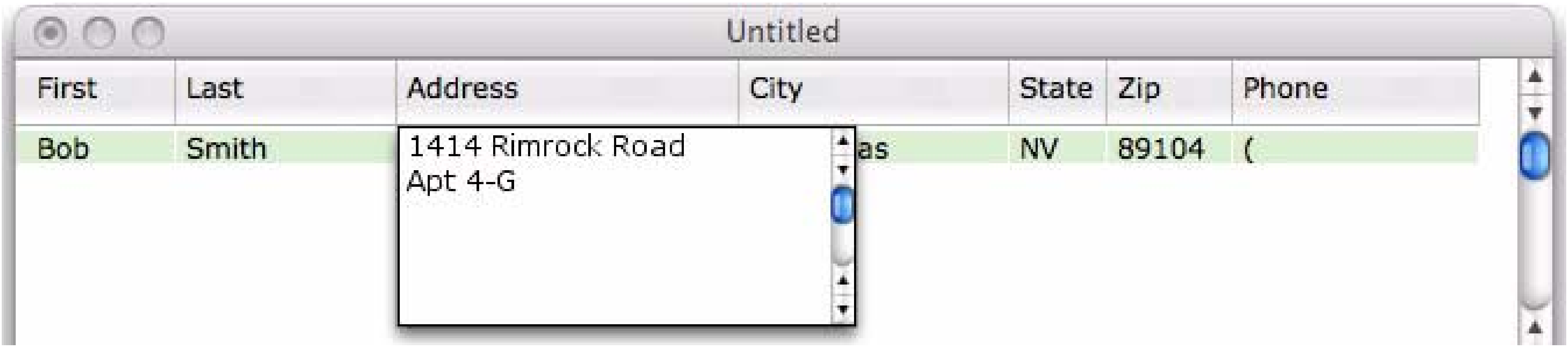
First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	gas	NV	89104	(

When you release the mouse the Input Box will expand to the new size.



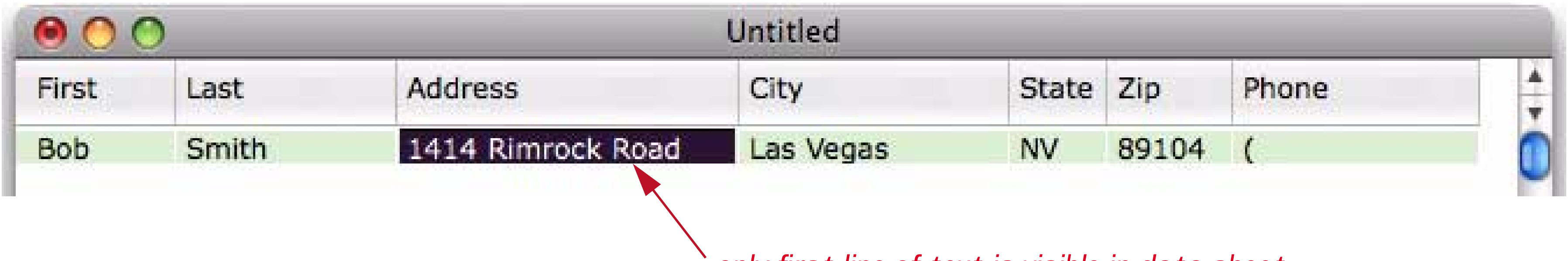
First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	as	NV	89104	(

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.



First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road Apt 4-G	as	NV	89104	(

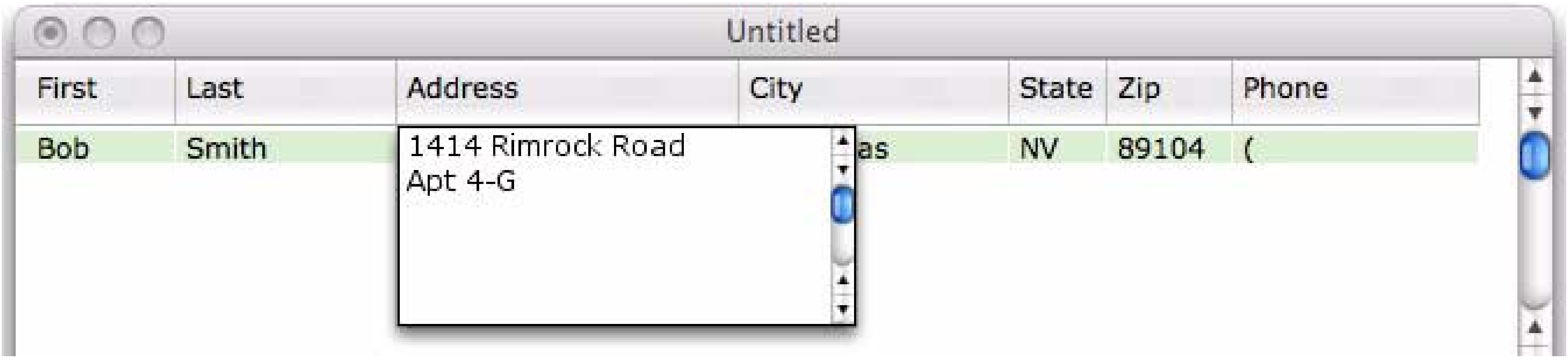
When you are finished editing the address press the **Enter** key. The Input Box closes and now you can only see the first line of the data. (If you want to see more than one line of data in a cell that is not being edited you must use a form, which is not available in Panorama Sheets. Visit ***www.provue.com*** to learn more about more advanced members of the Panorama family.).



First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road	Las Vegas	NV	89104	(

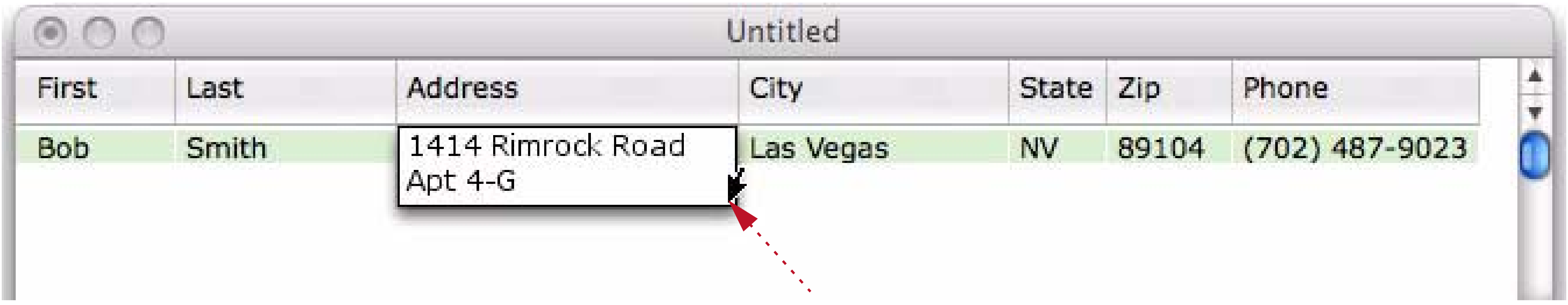
only first line of text is visible in data sheet

If you double click to edit the data cell again Panorama will remember the new size of the Input Box.



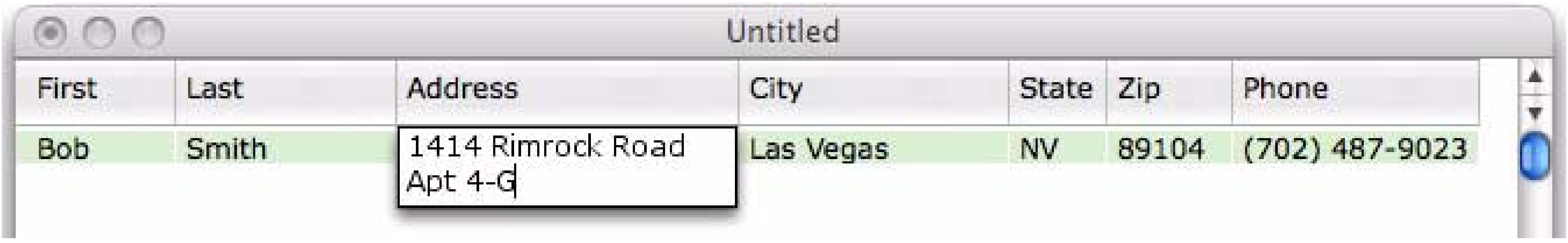
First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road Apt 4-G	as	NV	89104	(

You can adjust the size of the Input Box any time it is open.



First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road Apt 4-G	Las Vegas	NV	89104	(702) 487-9023

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

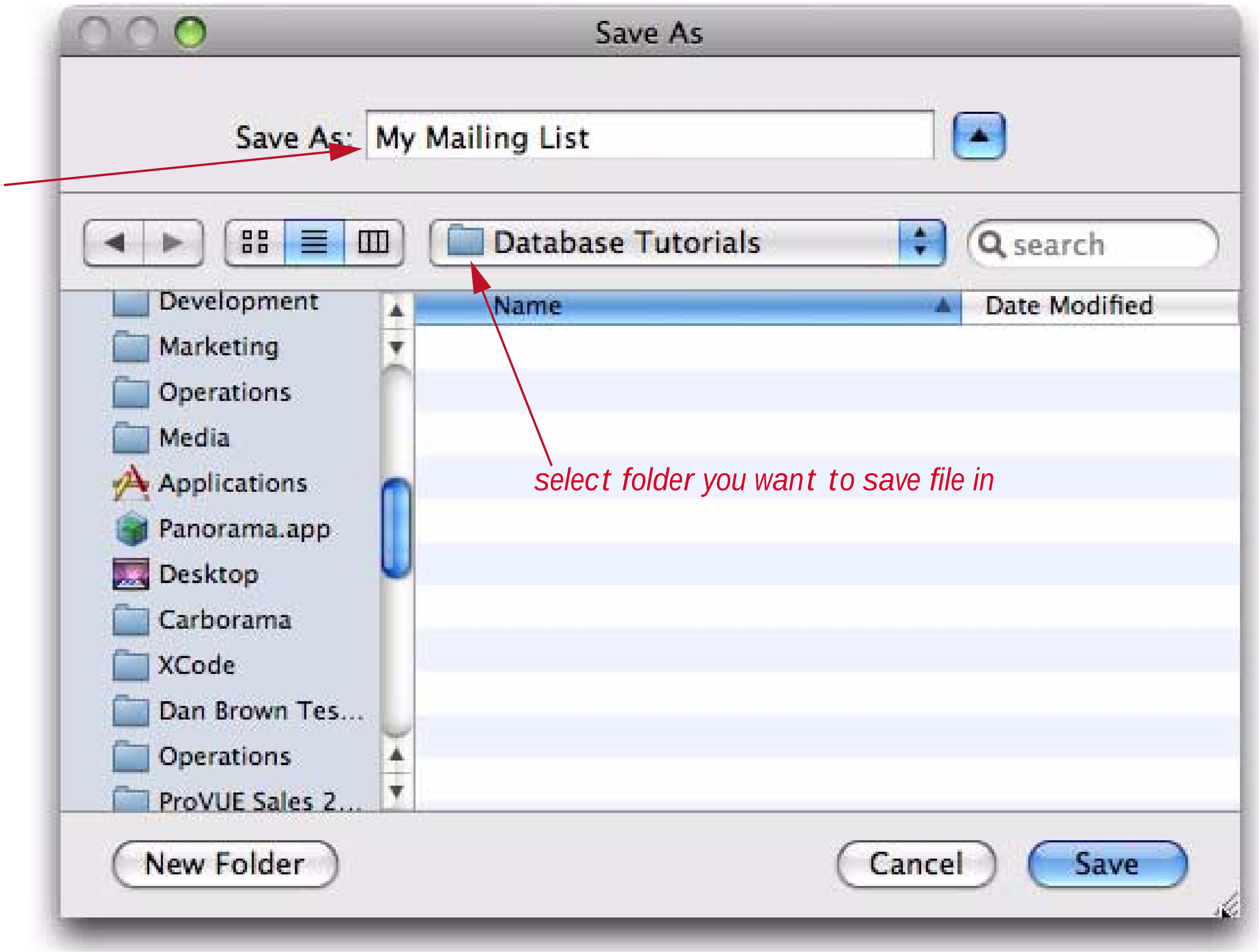


First	Last	Address	City	State	Zip	Phone
Bob	Smith	1414 Rimrock Road Apt 4-G	Las Vegas	NV	89104	(702) 487-9023

To learn more about expanding the Input Box see also.

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 press the **Save** button.



Save As: My Mailing List

Database Tutorials

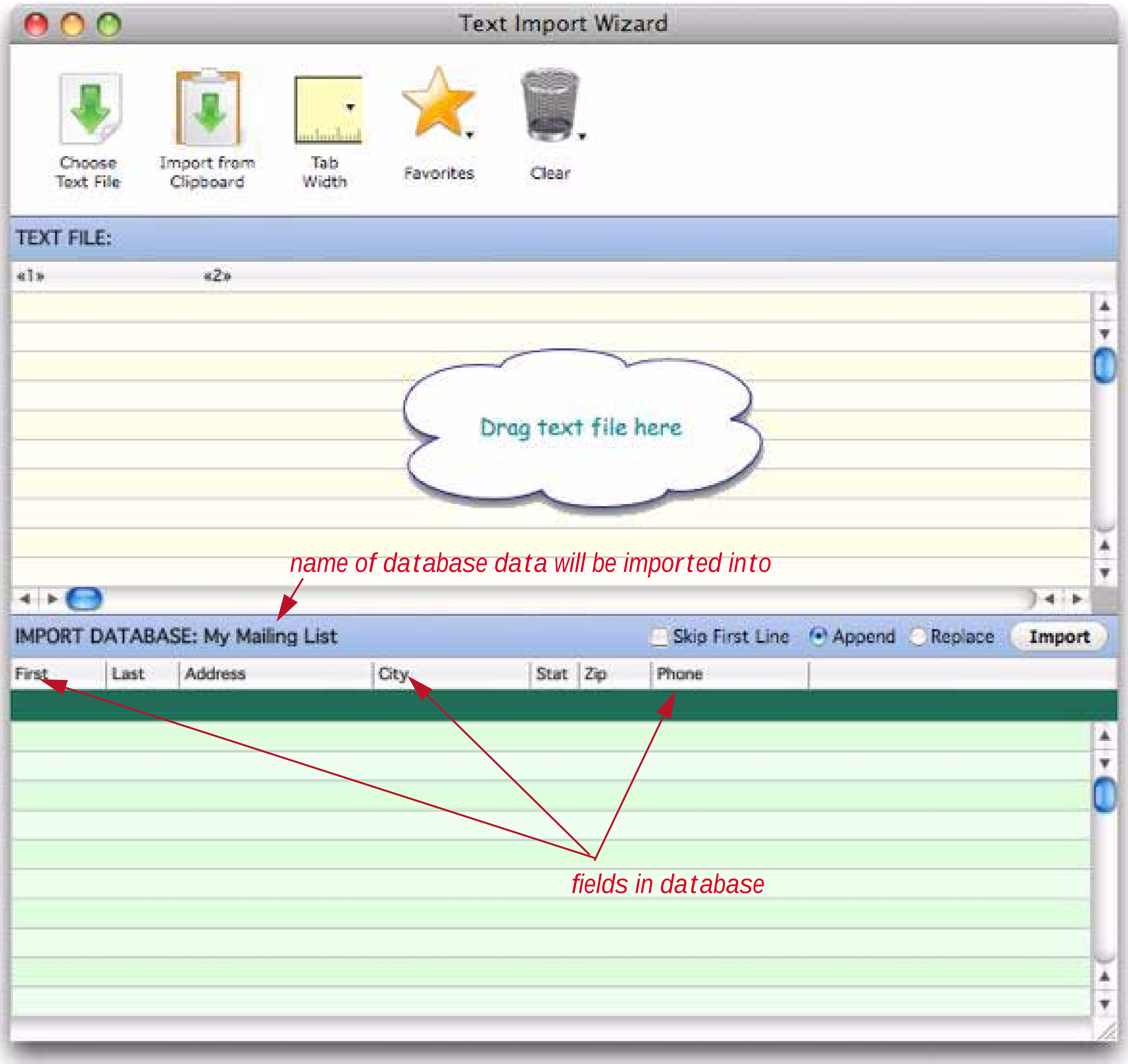
type in name of file

select folder you want to save file in

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.

Importing Data Into the Mailing List

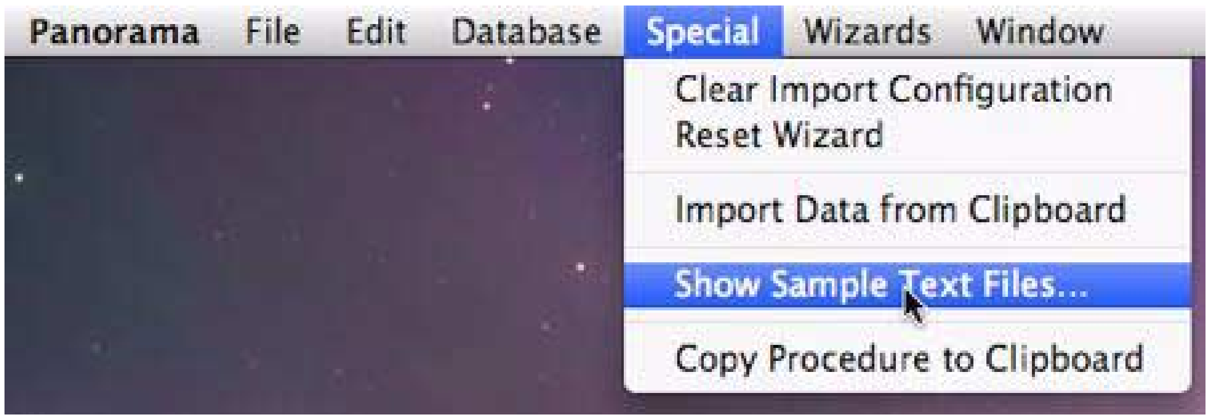
If you already have data in another program (FileMaker, Access, Excel, etc.) you can transfer that data to Panorama Sheets by exporting it into a text file (tab or comma delimited) and then importing it into Panorama. Panorama includes some text files with sample data, so we'll import one of those files now. Start by choosing **Import Text** from the File menu.



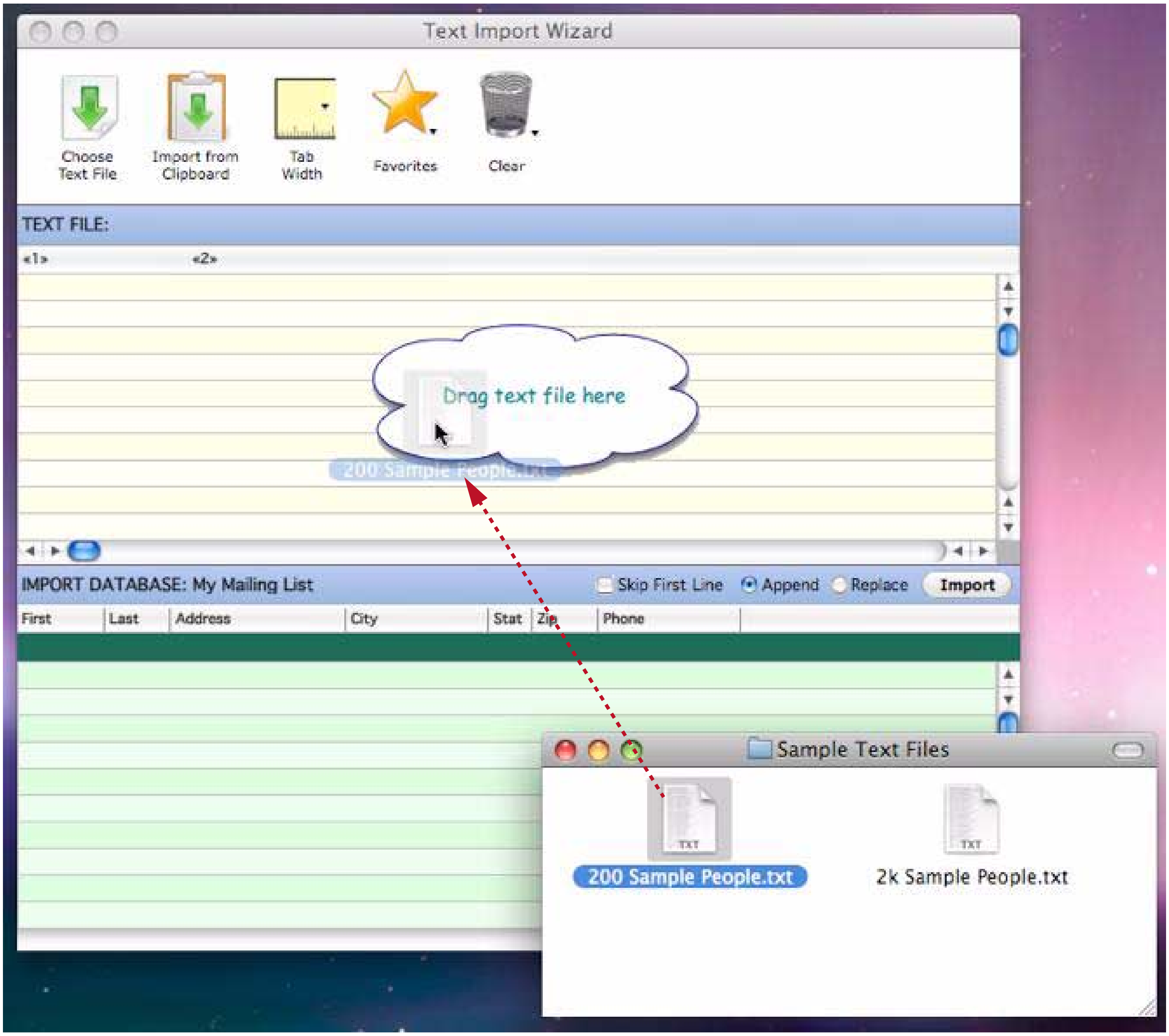
name of database data will be imported into

fields in database

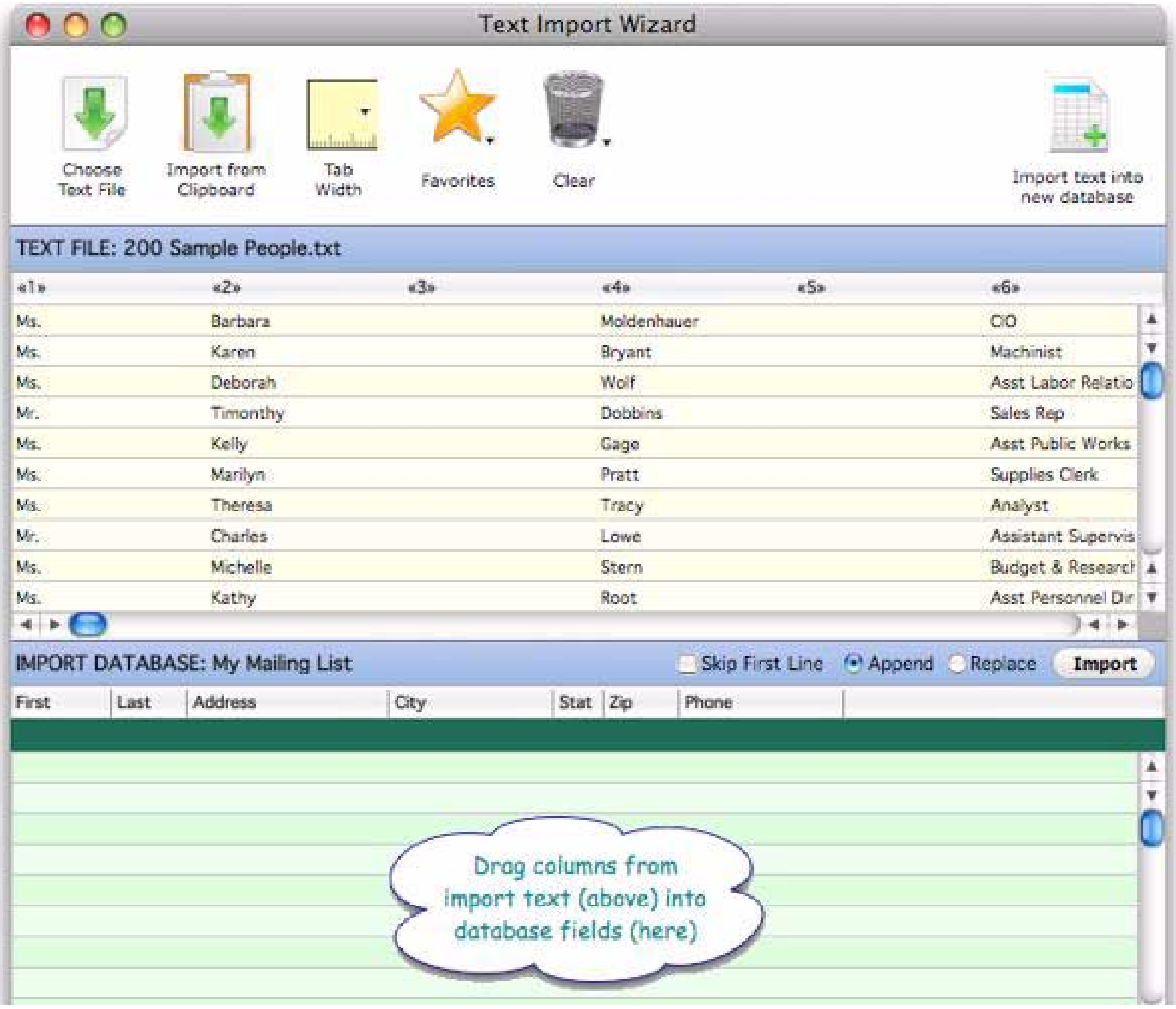
The next step is to select the text file that contains the data to be imported and drag it onto the wizard. For this tutorial we've prepared sample data that is ready to use. To see this file, choose **Show Sample Text Files** from the **Special** menu.


Panorama
File
Edit
Database
Special
Wizards
Window
Clear Import Configuration
Reset Wizard
Import Data from Clipboard
Show Sample Text Files...
Copy Procedure to Clipboard

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.



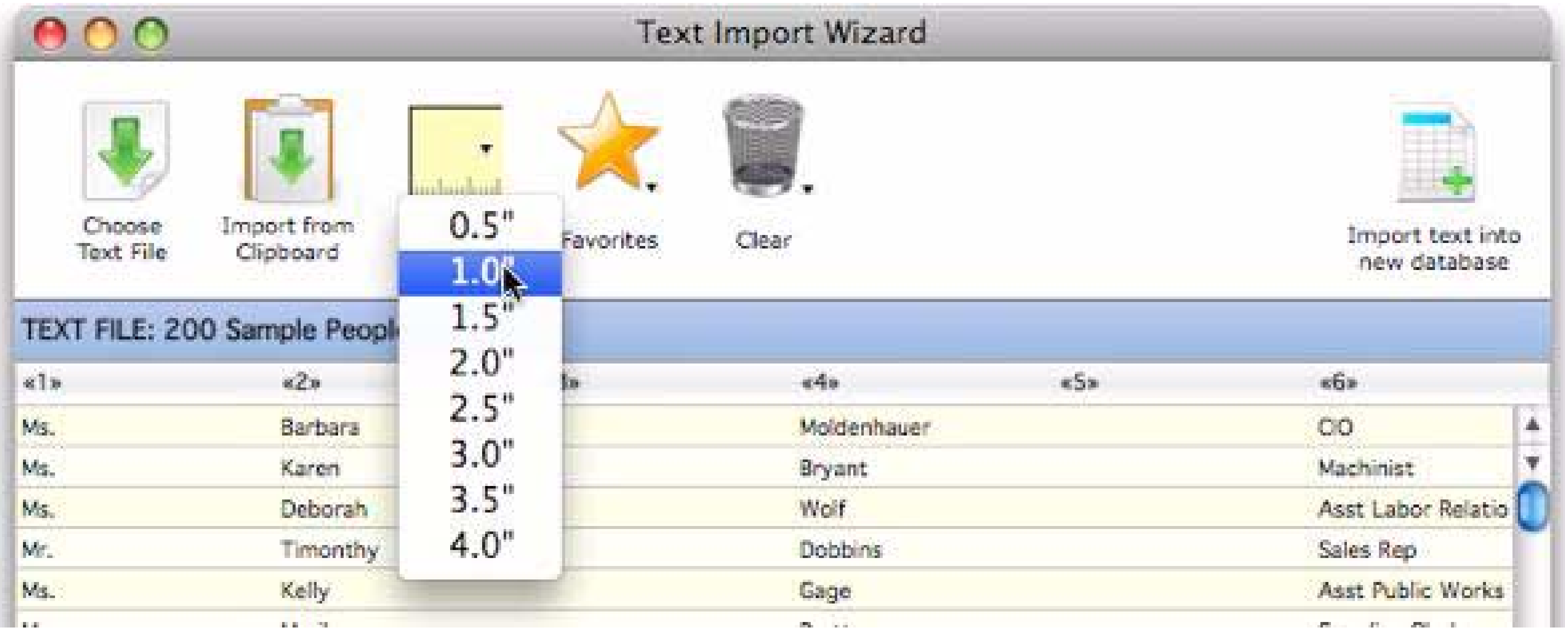
TEXT FILE: 200 Sample People.txt

«1»	«2»	«3»	«4»	«5»	«6»
Ms.	Barbara		Moldenhauer		CIO
Ms.	Karen		Bryant		Machinist
Ms.	Deborah		Wolf		Asst Labor Relatio
Mr.	Timonthy		Dobbins		Sales Rep
Ms.	Kelly		Gage		Asst Public Works
Ms.	Marilyn		Pratt		Supplies Clerk
Ms.	Theresa		Tracy		Analyst
Mr.	Charles		Lowe		Assistant Supervis
Ms.	Michelle		Stern		Budget & Researcl
Ms.	Kathy		Root		Asst Personnel Dir

IMPORT DATABASE: My Mailing List

First	Last	Address	City	Stat	Zip	Phone

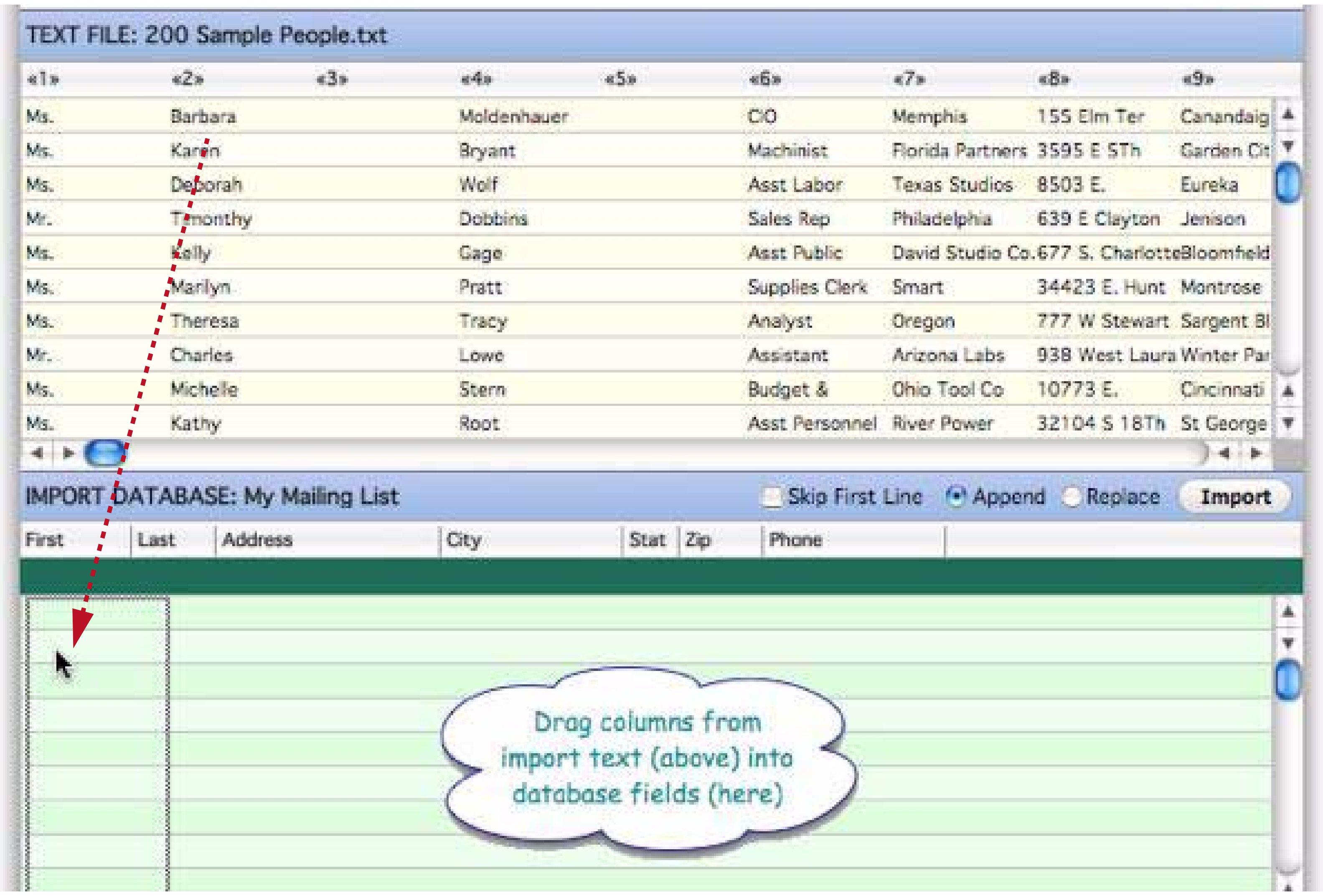
Use the **Tab Width** pop-up menu to make the imported columns wider or narrower.



TEXT FILE: 200 Sample Peopl

«1»	«2»		«4»	«5»	«6»
Ms.	Barbara		Moldenhauer		CIO
Ms.	Karen		Bryant		Machinist
Ms.	Deborah		Wolf		Asst Labor Relatio
Mr.	Timonthy		Dobbins		Sales Rep
Ms.	Kelly		Gage		Asst Public Works

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.



TEXT FILE: 200 Sample People.txt

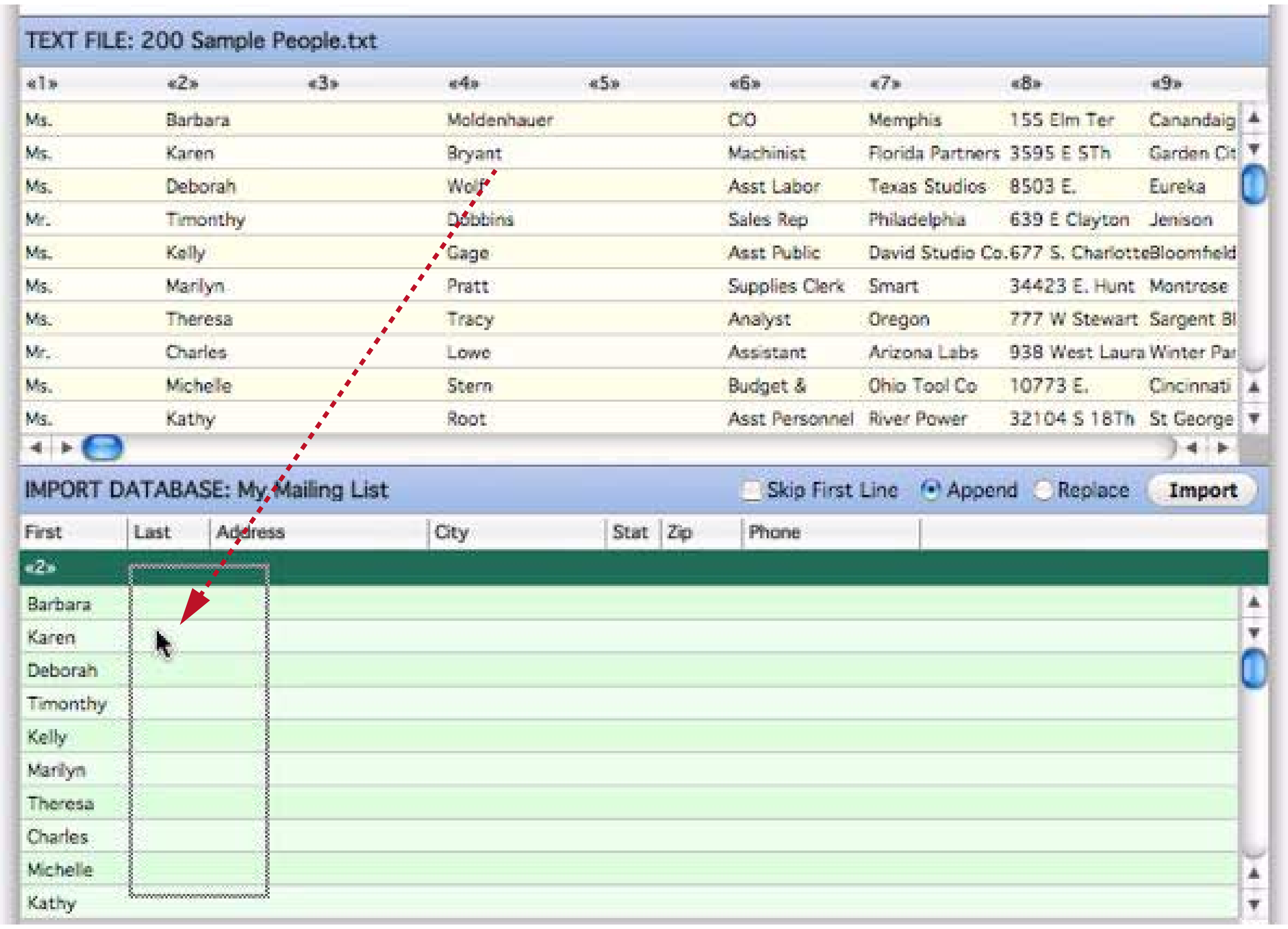
«1»	«2»	«3»	«4»	«5»	«6»	«7»	«8»	«9»
Ms.	Barbara		Moldenhauer		CIO	Memphis	155 Elm Ter	Canandaig
Ms.	Karen		Bryant		Machinist	Florida Partners	3595 E 5Th	Garden Cit
Ms.	Deborah		Wolf		Asst Labor	Texas Studios	8503 E.	Eureka
Mr.	Timonthy		Dobbins		Sales Rep	Philadelphia	639 E Clayton	Jenison
Ms.	Kelly		Gage		Asst Public	David Studio Co.	677 S. Charlotte	Bloomfield
Ms.	Marilyn		Pratt		Supplies Clerk	Smart	34423 E. Hunt	Montrose
Ms.	Theresa		Tracy		Analyst	Oregon	777 W Stewart	Sargent Bl
Mr.	Charles		Lowe		Assistant	Arizona Labs	938 West Laura	Winter Par
Ms.	Michelle		Stern		Budget &	Ohio Tool Co	10773 E.	Cincinnati
Ms.	Kathy		Root		Asst Personnel	River Power	32104 S 18Th	St George

IMPORT DATABASE: My Mailing List

First	Last	Address	City	Stat	Zip	Phone

Drag columns from import text (above) into database fields (here)

Then drag the fourth column into the Last field.



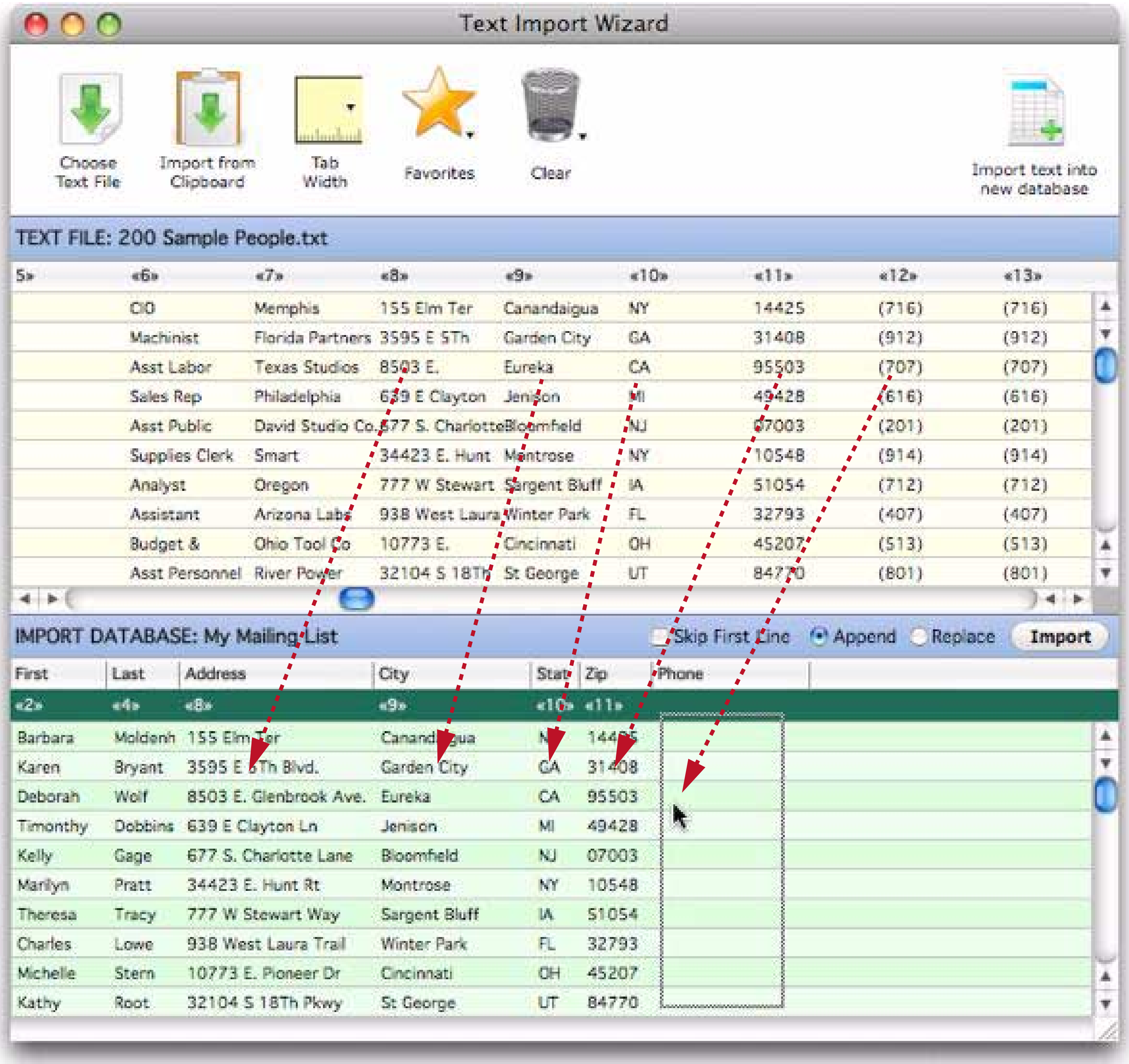
TEXT FILE: 200 Sample People.txt

«1»	«2»	«3»	«4»	«5»	«6»	«7»	«8»	«9»
Ms.	Barbara		Moldenhauer		CIO	Memphis	155 Elm Ter	Canandaig
Ms.	Karen		Bryant		Machinist	Florida Partners	3595 E 5Th	Garden Cit
Ms.	Deborah		Wolf		Asst Labor	Texas Studios	8503 E.	Eureka
Mr.	Timonthy		Dobbins		Sales Rep	Philadelphia	639 E Clayton	Jenison
Ms.	Kelly		Gage		Asst Public	David Studio Co.	677 S. Charlotte	Bloomfield
Ms.	Marilyn		Pratt		Supplies Clerk	Smart	34423 E. Hunt	Montrose
Ms.	Theresa		Tracy		Analyst	Oregon	777 W Stewart	Sargent Bl
Mr.	Charles		Lowe		Assistant	Arizona Labs	938 West Laura	Winter Par
Ms.	Michelle		Stern		Budget &	Ohio Tool Co	10773 E.	Cincinnati
Ms.	Kathy		Root		Asst Personnel	River Power	32104 S 18Th	St George

IMPORT DATABASE: My Mailing List

First	Last	Address	City	Stat	Zip	Phone
«2»						
Barbara						
Karen						
Deborah						
Timonthy						
Kelly						
Marilyn						
Theresa						
Charles						
Michelle						
Kathy						

Continue to drag each of the text fields you want to import onto the corresponding database fields.



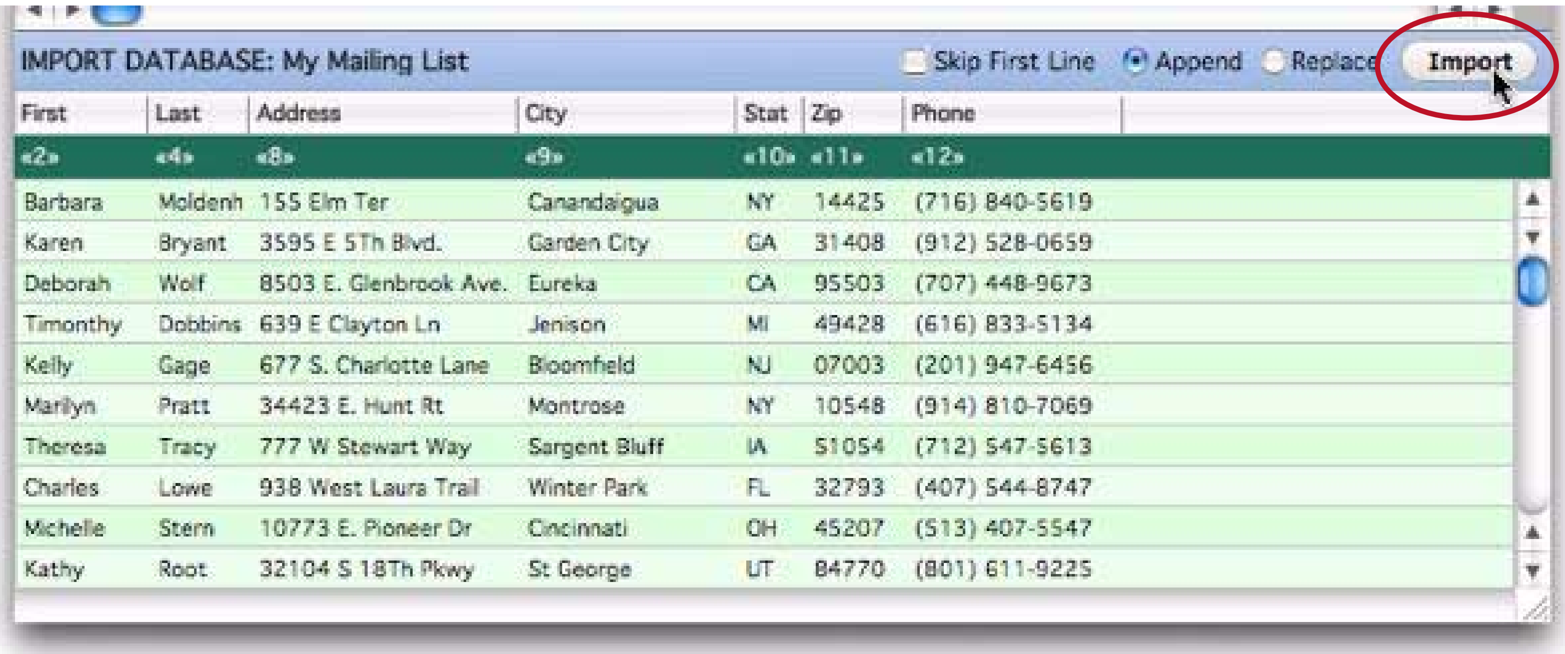
TEXT FILE: 200 Sample People.txt

5»	«6»	«7»	«8»	«9»	«10»	«11»	«12»	«13»
	CIO	Memphis	155 Elm Ter	Canandaigua	NY	14425	(716)	(716)
	Machinist	Florida Partners	3595 E 5Th	Garden City	GA	31408	(912)	(912)
	Asst Labor	Texas Studios	8503 E.	Eureka	CA	95503	(707)	(707)
	Sales Rep	Philadelphia	639 E Clayton	Jenison	MI	49428	(616)	(616)
	Asst Public	David Studio Co.	677 S. Charlotte	Bloomfield	NJ	07003	(201)	(201)
	Supplies Clerk	Smart	34423 E. Hunt	Montrose	NY	10548	(914)	(914)
	Analyst	Oregon	777 W Stewart	Sargent Bluff	IA	51054	(712)	(712)
	Assistant	Arizona Labs	938 West Laura	Winter Park	FL	32793	(407)	(407)
	Budget &	Ohio Tool Co	10773 E.	Cincinnati	OH	45207	(513)	(513)
	Asst Personnel	River Power	32104 S 18Th	St George	UT	84770	(801)	(801)

IMPORT DATABASE: My Mailing List ☐ Skip First Line ● Append ○ Replace Import

First	Last	Address	City	Stat	Zip	Phone
«2»	«4»	«8»	«9»	«10»	«11»	
Barbara	Moldenh	155 Elm Ter	Canandaigua	NY	14425	
Karen	Bryant	3595 E 5Th Blvd.	Garden City	GA	31408	
Deborah	Wolf	8503 E. Glenbrook Ave.	Eureka	CA	95503	
Timonthy	Dobbins	639 E Clayton Ln	Jenison	MI	49428	
Kelly	Gage	677 S. Charlotte Lane	Bloomfield	NJ	07003	
Marilyn	Pratt	34423 E. Hunt Rt	Montrose	NY	10548	
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	
Charles	Lowe	938 West Laura Trail	Winter Park	FL	32793	
Michelle	Stern	10773 E. Pioneer Dr	Cincinnati	OH	45207	
Kathy	Root	32104 S 18Th Pkwy	St George	UT	84770	

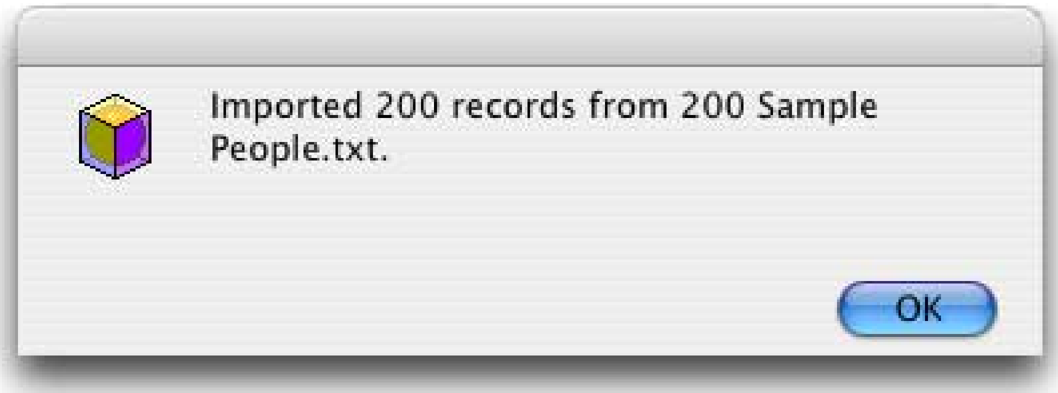
Once all of the fields are set up press the **Import** button.



IMPORT DATABASE: My Mailing List ☐ Skip First Line ● Append ○ Replace Import

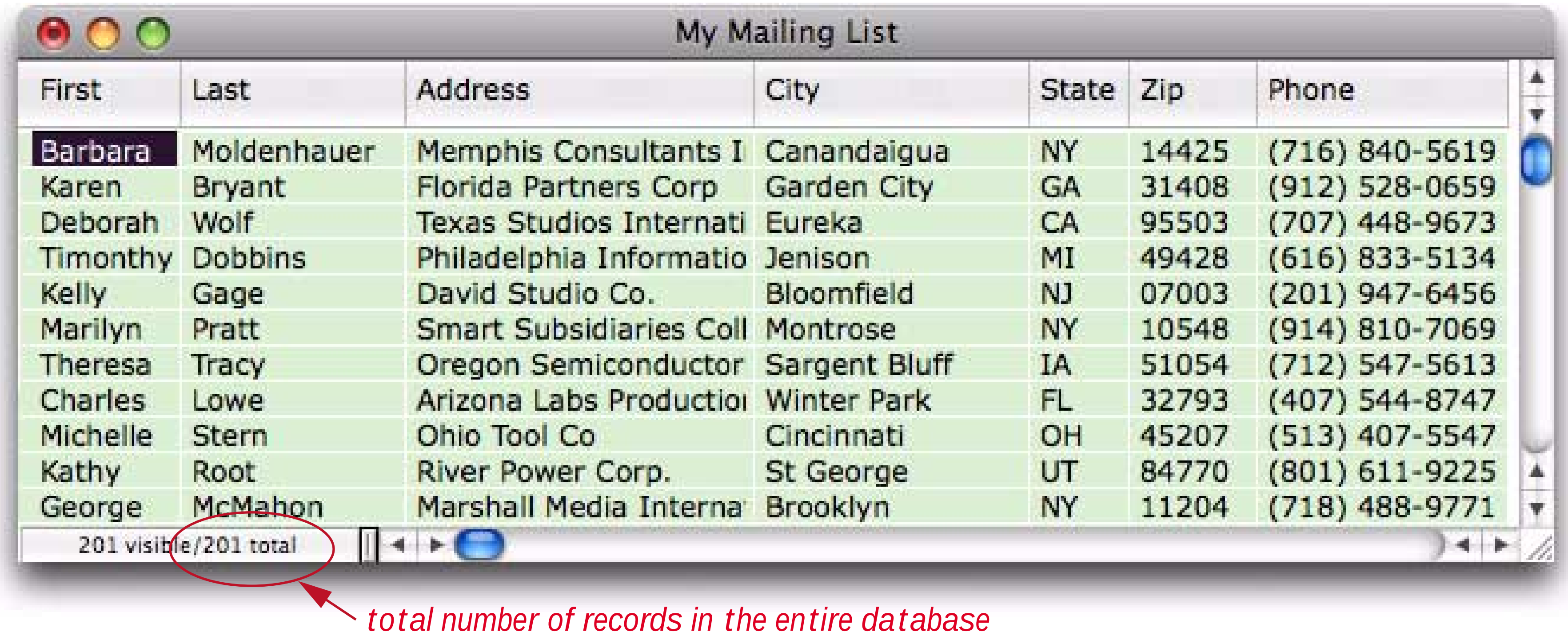
First	Last	Address	City	Stat	Zip	Phone
«2»	«4»	«8»	«9»	«10»	«11»	«12»
Barbara	Moldenh	155 Elm Ter	Canandaigua	NY	14425	(716) 840-5619
Karen	Bryant	3595 E 5Th Blvd.	Garden City	GA	31408	(912) 528-0659
Deborah	Wolf	8503 E. Glenbrook Ave.	Eureka	CA	95503	(707) 448-9673
Timonthy	Dobbins	639 E Clayton Ln	Jenison	MI	49428	(616) 833-5134
Kelly	Gage	677 S. Charlotte Lane	Bloomfield	NJ	07003	(201) 947-6456
Marilyn	Pratt	34423 E. Hunt Rt	Montrose	NY	10548	(914) 810-7069
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	(712) 547-5613
Charles	Lowe	938 West Laura Trail	Winter Park	FL	32793	(407) 544-8747
Michelle	Stern	10773 E. Pioneer Dr	Cincinnati	OH	45207	(513) 407-5547
Kathy	Root	32104 S 18Th Pkwy	St George	UT	84770	(801) 611-9225

The wizard will import the data from the text file into the database.



Imported 200 records from 200 Sample People.txt.

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.



My Mailing List

First	Last	Address	City	State	Zip	Phone
Barbara	Moldenhauer	Memphis Consultants I	Canandaigua	NY	14425	(716) 840-5619
Karen	Bryant	Florida Partners Corp	Garden City	GA	31408	(912) 528-0659
Deborah	Wolf	Texas Studios Internati	Eureka	CA	95503	(707) 448-9673
Timonthy	Dobbins	Philadelphia Informatio	Jenison	MI	49428	(616) 833-5134
Kelly	Gage	David Studio Co.	Bloomfield	NJ	07003	(201) 947-6456
Marilyn	Pratt	Smart Subsidiaries Coll	Montrose	NY	10548	(914) 810-7069
Theresa	Tracy	Oregon Semiconductor	Sargent Bluff	IA	51054	(712) 547-5613
Charles	Lowe	Arizona Labs Productioi	Winter Park	FL	32793	(407) 544-8747
Michelle	Stern	Ohio Tool Co	Cincinnati	OH	45207	(513) 407-5547
Kathy	Root	River Power Corp.	St George	UT	84770	(801) 611-9225
George	McMahon	Marshall Media Interna	Brooklyn	NY	11204	(718) 488-9771

201 visible/201 total

total number of records in the entire database

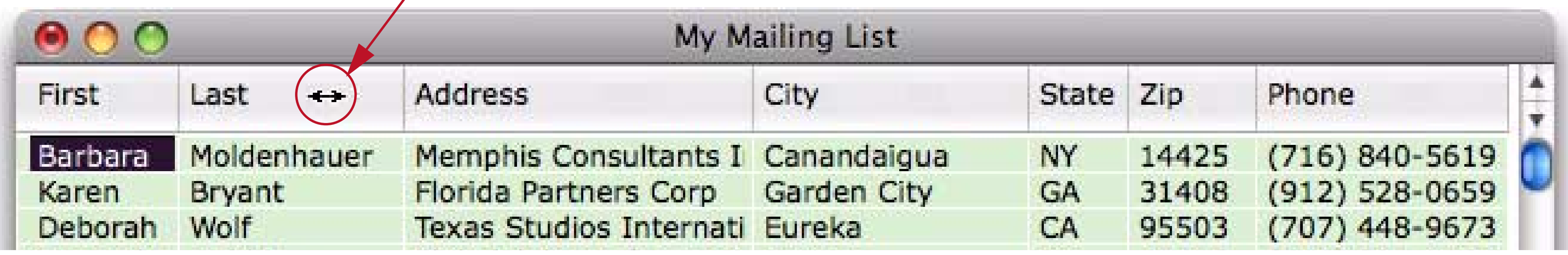
Before you go any further you should use the **Save** command (in the File menu) to save the new data in the database. Since you have already saved this file once and given it a name, Panorama will quickly save the file without asking you for the name and location again.

To learn more about the **Text Import Wizard** see "Using the Text Import Wizard" on page 360.

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.

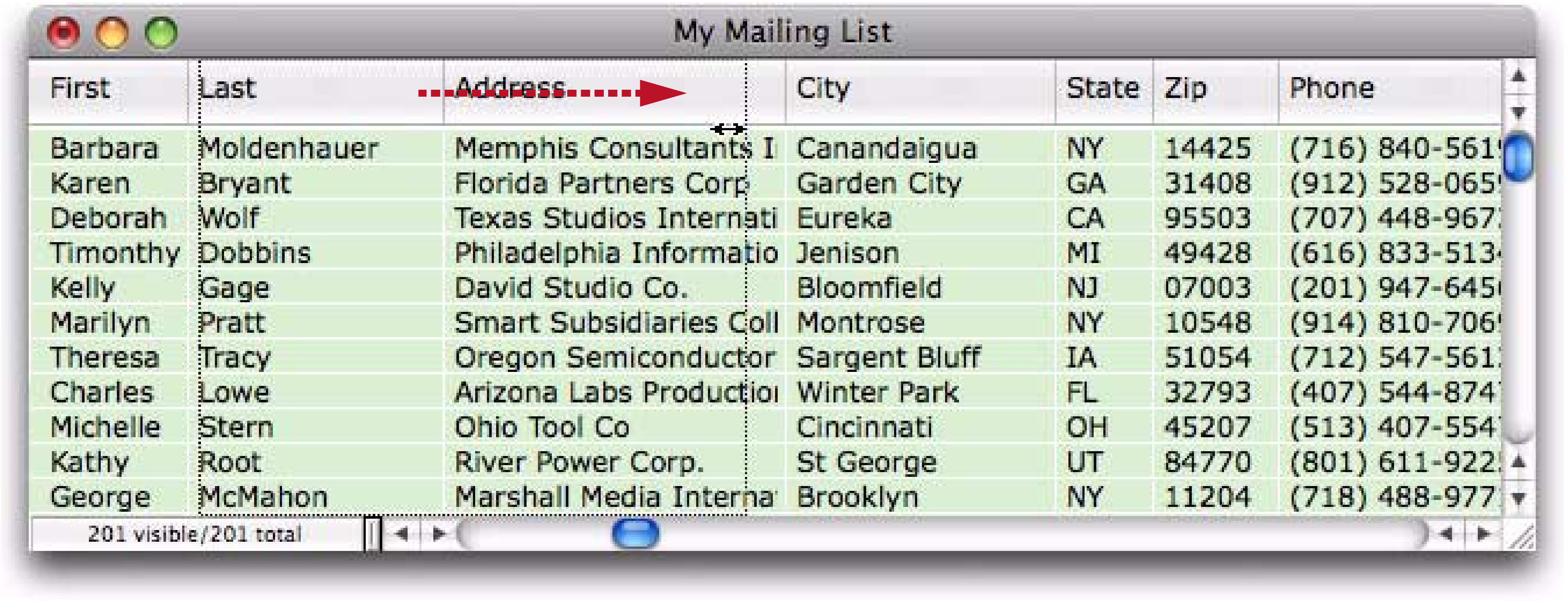
mouse turns into double left/right arrow



My Mailing List

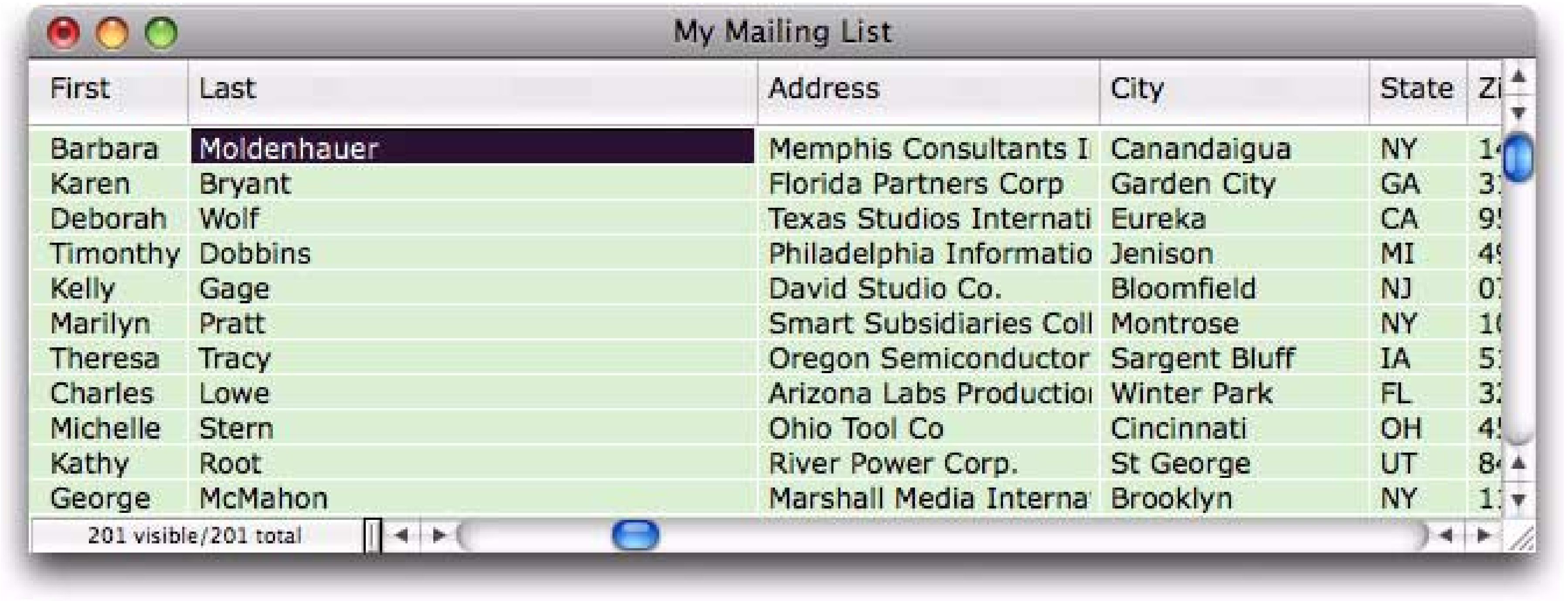
First	Last	Address	City	State	Zip	Phone
Barbara	Moldenhauer	Memphis Consultants I	Canandaigua	NY	14425	(716) 840-5619
Karen	Bryant	Florida Partners Corp	Garden City	GA	31408	(912) 528-0659
Deborah	Wolf	Texas Studios Internati	Eureka	CA	95503	(707) 448-9673

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



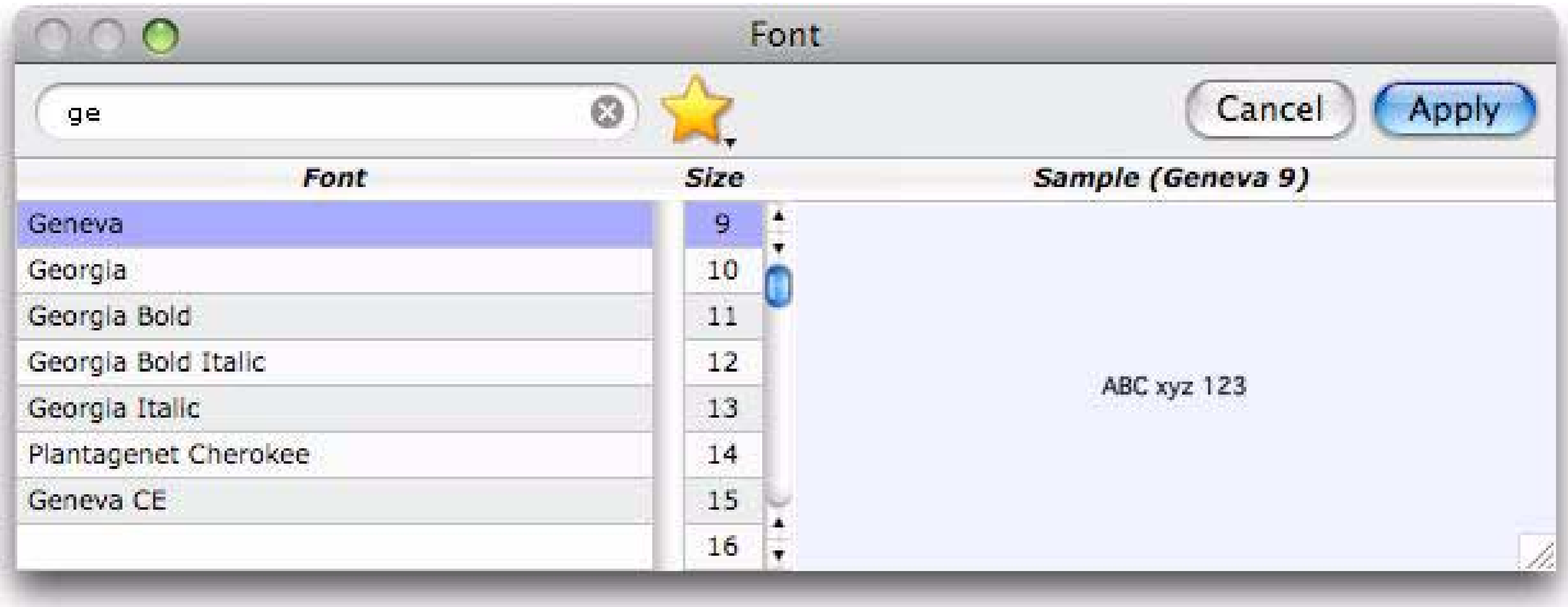
First	Last	Address	City	State	Zip	Phone
Barbara	Moldenhauer	Memphis Consultants I	Canandaigua	NY	14425	(716) 840-561
Karen	Bryant	Florida Partners Corp	Garden City	GA	31408	(912) 528-065
Deborah	Wolf	Texas Studios Internati	Eureka	CA	95503	(707) 448-967
Timonthy	Dobbins	Philadelphia Informatio	Jenison	MI	49428	(616) 833-513
Kelly	Gage	David Studio Co.	Bloomfield	NJ	07003	(201) 947-645
Marilyn	Pratt	Smart Subsidiaries Coll	Montrose	NY	10548	(914) 810-706
Theresa	Tracy	Oregon Semiconductor	Sargent Bluff	IA	51054	(712) 547-561
Charles	Lowe	Arizona Labs Productio	Winter Park	FL	32793	(407) 544-874
Michelle	Stern	Ohio Tool Co	Cincinnati	OH	45207	(513) 407-554
Kathy	Root	River Power Corp.	St George	UT	84770	(801) 611-922
George	McMahon	Marshall Media Interna	Brooklyn	NY	11204	(718) 488-977

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



First	Last	Address	City	State	Zi
Barbara	Moldenhauer	Memphis Consultants I	Canandaigua	NY	14
Karen	Bryant	Florida Partners Corp	Garden City	GA	3
Deborah	Wolf	Texas Studios Internati	Eureka	CA	9
Timonthy	Dobbins	Philadelphia Informatio	Jenison	MI	4
Kelly	Gage	David Studio Co.	Bloomfield	NJ	0
Marilyn	Pratt	Smart Subsidiaries Coll	Montrose	NY	1
Theresa	Tracy	Oregon Semiconductor	Sargent Bluff	IA	5
Charles	Lowe	Arizona Labs Productio	Winter Park	FL	3
Michelle	Stern	Ohio Tool Co	Cincinnati	OH	4
Kathy	Root	River Power Corp.	St George	UT	8
George	McMahon	Marshall Media Interna	Brooklyn	NY	1

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



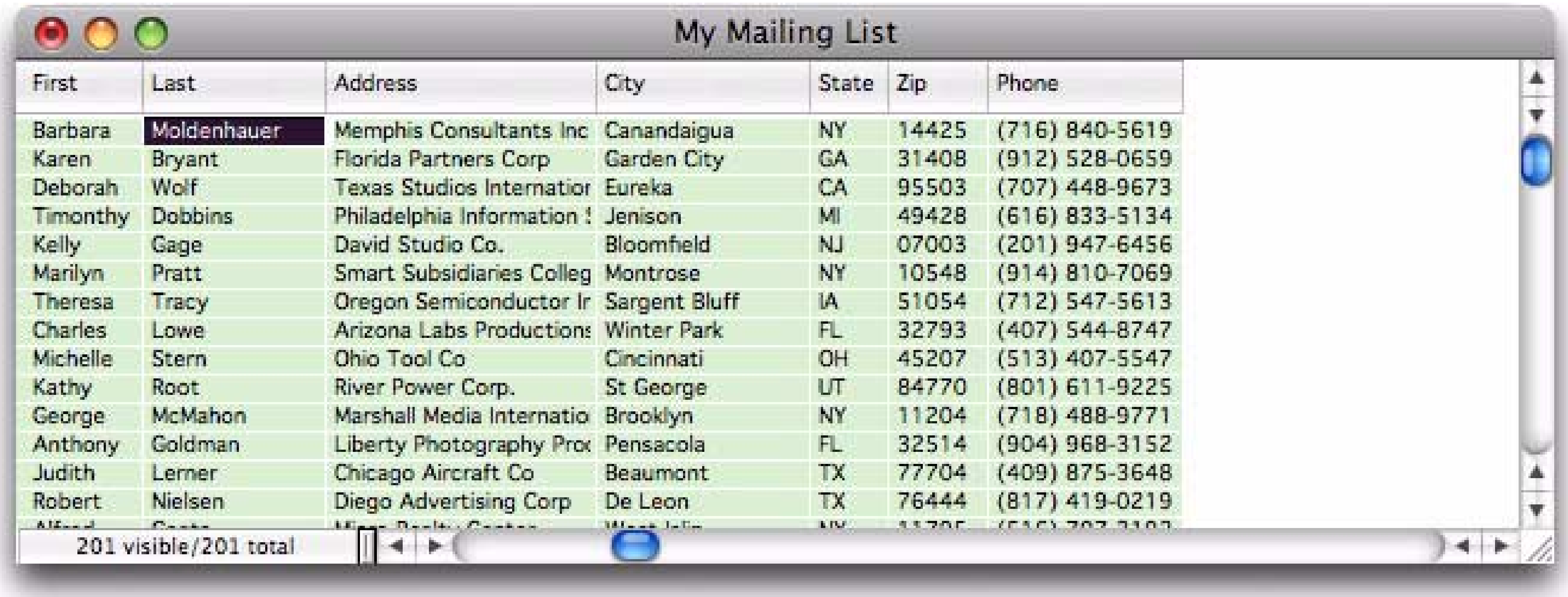
ge

Font	Size
Geneva	9
Georgia	10
Georgia Bold	11
Georgia Bold Italic	12
Georgia Italic	13
Plantagenet Cherokee	14
Geneva CE	15
	16

Sample (Geneva 9)

ABC xyz 123

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.

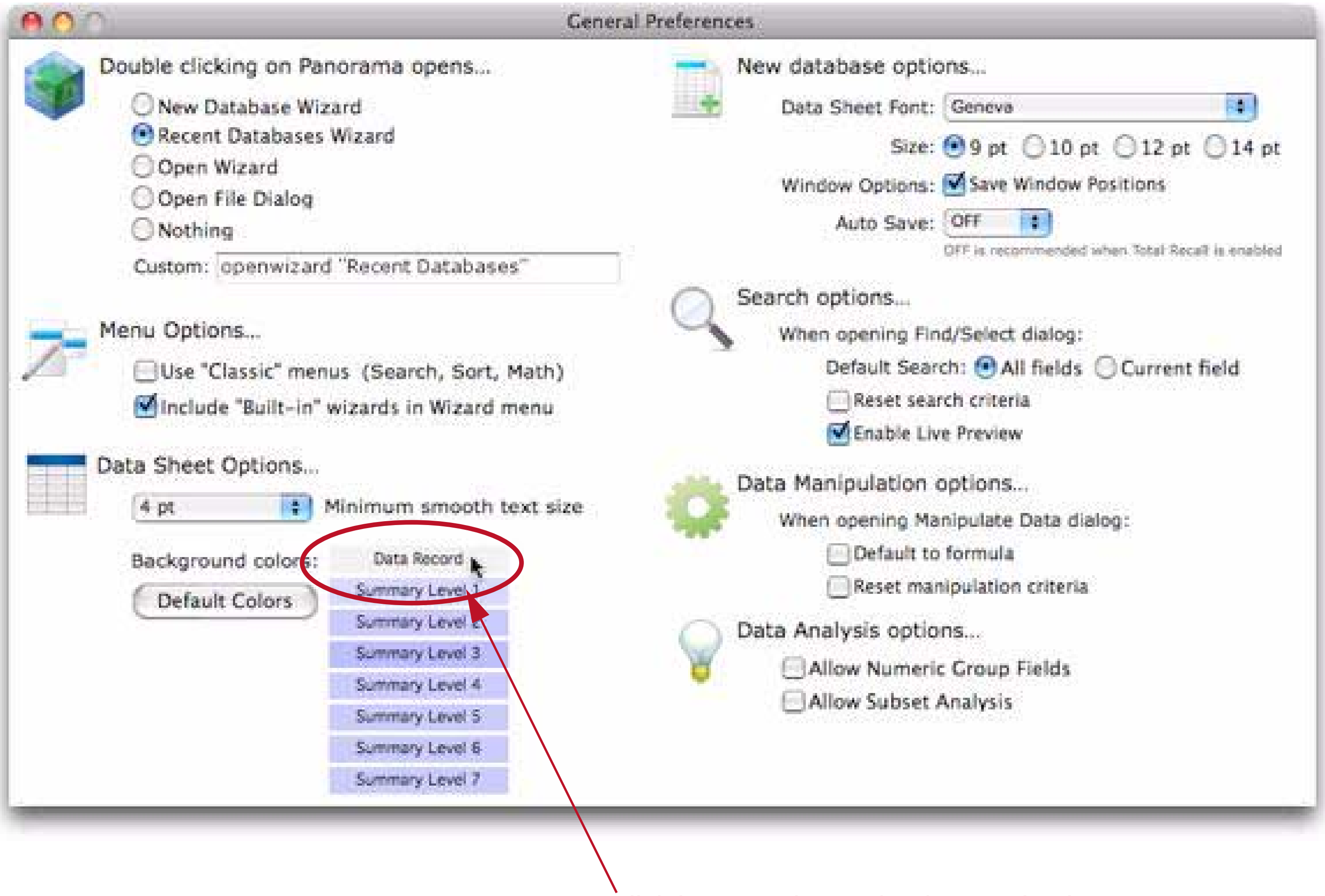


First	Last	Address	City	State	Zip	Phone
Barbara	Moldenhauer	Memphis Consultants Inc	Canandaigua	NY	14425	(716) 840-5619
Karen	Bryant	Florida Partners Corp	Garden City	GA	31408	(912) 528-0659
Deborah	Wolf	Texas Studios Internatior	Eureka	CA	95503	(707) 448-9673
Timonthy	Dobbins	Philadelphia Information !	Jenison	MI	49428	(616) 833-5134
Kelly	Gage	David Studio Co.	Bloomfield	NJ	07003	(201) 947-6456
Marilyn	Pratt	Smart Subsidiaries Colleg	Montrose	NY	10548	(914) 810-7069
Theresa	Tracy	Oregon Semiconductor Ir	Sargent Bluff	IA	51054	(712) 547-5613
Charles	Lowe	Arizona Labs Productions	Winter Park	FL	32793	(407) 544-8747
Michelle	Stern	Ohio Tool Co	Cincinnati	OH	45207	(513) 407-5547
Kathy	Root	River Power Corp.	St George	UT	84770	(801) 611-9225
George	McMahon	Marshall Media Internatio	Brooklyn	NY	11204	(718) 488-9771
Anthony	Goldman	Liberty Photography Pro	Pensacola	FL	32514	(904) 968-3152
Judith	Lerner	Chicago Aircraft Co	Beaumont	TX	77704	(409) 875-3648
Robert	Nielsen	Diego Advertising Corp	De Leon	TX	76444	(817) 419-0219

201 visible/201 total

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.



General Preferences

Double clicking on Panorama opens...

○ New Database Wizard
● Recent Databases Wizard
○ Open Wizard
○ Open File Dialog
○ Nothing

Custom: openwizard "Recent Databases"

Menu Options...

□ Use "Classic" menus (Search, Sort, Math)
☑ Include "Built-in" wizards in Wizard menu

Data Sheet Options...

4 pt Minimum smooth text size

Background colors: Data Record
Summary Level 1
Summary Level 2
Summary Level 3
Summary Level 4
Summary Level 5
Summary Level 6
Summary Level 7

Default Colors

New database options...

Data Sheet Font: Geneva

Size: ● 9 pt ○ 10 pt ○ 12 pt ○ 14 pt

Window Options: ☑ Save Window Positions

Auto Save: OFF

OFF is recommended when Total Recall is enabled

Search options...

When opening Find/Select dialog:

Default Search: ● All fields ○ Current field
□ Reset search criteria
☑ Enable Live Preview

Data Manipulation options...

When opening Manipulate Data dialog:

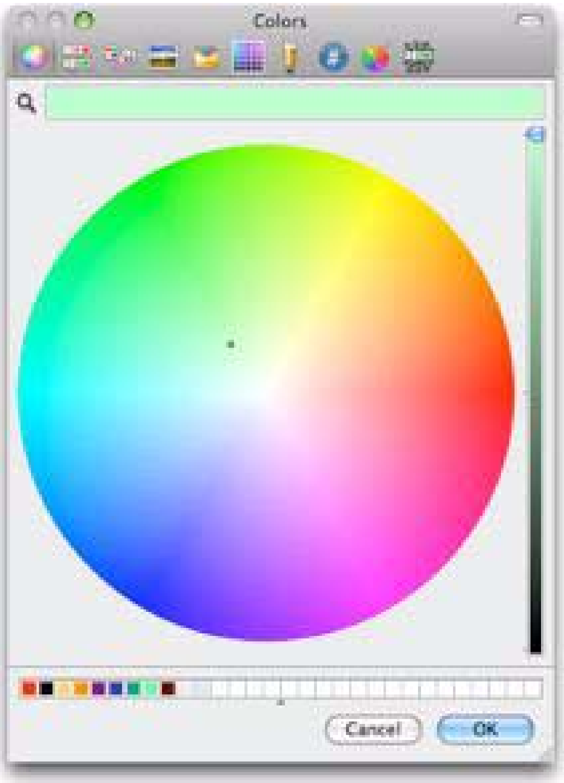
□ Default to formula
□ Reset manipulation criteria

Data Analysis options...

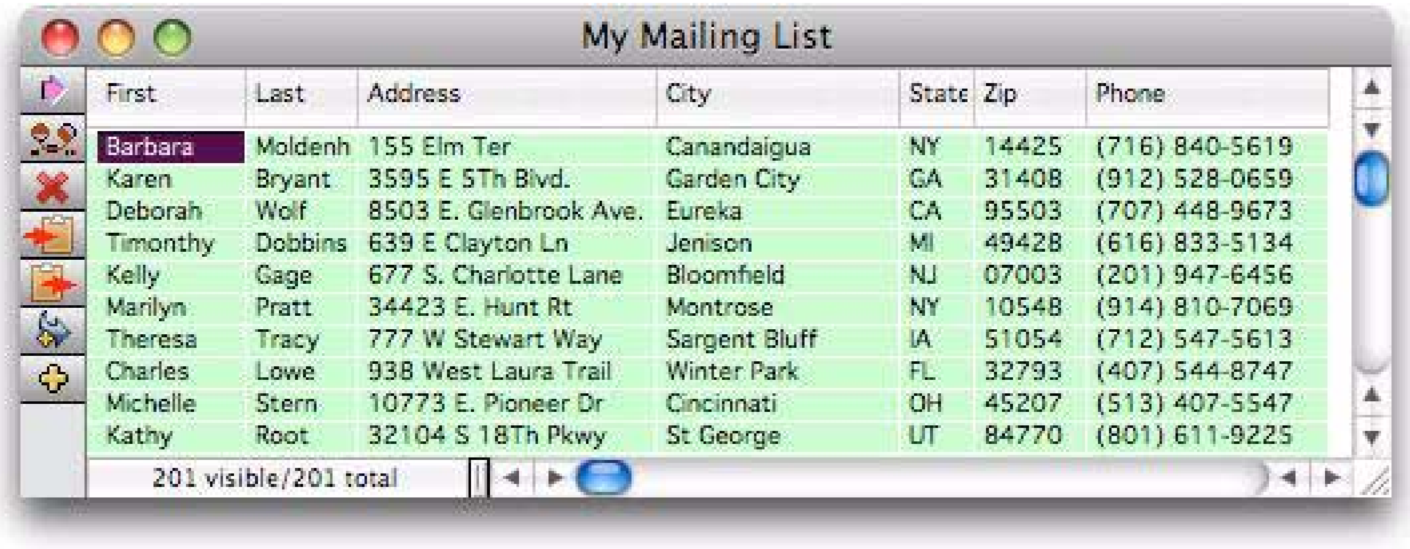
□ Allow Numeric Group Fields
□ Allow Subset Analysis

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.



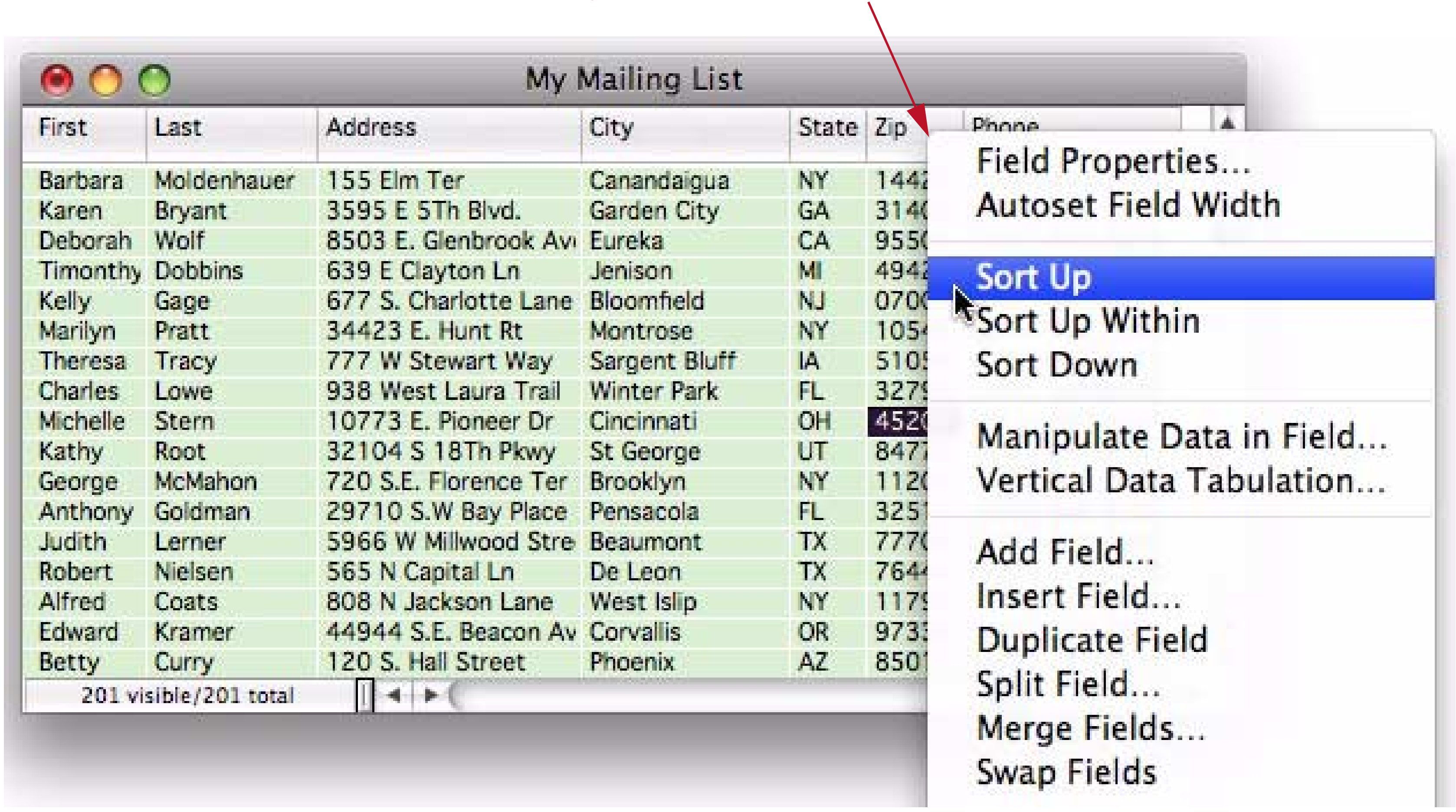
First	Last	Address	City	State	Zip	Phone
Barbara	Moldenh	155 Elm Ter	Canandaigua	NY	14425	(716) 840-5619
Karen	Bryant	3595 E 5Th Blvd.	Garden City	GA	31408	(912) 528-0659
Deborah	Wolf	8503 E. Glenbrook Ave.	Eureka	CA	95503	(707) 448-9673
Timonthy	Dobbins	639 E Clayton Ln	Jenison	MI	49428	(616) 833-5134
Kelly	Gage	677 S. Charlotte Lane	Bloomfield	NJ	07003	(201) 947-6456
Marilyn	Pratt	34423 E. Hunt Rt	Montrose	NY	10548	(914) 810-7069
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	(712) 547-5613
Charles	Lowe	938 West Laura Trail	Winter Park	FL	32793	(407) 544-8747
Michelle	Stern	10773 E. Pioneer Dr	Cincinnati	OH	45207	(513) 407-5547
Kathy	Root	32104 S 18Th Pkwy	St George	UT	84770	(801) 611-9225

201 visible/201 total

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 start trying out Panorama's commands for organizing data. The quickest way to sort by any single field is to right click on the field name and choose **Sort Up** or **Sort Down** from the pop-up menu (if you don't have a two button mouse you can hold down the **Control** key while you click on the field name.



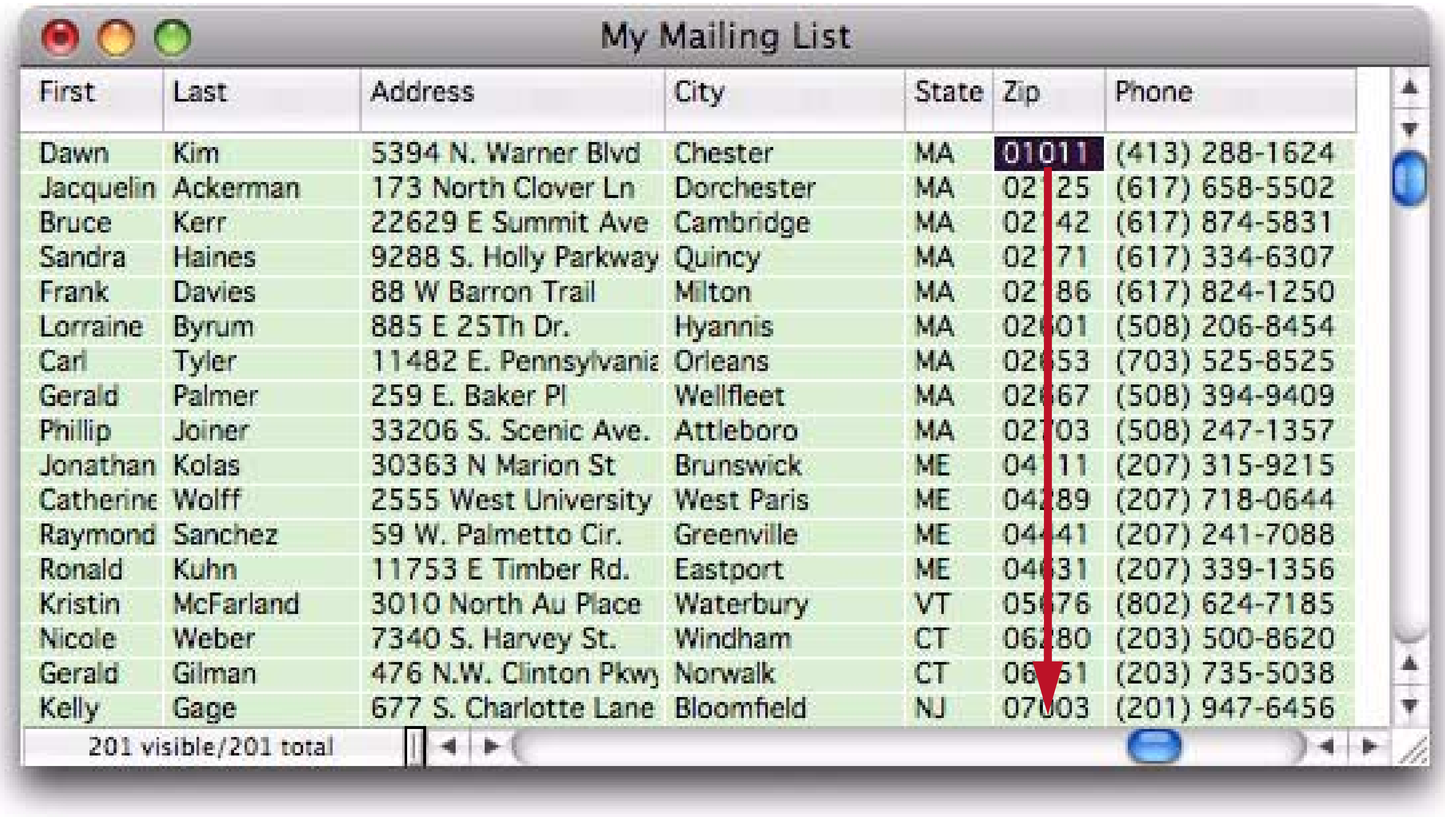
right click on field name

My Mailing List

First	Last	Address	City	State	Zip
Barbara	Moldenhauer	155 Elm Ter	Canandaigua	NY	1442
Karen	Bryant	3595 E 5Th Blvd.	Garden City	GA	3140
Deborah	Wolf	8503 E. Glenbrook Av	Eureka	CA	9550
Timonthy	Dobbins	639 E Clayton Ln	Jenison	MI	4942
Kelly	Gage	677 S. Charlotte Lane	Bloomfield	NJ	0700
Marilyn	Pratt	34423 E. Hunt Rt	Montrose	NY	1054
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	5105
Charles	Lowe	938 West Laura Trail	Winter Park	FL	3279
Michelle	Stern	10773 E. Pioneer Dr	Cincinnati	OH	4520
Kathy	Root	32104 S 18Th Pkwy	St George	UT	8477
George	McMahon	720 S.E. Florence Ter	Brooklyn	NY	1120
Anthony	Goldman	29710 S.W Bay Place	Pensacola	FL	3251
Judith	Lerner	5966 W Millwood Stre	Beaumont	TX	7770
Robert	Nielsen	565 N Capital Ln	De Leon	TX	7644
Alfred	Coats	808 N Jackson Lane	West Islip	NY	1179
Edward	Kramer	44944 S.E. Beacon Av	Corvallis	OR	9733
Betty	Curry	120 S. Hall Street	Phoenix	AZ	8501

201 visible/201 total

Panorama will sort the database as soon as you release the mouse. If you chose **Sort Up** the data will be sorted from lowest to highest, if **Sort Down** then from highest to lowest.

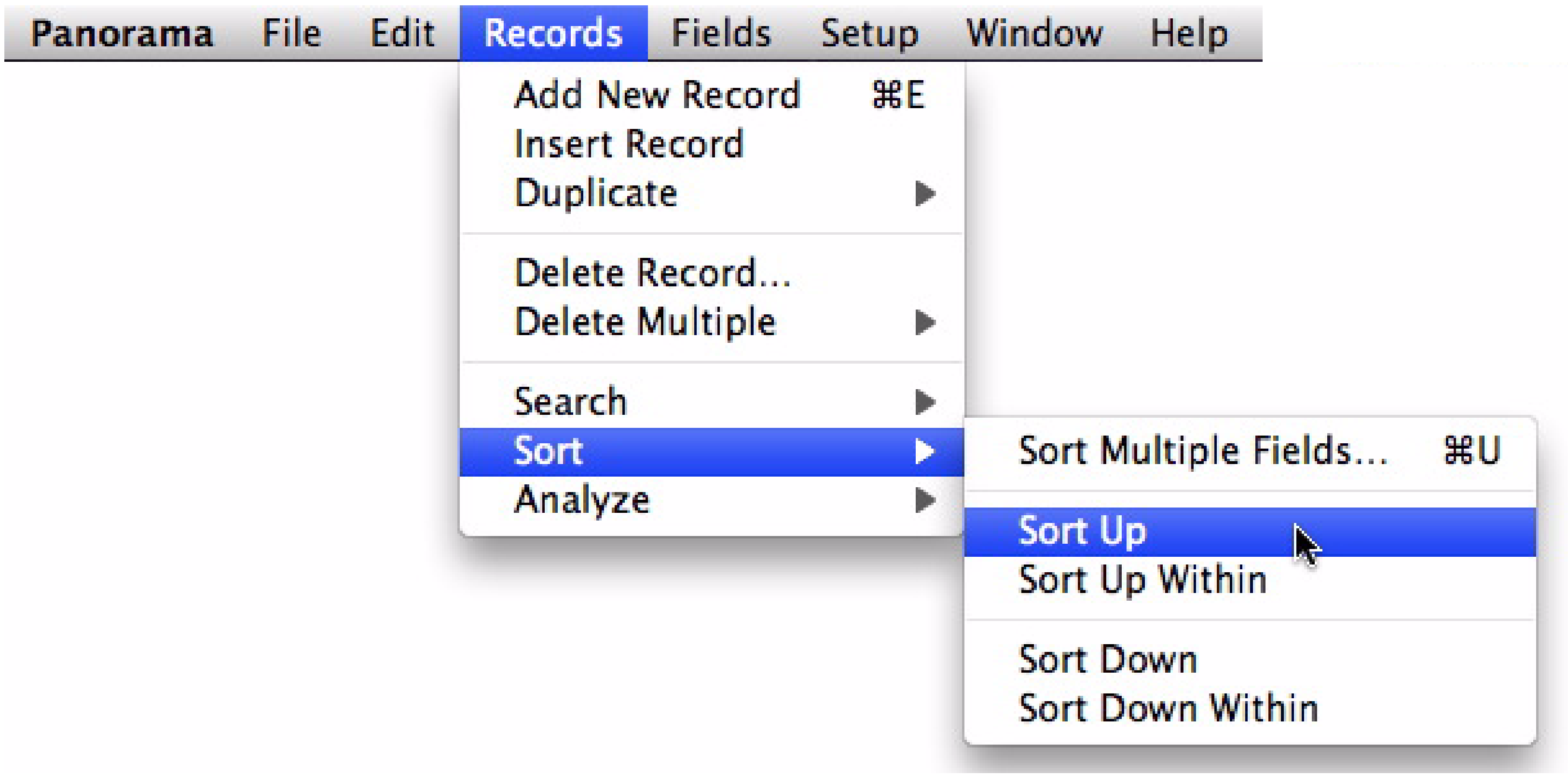


My Mailing List

First	Last	Address	City	State	Zip	Phone
Dawn	Kim	5394 N. Warner Blvd	Chester	MA	01011	(413) 288-1624
Jacquelin	Ackerman	173 North Clover Ln	Dorchester	MA	02 25	(617) 658-5502
Bruce	Kerr	22629 E Summit Ave	Cambridge	MA	02 42	(617) 874-5831
Sandra	Haines	9288 S. Holly Parkway	Quincy	MA	02 71	(617) 334-6307
Frank	Davies	88 W Barron Trail	Milton	MA	02 86	(617) 824-1250
Lorraine	Byrum	885 E 25Th Dr.	Hyannis	MA	02601	(508) 206-8454
Carl	Tyler	11482 E. Pennsylvania	Orleans	MA	02653	(703) 525-8525
Gerald	Palmer	259 E. Baker Pl	Wellfleet	MA	02667	(508) 394-9409
Phillip	Joiner	33206 S. Scenic Ave.	Attleboro	MA	02703	(508) 247-1357
Jonathan	Kolas	30363 N Marion St	Brunswick	ME	04 11	(207) 315-9215
Catherine	Wolff	2555 West University	West Paris	ME	04289	(207) 718-0644
Raymond	Sanchez	59 W. Palmetto Cir.	Greenville	ME	04441	(207) 241-7088
Ronald	Kuhn	11753 E Timber Rd.	Eastport	ME	04631	(207) 339-1356
Kristin	McFarland	3010 North Au Place	Waterbury	VT	05676	(802) 624-7185
Nicole	Weber	7340 S. Harvey St.	Windham	CT	06280	(203) 500-8620
Gerald	Gilman	476 N.W. Clinton Pkwy	Norwalk	CT	06 51	(203) 735-5038
Kelly	Gage	677 S. Charlotte Lane	Bloomfield	NJ	07003	(201) 947-6456

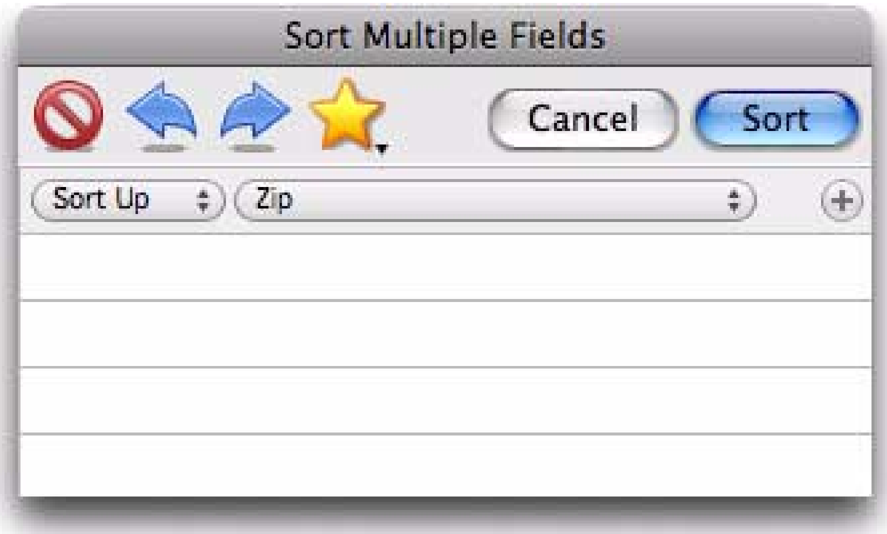
201 visible/201 total

You can also sort by clicking any cell in a field and then choosing **Sort Up** or **Sort Down** from the **Records**>**Sort** menu.

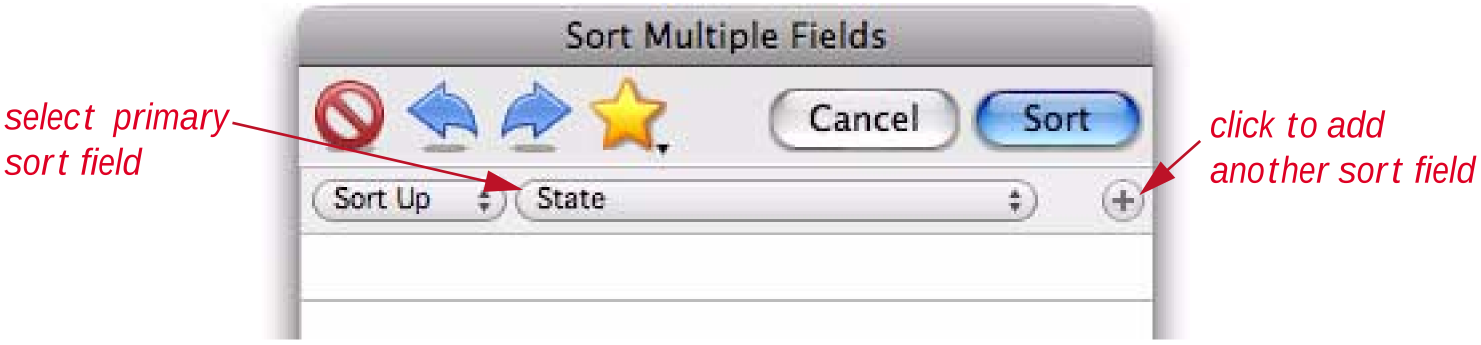


Sorting By Two or More Fields

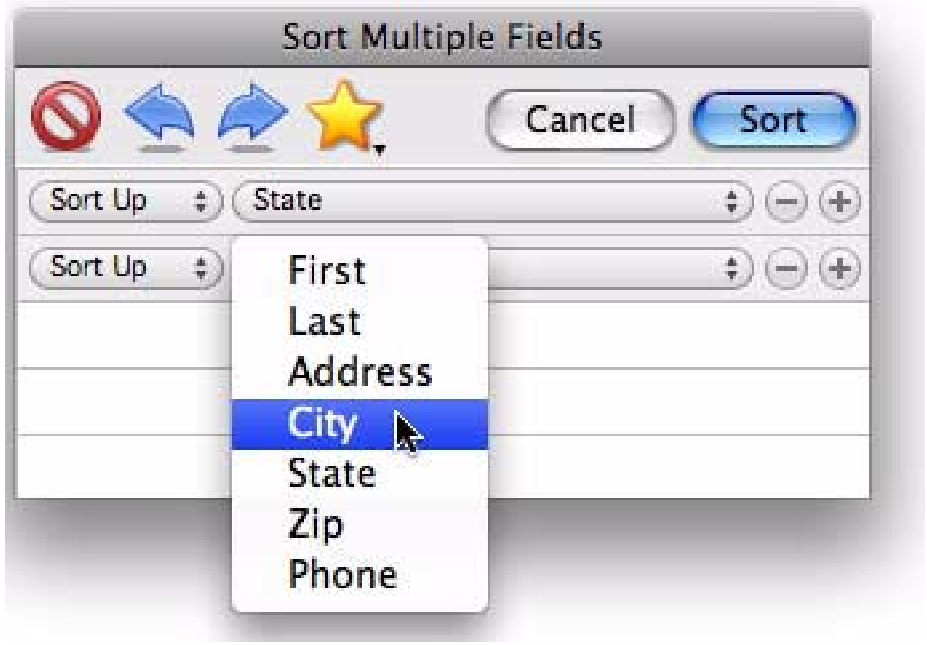
You can use the **Sort Multiple Fields** dialog to sort by up to five fields at once. For example, suppose you want to sort by state, and by cities within each state. Start by choosing **Records>Sort>Sort Multiple Fields**.



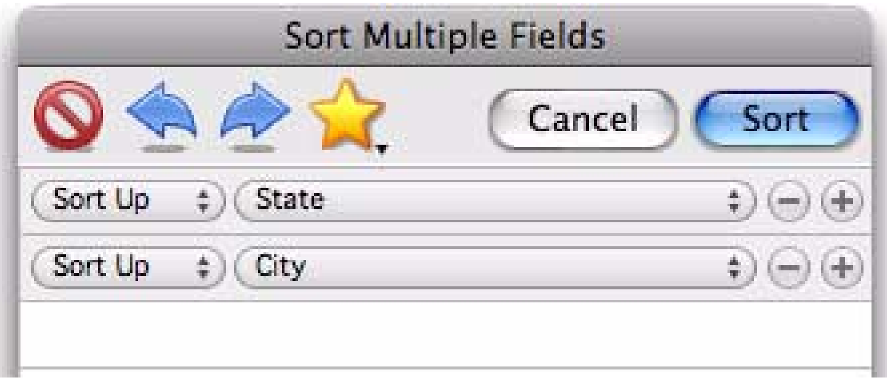
Use the pop-up menu to select the primary sort field, in this casse *State*. Then click on the + button to add another row.



Now use the pop-up menu to select the secondary sort field, in this case *City*.



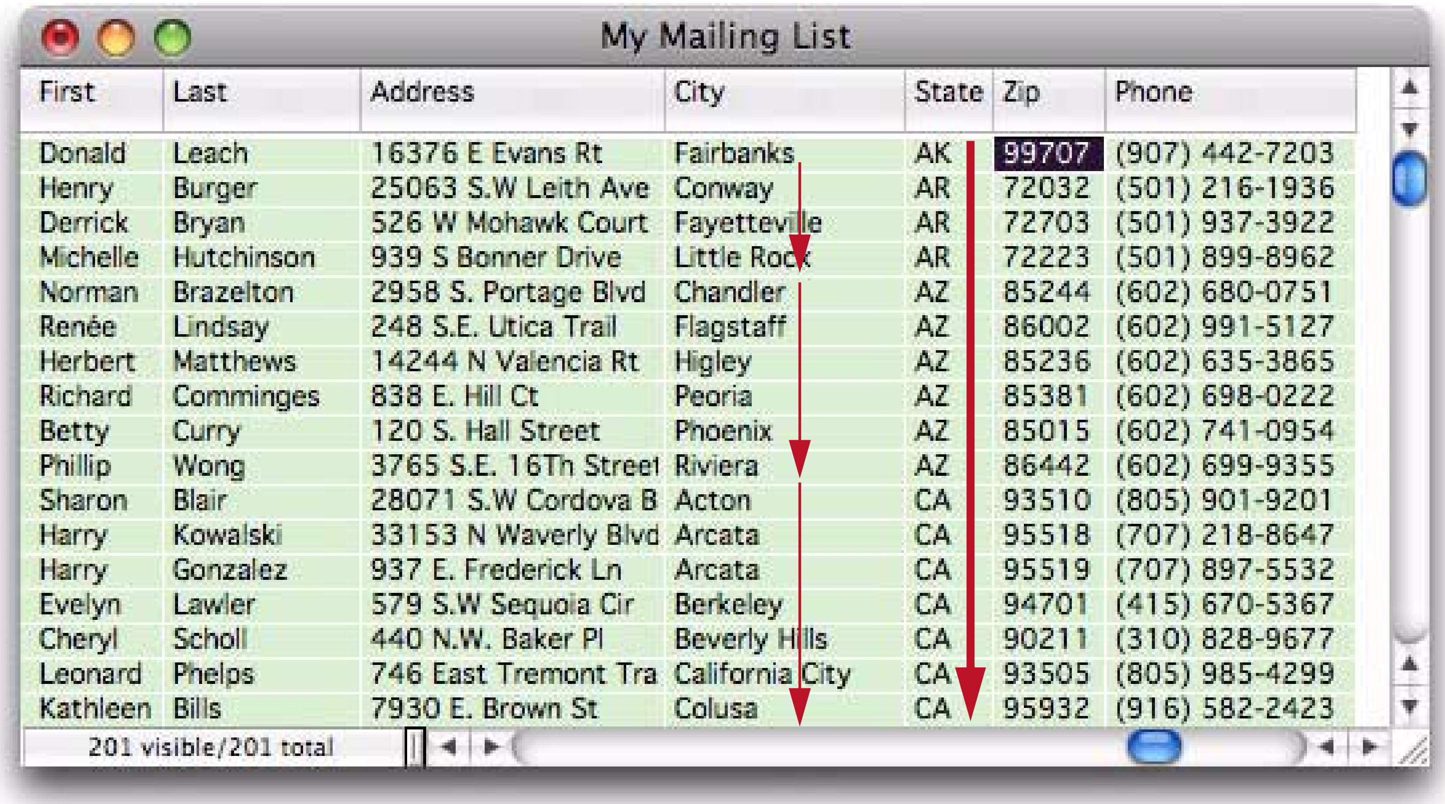
Repeat the process if you want to sort by additional fields.



Sort Up State

Sort Up City

When all the fields are specified, press the **Sort** button. The database will be sorted by the fields you have specified (in this example by state, and by cities within each state as well).



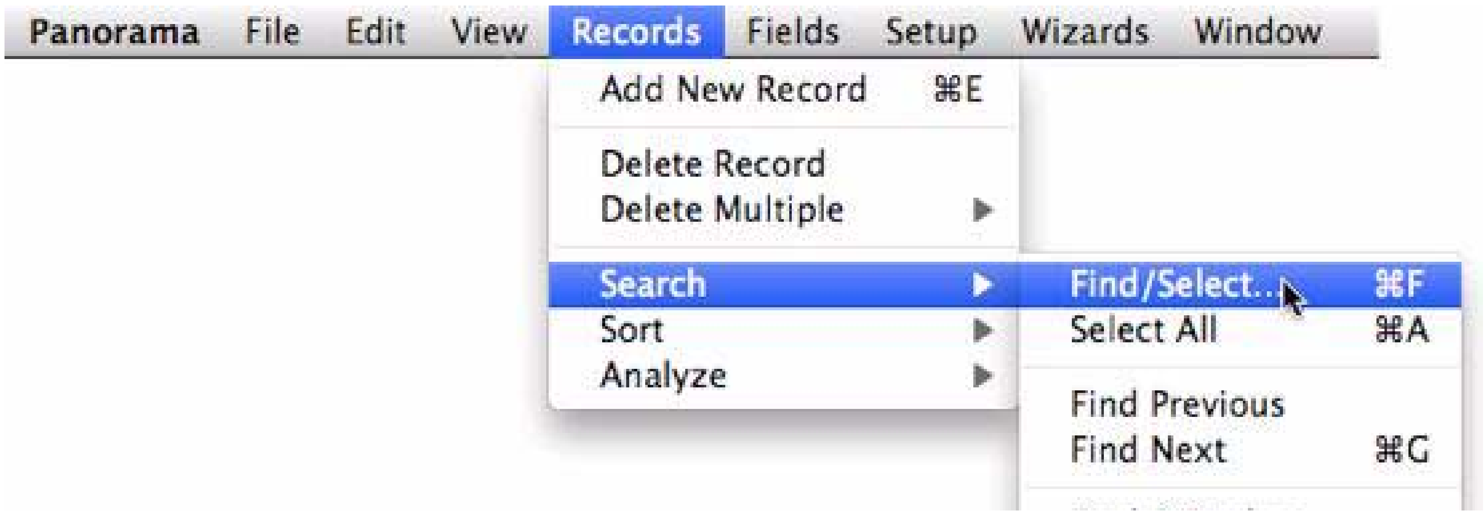
First	Last	Address	City	State	Zip	Phone
Donald	Leach	16376 E Evans Rt	Fairbanks	AK	99707	(907) 442-7203
Henry	Burger	25063 S.W Leith Ave	Conway	AR	72032	(501) 216-1936
Derrick	Bryan	526 W Mohawk Court	Fayetteville	AR	72703	(501) 937-3922
Michelle	Hutchinson	939 S Bonner Drive	Little Rock	AR	72223	(501) 899-8962
Norman	Brazelton	2958 S. Portage Blvd	Chandler	AZ	85244	(602) 680-0751
Renée	Lindsay	248 S.E. Utica Trail	Flagstaff	AZ	86002	(602) 991-5127
Herbert	Matthews	14244 N Valencia Rt	Higley	AZ	85236	(602) 635-3865
Richard	Comminges	838 E. Hill Ct	Peoria	AZ	85381	(602) 698-0222
Betty	Curry	120 S. Hall Street	Phoenix	AZ	85015	(602) 741-0954
Phillip	Wong	3765 S.E. 16Th Street	Riviera	AZ	86442	(602) 699-9355
Sharon	Blair	28071 S.W Cordova B	Acton	CA	93510	(805) 901-9201
Harry	Kowalski	33153 N Waverly Blvd	Arcata	CA	95518	(707) 218-8647
Harry	Gonzalez	937 E. Frederick Ln	Arcata	CA	95519	(707) 897-5532
Evelyn	Lawler	579 S.W Sequoia Cir	Berkeley	CA	94701	(415) 670-5367
Cheryl	Scholl	440 N.W. Baker Pl	Beverly Hills	CA	90211	(310) 828-9677
Leonard	Phelps	746 East Tremont Tra	California City	CA	93505	(805) 985-4299
Kathleen	Bills	7930 E. Brown St	Colusa	CA	95932	(916) 582-2423

201 visible/201 total

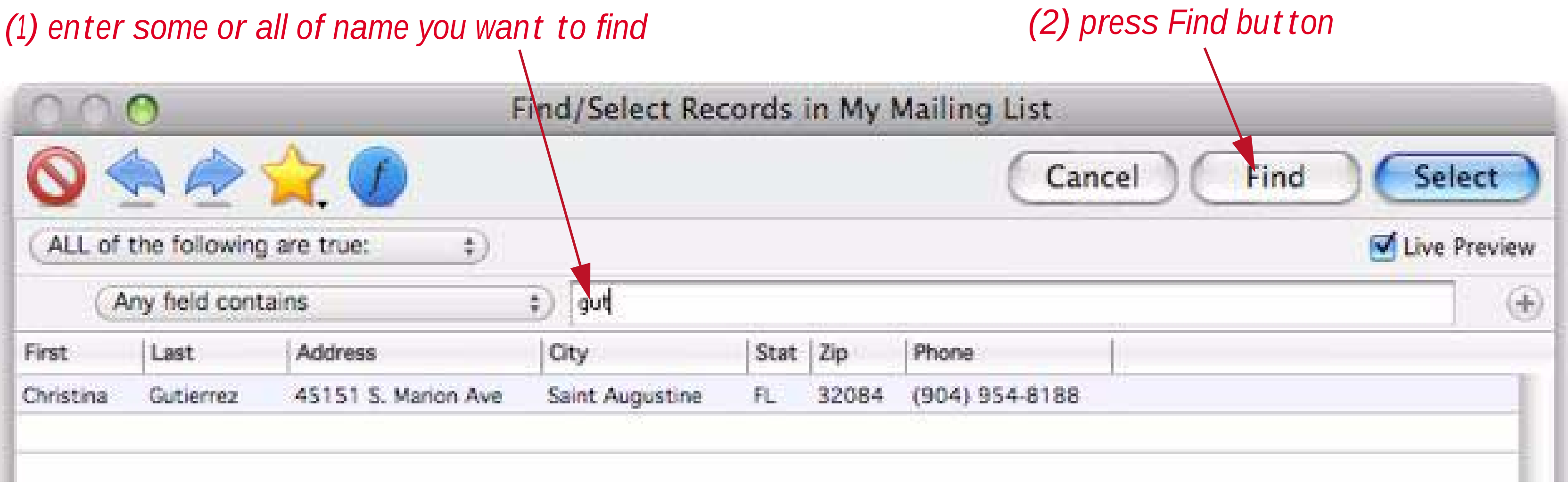
You can use the Favorites icon (yellow star) to save your most frequently used sorts for later re-use. See also to learn more.

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

Find/Select Records in My Mailing List

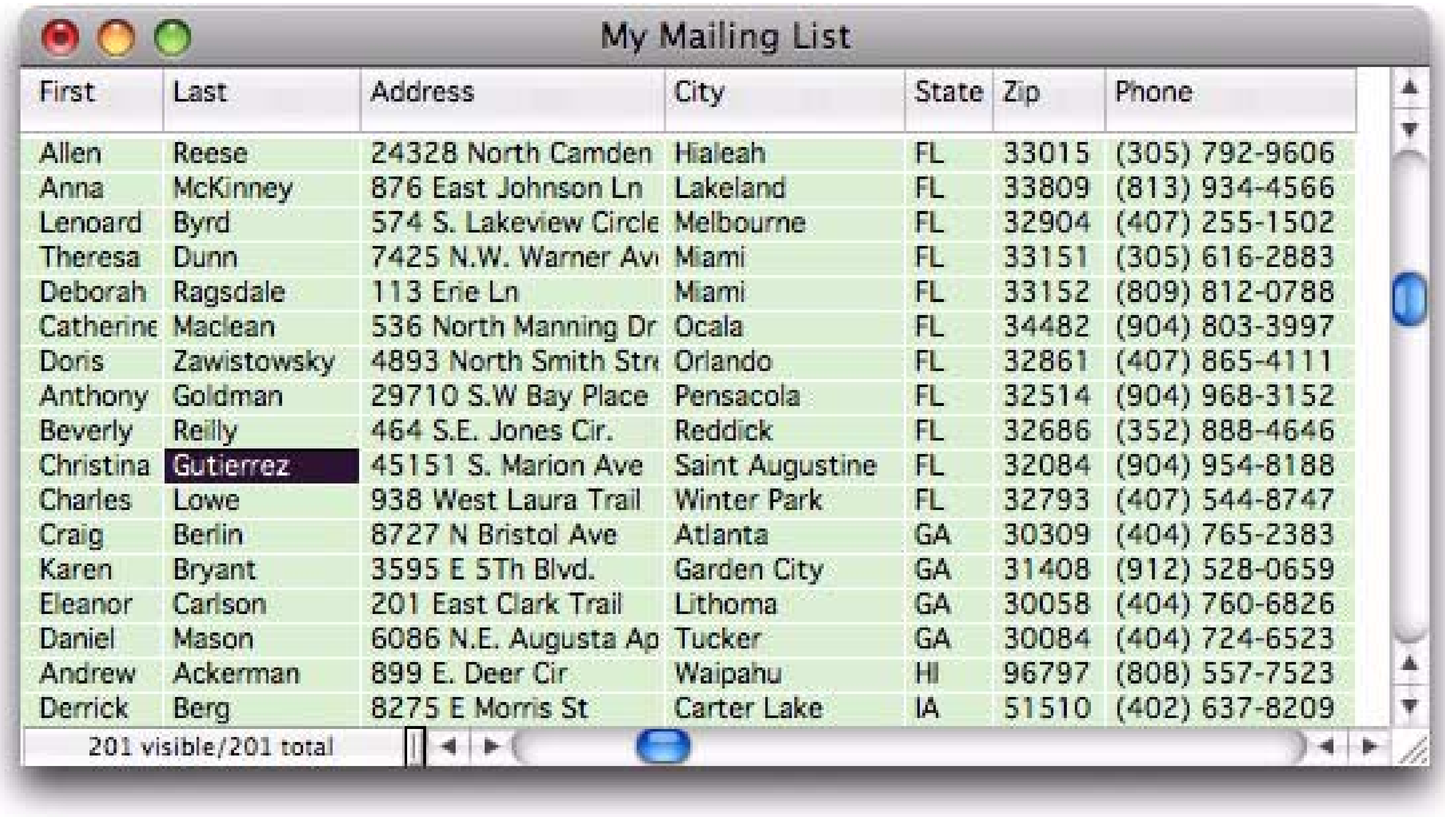
ALL of the following are true:

☑ Live Preview

Any field contains: gut

First	Last	Address	City	Stat	Zip	Phone
Christina	Gutierrez	45151 S. Marion Ave	Saint Augustine	FL	32084	(904) 954-8188

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


My Mailing List

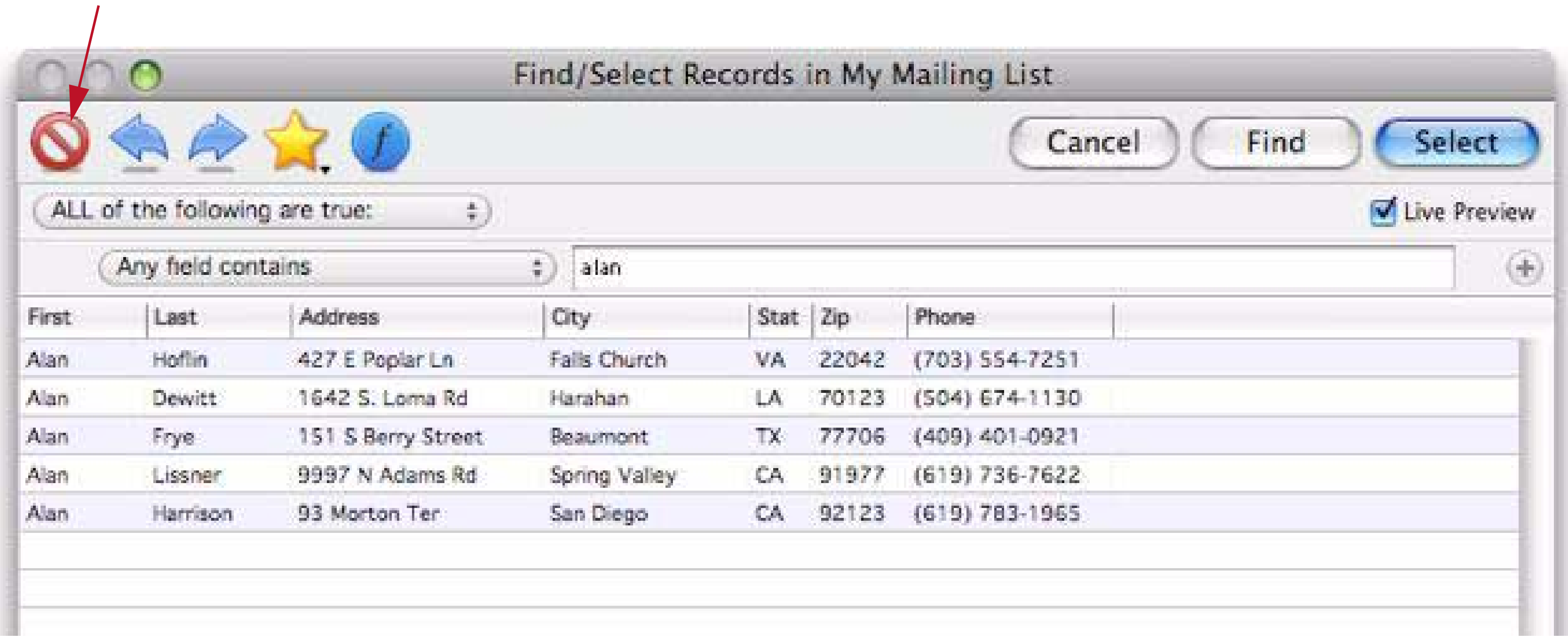
First	Last	Address	City	State	Zip	Phone
Allen	Reese	24328 North Camden	Hialeah	FL	33015	(305) 792-9606
Anna	McKinney	876 East Johnson Ln	Lakeland	FL	33809	(813) 934-4566
Lenoard	Byrd	574 S. Lakeview Circle	Melbourne	FL	32904	(407) 255-1502
Theresa	Dunn	7425 N.W. Warner Av	Miami	FL	33151	(305) 616-2883
Deborah	Ragsdale	113 Erie Ln	Miami	FL	33152	(809) 812-0788
Catherine	Maclean	536 North Manning Dr	Ocala	FL	34482	(904) 803-3997
Doris	Zawistowsky	4893 North Smith Str	Orlando	FL	32861	(407) 865-4111
Anthony	Goldman	29710 S.W Bay Place	Pensacola	FL	32514	(904) 968-3152
Beverly	Reilly	464 S.E. Jones Cir.	Reddick	FL	32686	(352) 888-4646
Christina	Gutierrez	45151 S. Marion Ave	Saint Augustine	FL	32084	(904) 954-8188
Charles	Lowe	938 West Laura Trail	Winter Park	FL	32793	(407) 544-8747
Craig	Berlin	8727 N Bristol Ave	Atlanta	GA	30309	(404) 765-2383
Karen	Bryant	3595 E 5Th Blvd.	Garden City	GA	31408	(912) 528-0659
Eleanor	Carlson	201 East Clark Trail	Lithoma	GA	30058	(404) 760-6826
Daniel	Mason	6086 N.E. Augusta Ap	Tucker	GA	30084	(404) 724-6523
Andrew	Ackerman	899 E. Deer Cir	Waipahu	HI	96797	(808) 557-7523
Derrick	Berg	8275 E Morris St	Carter Lake	IA	51510	(402) 637-8209

201 visible/201 total

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



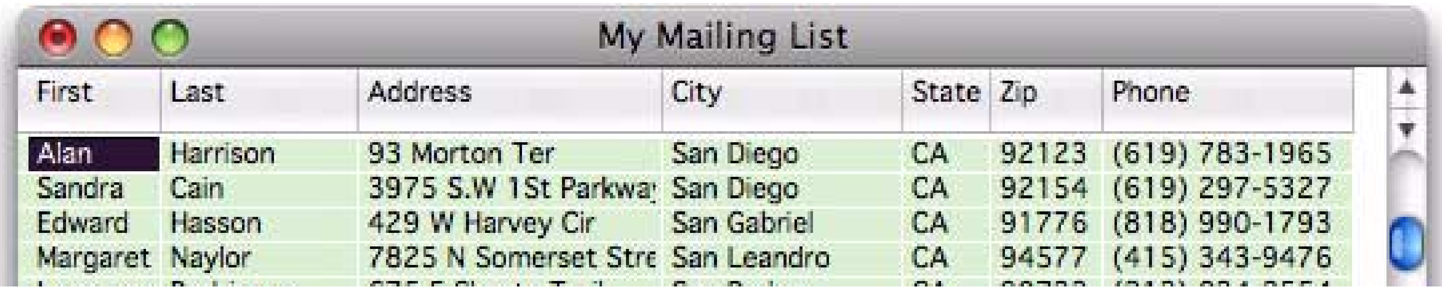
ALL of the following are true:

☑ Live Preview

Any field contains: alan

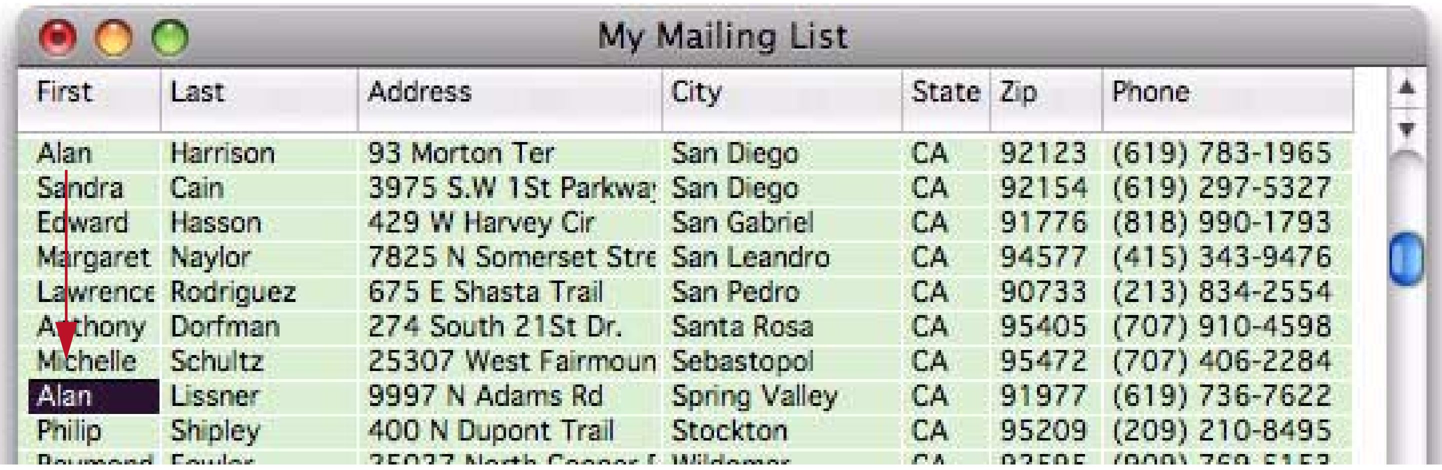
First	Last	Address	City	Stat	Zip	Phone
Alan	Hoflin	427 E Poplar Ln	Falls Church	VA	22042	(703) 554-7251
Alan	Dewitt	1642 S. Loma Rd	Harahan	LA	70123	(504) 674-1130
Alan	Frye	151 S Berry Street	Beaumont	TX	77706	(409) 401-0921
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965

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



First	Last	Address	City	State	Zip	Phone
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965
Sandra	Cain	3975 S.W 1St Parkwa	San Diego	CA	92154	(619) 297-5327
Edward	Hasson	429 W Harvey Cir	San Gabriel	CA	91776	(818) 990-1793
Margaret	Naylor	7825 N Somerset Stre	San Leandro	CA	94577	(415) 343-9476

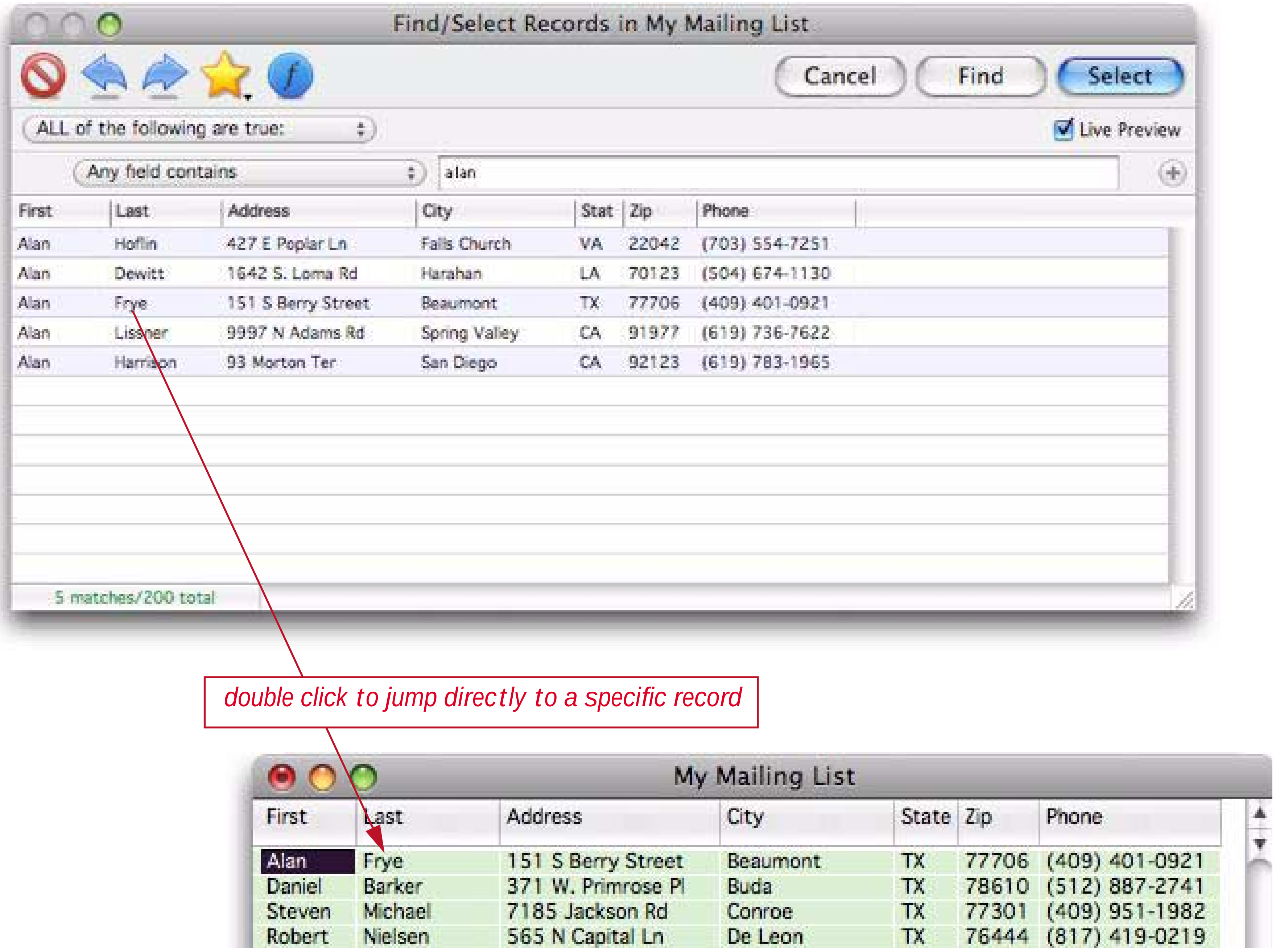
If this isn't the Alan you were looking for choose **Find Next** from the **Records>Search** menu. Panorama will skip to the next Alan in the database.



First	Last	Address	City	State	Zip	Phone
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965
Sandra	Cain	3975 S.W 1St Parkwa	San Diego	CA	92154	(619) 297-5327
Edward	Hasson	429 W Harvey Cir	San Gabriel	CA	91776	(818) 990-1793
Margaret	Naylor	7825 N Somerset Stre	San Leandro	CA	94577	(415) 343-9476
Lawrence	Rodriguez	675 E Shasta Trail	San Pedro	CA	90733	(213) 834-2554
Anthony	Dorfman	274 South 21St Dr.	Santa Rosa	CA	95405	(707) 910-4598
Michelle	Schultz	25307 West Fairmoun	Sebastopol	CA	95472	(707) 406-2284
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Philip	Shipley	400 N Dupont Trail	Stockton	CA	95209	(209) 210-8495

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.



ALL of the following are true:

☑ Live Preview

Any field contains: alan

First	Last	Address	City	Stat	Zip	Phone
Alan	Hoflin	427 E Poplar Ln	Falls Church	VA	22042	(703) 554-7251
Alan	Dewitt	1642 S. Loma Rd	Harahan	LA	70123	(504) 674-1130
Alan	Frye	151 S Berry Street	Beaumont	TX	77706	(409) 401-0921
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965

5 matches/200 total

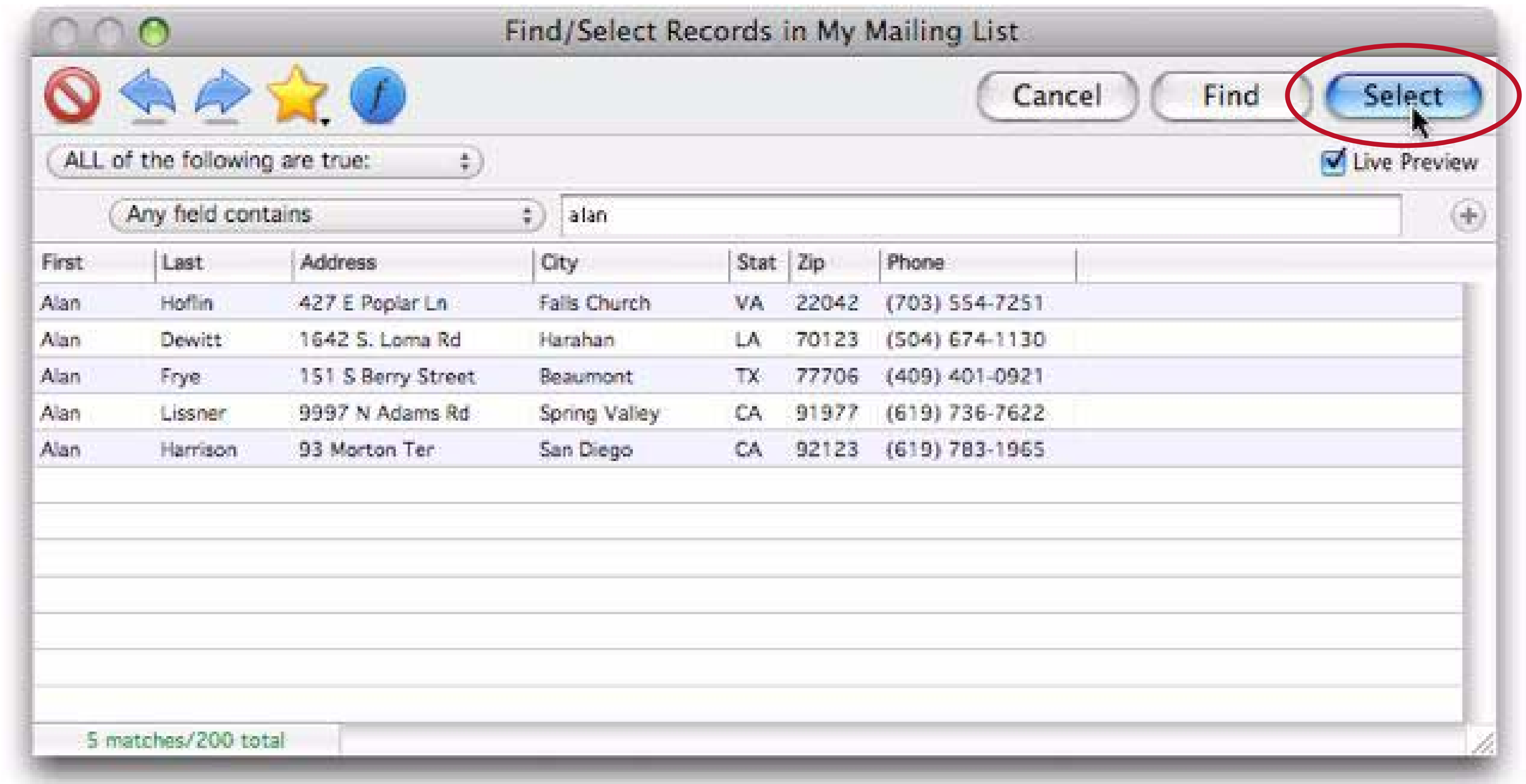
double click to jump directly to a specific record

First	Last	Address	City	State	Zip	Phone
Alan	Frye	151 S Berry Street	Beaumont	TX	77706	(409) 401-0921
Daniel	Barker	371 W. Primrose Pl	Buda	TX	78610	(512) 887-2741
Steven	Michael	7185 Jackson Rd	Conroe	TX	77301	(409) 951-1982
Robert	Nielsen	565 N Capital Ln	De Leon	TX	76444	(817) 419-0219

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 139 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.



ALL of the following are true:

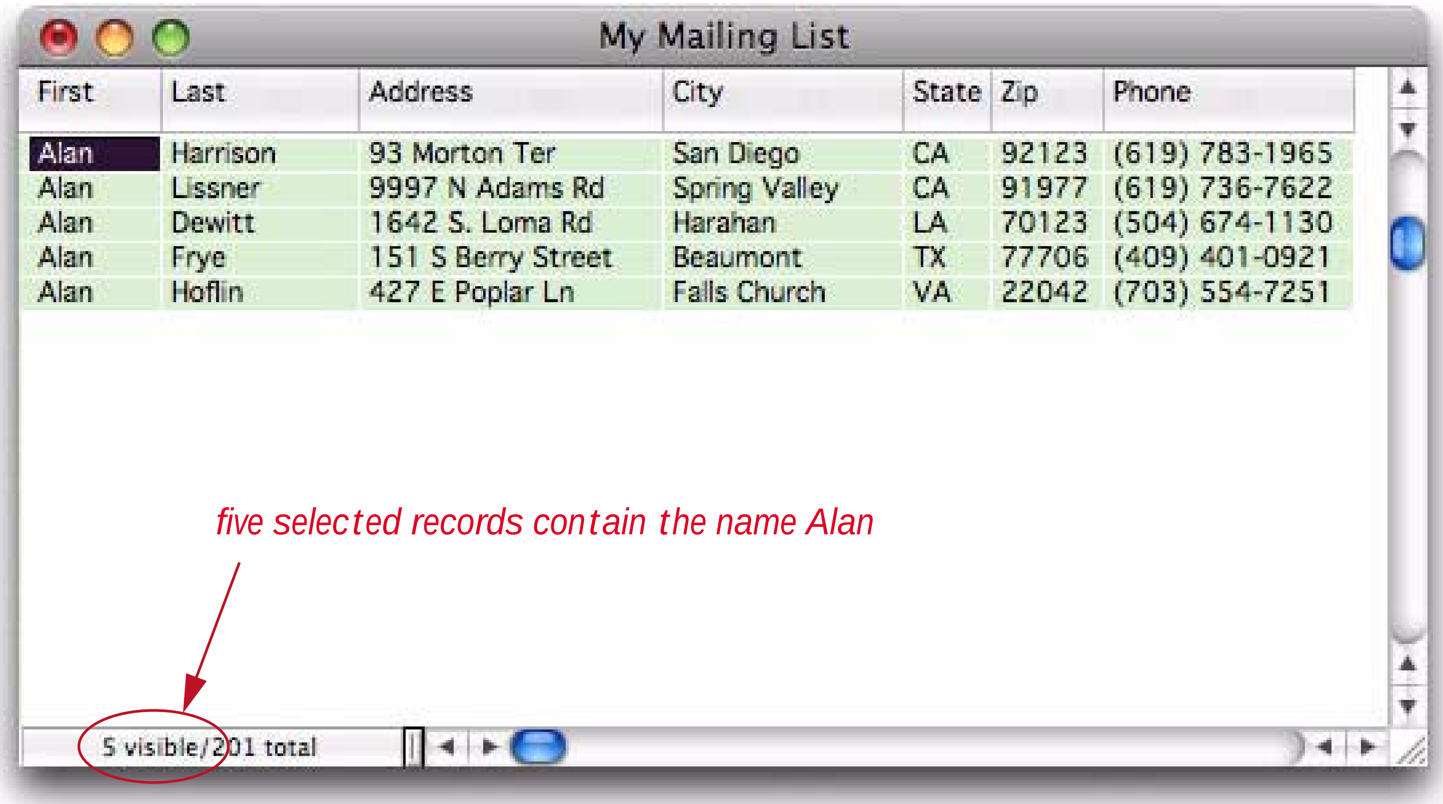
☑ Live Preview

Any field contains: alan

First	Last	Address	City	Stat	Zip	Phone
Alan	Hoflin	427 E Poplar Ln	Falls Church	VA	22042	(703) 554-7251
Alan	Dewitt	1642 S. Loma Rd	Harahan	LA	70123	(504) 674-1130
Alan	Frye	151 S Berry Street	Beaumont	TX	77706	(409) 401-0921
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965

5 matches/200 total

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).



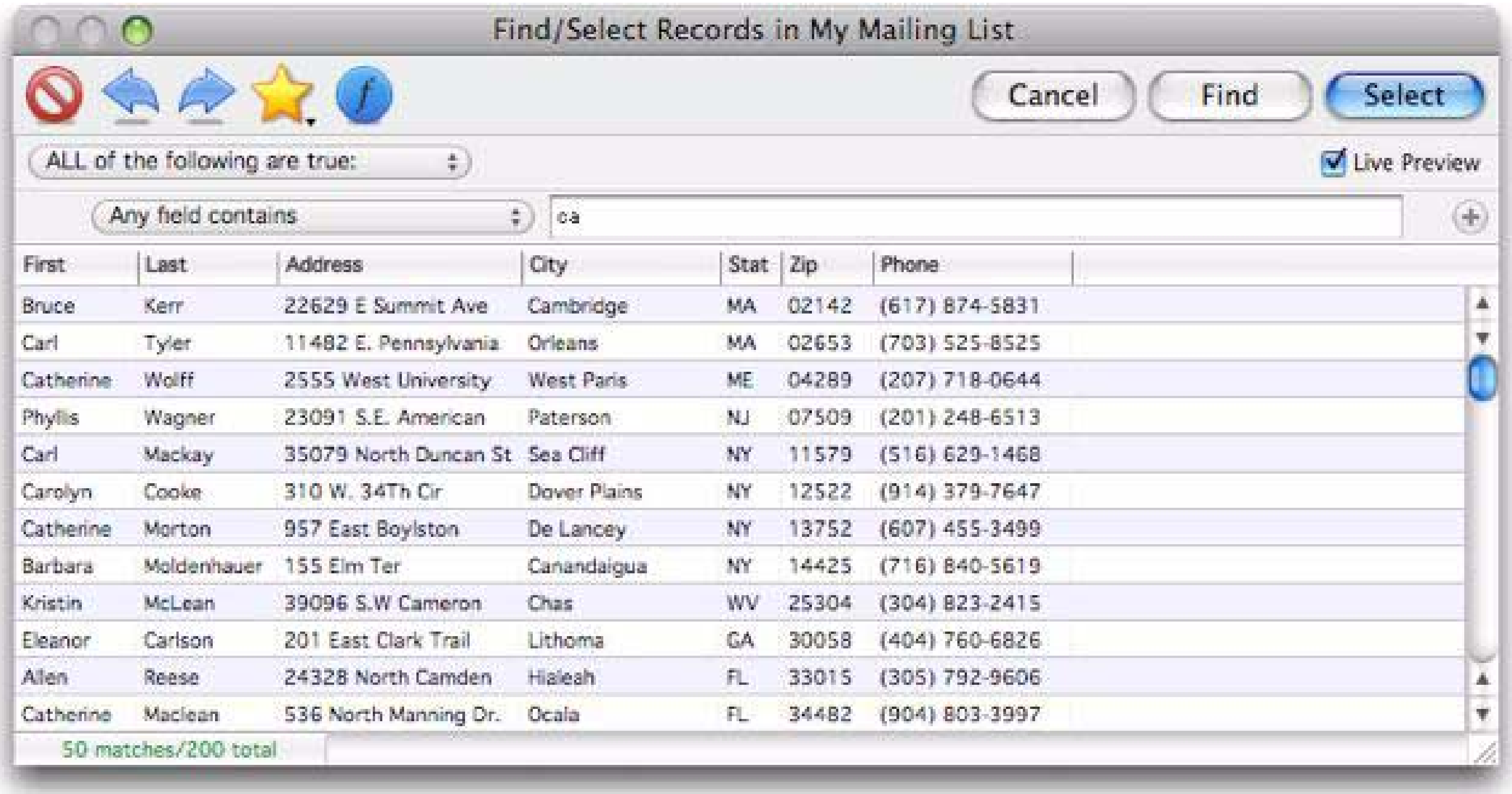
First	Last	Address	City	State	Zip	Phone
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Dewitt	1642 S. Loma Rd	Harahan	LA	70123	(504) 674-1130
Alan	Frye	151 S Berry Street	Beaumont	TX	77706	(409) 401-0921
Alan	Hoflin	427 E Poplar Ln	Falls Church	VA	22042	(703) 554-7251

five selected records contain the name Alan

5 visible/201 total

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).

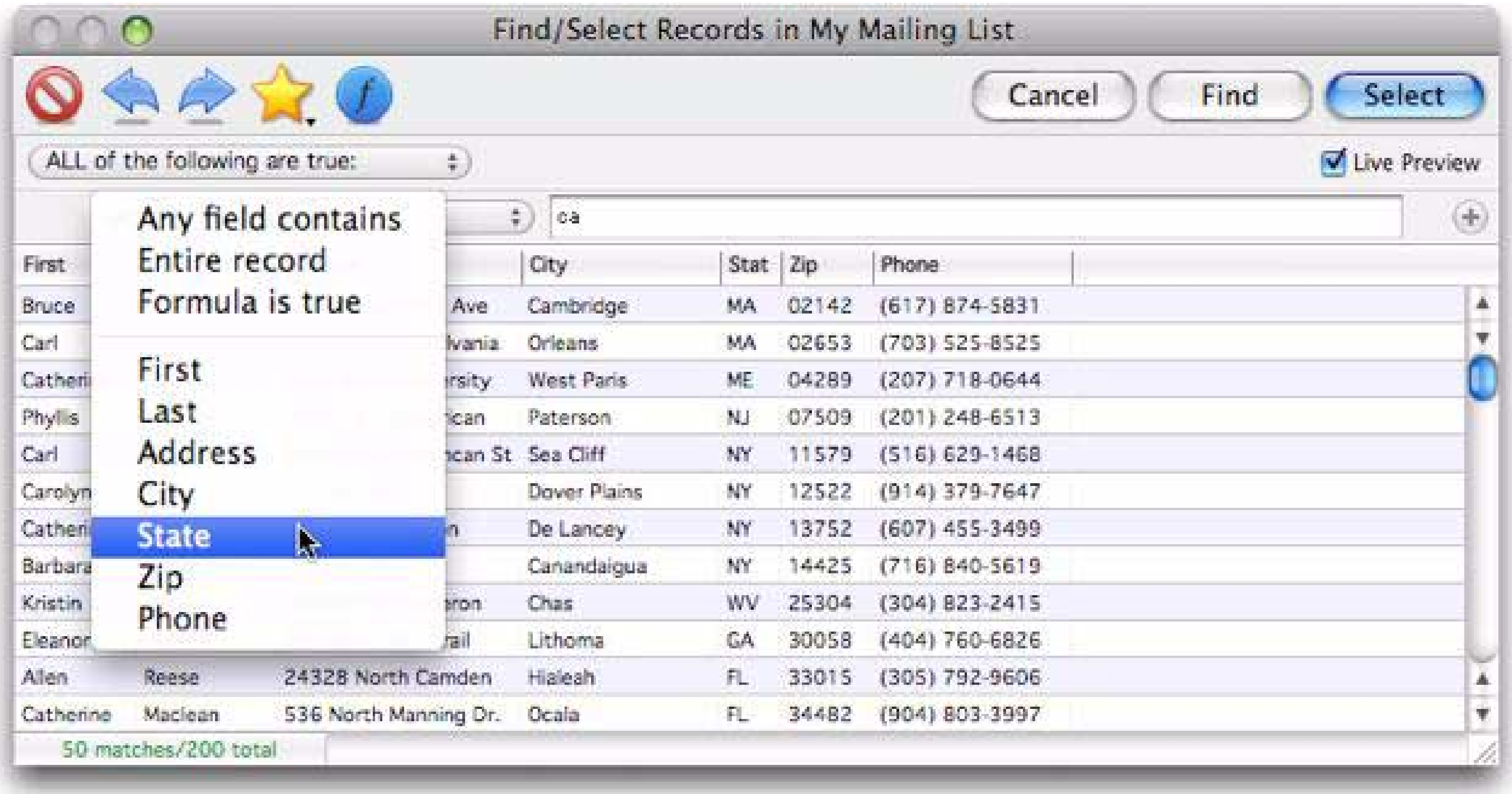

Find/Select Records in My Mailing List
Cancel
Find
Select
ALL of the following are true:
☑ Live Preview
Any field contains

ca

First	Last	Address	City	Stat	Zip	Phone
Bruce	Kerr	22629 E Summit Ave	Cambridge	MA	02142	(617) 874-5831
Carl	Tyler	11482 E. Pennsylvania	Orleans	MA	02653	(703) 525-8525
Catherine	Wolff	2555 West University	West Paris	ME	04289	(207) 718-0644
Phyllis	Wagner	23091 S.E. American	Paterson	NJ	07509	(201) 248-6513
Carl	Mackay	35079 North Duncan St	Sea Cliff	NY	11579	(516) 629-1468
Carolyn	Cooke	310 W. 34Th Cir	Dover Plains	NY	12522	(914) 379-7647
Catherine	Morton	957 East Boylston	De Lancey	NY	13752	(607) 455-3499
Barbara	Moldenhauer	155 Elm Ter	Canandaigua	NY	14425	(716) 840-5619
Kristin	McLean	39096 S.W Cameron	Chas	WV	25304	(304) 823-2415
Eleanor	Carlson	201 East Clark Trail	Lithoma	GA	30058	(404) 760-6826
Allen	Reese	24328 North Camden	Hialeah	FL	33015	(305) 792-9606
Catherine	Maclean	536 North Manning Dr.	Ocala	FL	34482	(904) 803-3997

50 matches/200 total

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).

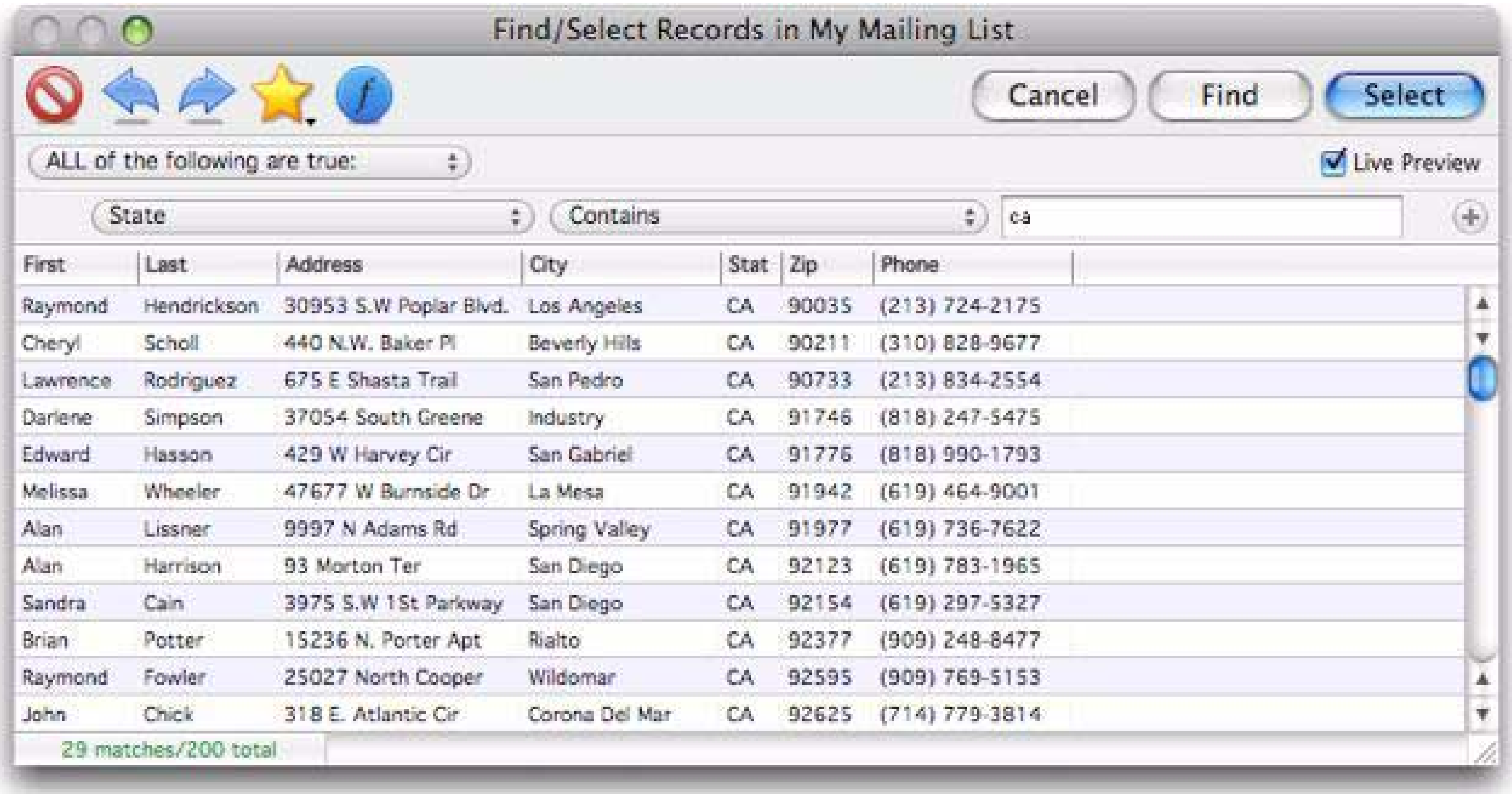


ca

First			City	Stat	Zip	Phone
Bruce		Ave	Cambridge	MA	02142	(617) 874-5831
Carl		lvania	Orleans	MA	02653	(703) 525-8525
Catheri		ersity	West Paris	ME	04289	(207) 718-0644
Phyllis		ican	Paterson	NJ	07509	(201) 248-6513
Carl		can St	Sea Cliff	NY	11579	(516) 629-1468
Carolyn			Dover Plains	NY	12522	(914) 379-7647
Catheri		n	De Lancey	NY	13752	(607) 455-3499
Barbara			Canandaigua	NY	14425	(716) 840-5619
Kristin		ron	Chas	WV	25304	(304) 823-2415
Eleanor		ail	Lithoma	GA	30058	(404) 760-6826
Allen	Reese	24328 North Camden	Hialeah	FL	33015	(305) 792-9606
Catherine	Maclean	536 North Manning Dr.	Ocala	FL	34482	(904) 803-3997

50 matches/200 total

Not type in ca. This time, only records from California are shown, with no false positives.


Find/Select Records in My Mailing List
Cancel
Find
Select
ALL of the following are true:
☑ Live Preview
State
Contains
ca

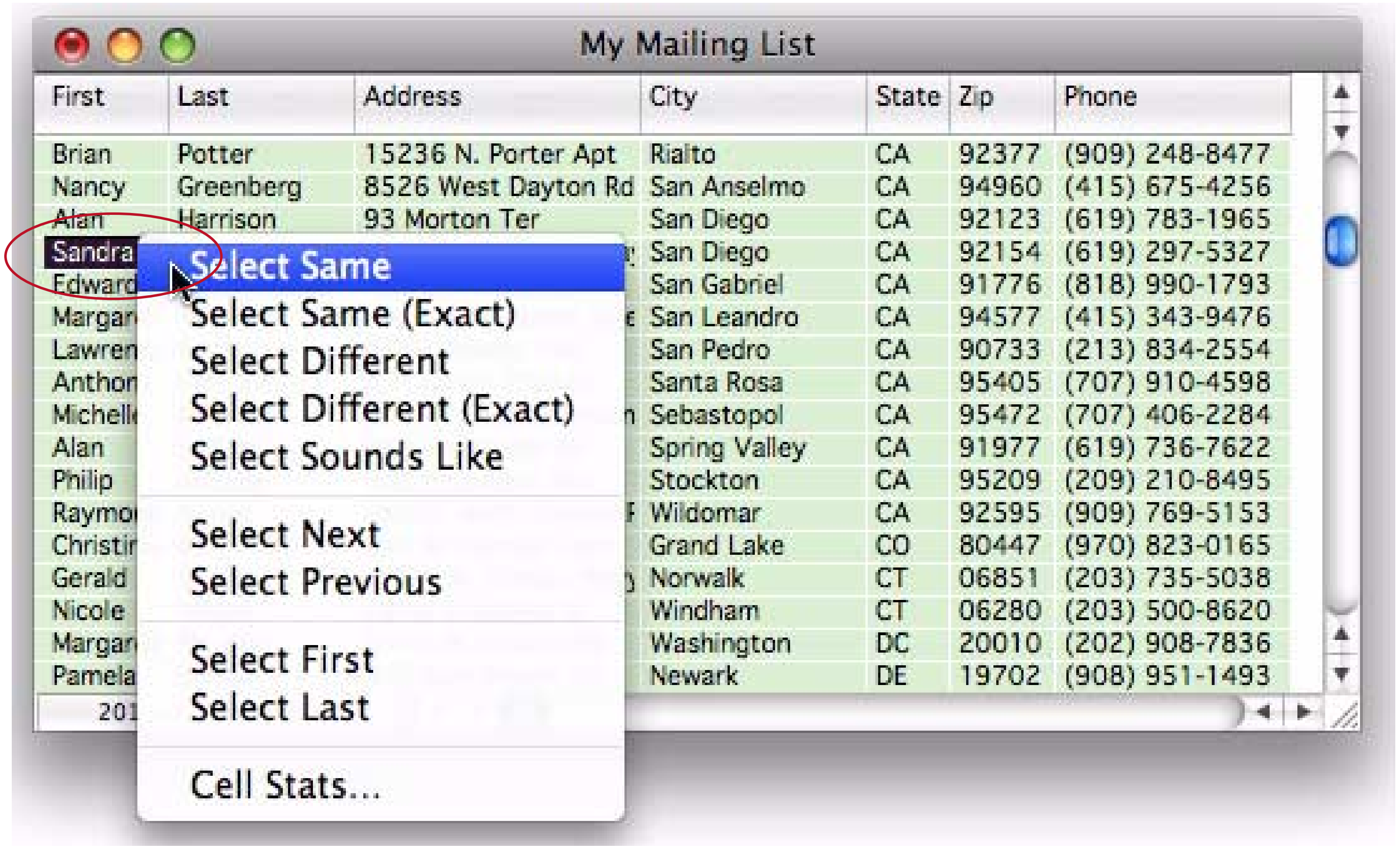
First	Last	Address	City	Stat	Zip	Phone
Raymond	Hendrickson	30953 S.W Poplar Blvd.	Los Angeles	CA	90035	(213) 724-2175
Cheryl	Scholl	440 N.W. Baker Pl	Beverly Hills	CA	90211	(310) 828-9677
Lawrence	Rodriguez	675 E Shasta Trail	San Pedro	CA	90733	(213) 834-2554
Darlene	Simpson	37054 South Greene	Industry	CA	91746	(818) 247-5475
Edward	Hasson	429 W Harvey Cir	San Gabriel	CA	91776	(818) 990-1793
Melissa	Wheeler	47677 W Burnside Dr	La Mesa	CA	91942	(619) 464-9001
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965
Sandra	Cain	3975 S.W 1St Parkway	San Diego	CA	92154	(619) 297-5327
Brian	Potter	15236 N. Porter Apt	Rialto	CA	92377	(909) 248-8477
Raymond	Fowler	25027 North Cooper	Wildomar	CA	92595	(909) 769-5153
John	Chick	318 E. Atlantic Cir	Corona Del Mar	CA	92625	(714) 779-3814

29 matches/200 total

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.

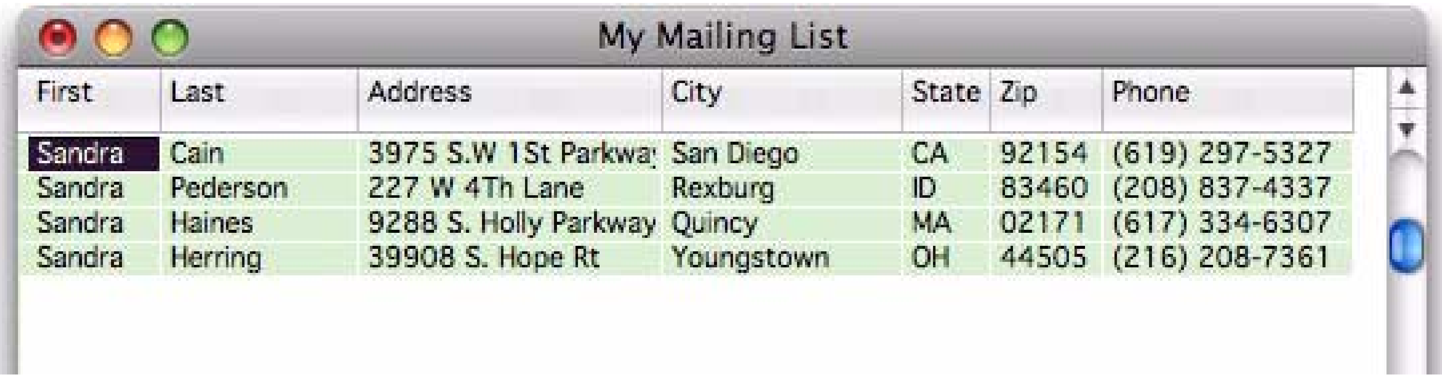
Selecting More of the Same

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** (if you don't have a two button mouse, hold down the **Control** key while you click on the cell.)



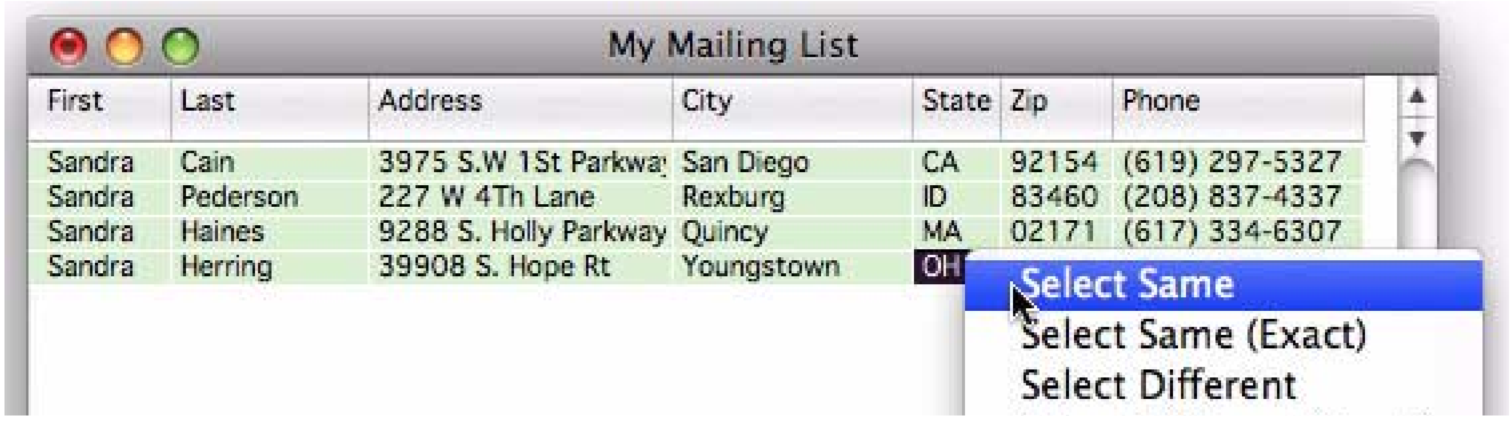
First	Last	Address	City	State	Zip	Phone
Brian	Potter	15236 N. Porter Apt	Rialto	CA	92377	(909) 248-8477
Nancy	Greenberg	8526 West Dayton Rd	San Anselmo	CA	94960	(415) 675-4256
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965
Sandra			San Diego	CA	92154	(619) 297-5327
Edward			San Gabriel	CA	91776	(818) 990-1793
Margar			San Leandro	CA	94577	(415) 343-9476
Lawren			San Pedro	CA	90733	(213) 834-2554
Anthon			Santa Rosa	CA	95405	(707) 910-4598
Michell			Sebastopol	CA	95472	(707) 406-2284
Alan			Spring Valley	CA	91977	(619) 736-7622
Philip			Stockton	CA	95209	(209) 210-8495
Raymo			Wildomar	CA	92595	(909) 769-5153
Christir			Grand Lake	CO	80447	(970) 823-0165
Gerald			Norwalk	CT	06851	(203) 735-5038
Nicole			Windham	CT	06280	(203) 500-8620
Margar			Washington	DC	20010	(202) 908-7836
Pamela			Newark	DE	19702	(908) 951-1493

It turns out there are four Sandras in this database.



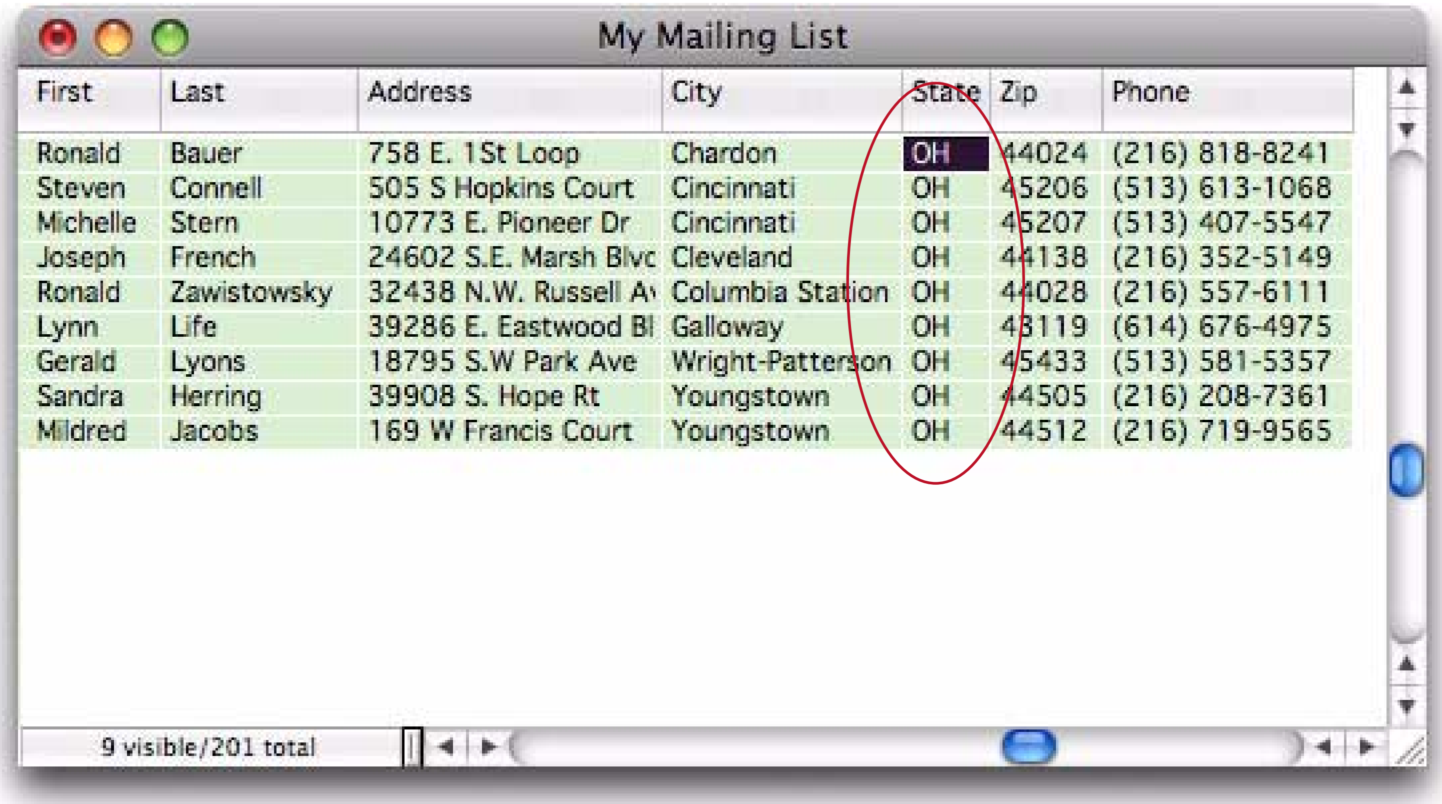
First	Last	Address	City	State	Zip	Phone
Sandra	Cain	3975 S.W 1St Parkwa	San Diego	CA	92154	(619) 297-5327
Sandra	Pederson	227 W 4Th Lane	Rexburg	ID	83460	(208) 837-4337
Sandra	Haines	9288 S. Holly Parkway	Quincy	MA	02171	(617) 334-6307
Sandra	Herring	39908 S. Hope Rt	Youngstown	OH	44505	(216) 208-7361

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



First	Last	Address	City	State	Zip	Phone
Sandra	Cain	3975 S.W 1St Parkwa	San Diego	CA	92154	(619) 297-5327
Sandra	Pederson	227 W 4Th Lane	Rexburg	ID	83460	(208) 837-4337
Sandra	Haines	9288 S. Holly Parkway	Quincy	MA	02171	(617) 334-6307
Sandra	Herring	39908 S. Hope Rt	Youngstown	OH		

Here is the selection.

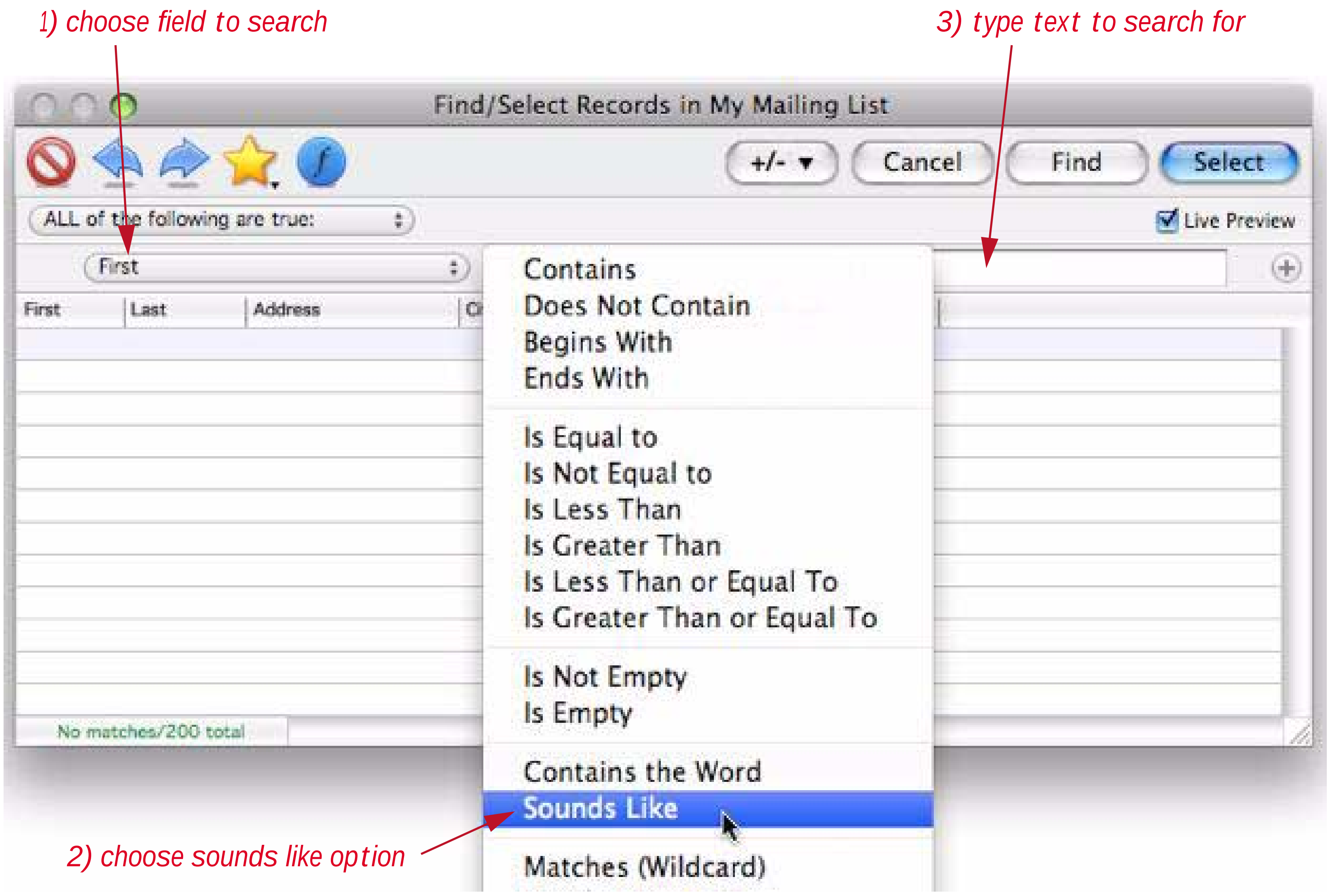


First	Last	Address	City	State	Zip	Phone
Ronald	Bauer	758 E. 1St Loop	Chardon	OH	44024	(216) 818-8241
Steven	Connell	505 S Hopkins Court	Cincinnati	OH	45206	(513) 613-1068
Michelle	Stern	10773 E. Pioneer Dr	Cincinnati	OH	45207	(513) 407-5547
Joseph	French	24602 S.E. Marsh Blvc	Cleveland	OH	44138	(216) 352-5149
Ronald	Zawistowsky	32438 N.W. Russell Av	Columbia Station	OH	44028	(216) 557-6111
Lynn	Life	39286 E. Eastwood Bl	Galloway	OH	43119	(614) 676-4975
Gerald	Lyons	18795 S.W Park Ave	Wright-Patterson	OH	45433	(513) 581-5357
Sandra	Herring	39908 S. Hope Rt	Youngstown	OH	44505	(216) 208-7361
Mildred	Jacobs	169 W Francis Court	Youngstown	OH	44512	(216) 719-9565

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 also).

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.

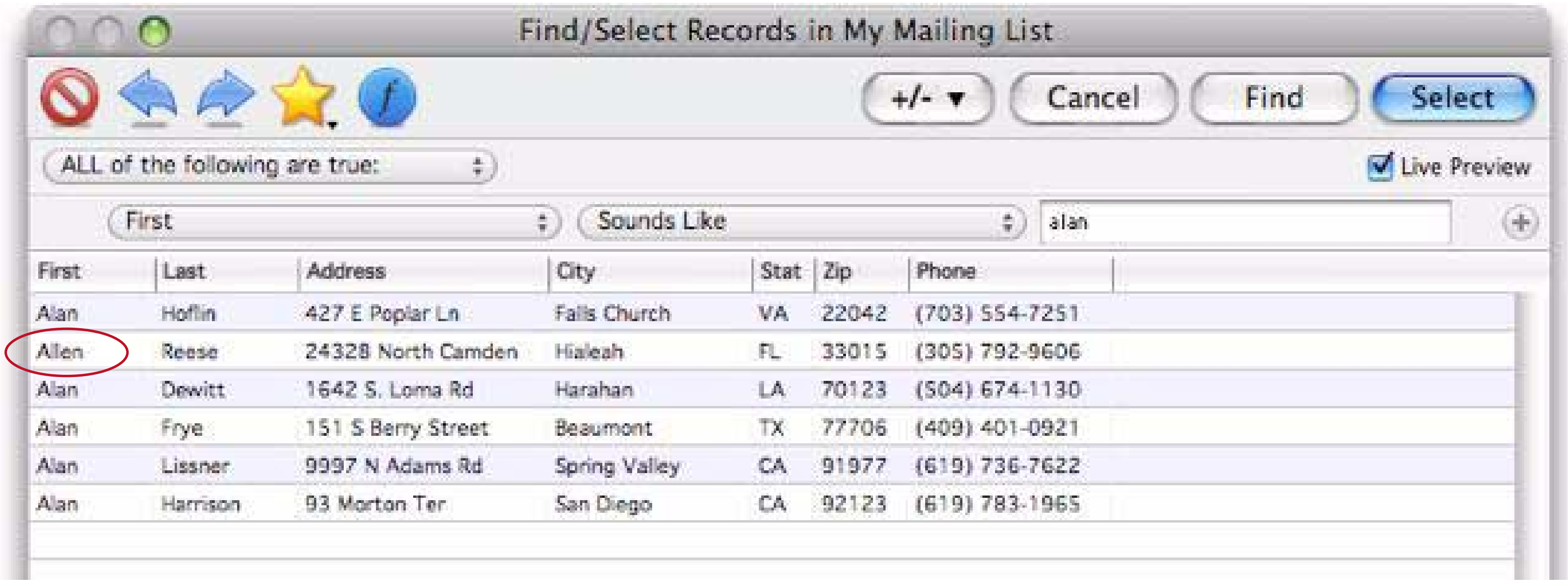


1) choose field to search

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.



ALL of the following are true:

First | Sounds Like | alan

First	Last	Address	City	Stat	Zip	Phone
Alan	Hoflin	427 E Poplar Ln	Falls Church	VA	22042	(703) 554-7251
Allen	Reese	24328 North Camden	Hialeah	FL	33015	(305) 792-9606
Alan	Dewitt	1642 S. Loma Rd	Harahan	LA	70123	(504) 674-1130
Alan	Frye	151 S Berry Street	Beaumont	TX	77706	(409) 401-0921
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965

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.

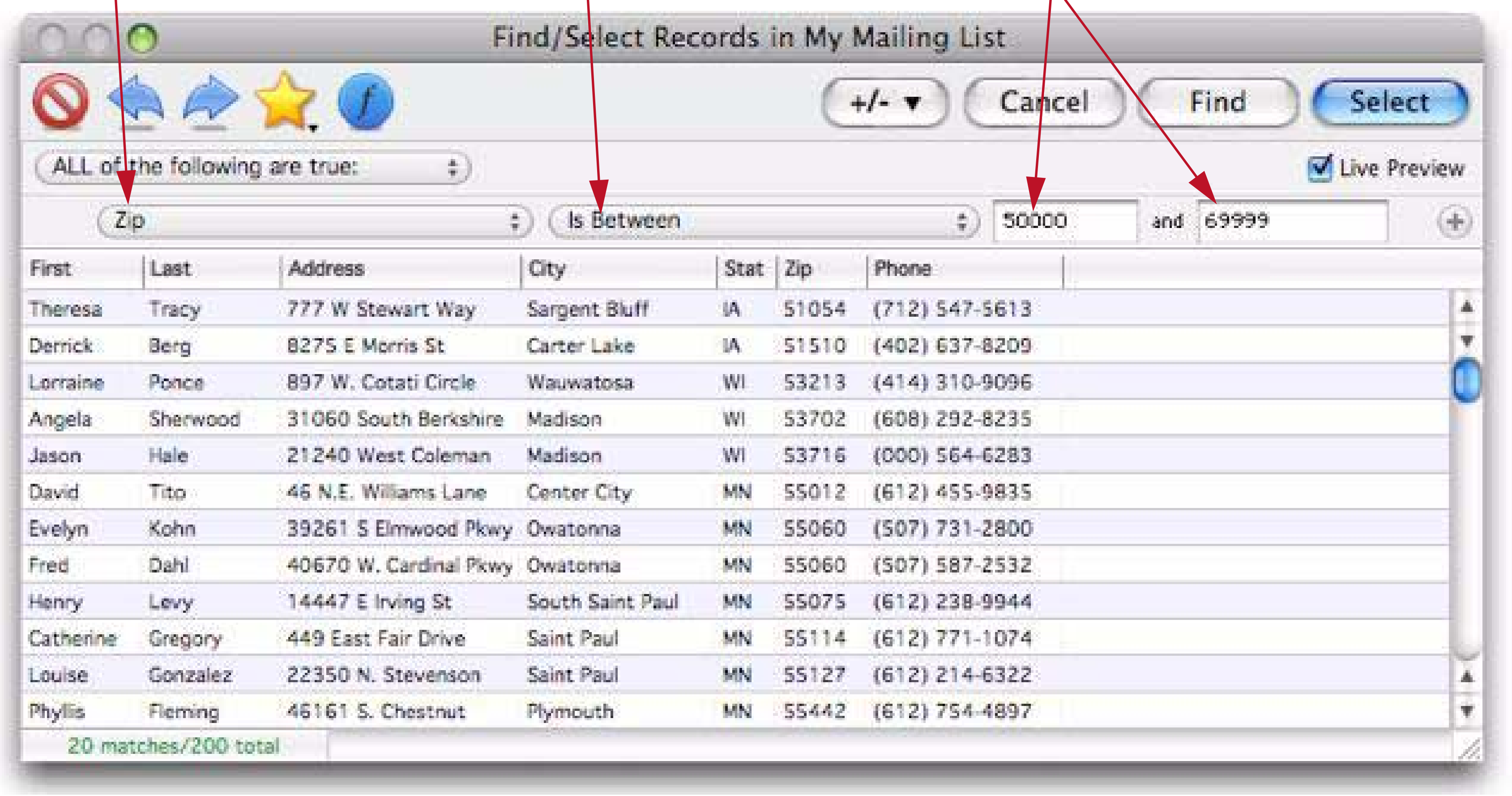
Making More Complex Selections

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



ALL of the following are true:

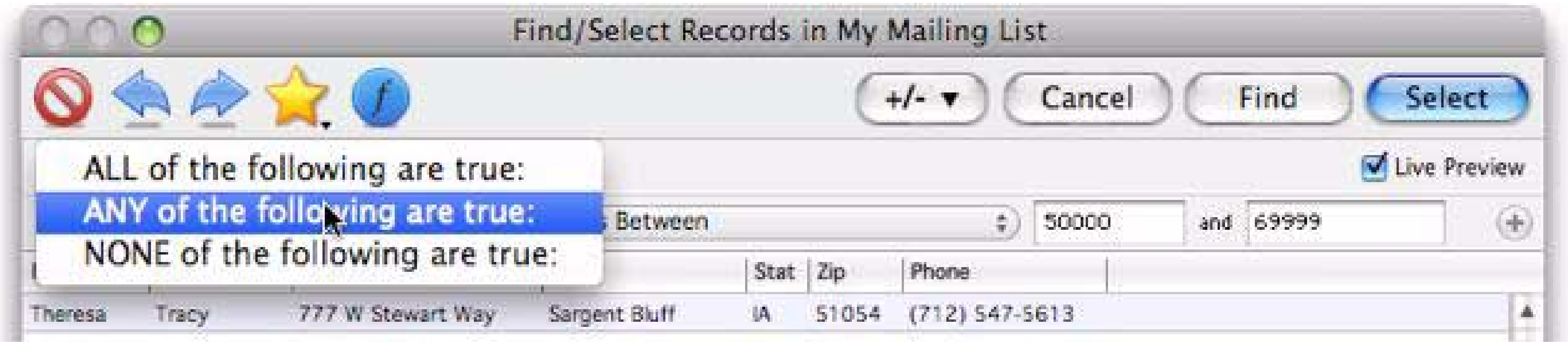
☑ Live Preview

Zip | Is Between | 50000 | and | 69999 | +

First	Last	Address	City	Stat	Zip	Phone
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	(712) 547-5613
Derrick	Berg	8275 E Morris St	Carter Lake	IA	51510	(402) 637-8209
Lorraine	Ponce	897 W. Cotati Circle	Wauwatosa	WI	53213	(414) 310-9096
Angela	Sherwood	31060 South Berkshire	Madison	WI	53702	(608) 292-8235
Jason	Hale	21240 West Coleman	Madison	WI	53716	(000) 564-6283
David	Tito	46 N.E. Williams Lane	Center City	MN	55012	(612) 455-9835
Evelyn	Kohn	39261 S Elmwood Pkwy	Owatonna	MN	55060	(507) 731-2800
Fred	Dahl	40670 W. Cardinal Pkwy	Owatonna	MN	55060	(507) 587-2532
Henry	Levy	14447 E Irving St	South Saint Paul	MN	55075	(612) 238-9944
Catherine	Gregory	449 East Fair Drive	Saint Paul	MN	55114	(612) 771-1074
Louise	Gonzalez	22350 N. Stevenson	Saint Paul	MN	55127	(612) 214-6322
Phyllis	Fleming	46161 S. Chestnut	Plymouth	MN	55442	(612) 754-4897

20 matches/200 total

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**.


Find/Select Records in My Mailing List
+/- ▾
Cancel
Find
Select
ALL of the following are true:
ANY of the following are true:
NONE of the following are true:

☑ Live Preview

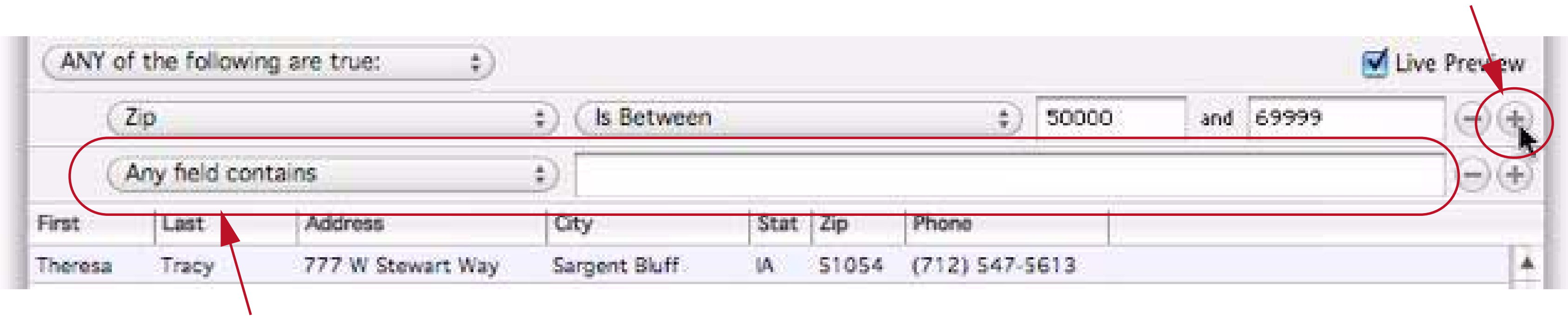
Is Between | 50000 | and | 69999

Stat	Zip	Phone

Theresa | Tracy | 777 W Stewart Way | Sargent Bluff | IA | 51054 | (712) 547-5613

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

click here



ANY of the following are true:

☑ Live Preview

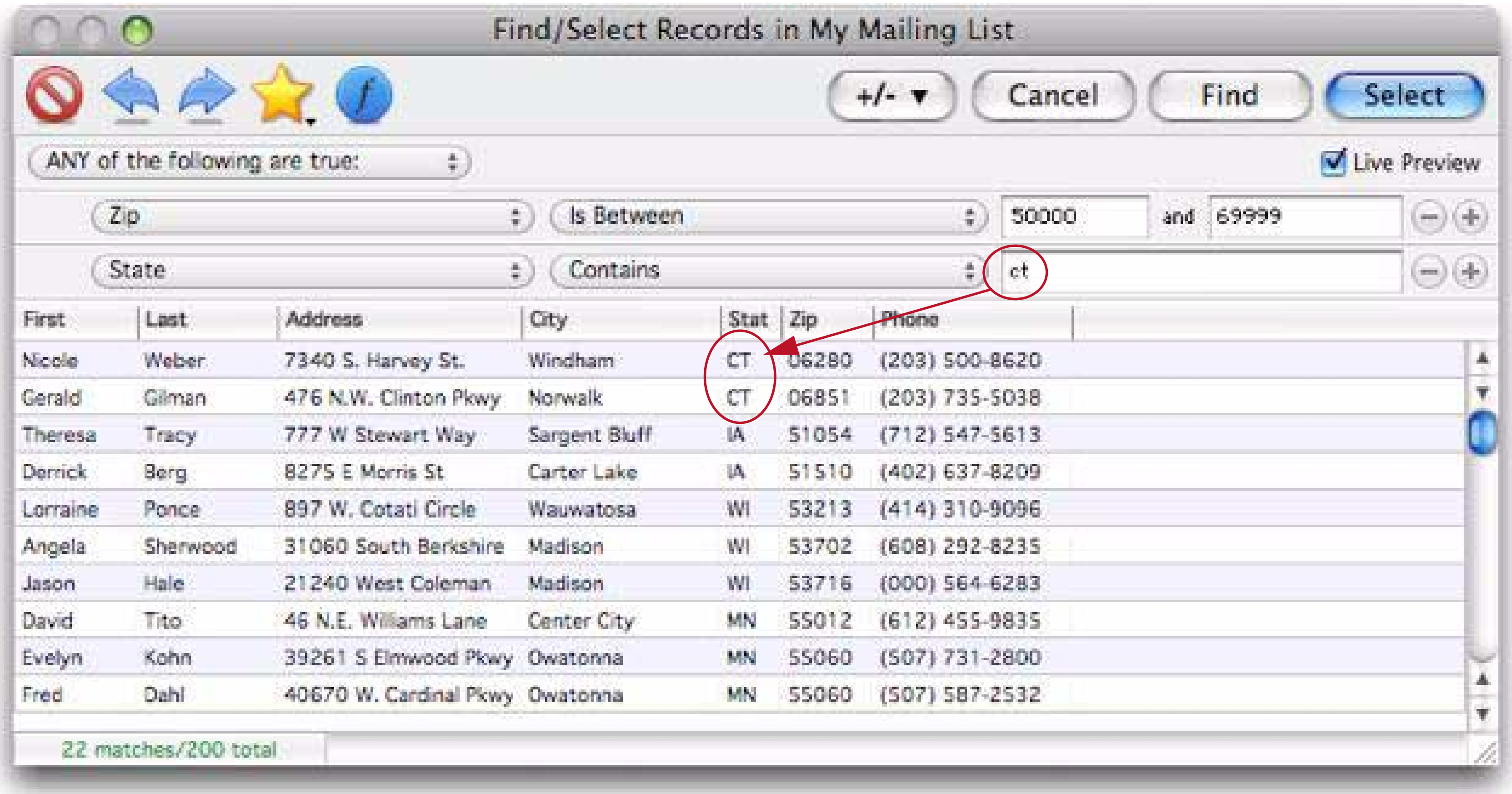
Zip | Is Between | 50000 | and | 69999

Any field contains |

First	Last	Address	City	Stat	Zip	Phone
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	(712) 547-5613

to add another search criteria row

Now fill in this new row to select Connecticut in addition to the original zip code range.



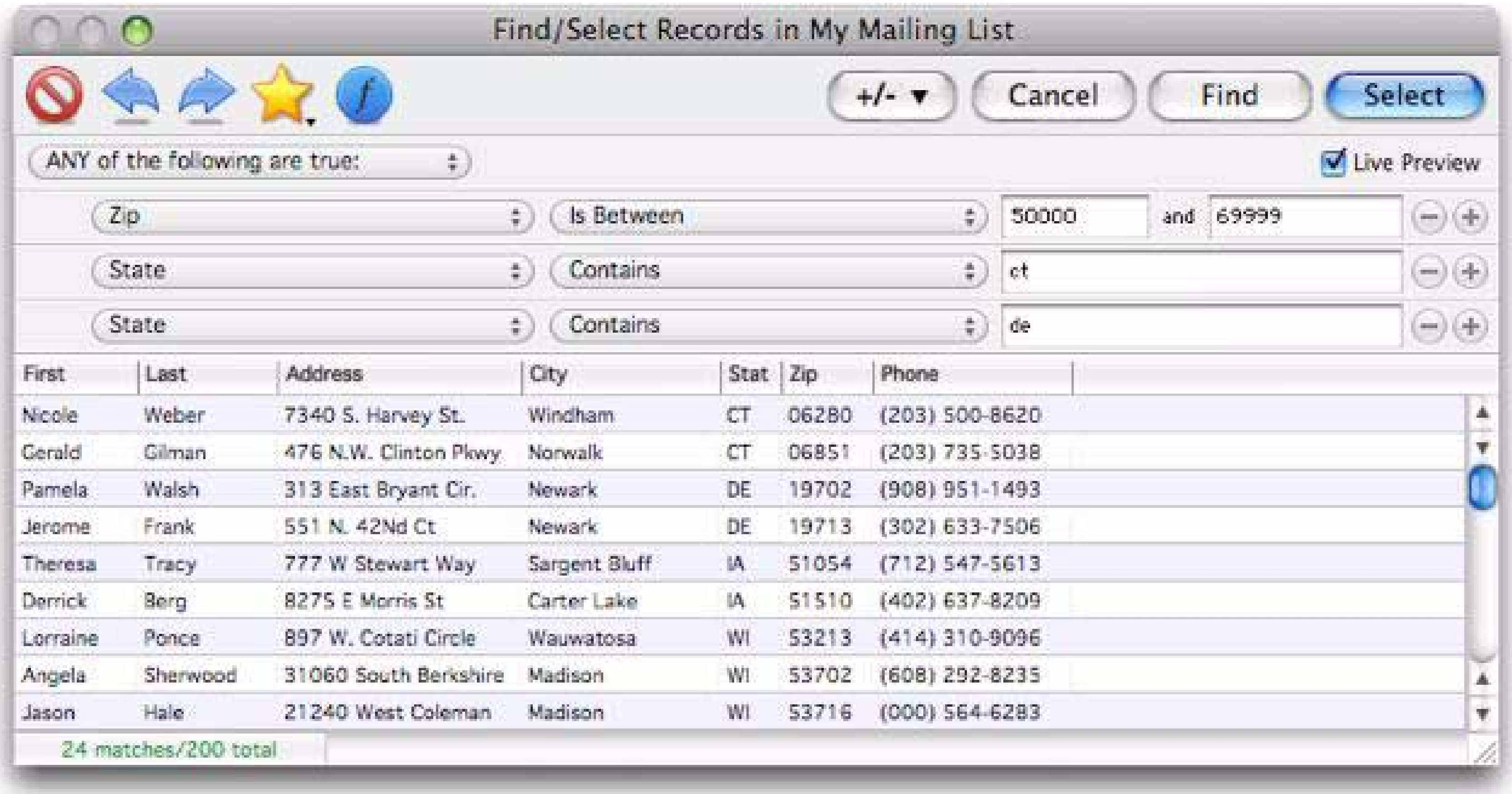
ANY of the following are true:
☑ Live Preview

Zip | Is Between | 50000 and 69999
State | Contains | ct

First	Last	Address	City	Stat	Zip	Phone
Nicole	Weber	7340 S. Harvey St.	Windham	CT	06280	(203) 500-8620
Gerald	Gilman	476 N.W. Clinton Pkwy	Norwalk	CT	06851	(203) 735-5038
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	(712) 547-5613
Derrick	Berg	8275 E Morris St	Carter Lake	IA	51510	(402) 637-8209
Lorraine	Ponce	897 W. Cotati Circle	Wauwatosa	WI	53213	(414) 310-9096
Angela	Sherwood	31060 South Berkshire	Madison	WI	53702	(608) 292-8235
Jason	Hale	21240 West Coleman	Madison	WI	53716	(000) 564-6283
David	Tito	46 N.E. Williams Lane	Center City	MN	55012	(612) 455-9835
Evelyn	Kohn	39261 S Elmwood Pkwy	Owatonna	MN	55060	(507) 731-2800
Fred	Dahl	40670 W. Cardinal Pkwy	Owatonna	MN	55060	(507) 587-2532

22 matches/200 total

The process can be repeated to add up to eight search criteria rows.



ANY of the following are true:
☑ Live Preview

Zip | Is Between | 50000 and 69999
State | Contains | ct
State | Contains | de

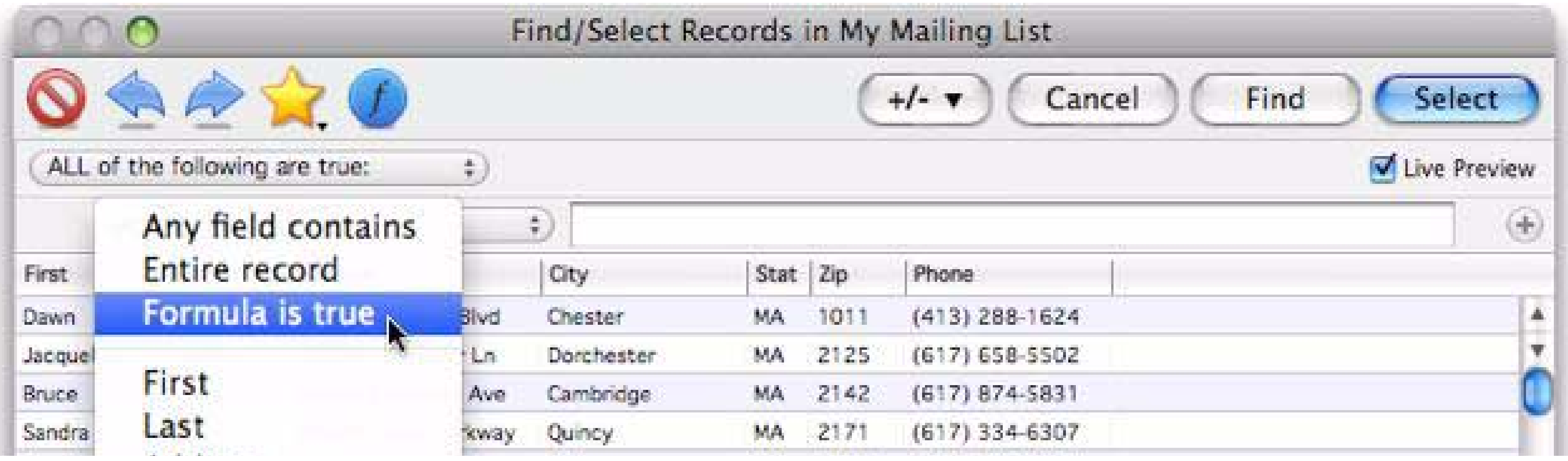
First	Last	Address	City	Stat	Zip	Phone
Nicole	Weber	7340 S. Harvey St.	Windham	CT	06280	(203) 500-8620
Gerald	Gilman	476 N.W. Clinton Pkwy	Norwalk	CT	06851	(203) 735-5038
Pamela	Walsh	313 East Bryant Cir.	Newark	DE	19702	(908) 951-1493
Jerome	Frank	551 N. 42Nd Ct	Newark	DE	19713	(302) 633-7506
Theresa	Tracy	777 W Stewart Way	Sargent Bluff	IA	51054	(712) 547-5613
Derrick	Berg	8275 E Morris St	Carter Lake	IA	51510	(402) 637-8209
Lorraine	Ponce	897 W. Cotati Circle	Wauwatosa	WI	53213	(414) 310-9096
Angela	Sherwood	31060 South Berkshire	Madison	WI	53702	(608) 292-8235
Jason	Hale	21240 West Coleman	Madison	WI	53716	(000) 564-6283

24 matches/200 total

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.

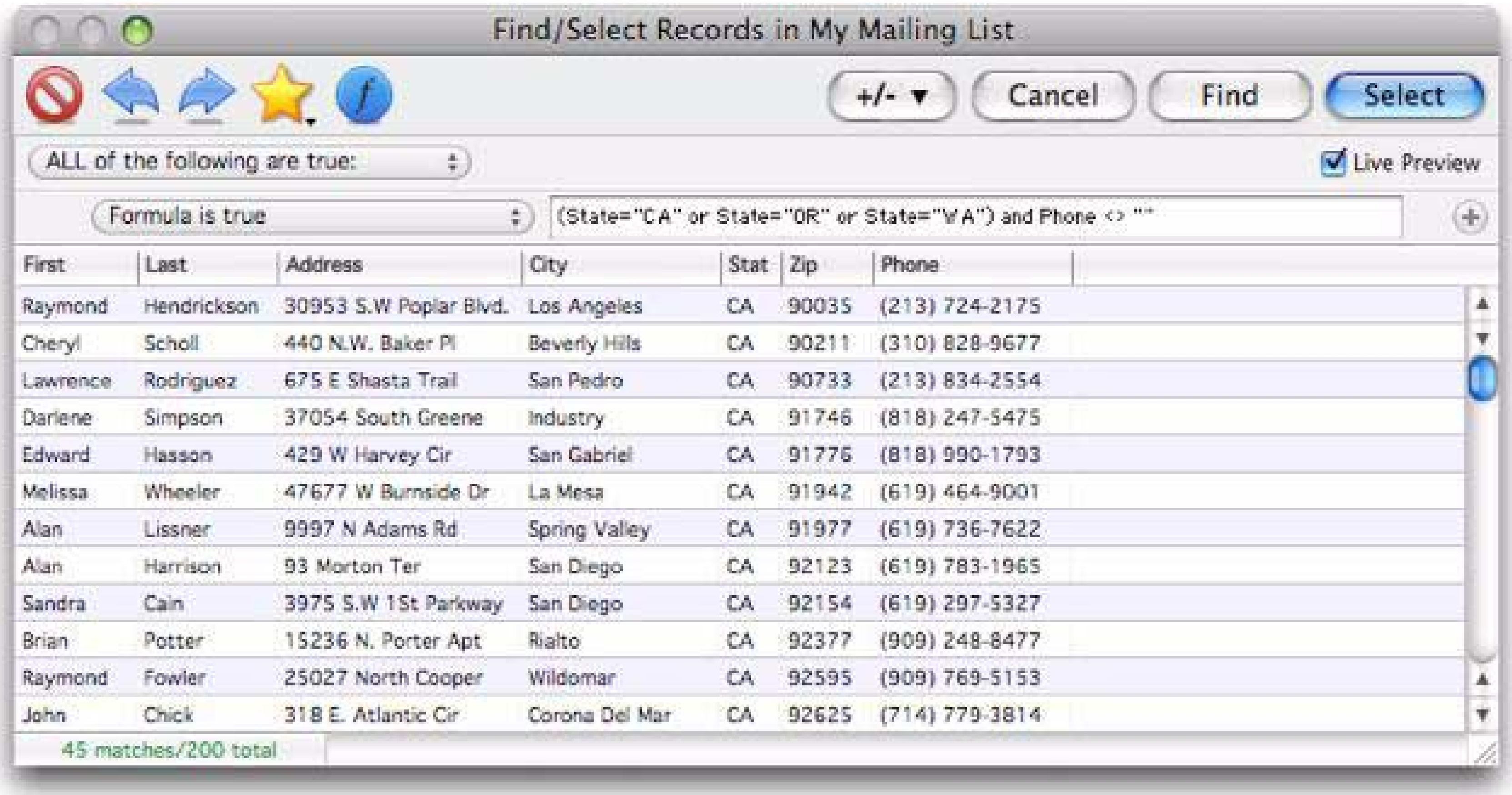
Selecting Data Based on a Formula

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**.



First		City	Stat	Zip	Phone
Dawn	Blvd	Chester	MA	1011	(413) 288-1624
Jacque	Ln	Dorchester	MA	2125	(617) 658-5502
Bruce	Ave	Cambridge	MA	2142	(617) 874-5831
Sandra	kway	Quincy	MA	2171	(617) 334-6307

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.


Find/Select Records in My Mailing List
+/- ▾
Cancel
Find
Select
ALL of the following are true:
☑ Live Preview
Formula is true

(State="CA" or State="OR" or State="WA") and Phone <> ""

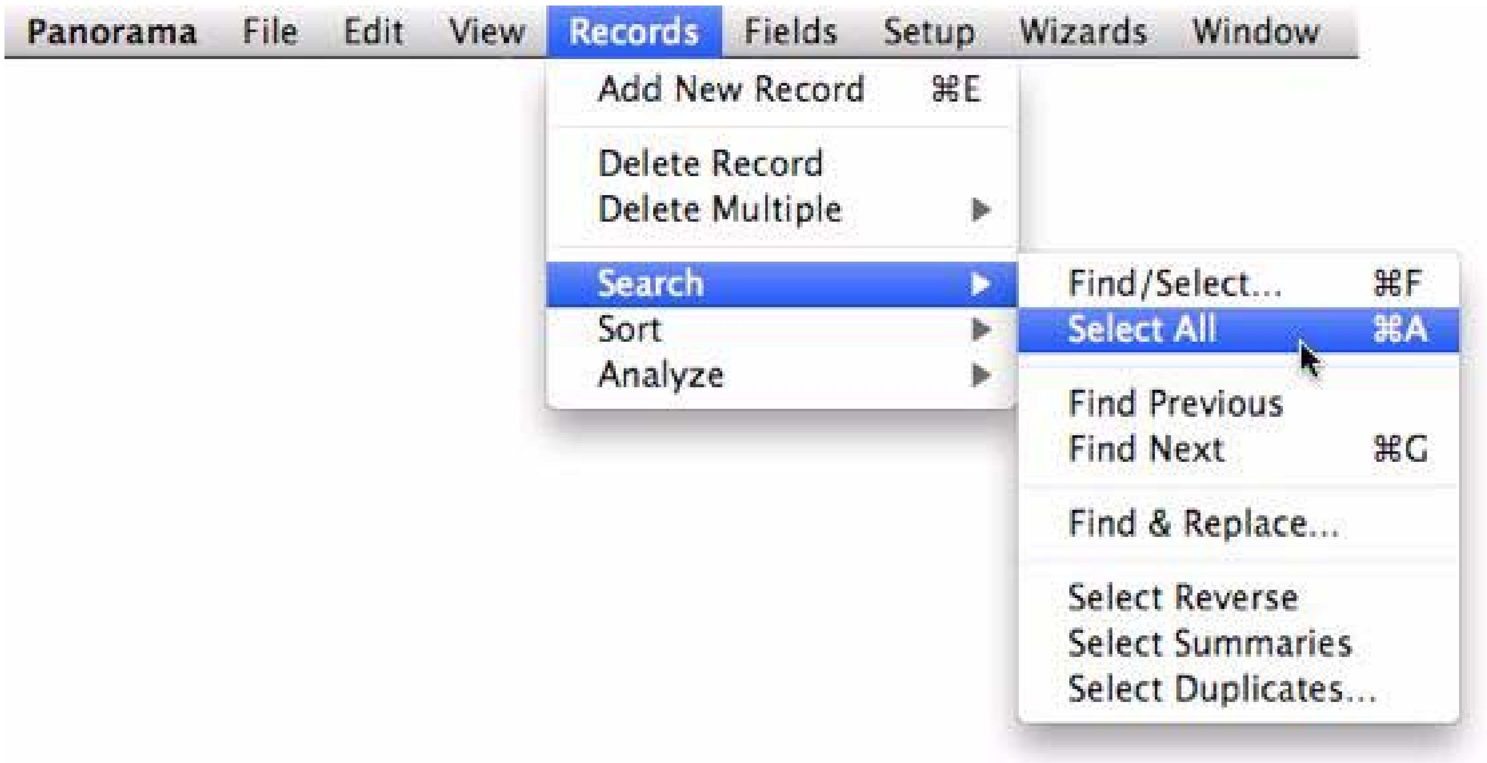
First	Last	Address	City	Stat	Zip	Phone
Raymond	Hendrickson	30953 S.W Poplar Blvd.	Los Angeles	CA	90035	(213) 724-2175
Cheryl	Scholl	440 N.W. Baker Pl	Beverly Hills	CA	90211	(310) 828-9677
Lawrence	Rodriguez	675 E Shasta Trail	San Pedro	CA	90733	(213) 834-2554
Darlene	Simpson	37054 South Greene	Industry	CA	91746	(818) 247-5475
Edward	Hasson	429 W Harvey Cir	San Gabriel	CA	91776	(818) 990-1793
Melissa	Wheeler	47677 W Burnside Dr	La Mesa	CA	91942	(619) 464-9001
Alan	Lissner	9997 N Adams Rd	Spring Valley	CA	91977	(619) 736-7622
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619) 783-1965
Sandra	Cain	3975 S.W 1St Parkway	San Diego	CA	92154	(619) 297-5327
Brian	Potter	15236 N. Porter Apt	Rialto	CA	92377	(909) 248-8477
Raymond	Fowler	25027 North Cooper	Wildomar	CA	92595	(909) 769-5153
John	Chick	318 E. Atlantic Cir	Corona Del Mar	CA	92625	(714) 779-3814

45 matches/200 total

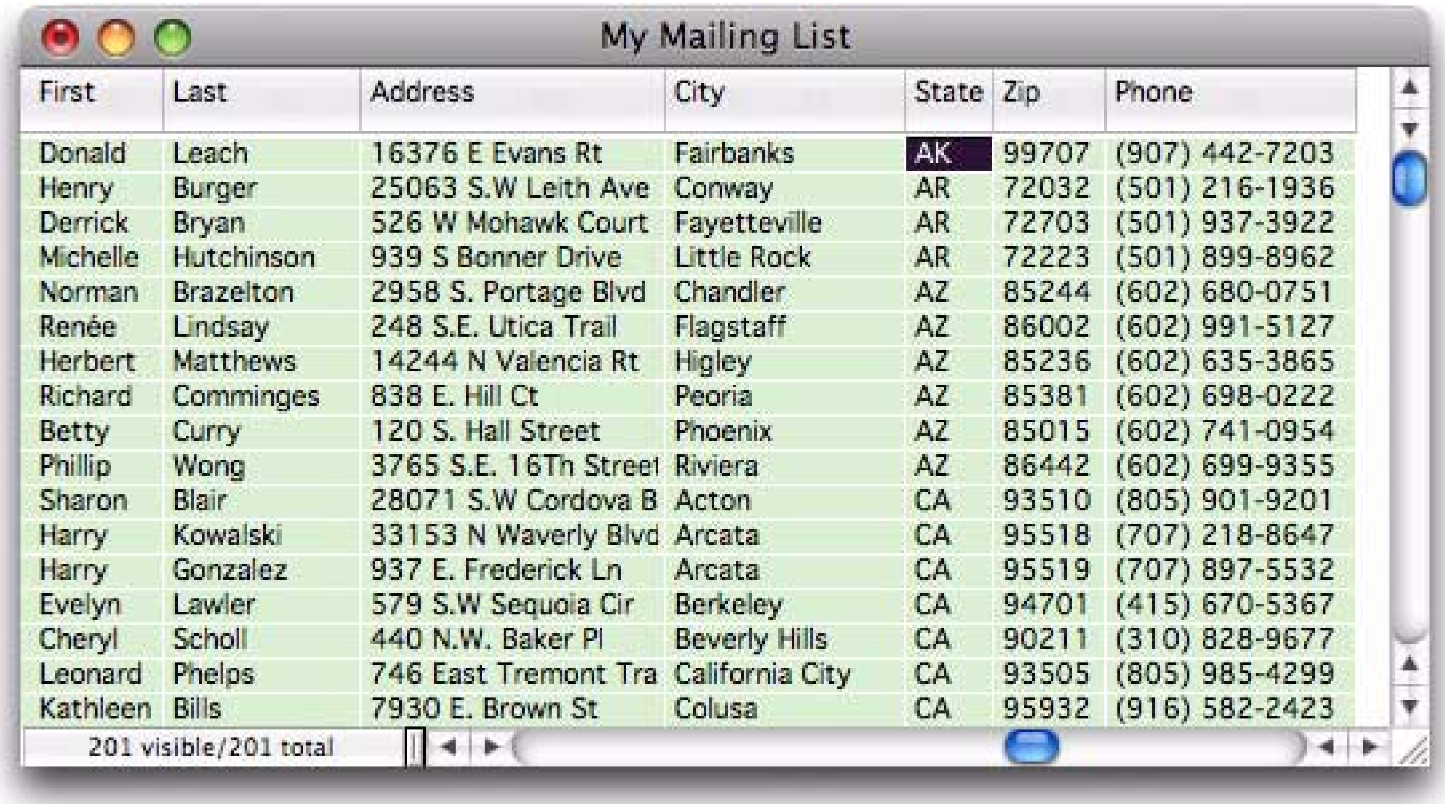
To learn more about selecting with a formula see "Search Options (Formula)" on page 159 and "True/False Formulas" on page 315.

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.

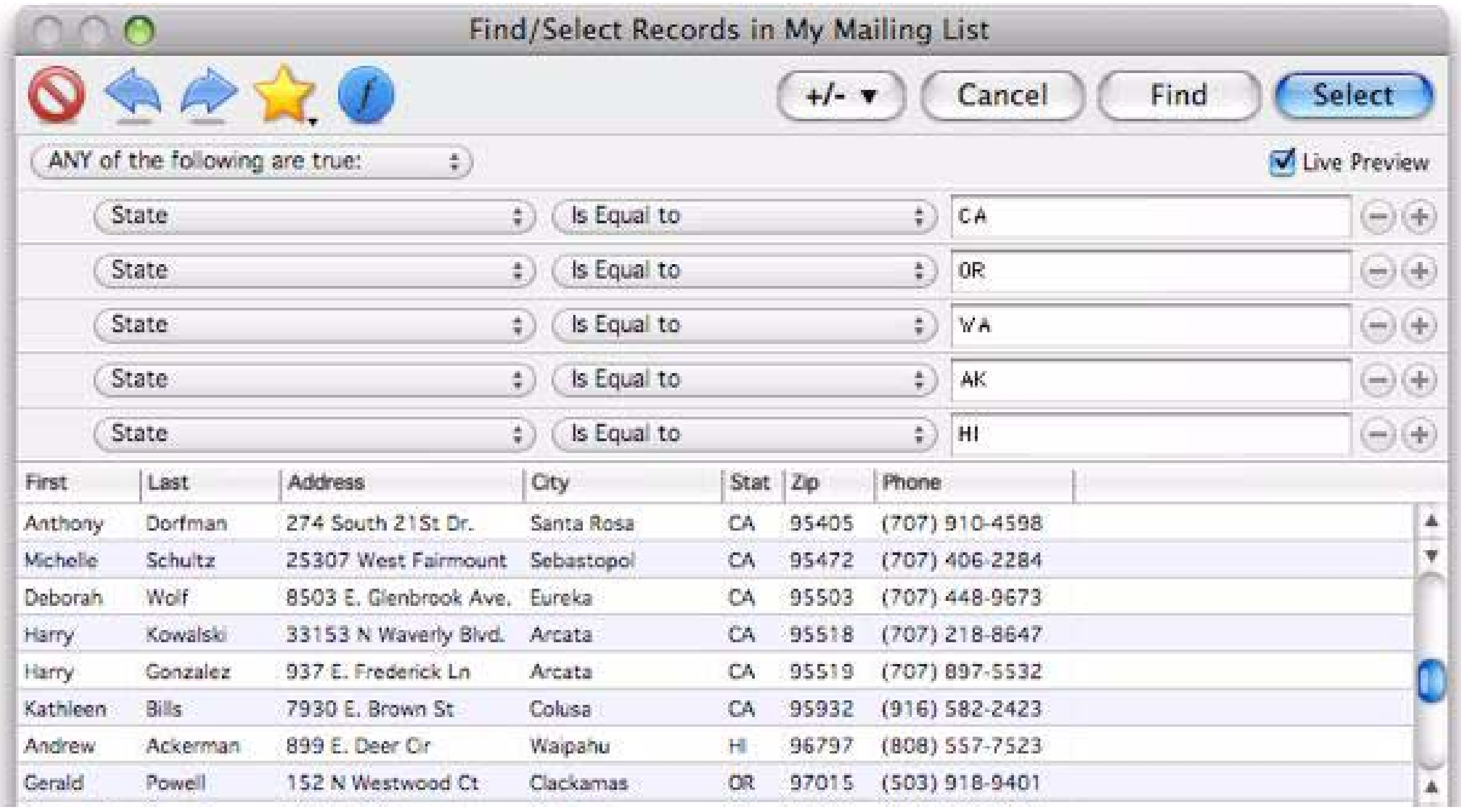

My Mailing List

First	Last	Address	City	State	Zip	Phone
Donald	Leach	16376 E Evans Rt	Fairbanks	AK	99707	(907) 442-7203
Henry	Burger	25063 S.W Leith Ave	Conway	AR	72032	(501) 216-1936
Derrick	Bryan	526 W Mohawk Court	Fayetteville	AR	72703	(501) 937-3922
Michelle	Hutchinson	939 S Bonner Drive	Little Rock	AR	72223	(501) 899-8962
Norman	Brazelton	2958 S. Portage Blvd	Chandler	AZ	85244	(602) 680-0751
Renée	Lindsay	248 S.E. Utica Trail	Flagstaff	AZ	86002	(602) 991-5127
Herbert	Matthews	14244 N Valencia Rt	Higley	AZ	85236	(602) 635-3865
Richard	Comminges	838 E. Hill Ct	Peoria	AZ	85381	(602) 698-0222
Betty	Curry	120 S. Hall Street	Phoenix	AZ	85015	(602) 741-0954
Phillip	Wong	3765 S.E. 16Th Street	Riviera	AZ	86442	(602) 699-9355
Sharon	Blair	28071 S.W Cordova B	Acton	CA	93510	(805) 901-9201
Harry	Kowalski	33153 N Waverly Blvd	Arcata	CA	95518	(707) 218-8647
Harry	Gonzalez	937 E. Frederick Ln	Arcata	CA	95519	(707) 897-5532
Evelyn	Lawler	579 S.W Sequoia Cir	Berkeley	CA	94701	(415) 670-5367
Cheryl	Scholl	440 N.W. Baker Pl	Beverly Hills	CA	90211	(310) 828-9677
Leonard	Phelps	746 East Tremont Tra	California City	CA	93505	(805) 985-4299
Kathleen	Bills	7930 E. Brown St	Colusa	CA	95932	(916) 582-2423

201 visible/201 total

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.

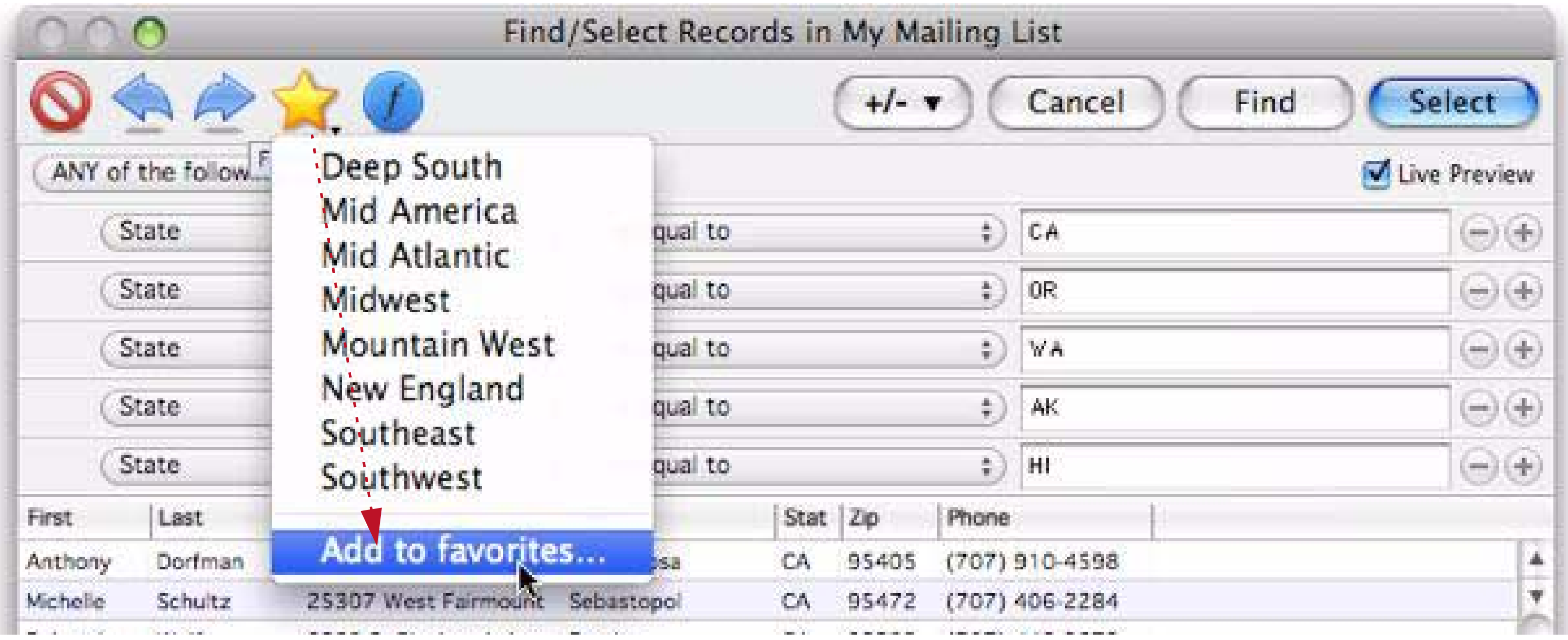


ANY of the following are true:

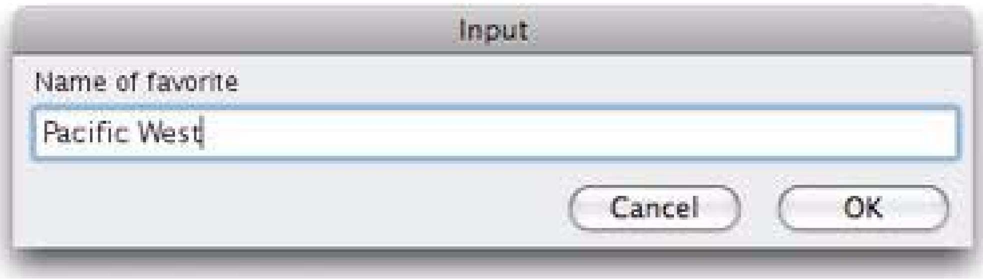
State Is Equal to CA
State Is Equal to OR
State Is Equal to WA
State Is Equal to AK
State Is Equal to HI

First	Last	Address	City	Stat	Zip	Phone
Anthony	Dorfman	274 South 21St Dr.	Santa Rosa	CA	95405	(707) 910-4598
Michelle	Schultz	25307 West Fairmount	Sebastopol	CA	95472	(707) 406-2284
Deborah	Wolf	8503 E. Glenbrook Ave.	Eureka	CA	95503	(707) 448-9673
Harry	Kowalski	33153 N Waverly Blvd.	Arcata	CA	95518	(707) 218-8647
Harry	Gonzalez	937 E. Frederick Ln	Arcata	CA	95519	(707) 897-5532
Kathleen	Bills	7930 E. Brown St	Colusa	CA	95932	(916) 582-2423
Andrew	Ackerman	899 E. Deer Cir	Waipahu	HI	96797	(808) 557-7523
Gerald	Powell	152 N Westwood Ct	Clackamas	OR	97015	(503) 918-9401

To save this search, click on the yellow favorites icon and choose **Add to favorites**.

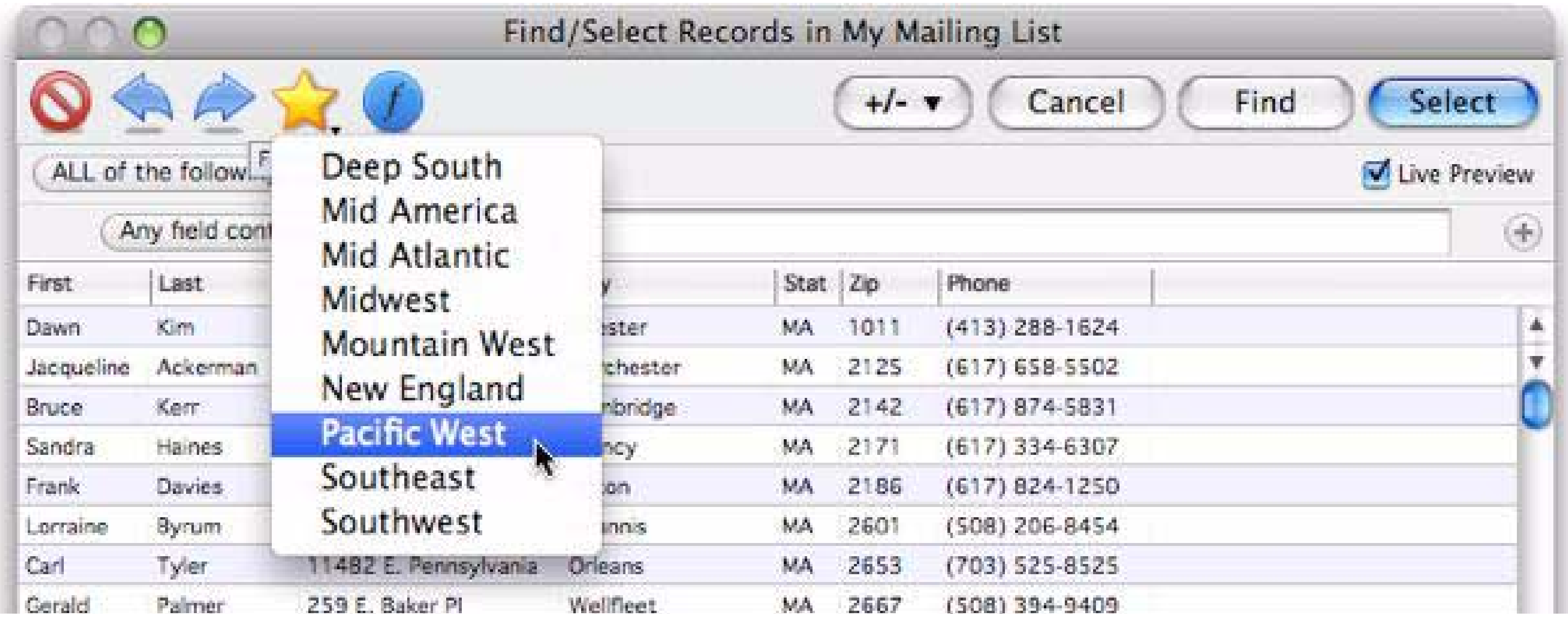


Enter the name for your new favorite search.



Name of favorite: Pacific West

Now the new favorite is included in the menu, so you can re-use it at any time.



First	Last		y	Stat	Zip	Phone
Dawn	Kim		ster	MA	1011	(413) 288-1624
Jacqueline	Ackerman		chester	MA	2125	(617) 658-5502
Bruce	Kerr		nbridge	MA	2142	(617) 874-5831
Sandra	Haines		ncy	MA	2171	(617) 334-6307
Frank	Davies		ton	MA	2186	(617) 824-1250
Lorraine	Byrum		nnis	MA	2601	(508) 206-8454
Carl	Tyler	11482 E. Pennsylvania	Orleans	MA	2653	(703) 525-8525
Gerald	Palmer	259 E. Baker Pl	Wellfleet	MA	2667	(508) 394-9409

For more information about favorite searches see "Managing Queries" on page 160.

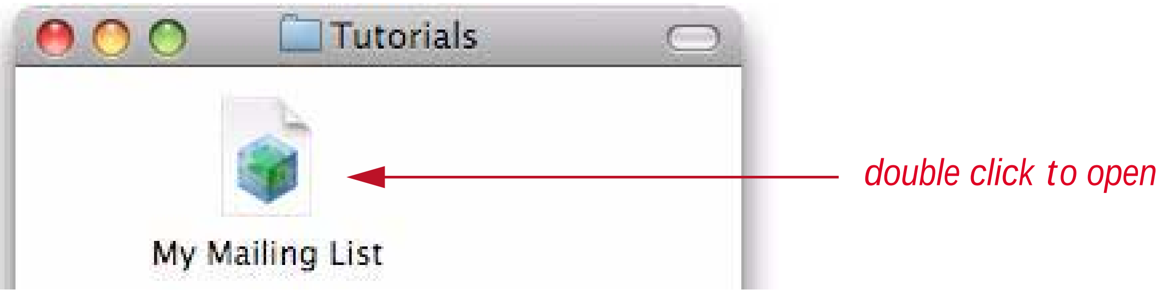
Closing a Database

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. If you are following along with this tutorial, close the My Mailing List database now.

If the database has been modified since the last time it was saved, you will be asked 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.

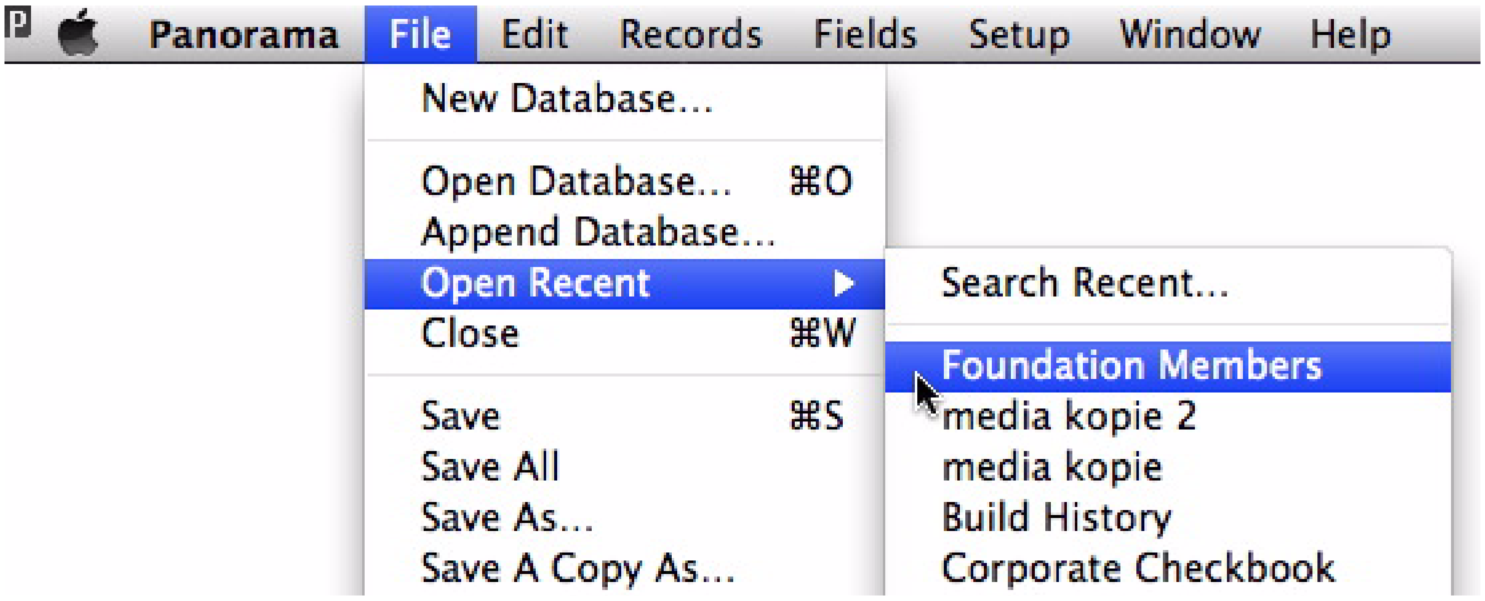
Re-Opening a Recently Opened Database

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

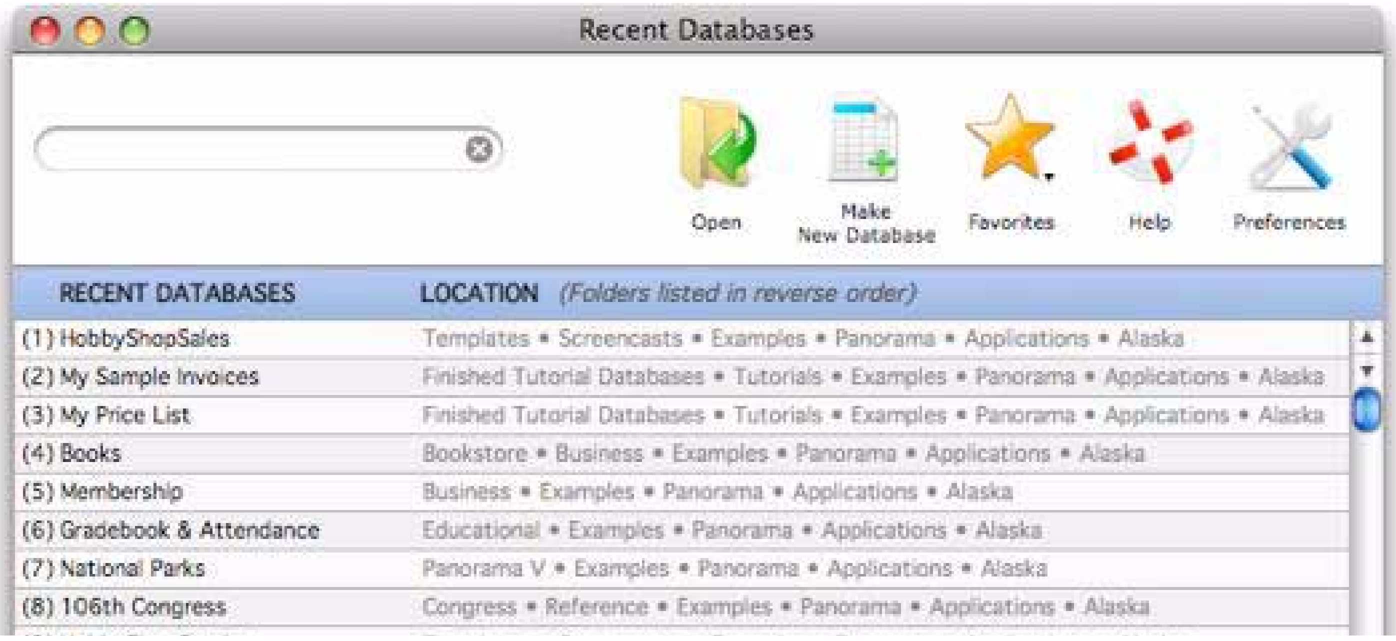


double click to open

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.



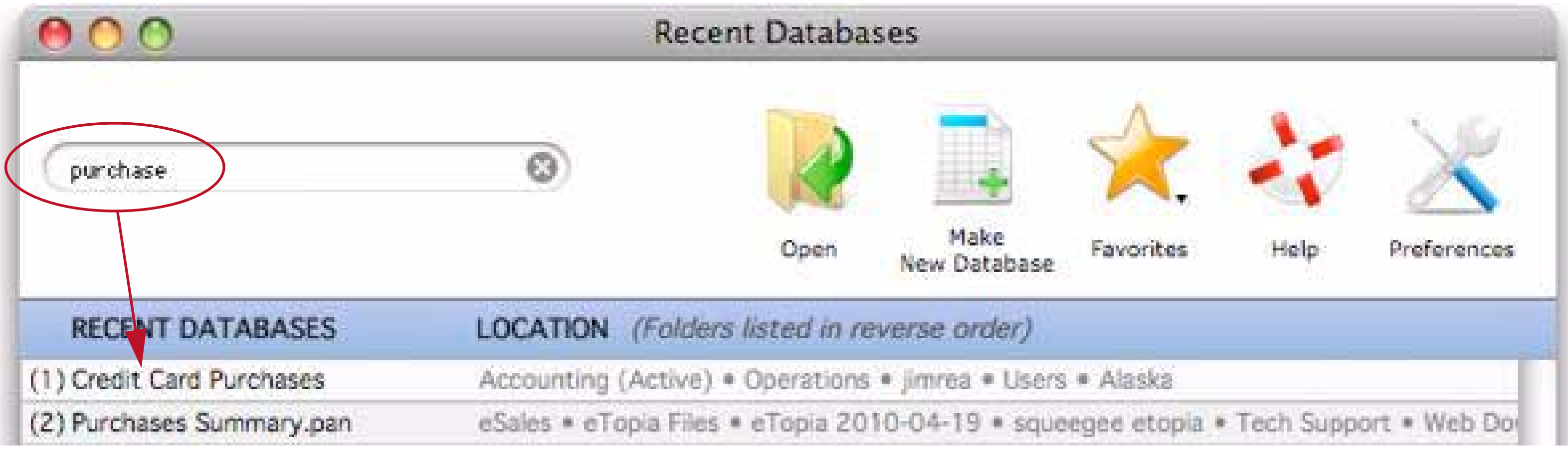
To see all of your recently opened files, choose **File>Open Recent>Search Recent**. The most recently opend files are shown at the top of the list.



RECENT DATABASES	LOCATION *(Folders listed in reverse order)*
(1) HobbyShopSales	Templates • Screencasts • Examples • Panorama • Applications • Alaska
(2) My Sample Invoices	Finished Tutorial Databases • Tutorials • Examples • Panorama • Applications • Alaska
(3) My Price List	Finished Tutorial Databases • Tutorials • Examples • Panorama • Applications • Alaska
(4) Books	Bookstore • Business • Examples • Panorama • Applications • Alaska
(5) Membership	Business • Examples • Panorama • Applications • Alaska
(6) Gradebook & Attendance	Educational • Examples • Panorama • Applications • Alaska
(7) National Parks	Panorama V • Examples • Panorama • Applications • Alaska
(8) 106th Congress	Congress • Reference • Examples • Panorama • Applications • Alaska

I can double click on any row to open it, or I can simply press the 1 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 4 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.

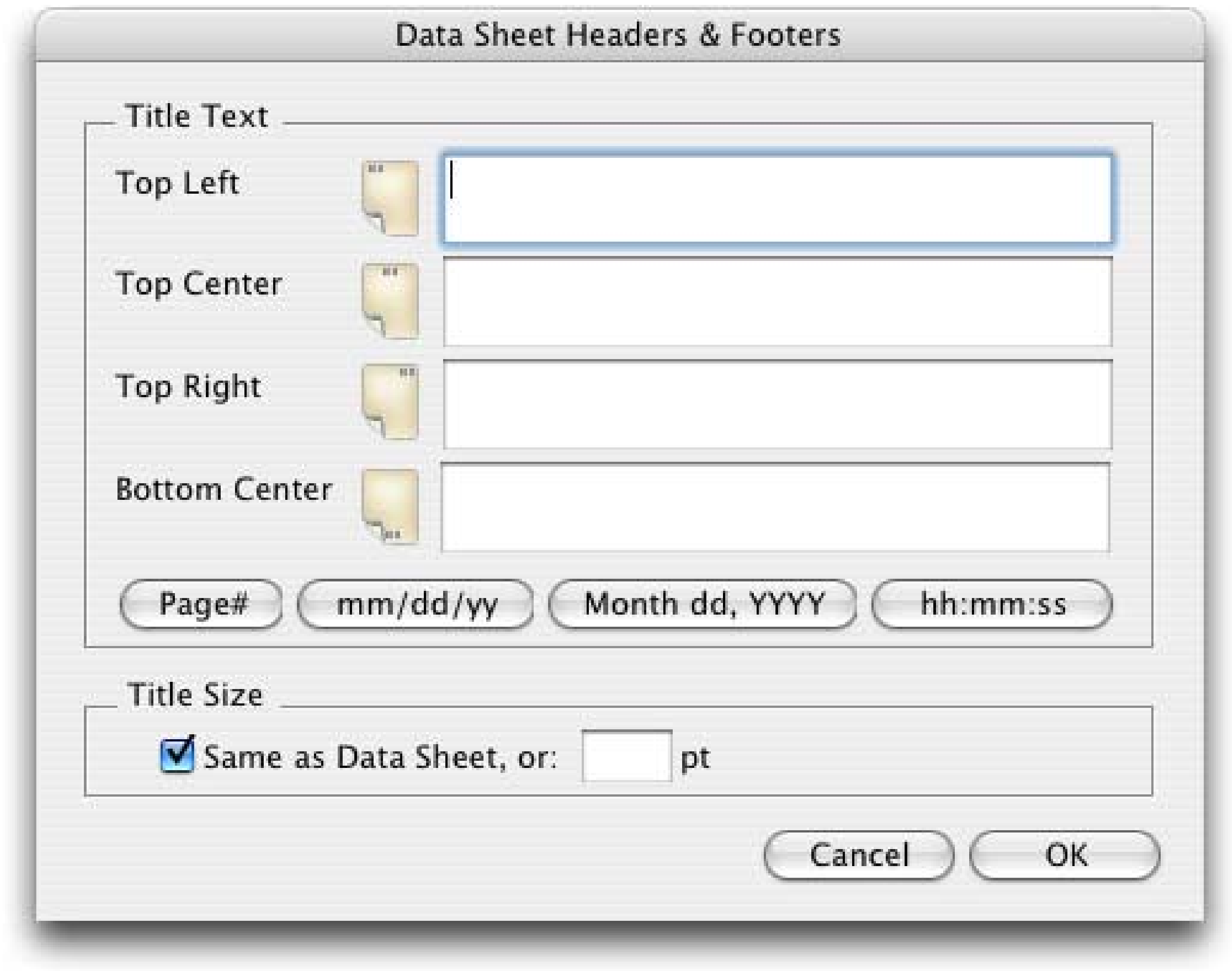


RECENT DATABASES	LOCATION *(Folders listed in reverse order)*
(1) Credit Card Purchases	Accounting (Active) • Operations • jimrea • Users • Alaska
(2) Purchases Summary.pan	eSales • eTopia Files • eTopia 2010-04-19 • squeegee etopia • Tech Support • Web Do

To learn more about this wizard see "The Recent Databases Menu and Wizard" on page 348.

Printing the Data Sheet

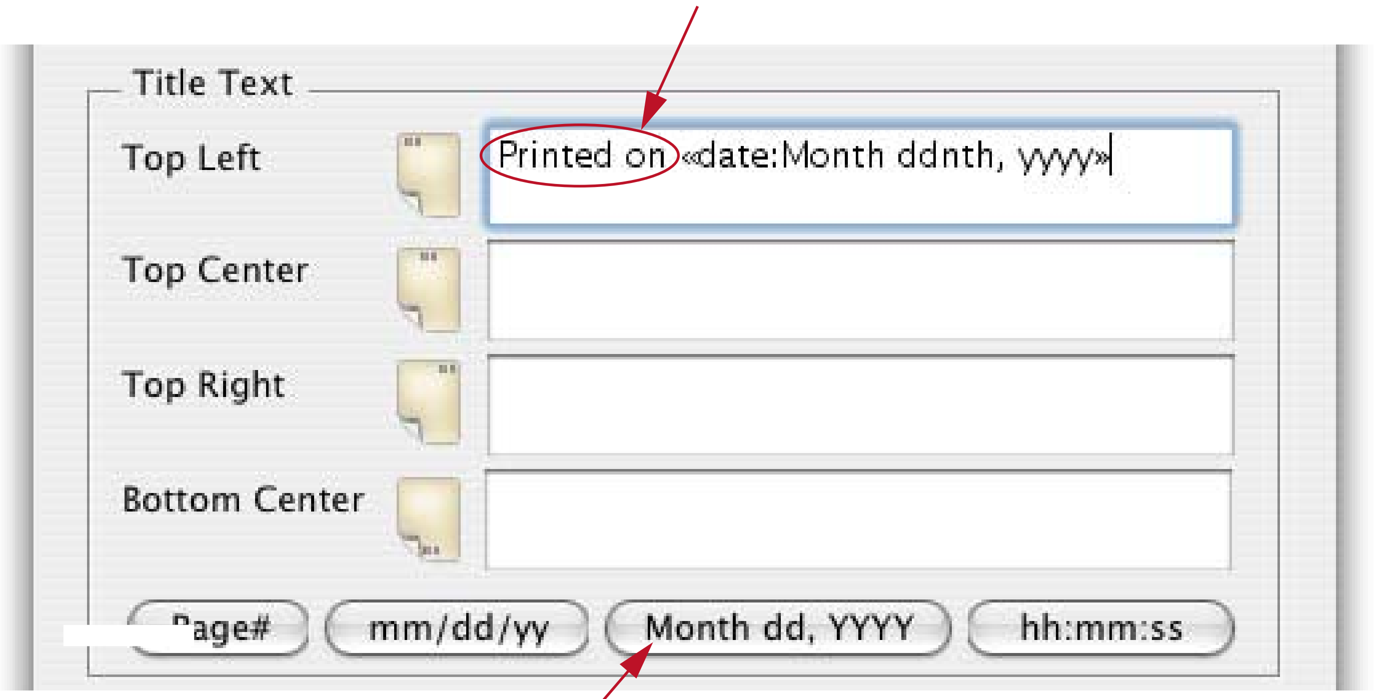
Before actually printing the data sheet you'll set up a page header to print today's date on the top left and the page number on the top right of each page. To do this choose **Headers/Footers** from the File menu. This command opens a dialog that allows you designate headers on the top left, center and right and a bottom centered footer.



☑ Same as Data Sheet, or: pt

Start with the top left header. Type in the words Printed on and and then press the **Month dd, YYYY** button.

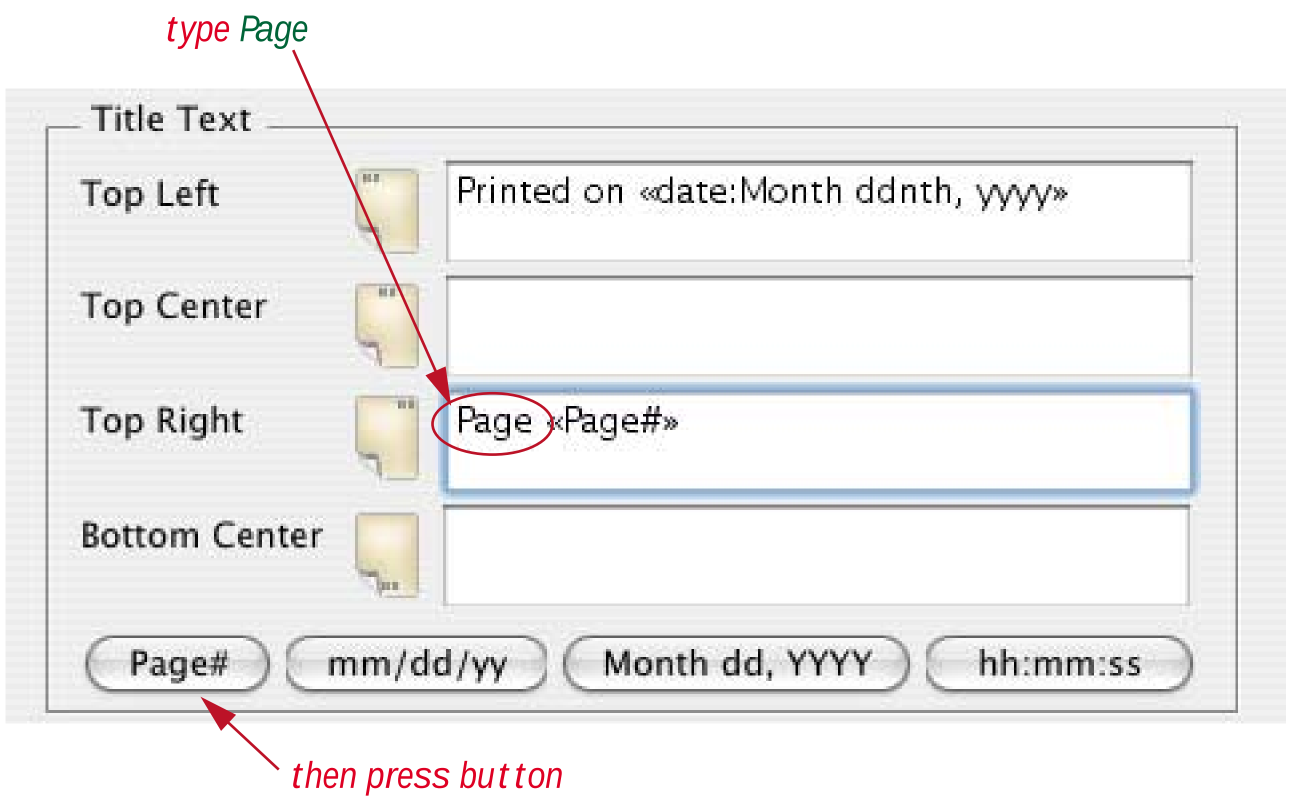
type Printed on



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

then press 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:

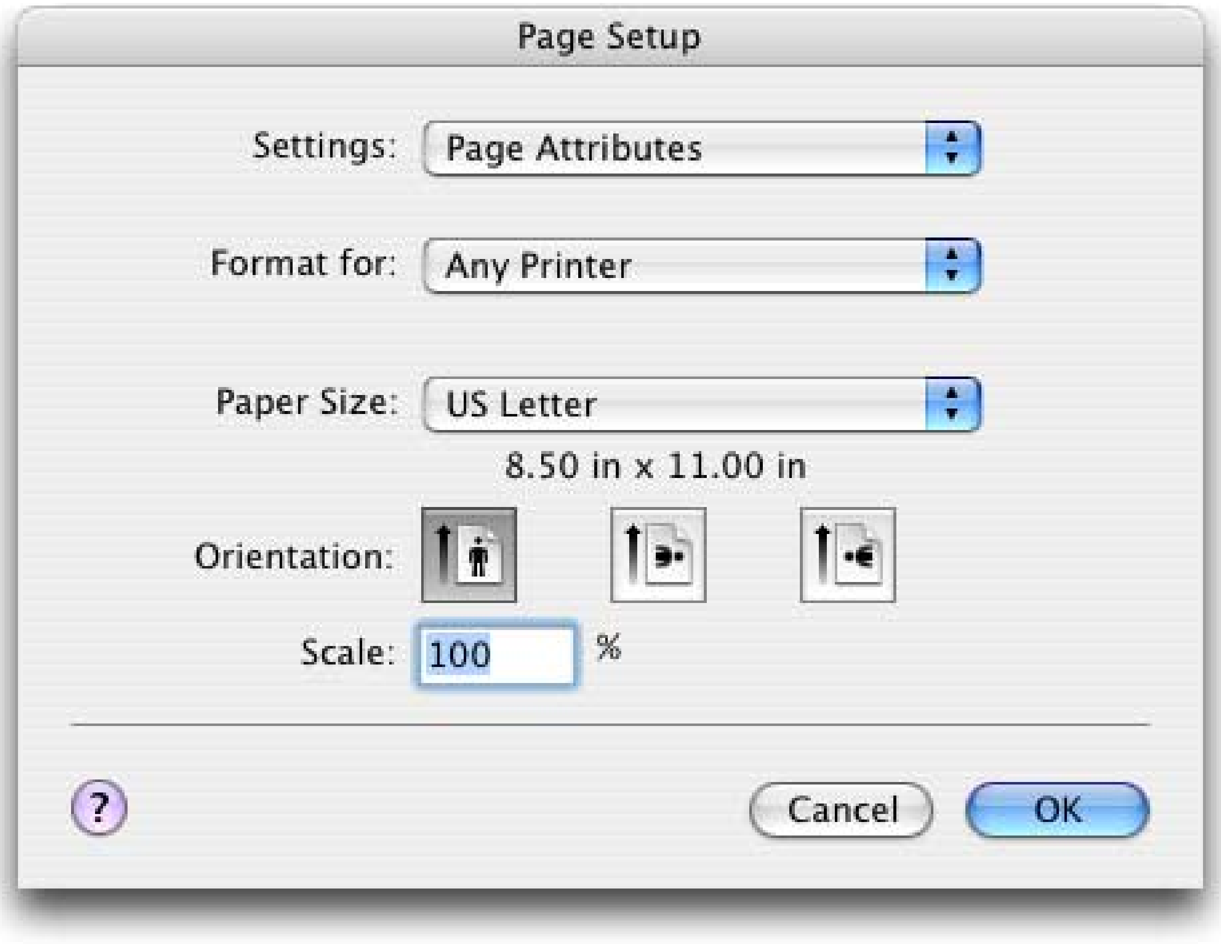
Top Right: Page «Page#»

Bottom Center:

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 331.

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

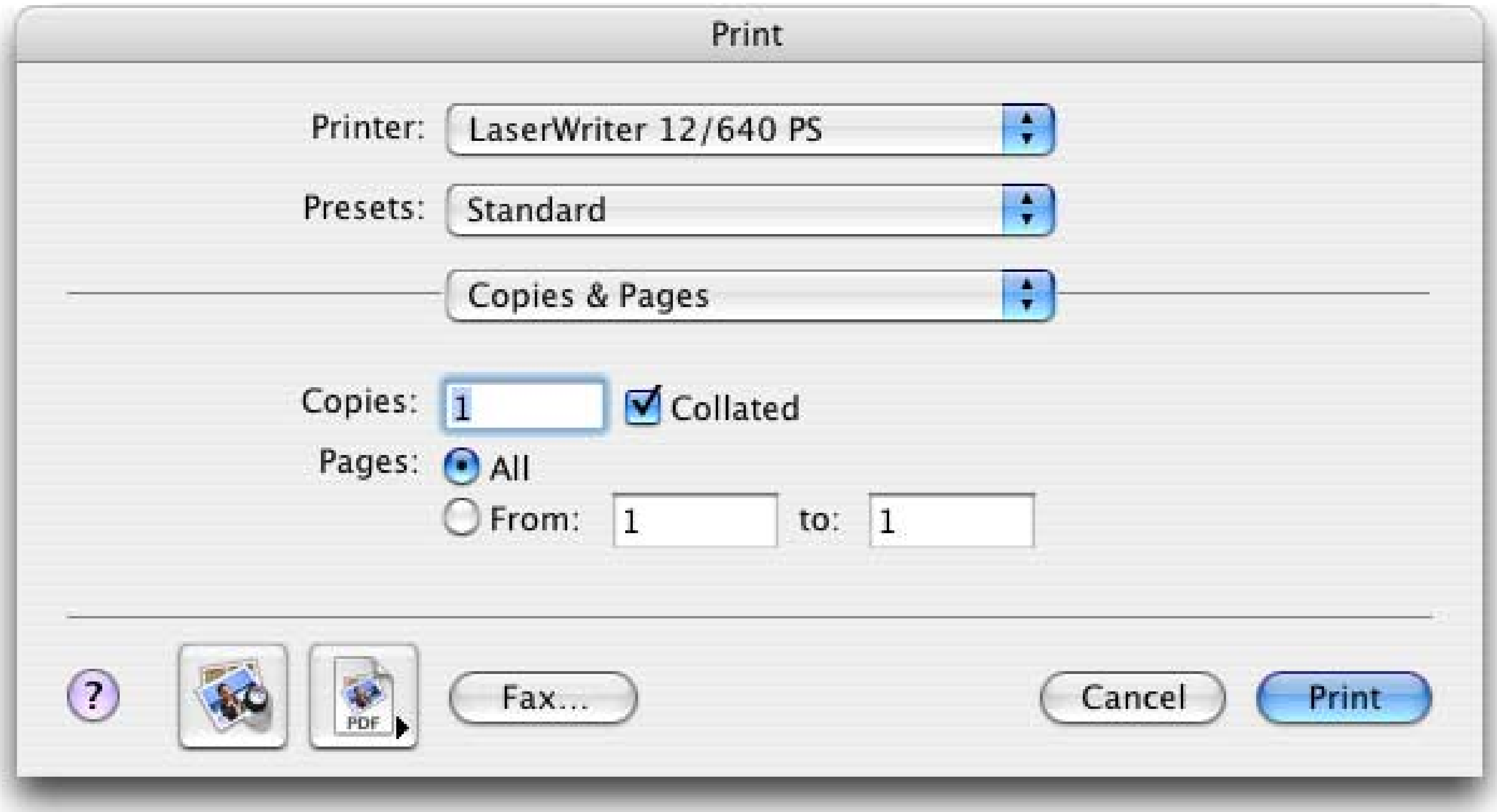
Paper Size: US Letter

8.50 in x 11.00 in

Orientation:

Scale: 100 %

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.



Printer: LaserWriter 12/640 PS

Presets: Standard

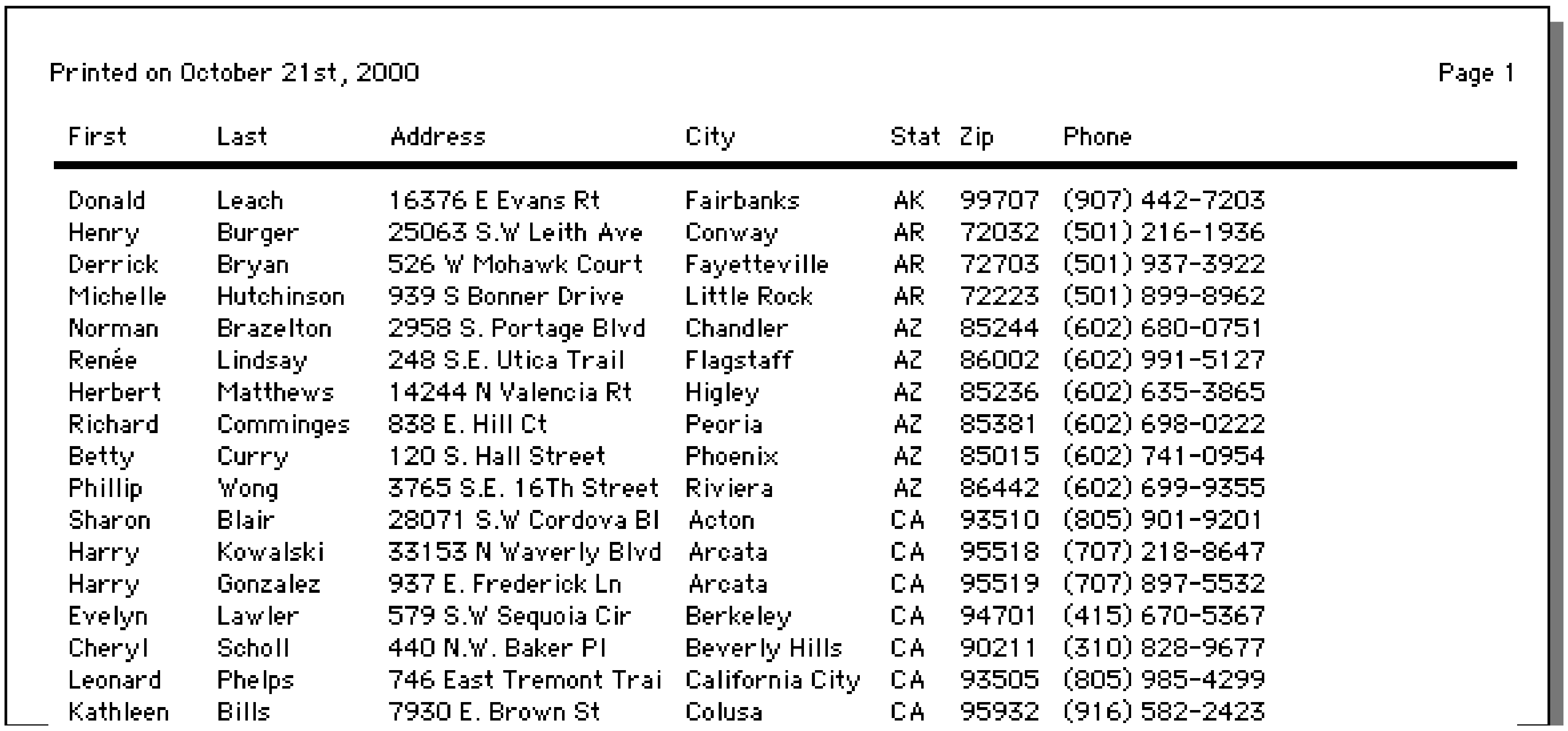
Copies & Pages

Copies: 1 ☑ Collated

Pages: ● All

○ From: 1 to: 1

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.



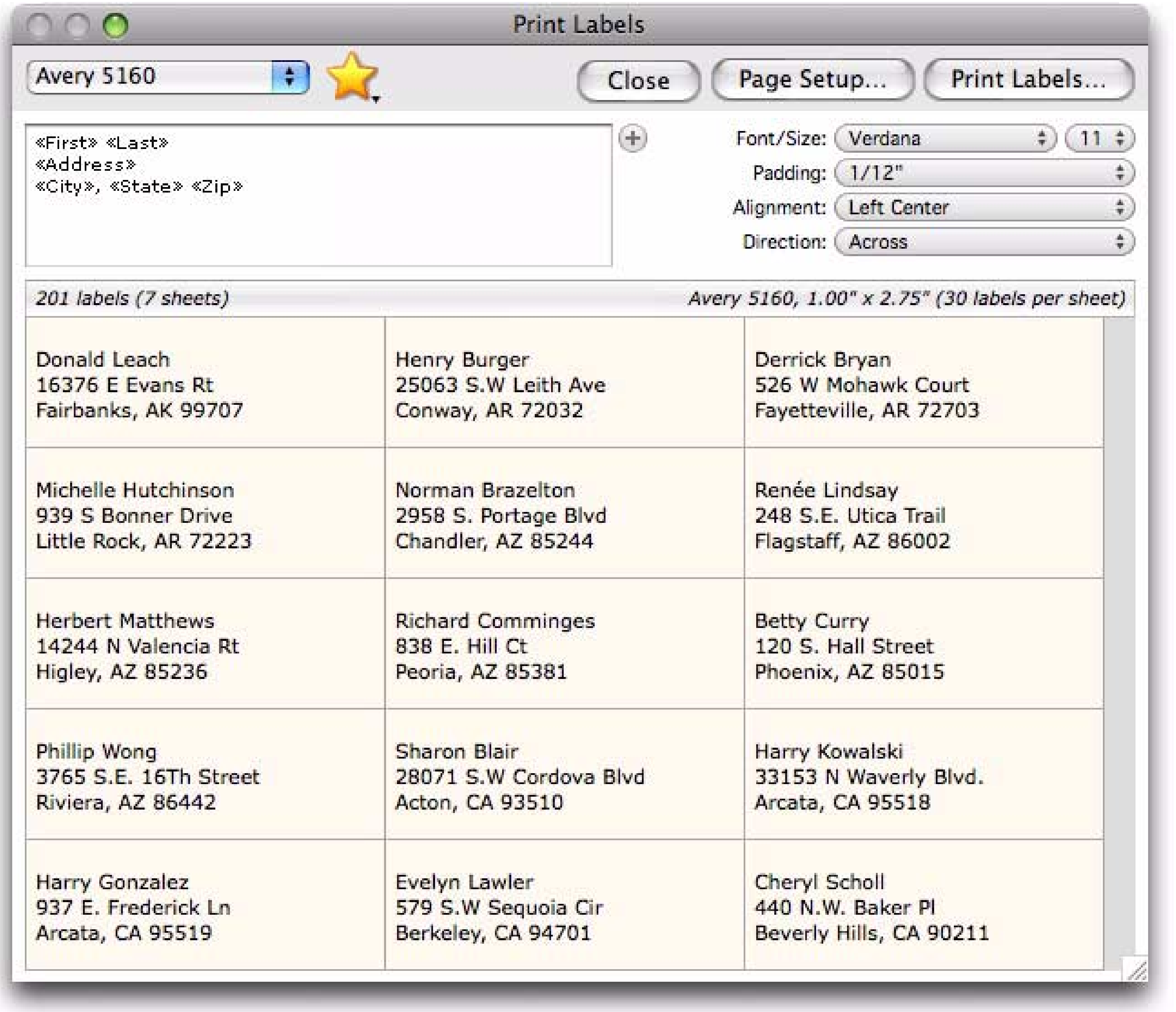
Printed on October 21st, 2000 Page 1

First	Last	Address	City	Stat	Zip	Phone
Donald	Leach	16376 E Evans Rt	Fairbanks	AK	99707	(907) 442-7203
Henry	Burger	25063 S.W Leith Ave	Conway	AR	72032	(501) 216-1936
Derrick	Bryan	526 W Mohawk Court	Fayetteville	AR	72703	(501) 937-3922
Michelle	Hutchinson	939 S Bonner Drive	Little Rock	AR	72223	(501) 899-8962
Norman	Brazelton	2958 S. Portage Blvd	Chandler	AZ	85244	(602) 680-0751
Renée	Lindsay	248 S.E. Utica Trail	Flagstaff	AZ	86002	(602) 991-5127
Herbert	Matthews	14244 N Valencia Rt	Higley	AZ	85236	(602) 635-3865
Richard	Comminges	838 E. Hill Ct	Peoria	AZ	85381	(602) 698-0222
Betty	Curry	120 S. Hall Street	Phoenix	AZ	85015	(602) 741-0954
Phillip	Wong	3765 S.E. 16Th Street	Riviera	AZ	86442	(602) 699-9355
Sharon	Blair	28071 S.W Cordova Bl	Acton	CA	93510	(805) 901-9201
Harry	Kowalski	33153 N Waverly Blvd	Arcata	CA	95518	(707) 218-8647
Harry	Gonzalez	937 E. Frederick Ln	Arcata	CA	95519	(707) 897-5532
Evelyn	Lawler	579 S.W Sequoia Cir	Berkeley	CA	94701	(415) 670-5367
Cheryl	Scholl	440 N.W. Baker Pl	Beverly Hills	CA	90211	(310) 828-9677
Leonard	Phelps	746 East Tremont Trai	California City	CA	93505	(805) 985-4299
Kathleen	Bills	7930 E. Brown St	Colusa	CA	95932	(916) 582-2423

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 36). Only the visible records will be printed.

Printing Mailing Labels

To print mailing labels, choose **File>Print Labels**.



Avery 5160

«First» «Last»
«Address»
«City», «State» «Zip»

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

201 labels (7 sheets) *Avery 5160, 1.00" x 2.75" (30 labels per sheet)*

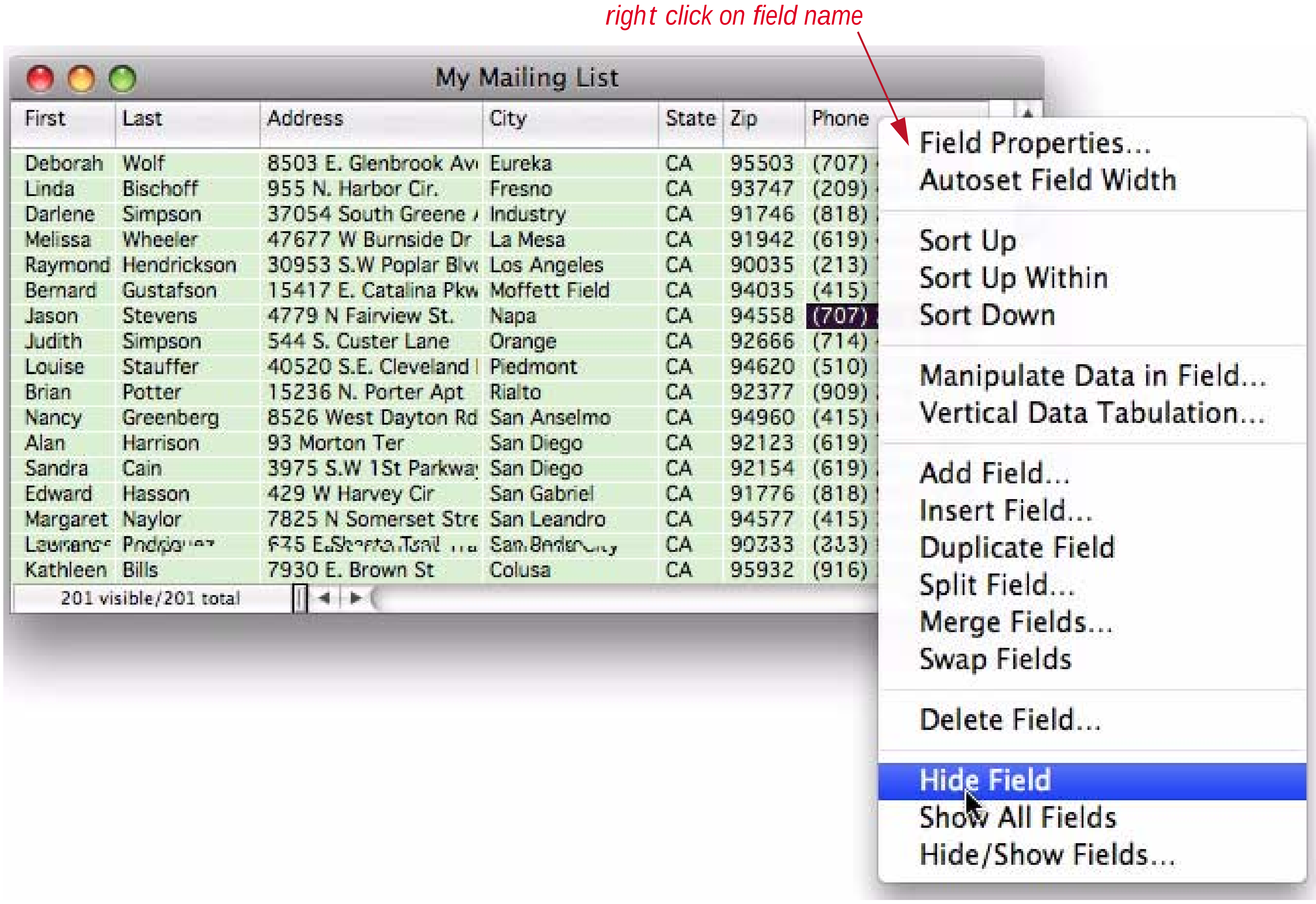
Donald Leach 16376 E Evans Rt Fairbanks, AK 99707	Henry Burger 25063 S.W Leith Ave Conway, AR 72032	Derrick Bryan 526 W Mohawk Court Fayetteville, AR 72703
Michelle Hutchinson 939 S Bonner Drive Little Rock, AR 72223	Norman Brazelton 2958 S. Portage Blvd Chandler, AZ 85244	Renée Lindsay 248 S.E. Utica Trail Flagstaff, AZ 86002
Herbert Matthews 14244 N Valencia Rt Higley, AZ 85236	Richard Comminges 838 E. Hill Ct Peoria, AZ 85381	Betty Curry 120 S. Hall Street Phoenix, AZ 85015
Phillip Wong 3765 S.E. 16Th Street Riviera, AZ 86442	Sharon Blair 28071 S.W Cordova Blvd Acton, CA 93510	Harry Kowalski 33153 N Waverly Blvd. Arcata, CA 95518
Harry Gonzalez 937 E. Frederick Ln Arcata, CA 95519	Evelyn Lawler 579 S.W Sequoia Cir Berkeley, CA 94701	Cheryl Scholl 440 N.W. Baker Pl Beverly Hills, CA 90211

This dialog shows a preview of what your labels will look like. If everything is in order then go ahead and press the **Print Labels** button to actually print the labels. When you are done, press the **Close** button to return to the data sheet.

You can customize various options: the type of label, the contents of the label, and the style of the label (font, padding, etc.). See also to learn more.

Temporarily Hiding One or More Fields

If you need to temporarily hide a field, simply right click on the field name and choose **Hide Field** from the pop-up context menu. (If you don't have a two button mouse, hold down the Control key when you click on the field name. Alternately, you can click on any cell in the field and then choose **Hide Field** from the **Fields** menu.)



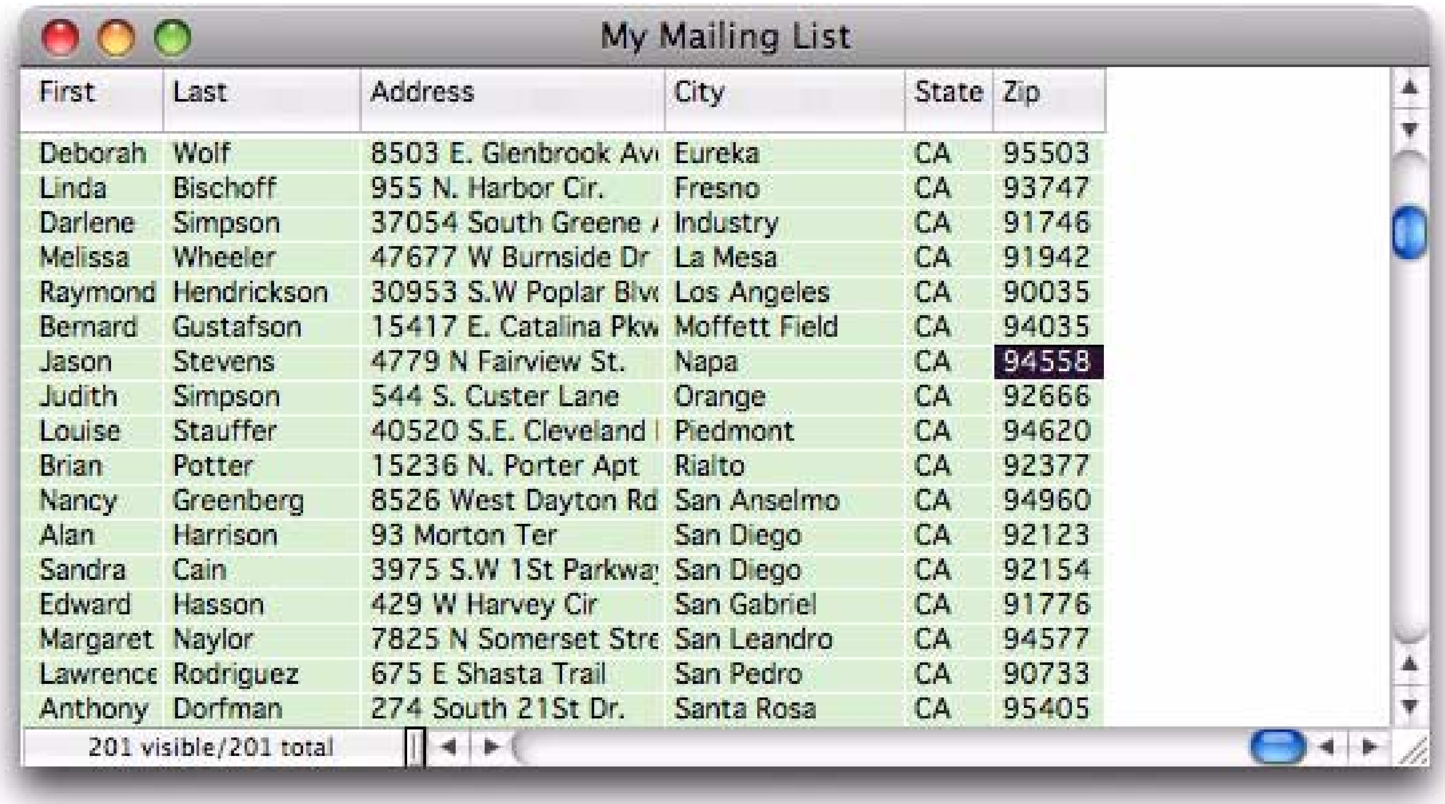
right click on field name

My Mailing List

First	Last	Address	City	State	Zip	Phone
Deborah	Wolf	8503 E. Glenbrook Av	Eureka	CA	95503	(707)
Linda	Bischoff	955 N. Harbor Cir.	Fresno	CA	93747	(209)
Darlene	Simpson	37054 South Greene	Industry	CA	91746	(818)
Melissa	Wheeler	47677 W Burnside Dr	La Mesa	CA	91942	(619)
Raymond	Hendrickson	30953 S.W Poplar Blv	Los Angeles	CA	90035	(213)
Bernard	Gustafson	15417 E. Catalina Pkw	Moffett Field	CA	94035	(415)
Jason	Stevens	4779 N Fairview St.	Napa	CA	94558	(707)
Judith	Simpson	544 S. Custer Lane	Orange	CA	92666	(714)
Louise	Stauffer	40520 S.E. Cleveland	Piedmont	CA	94620	(510)
Brian	Potter	15236 N. Porter Apt	Rialto	CA	92377	(909)
Nancy	Greenberg	8526 West Dayton Rd	San Anselmo	CA	94960	(415)
Alan	Harrison	93 Morton Ter	San Diego	CA	92123	(619)
Sandra	Cain	3975 S.W 1St Parkwa	San Diego	CA	92154	(619)
Edward	Hasson	429 W Harvey Cir	San Gabriel	CA	91776	(818)
Margaret	Naylor	7825 N Somerset Stre	San Leandro	CA	94577	(415)
[illegible]	[illegible]	[illegible]	[illegible]	CA	90333	(213)
Kathleen	Bills	7930 E. Brown St	Colusa	CA	95932	(916)

201 visible/201 total

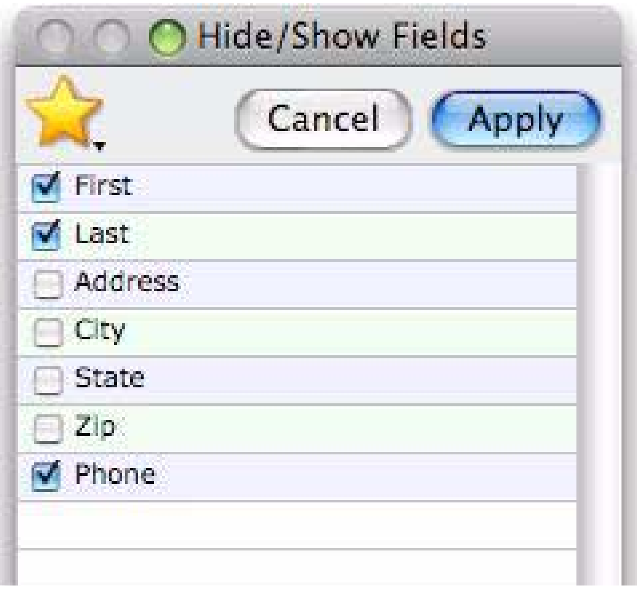
The field, in this case Phone, disappears. You can hide as many fields as you want as long as at least one is visible.



First	Last	Address	City	State	Zip
Deborah	Wolf	8503 E. Glenbrook Av	Eureka	CA	95503
Linda	Bischoff	955 N. Harbor Cir.	Fresno	CA	93747
Darlene	Simpson	37054 South Greene /	Industry	CA	91746
Melissa	Wheeler	47677 W Burnside Dr	La Mesa	CA	91942
Raymond	Hendrickson	30953 S.W Poplar Blv	Los Angeles	CA	90035
Bernard	Gustafson	15417 E. Catalina Pkw	Moffett Field	CA	94035
Jason	Stevens	4779 N Fairview St.	Napa	CA	94558
Judith	Simpson	544 S. Custer Lane	Orange	CA	92666
Louise	Stauffer	40520 S.E. Cleveland	Piedmont	CA	94620
Brian	Potter	15236 N. Porter Apt	Rialto	CA	92377
Nancy	Greenberg	8526 West Dayton Rd	San Anselmo	CA	94960
Alan	Harrison	93 Morton Ter	San Diego	CA	92123
Sandra	Cain	3975 S.W 1St Parkwa	San Diego	CA	92154
Edward	Hasson	429 W Harvey Cir	San Gabriel	CA	91776
Margaret	Naylor	7825 N Somerset Stre	San Leandro	CA	94577
Lawrence	Rodriguez	675 E Shasta Trail	San Pedro	CA	90733
Anthony	Dorfman	274 South 21St Dr.	Santa Rosa	CA	95405

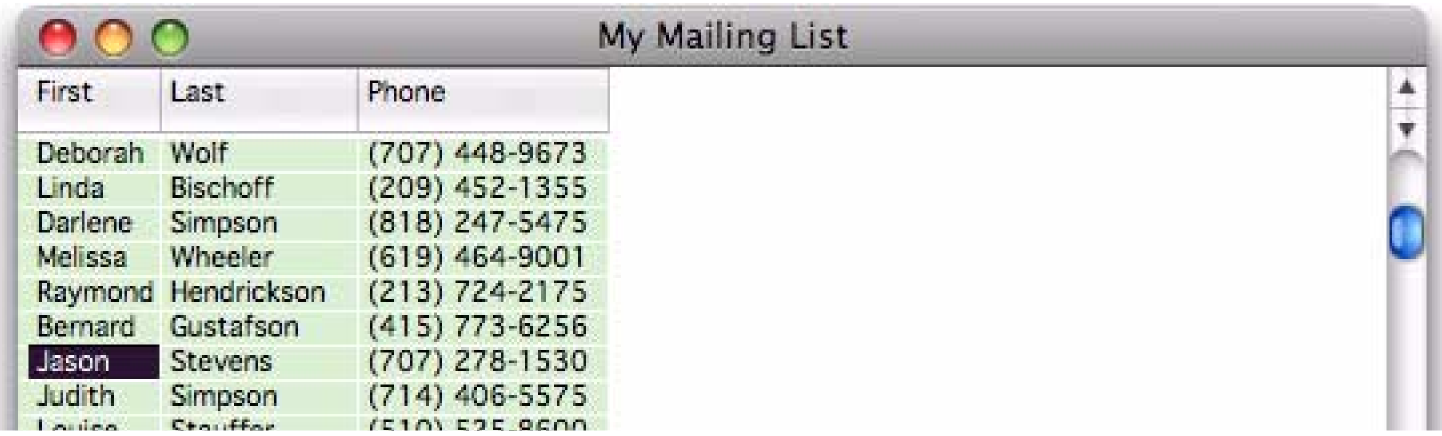
201 visible/201 total

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.



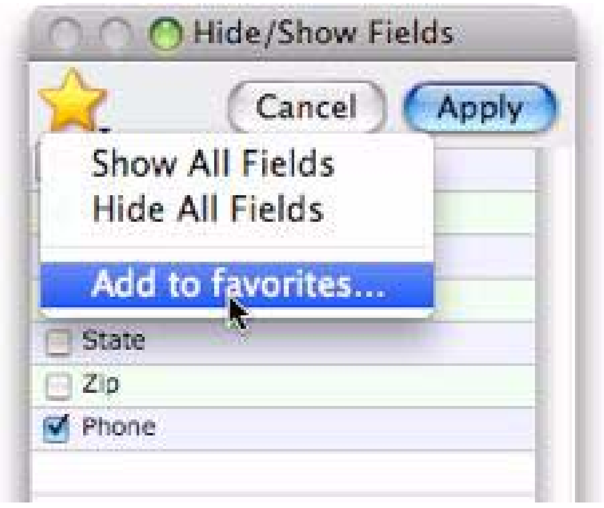
☑ First
☑ Last
□ Address
□ City
□ State
□ Zip
☑ Phone

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



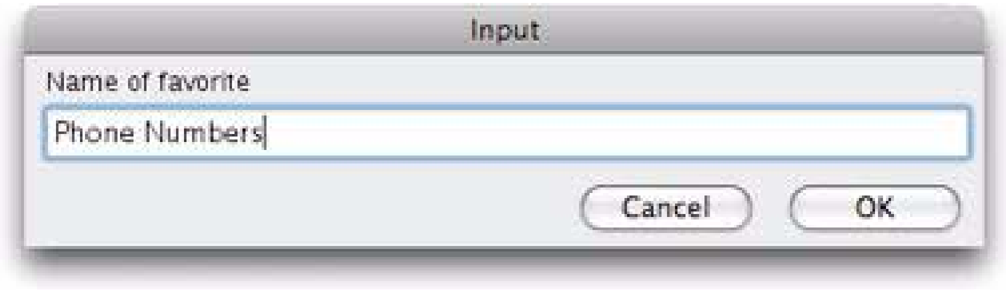
First	Last	Phone
Deborah	Wolf	(707) 448-9673
Linda	Bischoff	(209) 452-1355
Darlene	Simpson	(818) 247-5475
Melissa	Wheeler	(619) 464-9001
Raymond	Hendrickson	(213) 724-2175
Bernard	Gustafson	(415) 773-6256
Jason	Stevens	(707) 278-1530
Judith	Simpson	(714) 406-5575
Louise	Stauffer	(510) 525-8600

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**.



□ State
□ Zip
☑ Phone

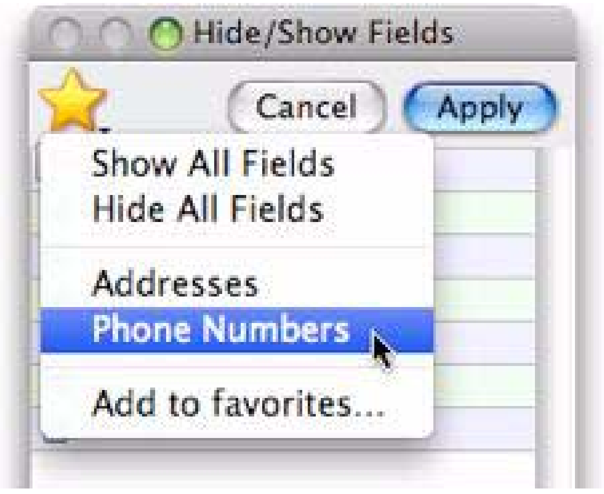
Type in a name for your new favorite.



Name of favorite

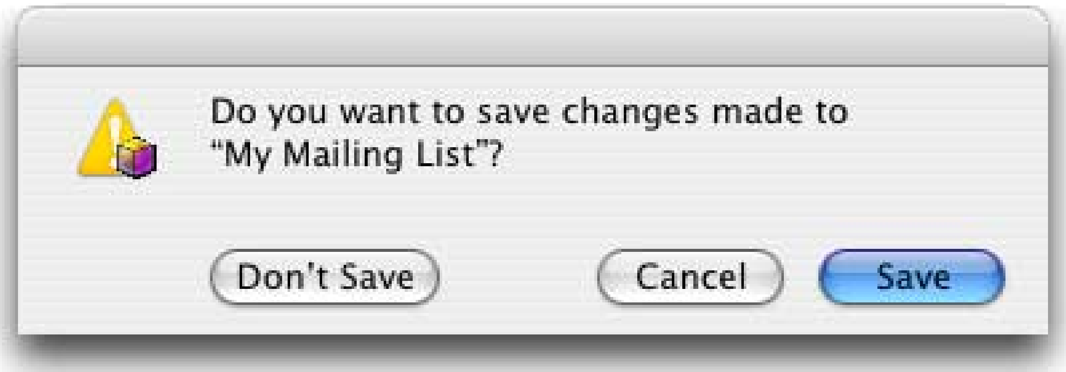
Phone Numbers

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



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.

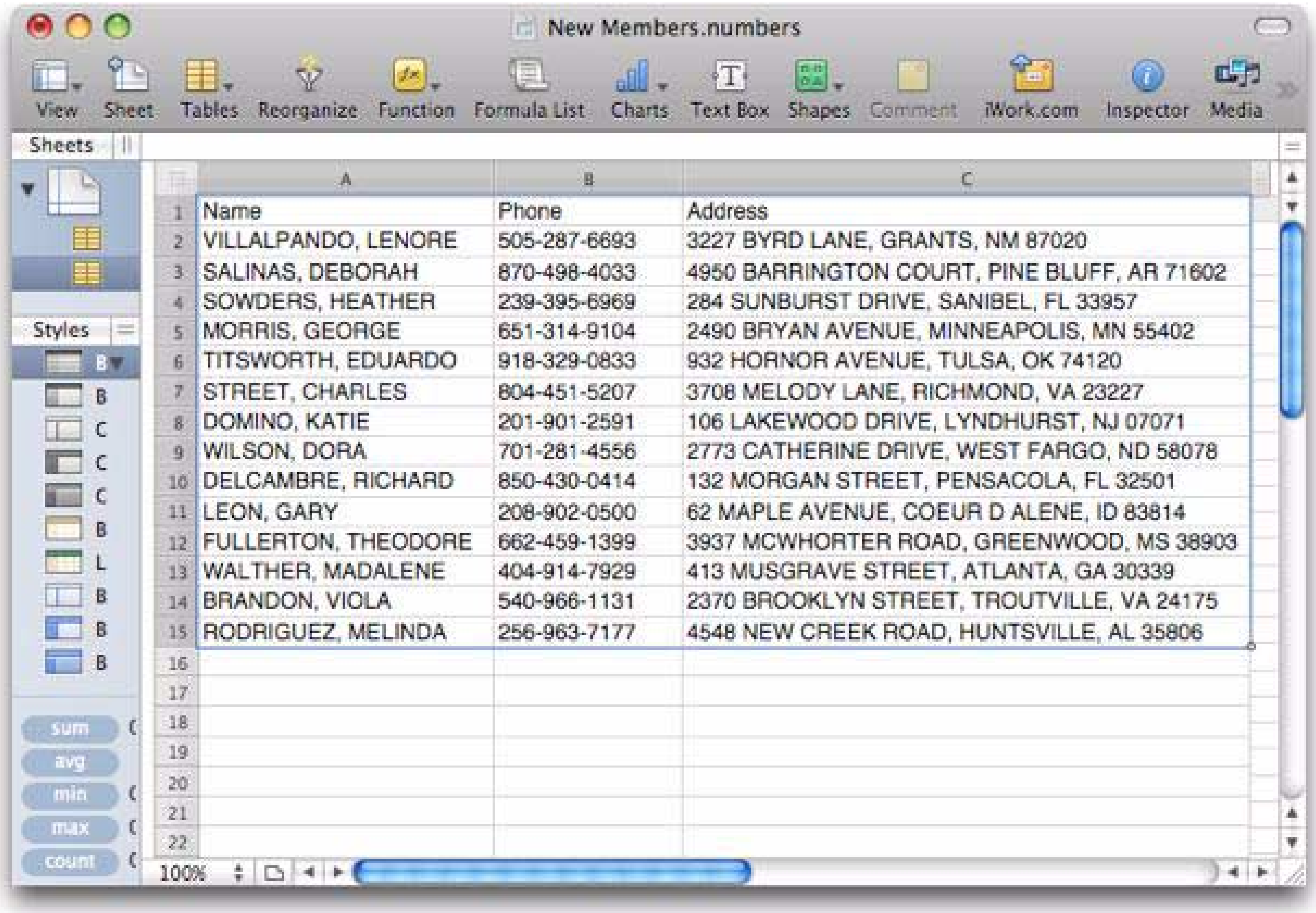


Do you want to save changes made to "My Mailing List"?

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.

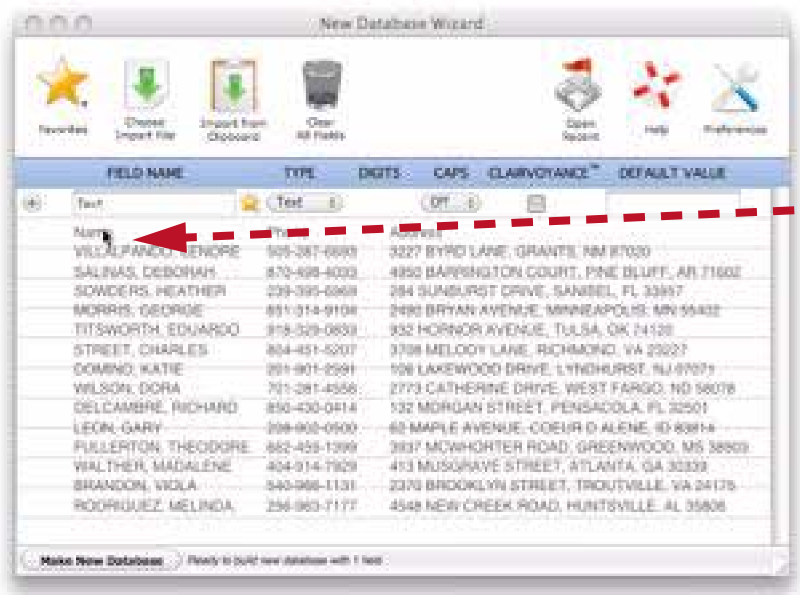
Extra Credit — Importing, Cleaning up and Adding a List of Names to the Mailing List

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.)



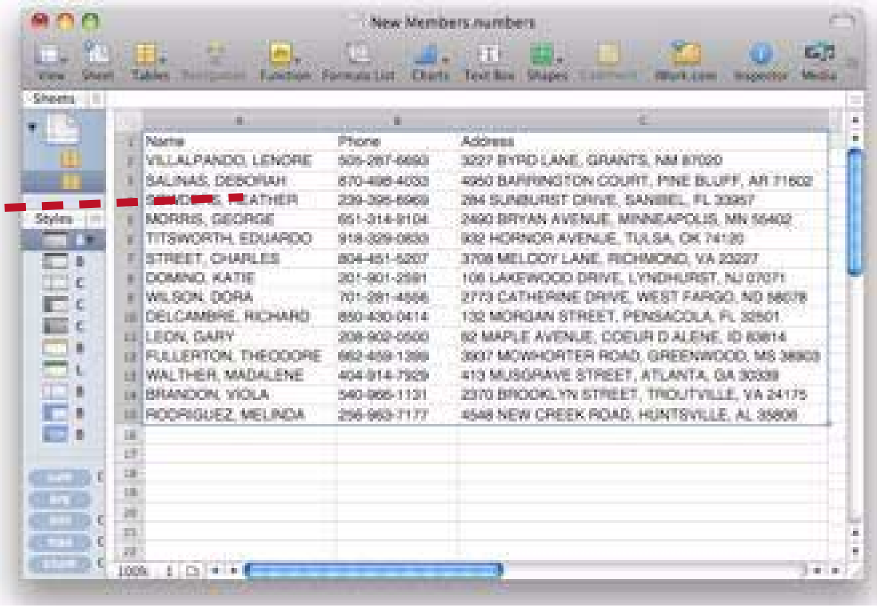
	A	B	C
1	Name	Phone	Address
2	VILLALPANDO, LENORE	505-287-6693	3227 BYRD LANE, GRANTS, NM 87020
3	SALINAS, DEBORAH	870-498-4033	4950 BARRINGTON COURT, PINE BLUFF, AR 71602
4	SOWDERS, HEATHER	239-395-6969	284 SUNBURST DRIVE, SANIBEL, FL 33957
5	MORRIS, GEORGE	651-314-9104	2490 BRYAN AVENUE, MINNEAPOLIS, MN 55402
6	TITSWORTH, EDUARDO	918-329-0833	932 HORNOR AVENUE, TULSA, OK 74120
7	STREET, CHARLES	804-451-5207	3708 MELODY LANE, RICHMOND, VA 23227
8	DOMINO, KATIE	201-901-2591	106 LAKEWOOD DRIVE, LYNDHURST, NJ 07071
9	WILSON, DORA	701-281-4556	2773 CATHERINE DRIVE, WEST FARGO, ND 58078
10	DELCAMBRE, RICHARD	850-430-0414	132 MORGAN STREET, PENSACOLA, FL 32501
11	LEON, GARY	208-902-0500	62 MAPLE AVENUE, COEUR D ALENE, ID 83814
12	FULLERTON, THEODORE	662-459-1399	3937 MCWHORTER ROAD, GREENWOOD, MS 38903
13	WALTHER, MADALENE	404-914-7929	413 MUSGRAVE STREET, ATLANTA, GA 30339
14	BRANDON, VIOLA	540-966-1131	2370 BROOKLYN STREET, TROUTVILLE, VA 24175
15	RODRIGUEZ, MELINDA	256-963-7177	4548 NEW CREEK ROAD, HUNTSVILLE, AL 35806
16			
17			
18			
19			
20			
21			
22			

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.



Text · Text · Off

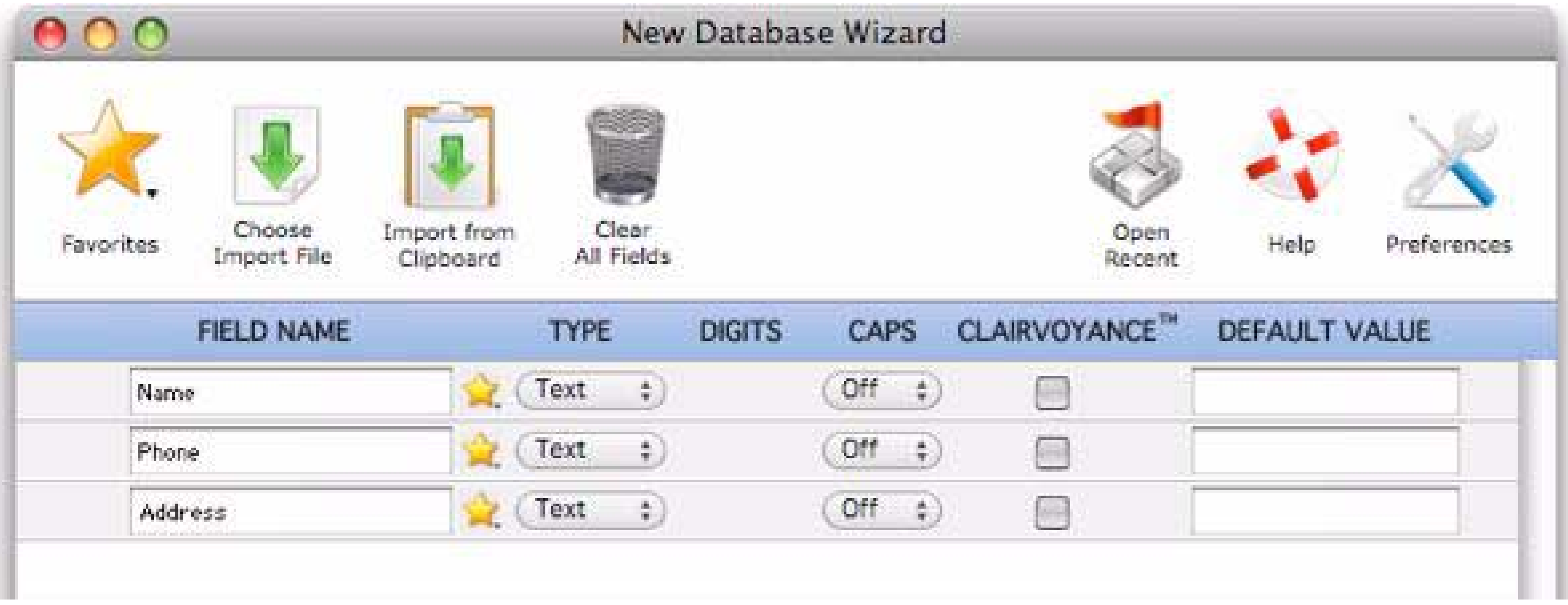
Ready to build new database with 1 field



	A	B	C
1	Name	Phone	Address
2	VILLALPANDO, LENORE	505-287-6693	3227 BYRD LANE, GRANTS, NM 87020
3	SALINAS, DEBORAH	870-498-4033	4950 BARRINGTON COURT, PINE BLUFF, AR 71602
4	SOWDERS, HEATHER	239-395-6969	284 SUNBURST DRIVE, SANIBEL, FL 33957
5	MORRIS, GEORGE	651-314-9104	2490 BRYAN AVENUE, MINNEAPOLIS, MN 55402
6	TITSWORTH, EDUARDO	918-329-0830	932 HORNOR AVENUE, TULSA, OK 74120
7	STREET, CHARLES	804-451-5207	3708 MELODY LANE, RICHMOND, VA 23227
8	DOMINO, KATIE	201-901-2591	106 LAKEWOOD DRIVE, LYNDHURST, NJ 07071
9	WILSON, DORA	701-281-4556	2773 CATHERINE DRIVE, WEST FARGO, ND 58078
10	DELCAMBRE, RICHARD	850-430-0414	132 MORGAN STREET, PENSACOLA, FL 32501
11	LEON, GARY	208-902-0500	62 MAPLE AVENUE, COEUR D ALENE, ID 83814
12	FULLERTON, THEODORE	662-459-1399	3937 MCWHORTER ROAD, GREENWOOD, MS 38903
13	WALTHER, MADALENE	404-914-7929	413 MUSGRAVE STREET, ATLANTA, GA 30339
14	BRANDON, VIOLA	540-966-1131	2370 BROOKLYN STREET, TROUTVILLE, VA 24175
15	RODRIGUEZ, MELINDA	256-963-7177	4548 NEW CREEK ROAD, HUNTSVILLE, AL 35806

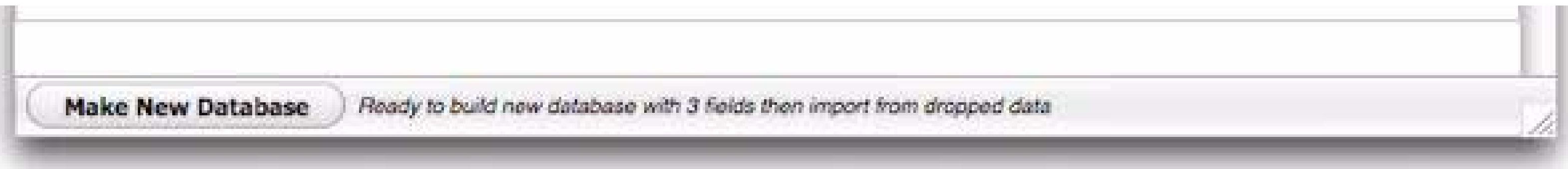
Note: If you're using a Windows PC system dragging to the **New Database Wizard** is not enabled. Instead, you'll need to select all of the data in the spreadsheet, copy it into the clipboard, then go to the **New Database Wizard** and press the **Import From Clipboard** button.

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.



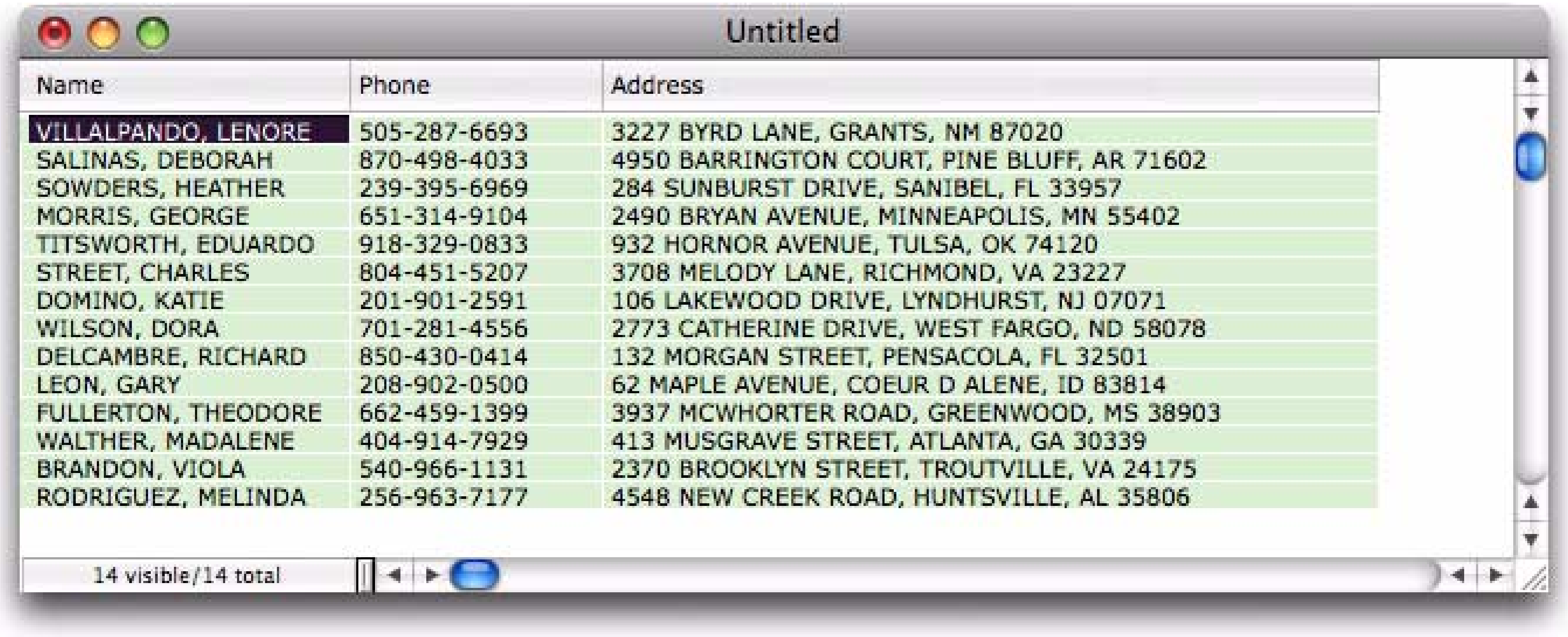
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Name	Text		Off	□	
Phone	Text		Off	□	
Address	Text		Off	□	

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



Ready to build new database with 3 fields then import from dropped data

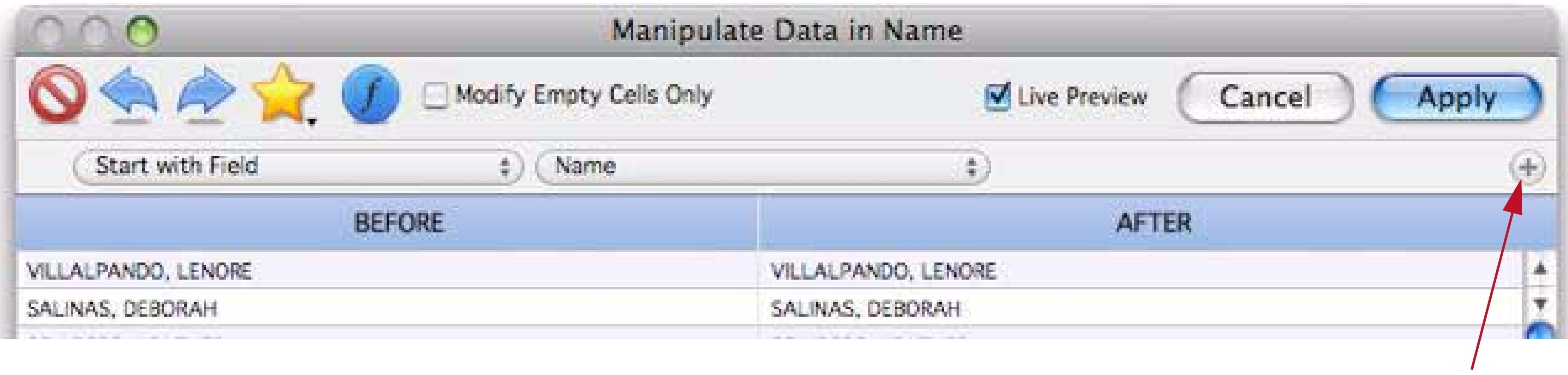
Here's the data.



Name	Phone	Address
VILLALPANDO, LENORE	505-287-6693	3227 BYRD LANE, GRANTS, NM 87020
SALINAS, DEBORAH	870-498-4033	4950 BARRINGTON COURT, PINE BLUFF, AR 71602
SOWDERS, HEATHER	239-395-6969	284 SUNBURST DRIVE, SANIBEL, FL 33957
MORRIS, GEORGE	651-314-9104	2490 BRYAN AVENUE, MINNEAPOLIS, MN 55402
TITSWORTH, EDUARDO	918-329-0833	932 HORNOR AVENUE, TULSA, OK 74120
STREET, CHARLES	804-451-5207	3708 MELODY LANE, RICHMOND, VA 23227
DOMINO, KATIE	201-901-2591	106 LAKEWOOD DRIVE, LYNDHURST, NJ 07071
WILSON, DORA	701-281-4556	2773 CATHERINE DRIVE, WEST FARGO, ND 58078
DELCAMBRE, RICHARD	850-430-0414	132 MORGAN STREET, PENSACOLA, FL 32501
LEON, GARY	208-902-0500	62 MAPLE AVENUE, COEUR D ALENE, ID 83814
FULLERTON, THEODORE	662-459-1399	3937 MCWHORTER ROAD, GREENWOOD, MS 38903
WALTHER, MADALENE	404-914-7929	413 MUSGRAVE STREET, ATLANTA, GA 30339
BRANDON, VIOLA	540-966-1131	2370 BROOKLYN STREET, TROUTVILLE, VA 24175
RODRIGUEZ, MELINDA	256-963-7177	4548 NEW CREEK ROAD, HUNTSVILLE, AL 35806

14 visible/14 total

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.



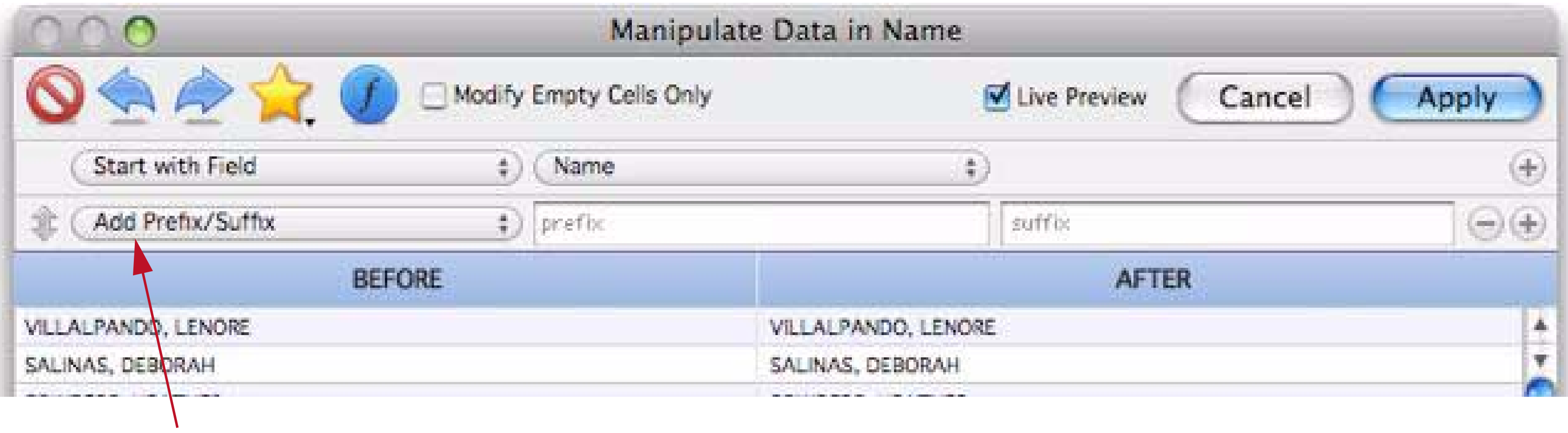
☐ Modify Empty Cells Only ☑ Live Preview

Start with Field: Name

BEFORE	AFTER
VILLALPANDO, LENORE	VILLALPANDO, LENORE
SALINAS, DEBORAH	SALINAS, DEBORAH

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**.



☐ Modify Empty Cells Only ☑ Live Preview

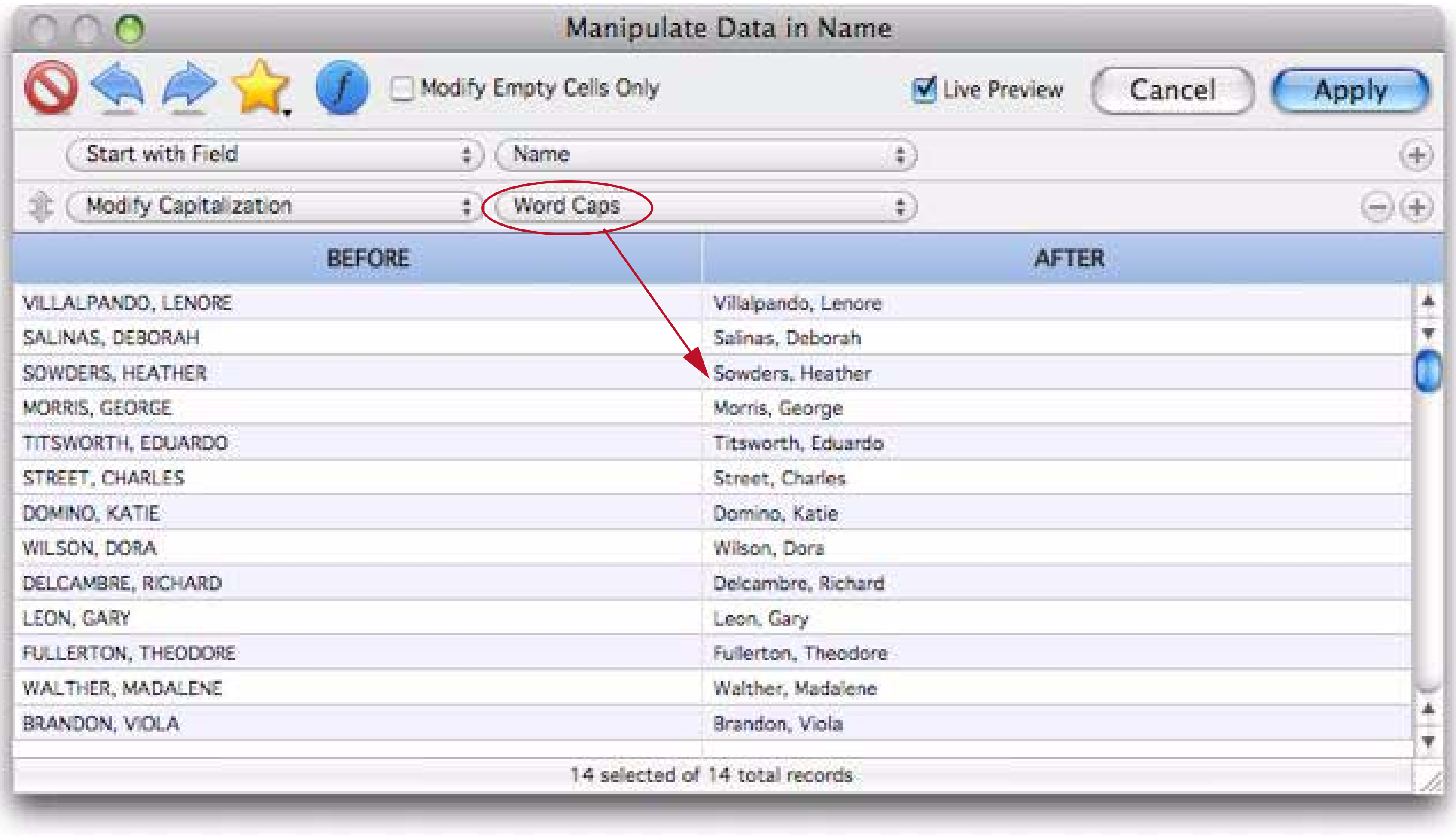
Start with Field: Name

Add Prefix/Suffix

BEFORE	AFTER
VILLALPANDO, LENORE	VILLALPANDO, LENORE
SALINAS, DEBORAH	SALINAS, DEBORAH

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.



☐ Modify Empty Cells Only

☑ Live Preview

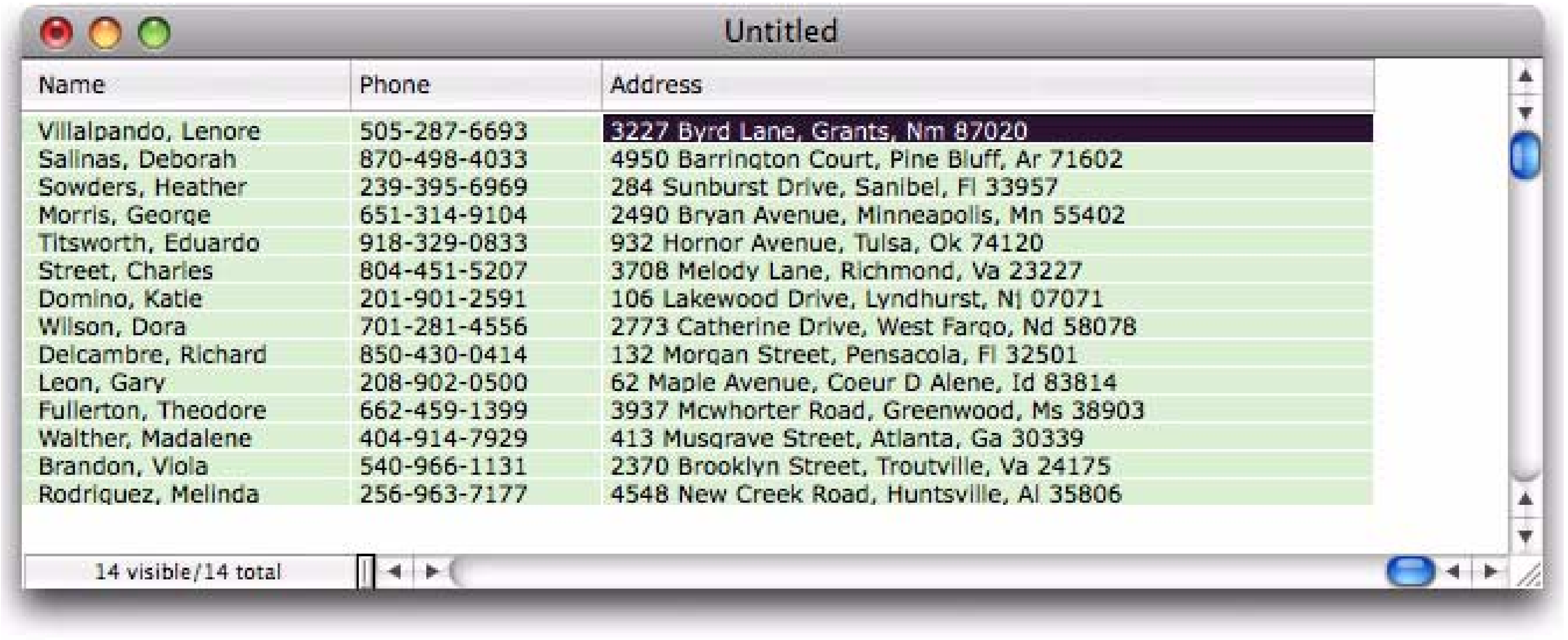
Start with Field: Name

Modify Capitalization: Word Caps

BEFORE	AFTER
VILLALPANDO, LENORE	Villalpando, Lenore
SALINAS, DEBORAH	Salinas, Deborah
SOWDERS, HEATHER	Sowders, Heather
MORRIS, GEORGE	Morris, George
TITSWORTH, EDUARDO	Titsworth, Eduardo
STREET, CHARLES	Street, Charles
DOMINO, KATIE	Domino, Katie
WILSON, DORA	Wilson, Dora
DELCAMBRE, RICHARD	Delcambre, Richard
LEON, GARY	Leon, Gary
FULLERTON, THEODORE	Fullerton, Theodore
WALTHER, MADALENE	Walther, Madalene
BRANDON, VIOLA	Brandon, Viola

14 selected of 14 total records

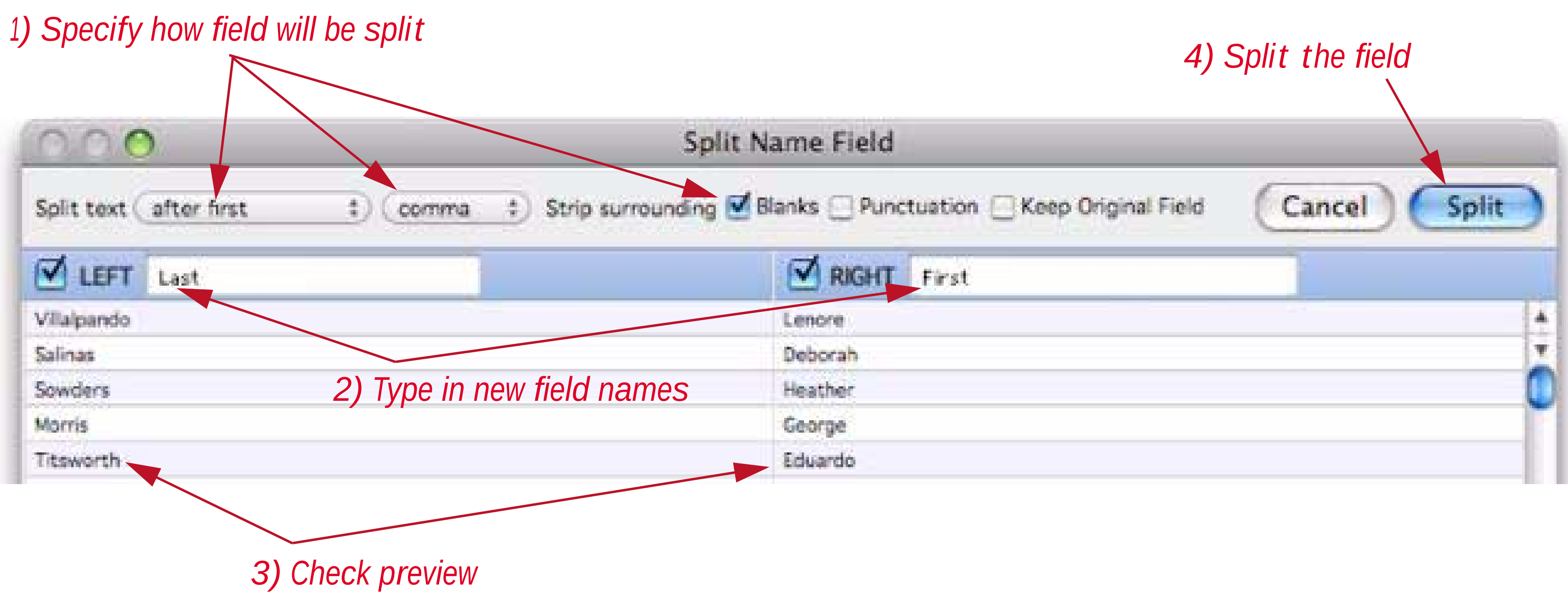
I press the **Apply** button to actually change the database, then I repeat the same steps for the Address field.



Name	Phone	Address
Villalpando, Lenore	505-287-6693	3227 Byrd Lane, Grants, Nm 87020
Salinas, Deborah	870-498-4033	4950 Barrington Court, Pine Bluff, Ar 71602
Sowders, Heather	239-395-6969	284 Sunburst Drive, Sanibel, Fl 33957
Morris, George	651-314-9104	2490 Bryan Avenue, Minneapolis, Mn 55402
Titsworth, Eduardo	918-329-0833	932 Hornor Avenue, Tulsa, Ok 74120
Street, Charles	804-451-5207	3708 Melody Lane, Richmond, Va 23227
Domino, Katie	201-901-2591	106 Lakewood Drive, Lyndhurst, Nj 07071
Wilson, Dora	701-281-4556	2773 Catherine Drive, West Fargo, Nd 58078
Delcambre, Richard	850-430-0414	132 Morgan Street, Pensacola, Fl 32501
Leon, Gary	208-902-0500	62 Maple Avenue, Coeur D Alene, Id 83814
Fullerton, Theodore	662-459-1399	3937 Mcwhorter Road, Greenwood, Ms 38903
Walther, Madalene	404-914-7929	413 Musgrave Street, Atlanta, Ga 30339
Brandon, Viola	540-966-1131	2370 Brooklyn Street, Troutville, Va 24175
Rodriguez, Melinda	256-963-7177	4548 New Creek Road, Huntsville, Al 35806

14 visible/14 total

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

Split Name Field

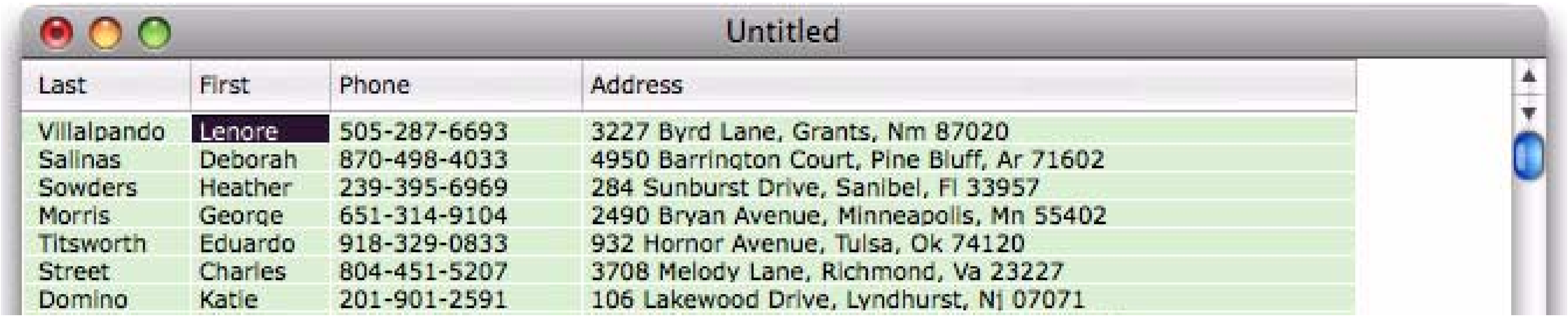
Split text after first comma Strip surrounding ☑ Blanks □ Punctuation □ Keep Original Field

☑ LEFT Last	☑ RIGHT First
Villalpando	Lenore
Salinas	Deborah
Sowders	Heather
Morris	George
Titsworth	Eduardo

2) Type in new field names

3) Check preview

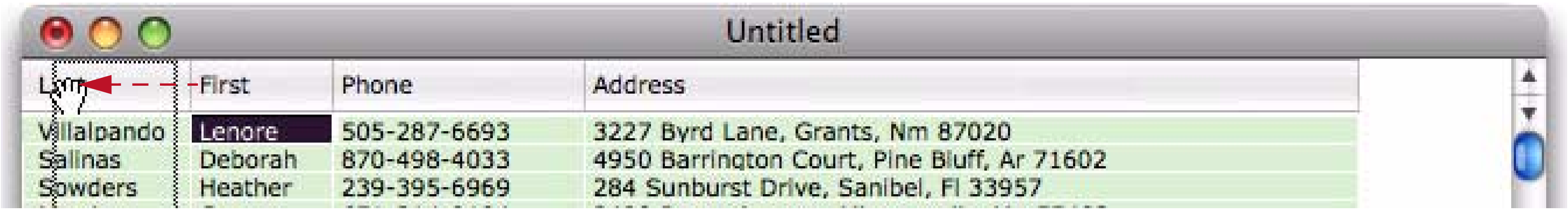
Actually splitting the field just takes a fraction of a second.



Untitled

Last	First	Phone	Address
Villalpando	Lenore	505-287-6693	3227 Byrd Lane, Grants, Nm 87020
Salinas	Deborah	870-498-4033	4950 Barrington Court, Pine Bluff, Ar 71602
Sowders	Heather	239-395-6969	284 Sunburst Drive, Sanibel, Fl 33957
Morris	George	651-314-9104	2490 Bryan Avenue, Minneapolis, Mn 55402
Titsworth	Eduardo	918-329-0833	932 Hornor Avenue, Tulsa, Ok 74120
Street	Charles	804-451-5207	3708 Melody Lane, Richmond, Va 23227
Domino	Katie	201-901-2591	106 Lakewood Drive, Lyndhurst, Nj 07071

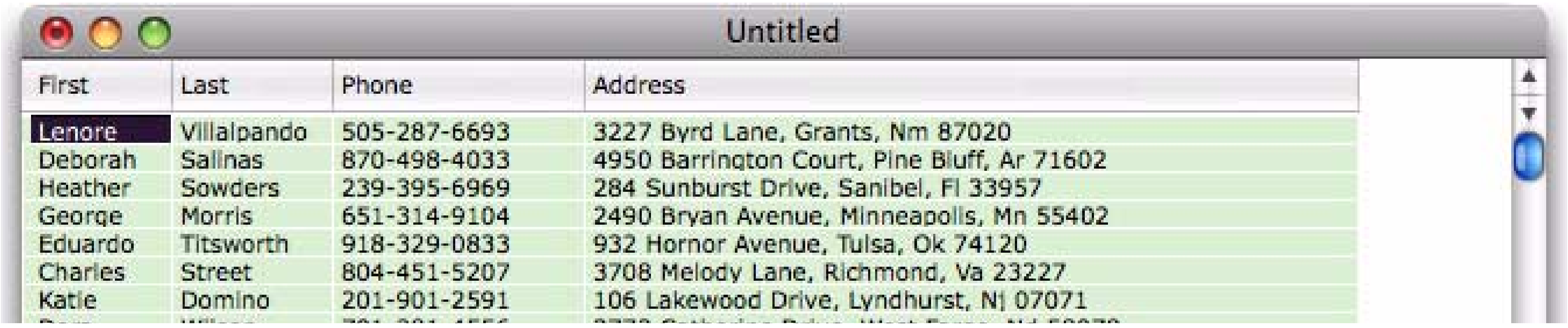
The first and last names are reversed so I click on the column header…



Untitled

Last	First	Phone	Address
Villalpando	Lenore	505-287-6693	3227 Byrd Lane, Grants, Nm 87020
Salinas	Deborah	870-498-4033	4950 Barrington Court, Pine Bluff, Ar 71602
Sowders	Heather	239-395-6969	284 Sunburst Drive, Sanibel, Fl 33957

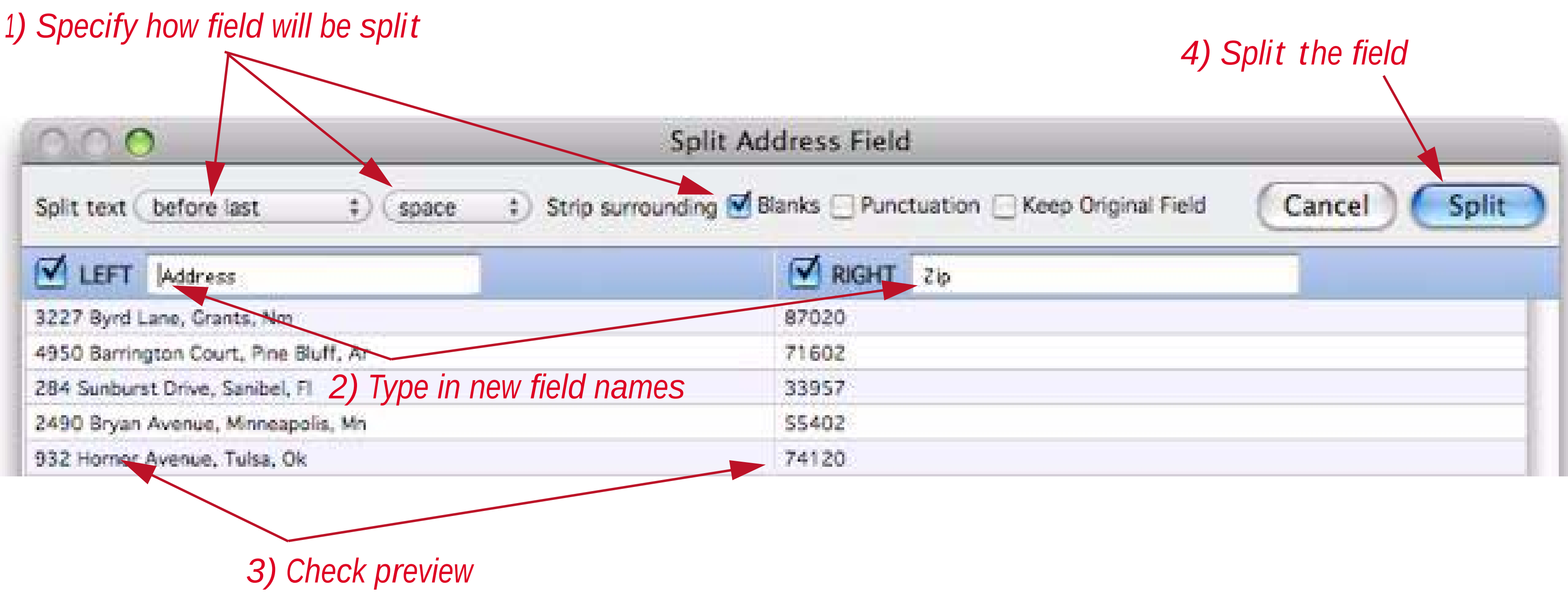
and drag it into position,



Untitled

First	Last	Phone	Address
Lenore	Villalpando	505-287-6693	3227 Byrd Lane, Grants, Nm 87020
Deborah	Salinas	870-498-4033	4950 Barrington Court, Pine Bluff, Ar 71602
Heather	Sowders	239-395-6969	284 Sunburst Drive, Sanibel, Fl 33957
George	Morris	651-314-9104	2490 Bryan Avenue, Minneapolis, Mn 55402
Eduardo	Titsworth	918-329-0833	932 Hornor Avenue, Tulsa, Ok 74120
Charles	Street	804-451-5207	3708 Melody Lane, Richmond, Va 23227
Katie	Domino	201-901-2591	106 Lakewood Drive, Lyndhurst, Nj 07071

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

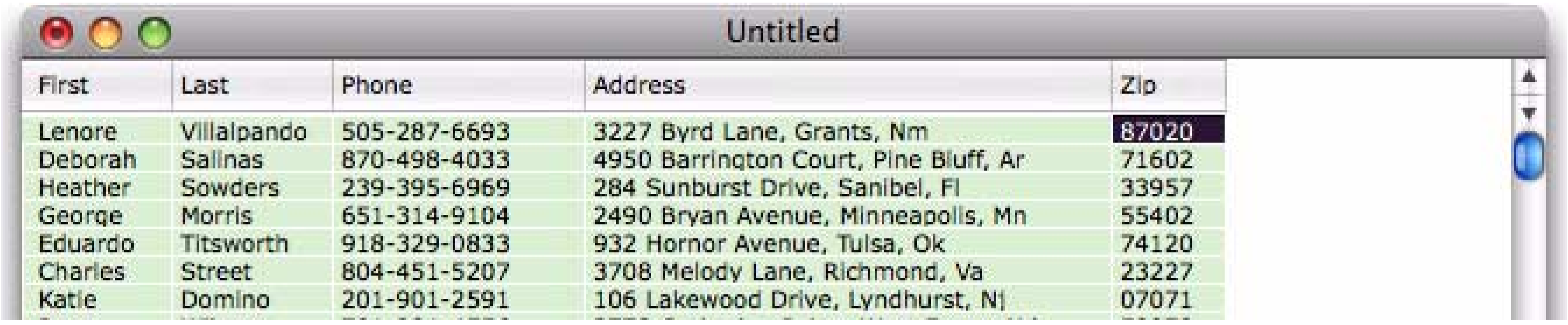
Split text: before last ; space ; Strip surrounding ☑ Blanks ☐ Punctuation ☐ Keep Original Field

☑ LEFT Address	☑ RIGHT Zip
3227 Byrd Lane, Grants, Nm	87020
4950 Barrington Court, Pine Bluff, Ar	71602
284 Sunburst Drive, Sanibel, Fl	33957
2490 Bryan Avenue, Minneapolis, Mn	55402
932 Hornor Avenue, Tulsa, Ok	74120

2) Type in new field names

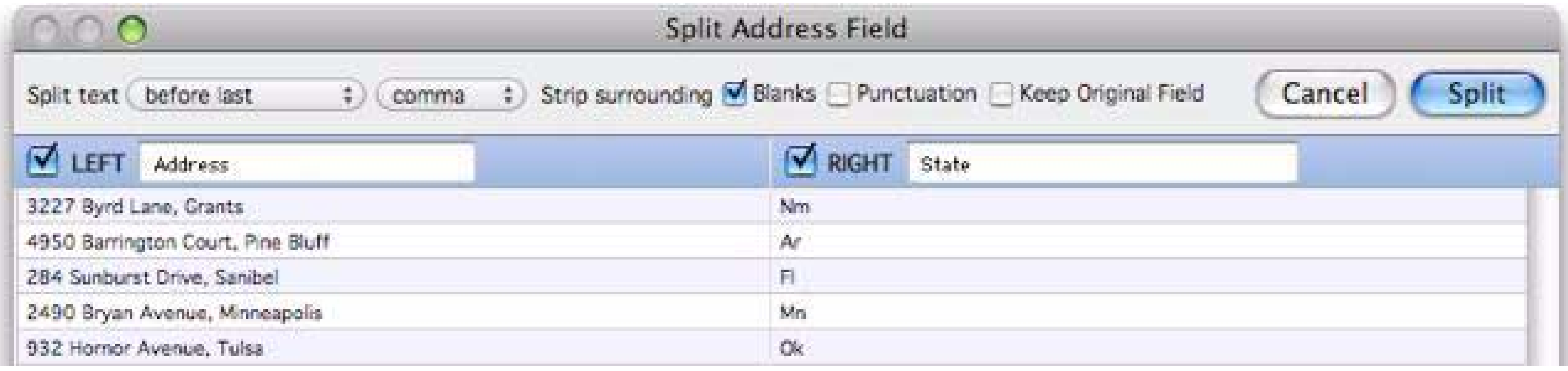
3) Check preview

Once again, actually splitting the field only takes a fraction of a second.



First	Last	Phone	Address	Zip
Lenore	Villalpando	505-287-6693	3227 Byrd Lane, Grants, Nm	87020
Deborah	Salinas	870-498-4033	4950 Barrington Court, Pine Bluff, Ar	71602
Heather	Sowders	239-395-6969	284 Sunburst Drive, Sanibel, Fl	33957
George	Morris	651-314-9104	2490 Bryan Avenue, Minneapolis, Mn	55402
Eduardo	Titsworth	918-329-0833	932 Hornor Avenue, Tulsa, Ok	74120
Charles	Street	804-451-5207	3708 Melody Lane, Richmond, Va	23227
Katie	Domino	201-901-2591	106 Lakewood Drive, Lyndhurst, Nj	07071

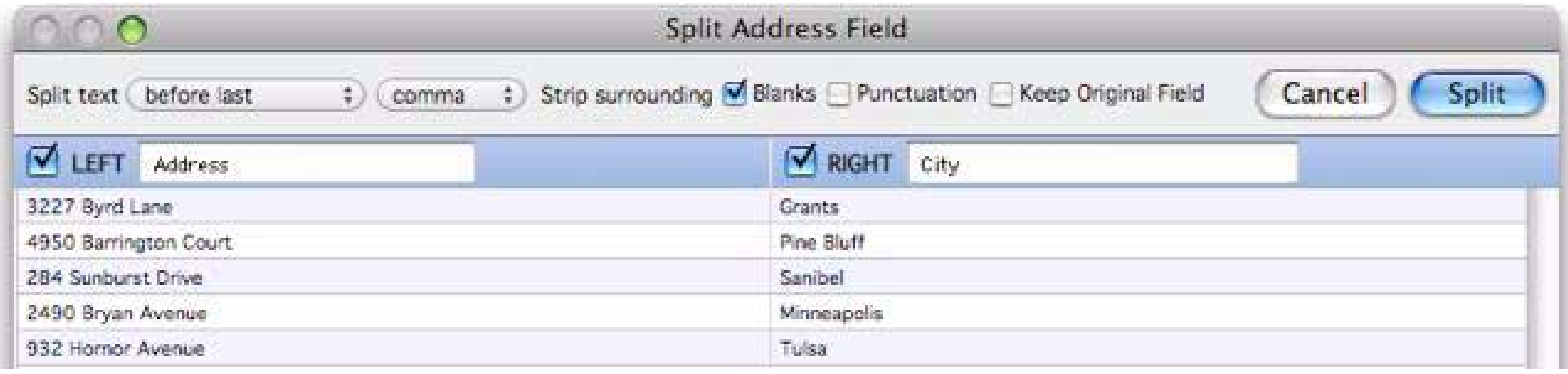
Splitting off the state is pretty much the same as splitting off the zip except that the split is at the last comma instead of the last space. (The states need to be all caps, but I'll fix that in a moment.)



Split text: before last ; comma ; Strip surrounding ☑ Blanks ☐ Punctuation ☐ Keep Original Field

☑ LEFT Address	☑ RIGHT State
3227 Byrd Lane, Grants	Nm
4950 Barrington Court, Pine Bluff	Ar
284 Sunburst Drive, Sanibel	Fl
2490 Bryan Avenue, Minneapolis	Mn
932 Hornor Avenue, Tulsa	Ok

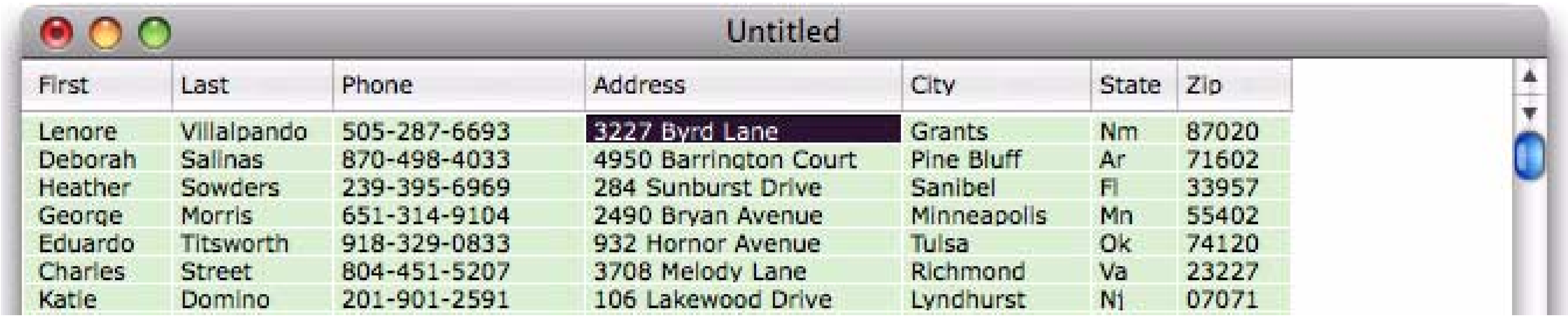
Finally I split off the city, also at the last comma.



Split text before last comma Strip surrounding ☑ Blanks □ Punctuation □ Keep Original Field

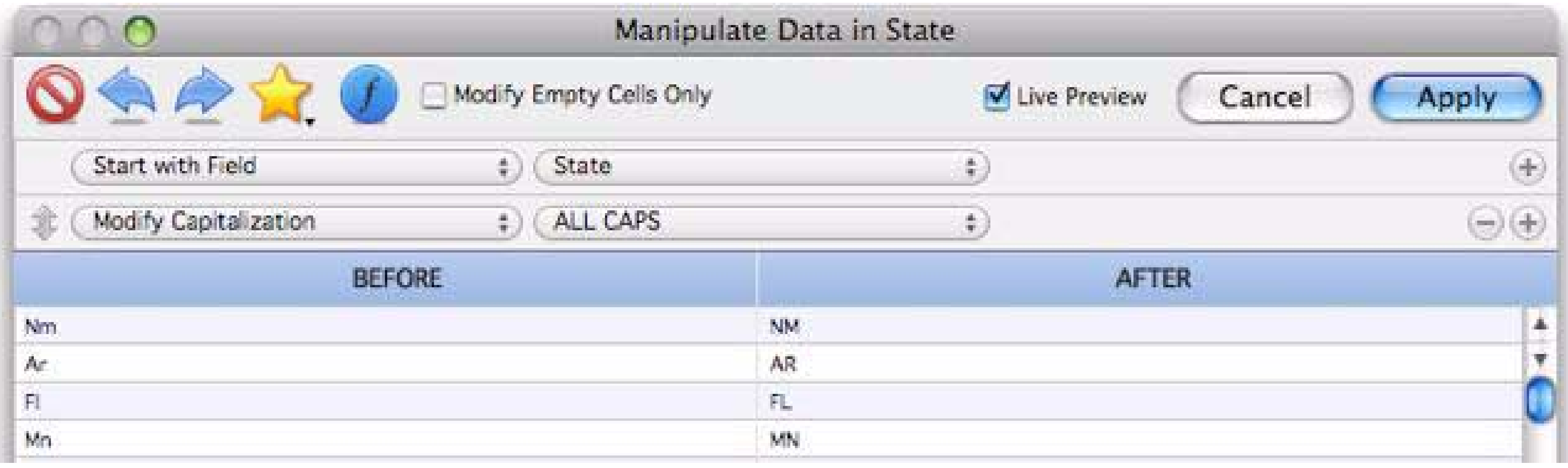
☑ LEFT Address	☑ RIGHT City
3227 Byrd Lane	Grants
4950 Barrington Court	Pine Bluff
284 Sunburst Drive	Sanibel
2490 Bryan Avenue	Minneapolis
932 Hornor Avenue	Tulsa

Here's the finished result, with all the fields split. (To learn more about splitting fields, see "Splitting a Field" on page 222. You can also merge fields, see "Merging Adjacent Fields" on page 228.)



First	Last	Phone	Address	City	State	Zip
Lenore	Villalpando	505-287-6693	3227 Byrd Lane	Grants	Nm	87020
Deborah	Salinas	870-498-4033	4950 Barrington Court	Pine Bluff	Ar	71602
Heather	Sowders	239-395-6969	284 Sunburst Drive	Sanibel	Fl	33957
George	Morris	651-314-9104	2490 Bryan Avenue	Minneapolis	Mn	55402
Eduardo	Titsworth	918-329-0833	932 Hornor Avenue	Tulsa	Ok	74120
Charles	Street	804-451-5207	3708 Melody Lane	Richmond	Va	23227
Katie	Domino	201-901-2591	106 Lakewood Drive	Lyndhurst	Nj	07071

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:



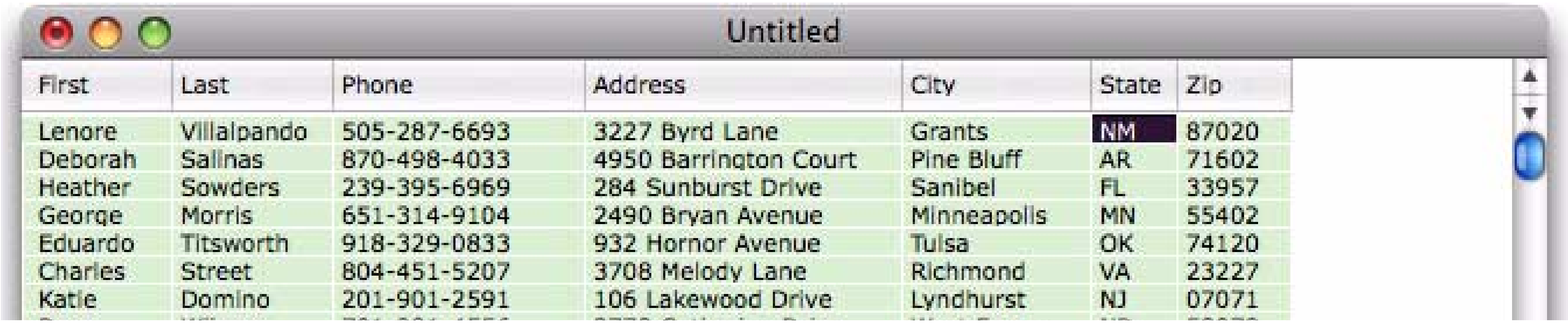
□ Modify Empty Cells Only ☑ Live Preview

Start with Field State

Modify Capitalization ALL CAPS

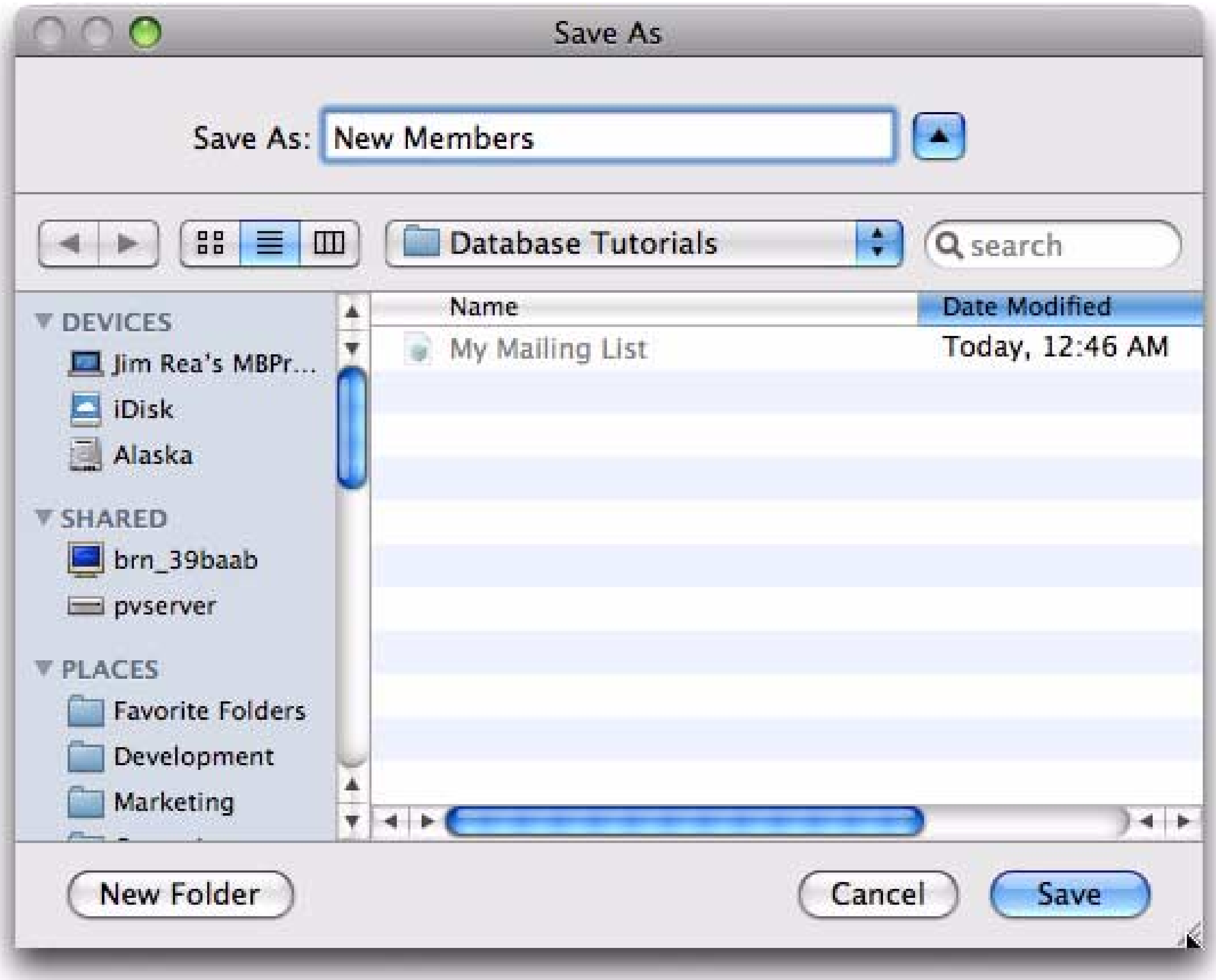
BEFORE	AFTER
Nm	NM
Ar	AR
Fl	FL
Mn	MN

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



First	Last	Phone	Address	City	State	Zip
Lenore	Villalpando	505-287-6693	3227 Byrd Lane	Grants	NM	87020
Deborah	Salinas	870-498-4033	4950 Barrington Court	Pine Bluff	AR	71602
Heather	Sowders	239-395-6969	284 Sunburst Drive	Sanibel	FL	33957
George	Morris	651-314-9104	2490 Bryan Avenue	Minneapolis	MN	55402
Eduardo	Titsworth	918-329-0833	932 Hornor Avenue	Tulsa	OK	74120
Charles	Street	804-451-5207	3708 Melody Lane	Richmond	VA	23227
Katie	Domino	201-901-2591	106 Lakewood Drive	Lyndhurst	NJ	07071

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'll call it New Members.

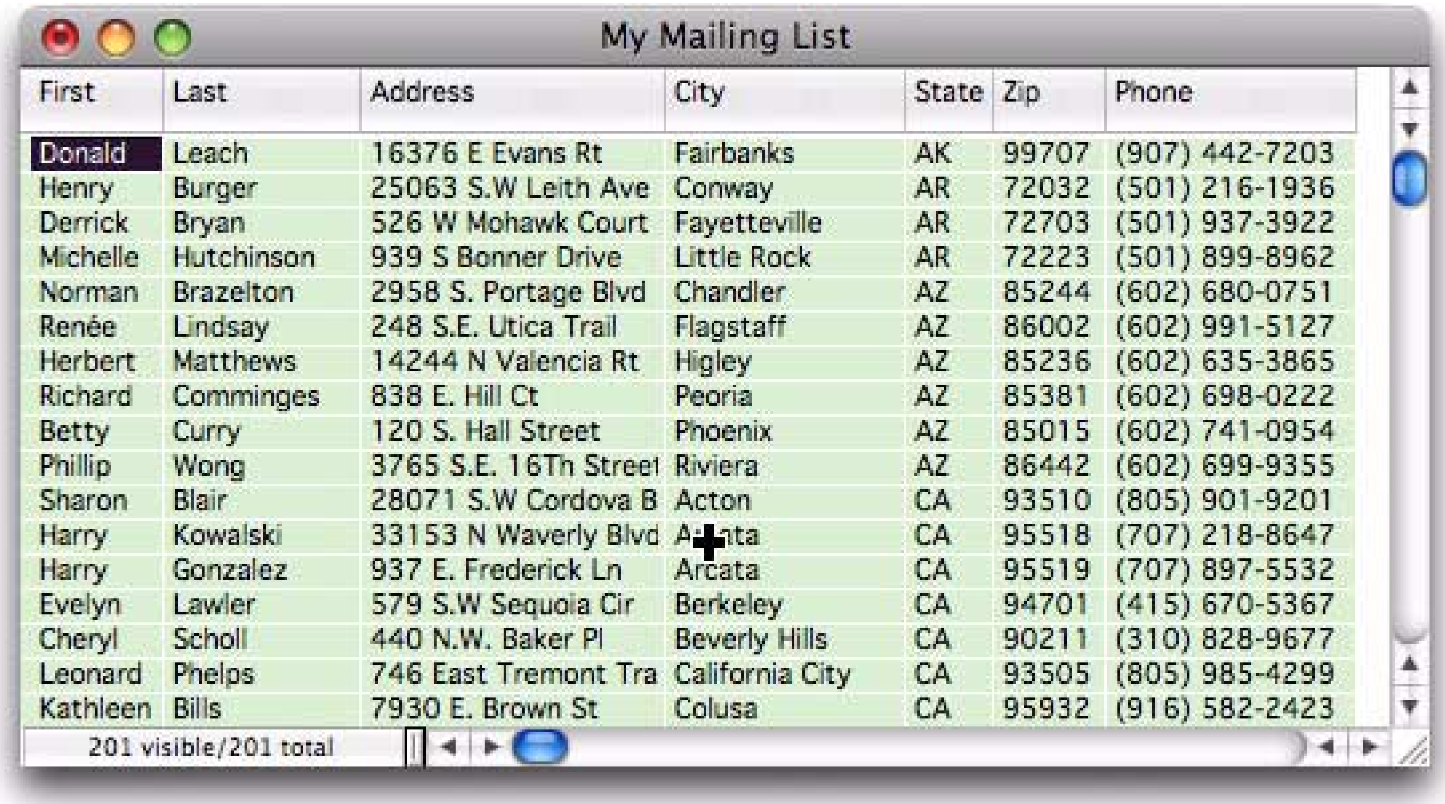


Save As: New Members

Database Tutorials

Name	Date Modified
My Mailing List	Today, 12:46 AM

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

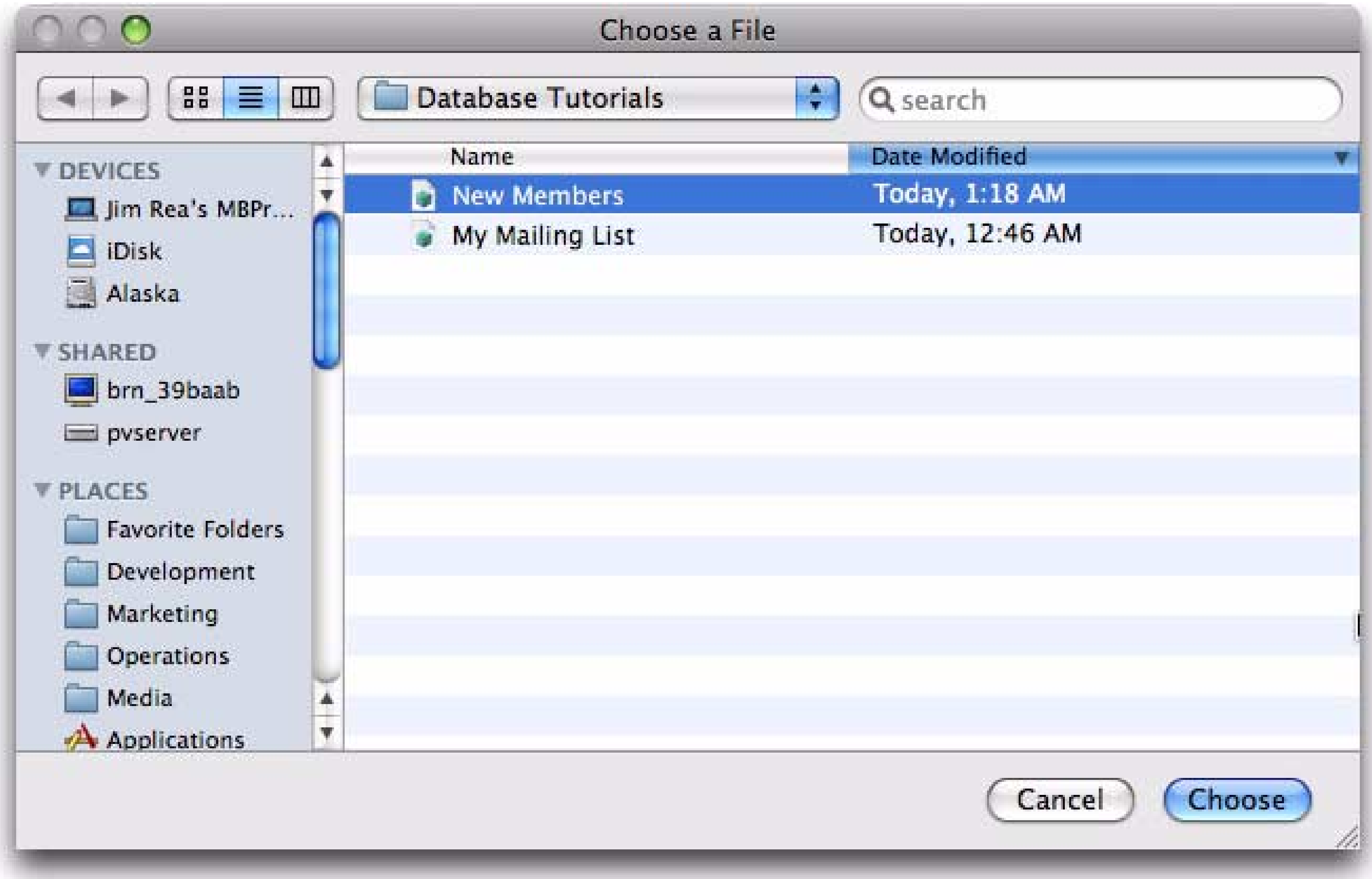


My Mailing List

First	Last	Address	City	State	Zip	Phone
Donald	Leach	16376 E Evans Rt	Fairbanks	AK	99707	(907) 442-7203
Henry	Burger	25063 S.W Leith Ave	Conway	AR	72032	(501) 216-1936
Derrick	Bryan	526 W Mohawk Court	Fayetteville	AR	72703	(501) 937-3922
Michelle	Hutchinson	939 S Bonner Drive	Little Rock	AR	72223	(501) 899-8962
Norman	Brazelton	2958 S. Portage Blvd	Chandler	AZ	85244	(602) 680-0751
Renée	Lindsay	248 S.E. Utica Trail	Flagstaff	AZ	86002	(602) 991-5127
Herbert	Matthews	14244 N Valencia Rt	Higley	AZ	85236	(602) 635-3865
Richard	Comminges	838 E. Hill Ct	Peoria	AZ	85381	(602) 698-0222
Betty	Curry	120 S. Hall Street	Phoenix	AZ	85015	(602) 741-0954
Phillip	Wong	3765 S.E. 16Th Street	Riviera	AZ	86442	(602) 699-9355
Sharon	Blair	28071 S.W Cordova B	Acton	CA	93510	(805) 901-9201
Harry	Kowalski	33153 N Waverly Blvd	A[illegible]ta	CA	95518	(707) 218-8647
Harry	Gonzalez	937 E. Frederick Ln	Arcata	CA	95519	(707) 897-5532
Evelyn	Lawler	579 S.W Sequoia Cir	Berkeley	CA	94701	(415) 670-5367
Cheryl	Scholl	440 N.W. Baker Pl	Beverly Hills	CA	90211	(310) 828-9677
Leonard	Phelps	746 East Tremont Tra	California City	CA	93505	(805) 985-4299
Kathleen	Bills	7930 E. Brown St	Colusa	CA	95932	(916) 582-2423

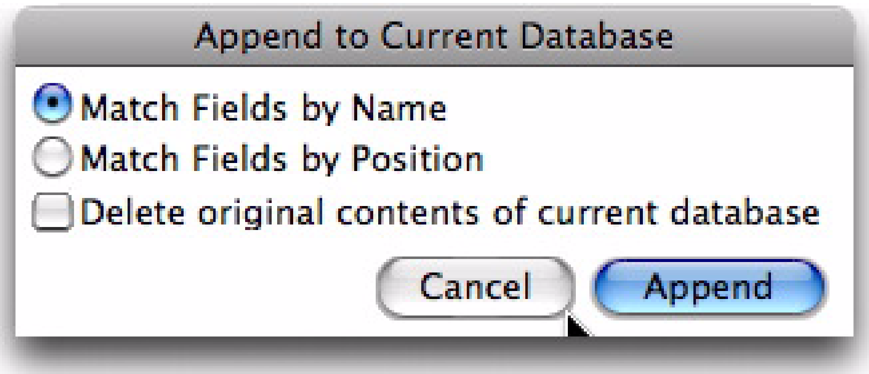
201 visible/201 total

With the **My Mailing List** database active, I choose **Append Database** from the **File** menu, then choose the New Members file.



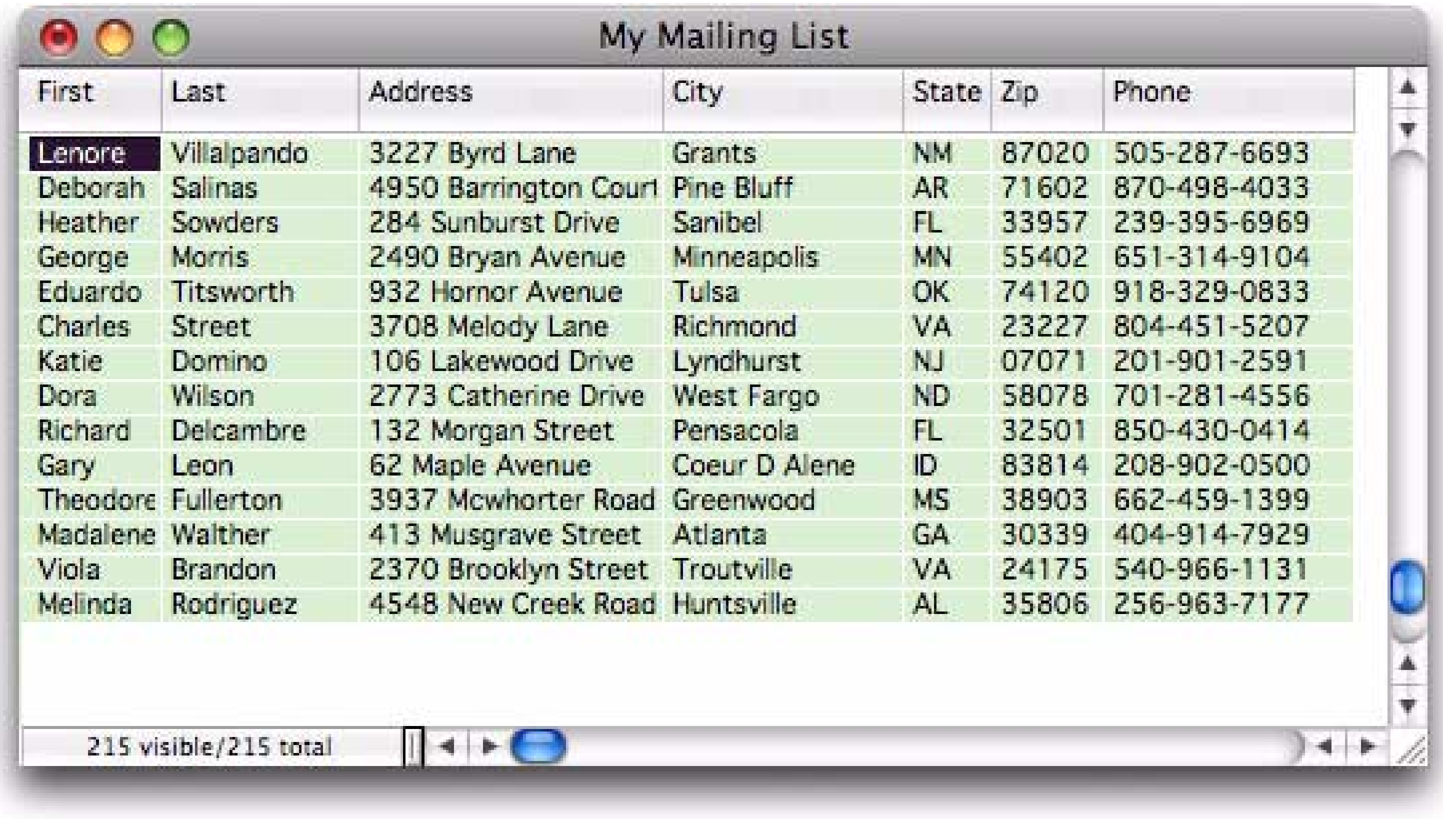
Name	Date Modified
New Members	Today, 1:18 AM
My Mailing List	Today, 12:46 AM

I am now asked how I want to match the fields in the two databases. The default (Match Fields by Name) is fine so I simply press the **Append** button.



● Match Fields by Name
○ Match Fields by Position
□ Delete original contents of current database

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



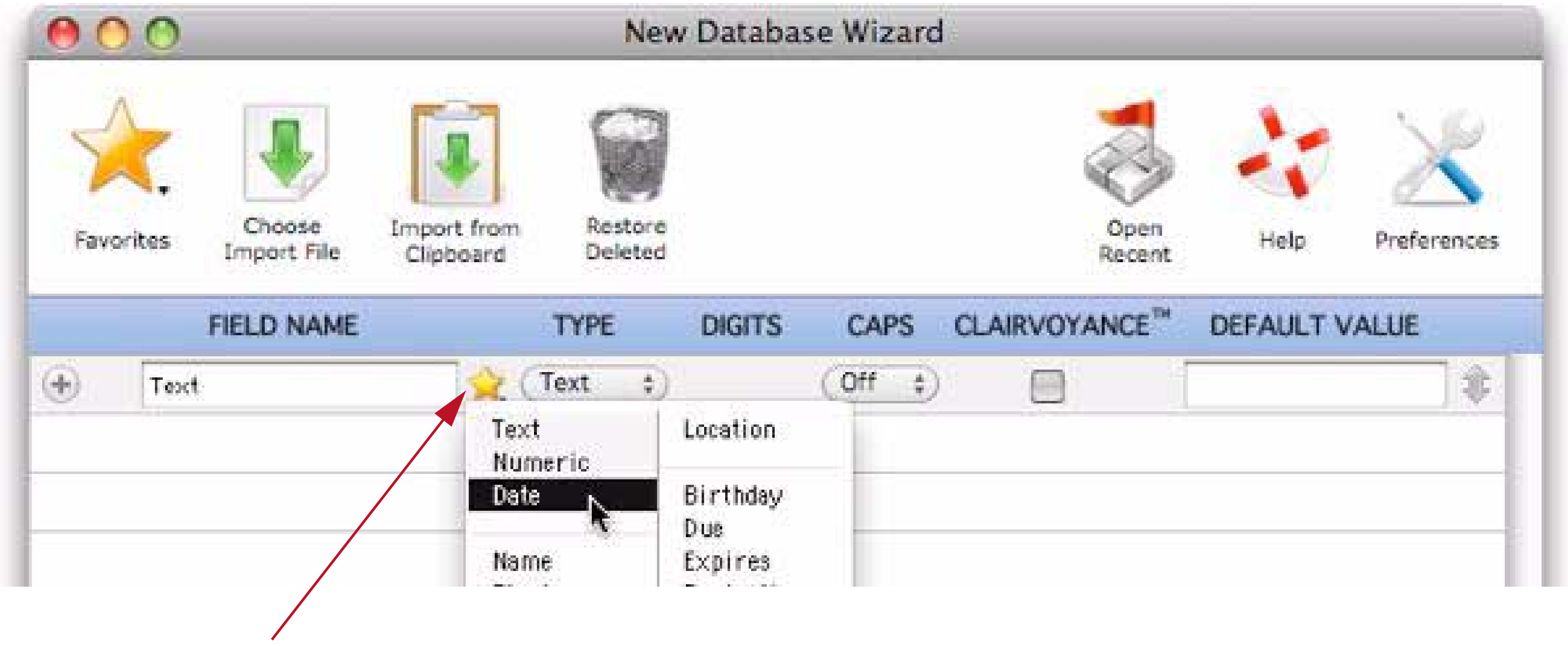
First	Last	Address	City	State	Zip	Phone
Lenore	Villalpando	3227 Byrd Lane	Grants	NM	87020	505-287-6693
Deborah	Salinas	4950 Barrington Court	Pine Bluff	AR	71602	870-498-4033
Heather	Sowders	284 Sunburst Drive	Sanibel	FL	33957	239-395-6969
George	Morris	2490 Bryan Avenue	Minneapolis	MN	55402	651-314-9104
Eduardo	Titsworth	932 Hornor Avenue	Tulsa	OK	74120	918-329-0833
Charles	Street	3708 Melody Lane	Richmond	VA	23227	804-451-5207
Katie	Domino	106 Lakewood Drive	Lyndhurst	NJ	07071	201-901-2591
Dora	Wilson	2773 Catherine Drive	West Fargo	ND	58078	701-281-4556
Richard	Delcambre	132 Morgan Street	Pensacola	FL	32501	850-430-0414
Gary	Leon	62 Maple Avenue	Coeur D Alene	ID	83814	208-902-0500
Theodore	Fullerton	3937 Mcwhorter Road	Greenwood	MS	38903	662-459-1399
Madalene	Walther	413 Musgrave Street	Atlanta	GA	30339	404-914-7929
Viola	Brandon	2370 Brooklyn Street	Troutville	VA	24175	540-966-1131
Melinda	Rodriguez	4548 New Creek Road	Huntsville	AL	35806	256-963-7177

215 visible/215 total

Lesson 2: Building and Organizing a Checkbook

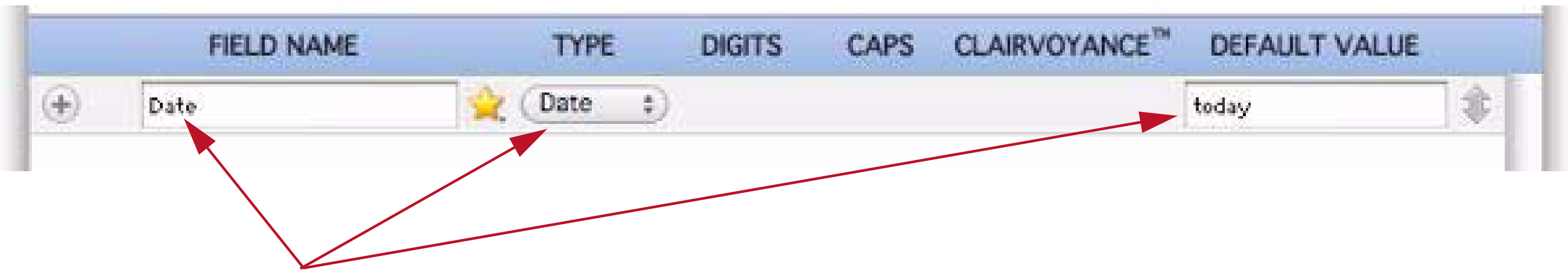
Now that you've created your first simple mailing list database, you're ready to try something more complicated. In this lesson you'll build and use a database for keeping track of a checkbook. Start by launching Panorama and the **New Database Wizard**.

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

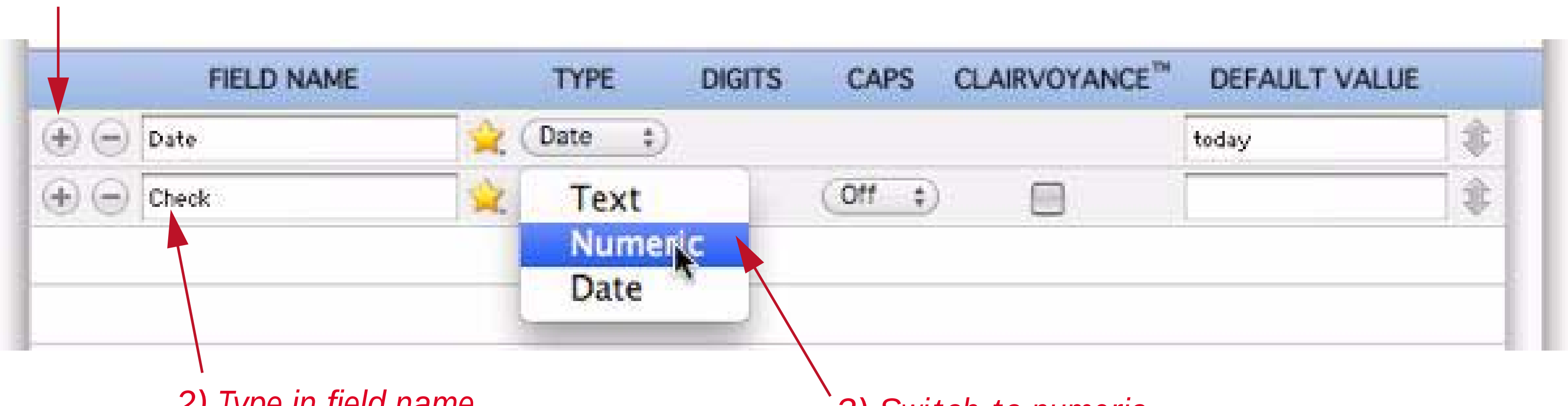
Choosing from this menu automatically sets up all of the attributes for the field (of course you can also set up these attributes separately.



name, type and other attributes fill in automatically

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

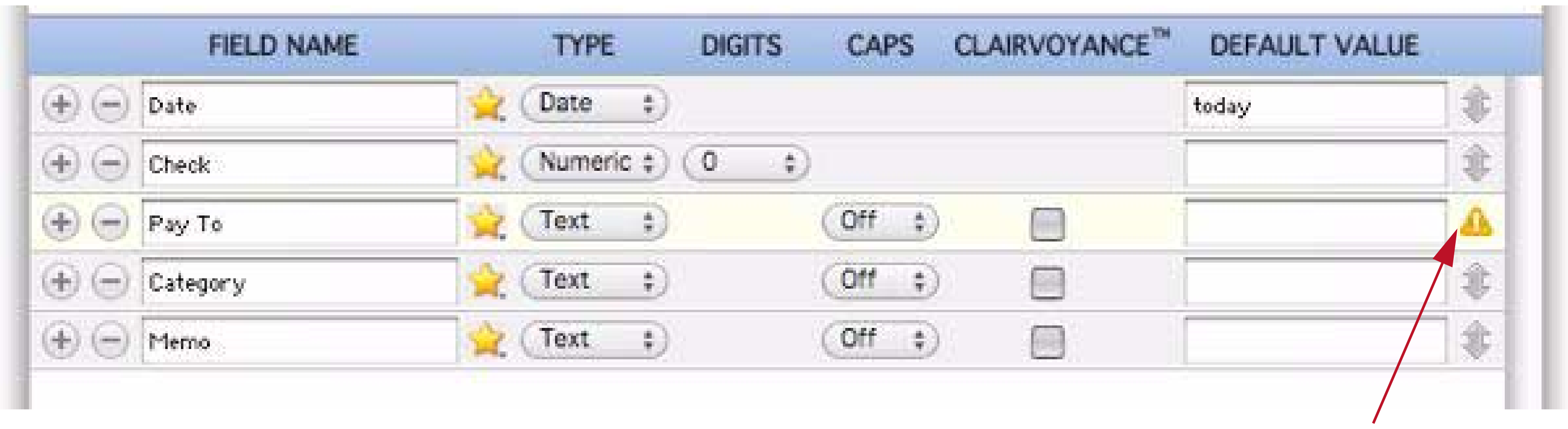
1) Press + to add another field



2) Type in field name

3) Switch to numeric

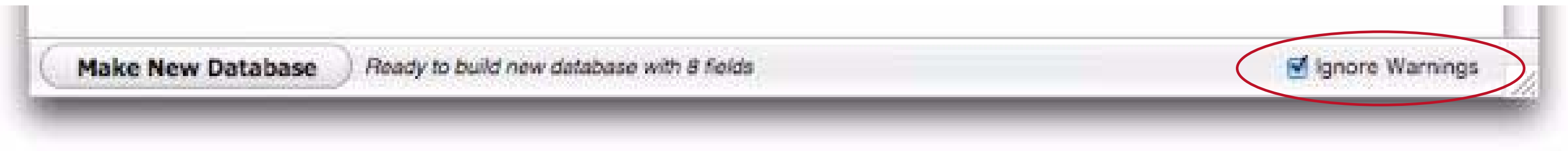
The next three fields are text fields, so I just press the + button to add the field and type in the field names. (Panorama displays a warning because the Pay To field name contains a space. Field names with spaces or punctuation require special handling when used in a formula. Since I'm not planning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



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Date	Date				today
Check	Numeric	0			
Pay To	Text		Off	□	
Category	Text		Off	□	
Memo	Text		Off	□	

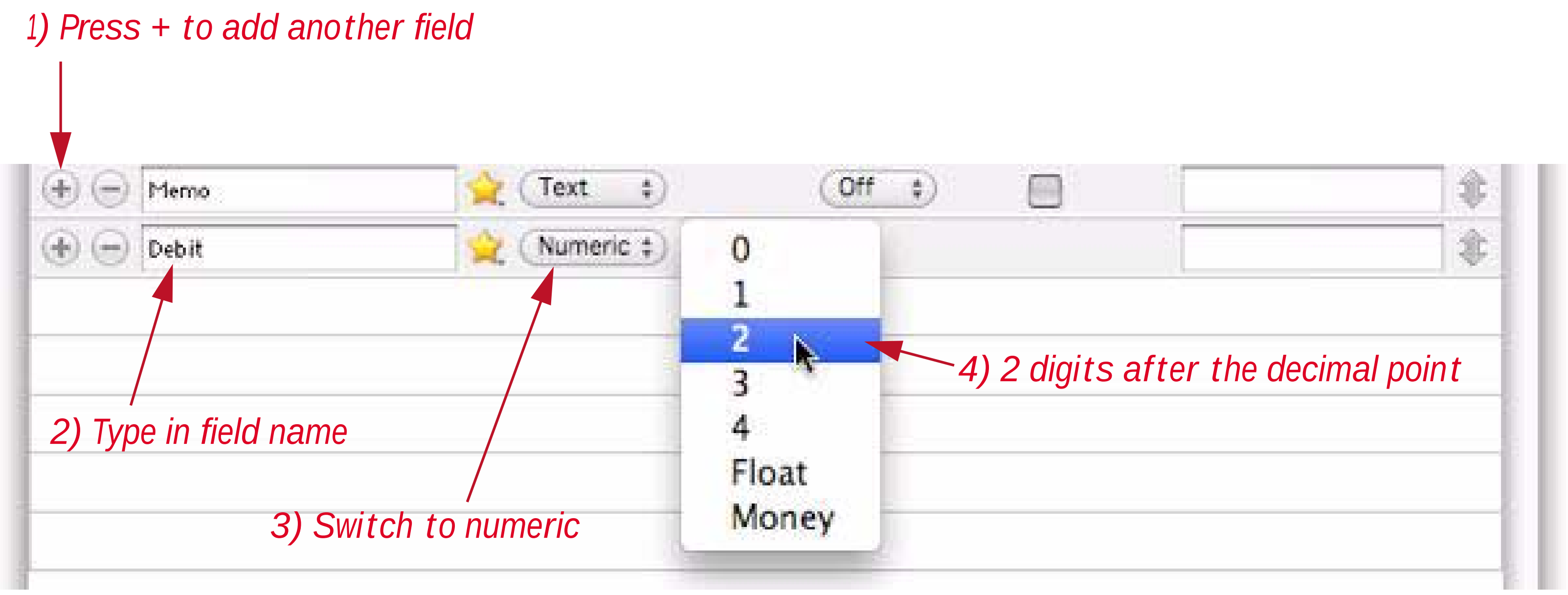
Warning appears because of blank in Pay To field name

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



Make New Database *Ready to build new database with 8 fields* ☑ Ignore Warnings

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 195).



1) Press + to add another field

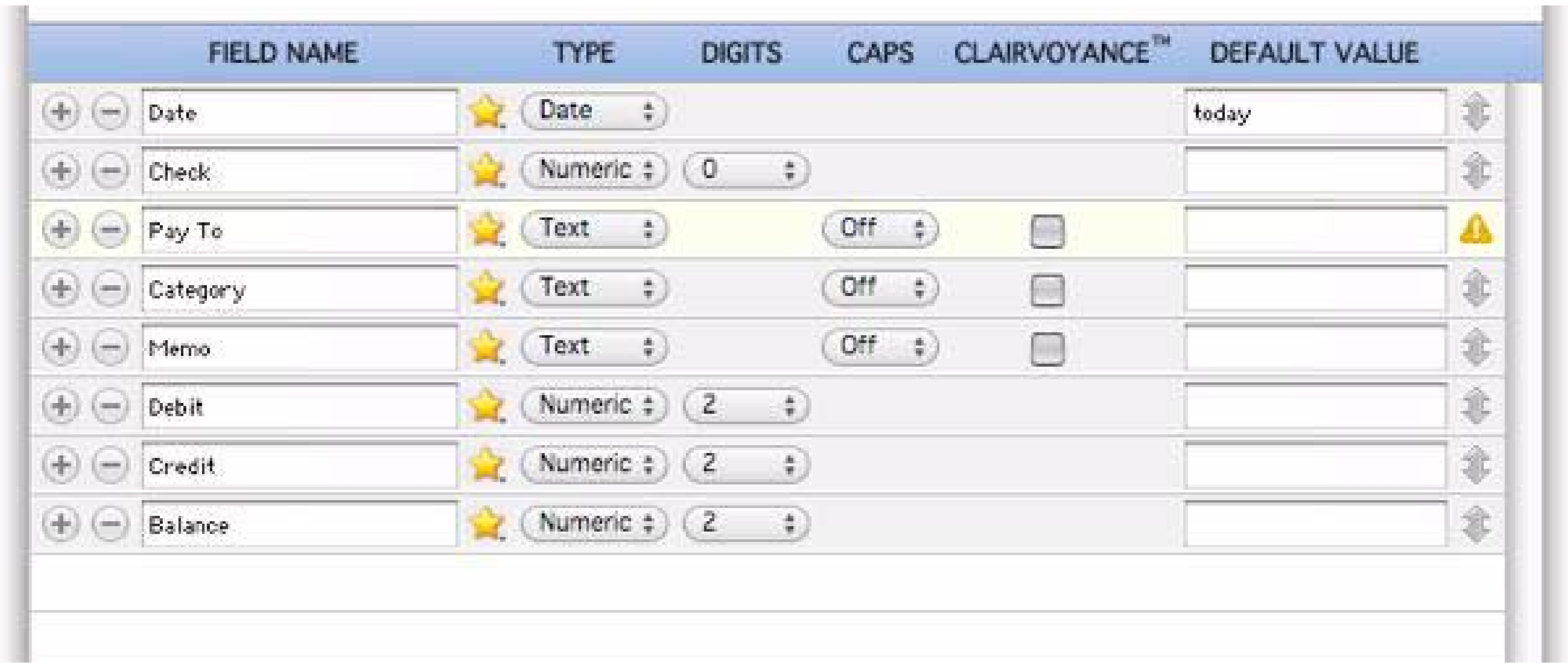
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Memo	Text		Off	□	
Debit	Numeric	2			

2) Type in field name

3) Switch to numeric

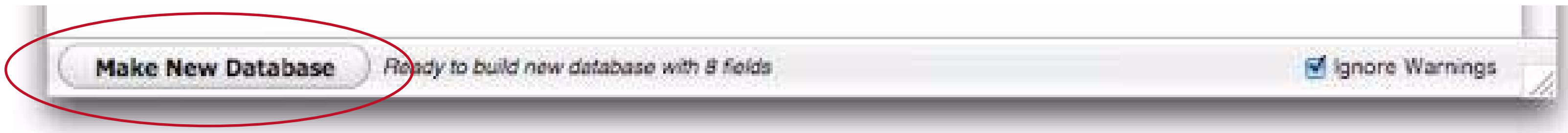
4) 2 digits after the decimal point

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



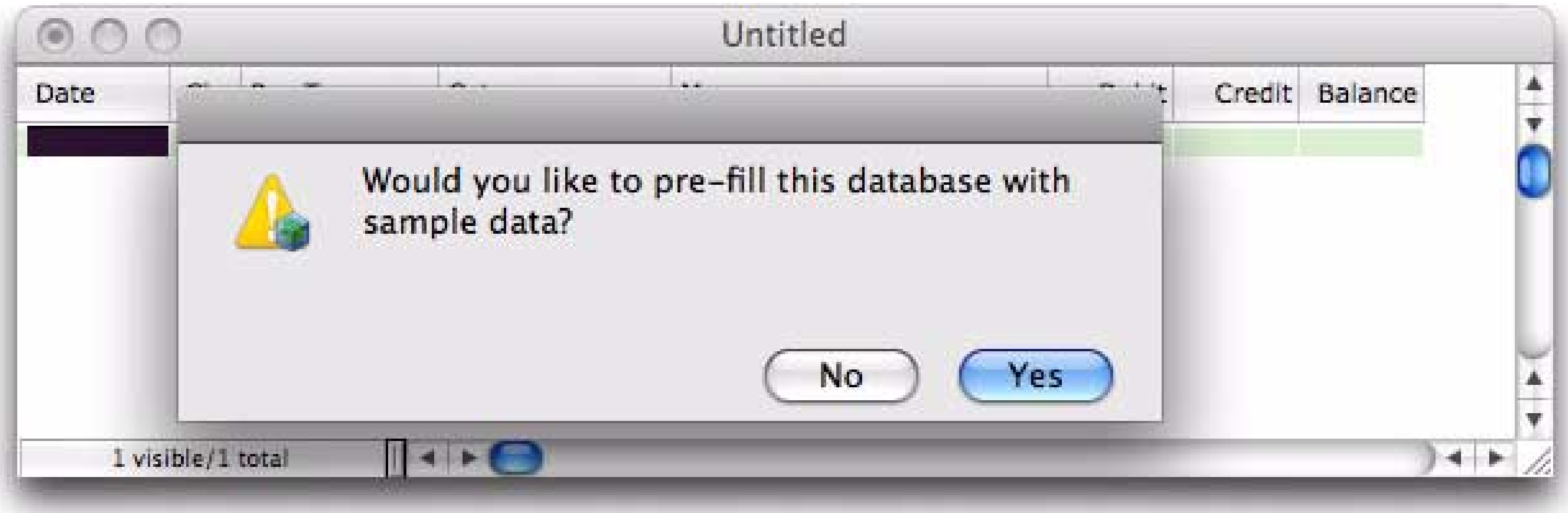
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Date	Date				today
Check	Numeric	0			
Pay To	Text		Off	□	
Category	Text		Off	□	
Memo	Text		Off	□	
Debit	Numeric	2			
Credit	Numeric	2			
Balance	Numeric	2			

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



Make New Database *Ready to build new database with 8 fields* ☑ Ignore Warnings

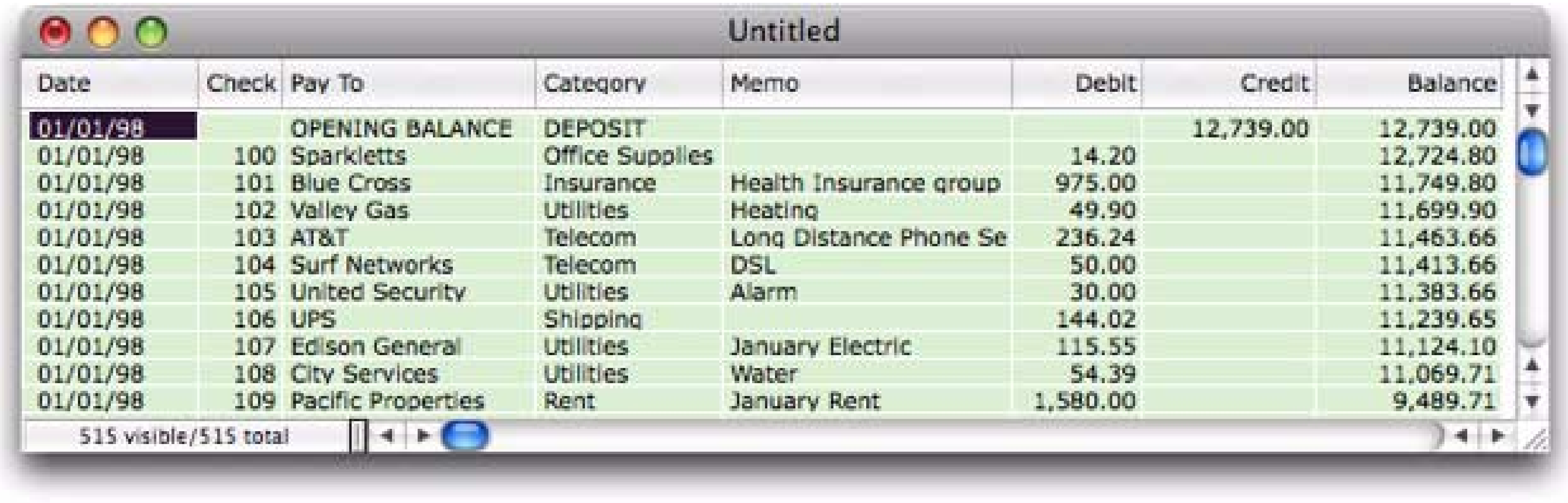
Panorama creates a new, empty database with the specified fields. It then asks if you would like to fill the database with sample data (it doesn't usually do this, but has been specially programmed with sample data for some of the tutorial databases).



Would you like to pre-fill this database with sample data?

No Yes

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

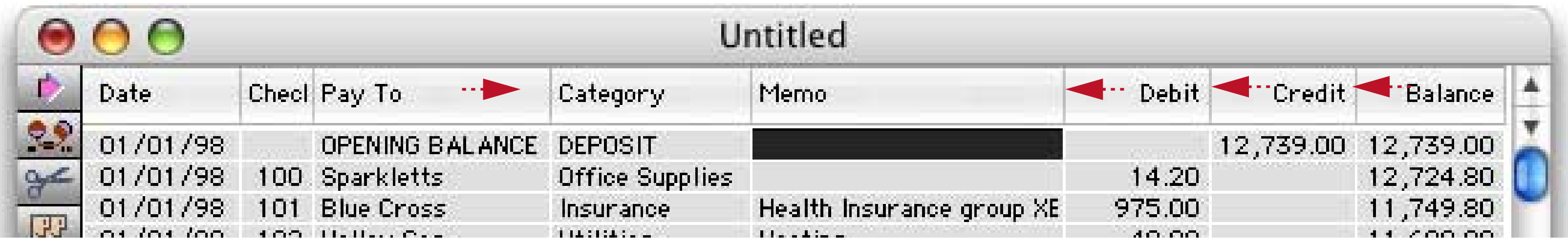


Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANCE	DEPOSIT			12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724.80
01/01/98	101	Blue Cross	Insurance	Health Insurance group	975.00		11,749.80
01/01/98	102	Valley Gas	Utilities	Heating	49.90		11,699.90
01/01/98	103	AT&T	Telecom	Long Distance Phone Se	236.24		11,463.66
01/01/98	104	Surf Networks	Telecom	DSL	50.00		11,413.66
01/01/98	105	United Security	Utilities	Alarm	30.00		11,383.66
01/01/98	106	UPS	Shipping		144.02		11,239.65
01/01/98	107	Edison General	Utilities	January Electric	115.55		11,124.10
01/01/98	108	City Services	Utilities	Water	54.39		11,069.71
01/01/98	109	Pacific Properties	Rent	January Rent	1,580.00		9,489.71

515 visible/515 total

You may want to adjust the widths of some of the columns (see "Changing the Width of a Field" on page 128).



Untitled

Date	Checl	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANCE	DEPOSIT			12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724.80
01/01/98	101	Blue Cross	Insurance	Health Insurance group XE	975.00		11,749.80

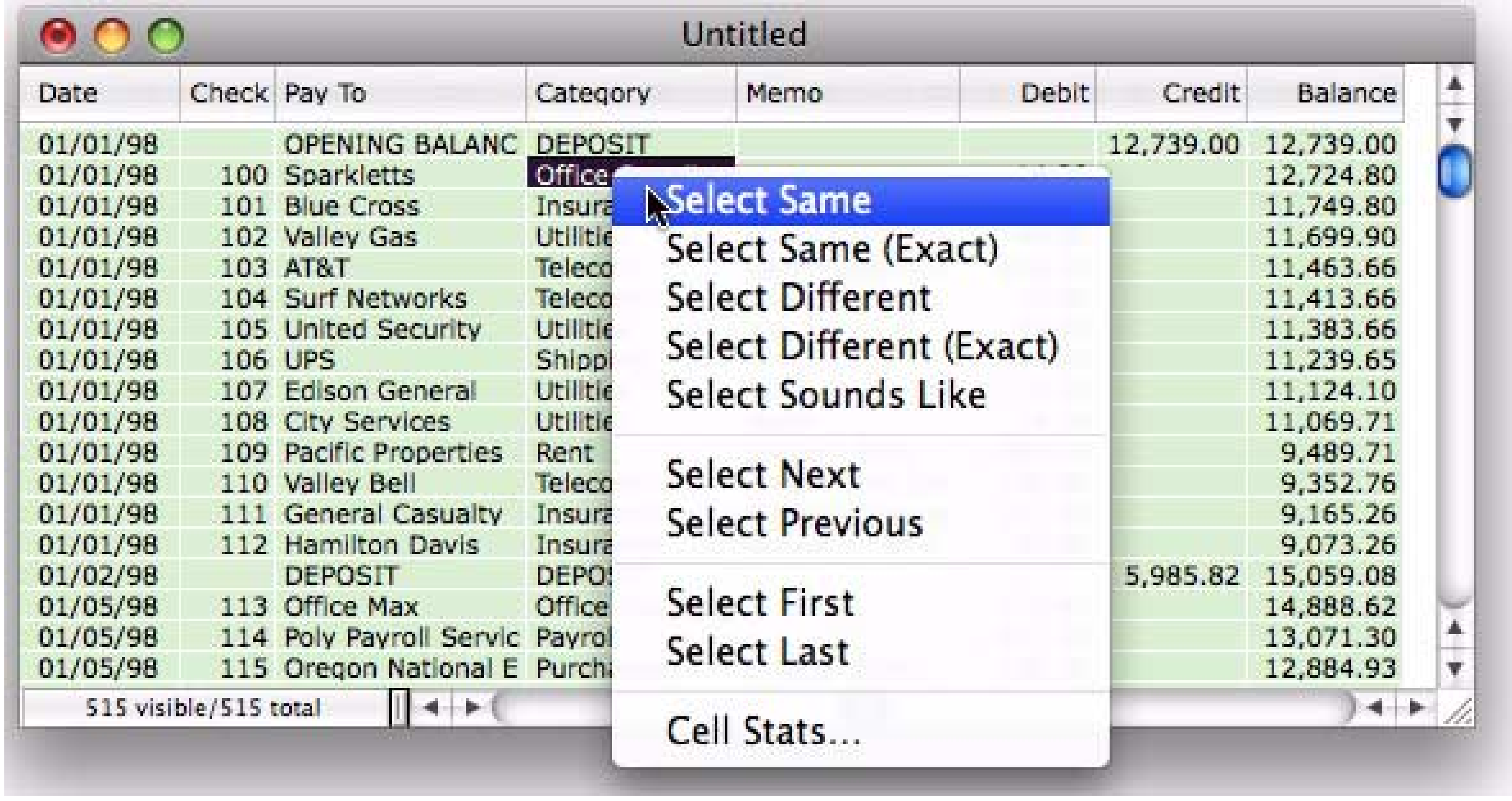
Before continuing you should use the **Save** command in the File menu to save your new creation. The first time you save any file Panorama will ask you to give it a name, I'll call it *My Checkbook*.

Analyzing the Checkbook

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

Selecting Data

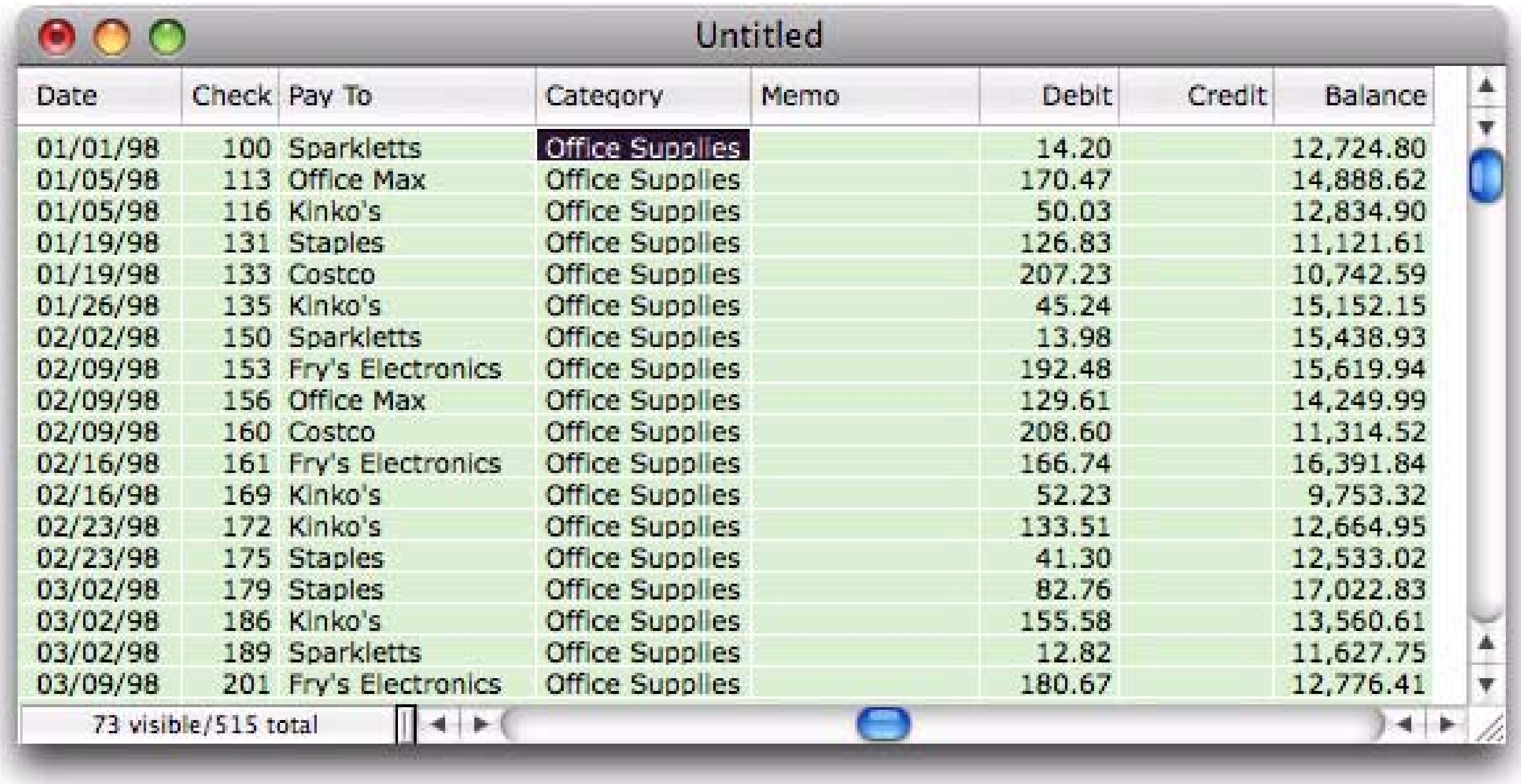
Suppose I'd like to look at all office supply expenditures. Since one office supply check is already visible, all I have to do is right click on the cell and choose **Select Same**. (If you only have a one button mouse then hold down the **Control** key and click on the cell.)



Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANC	DEPOSIT			12,739.00	12,739.00
01/01/98	100	Sparkletts	Office				12,724.80
01/01/98	101	Blue Cross	Insura				11,749.80
01/01/98	102	Valley Gas	Utilitie				11,699.90
01/01/98	103	AT&T	Teleco				11,463.66
01/01/98	104	Surf Networks	Teleco				11,413.66
01/01/98	105	United Security	Utilitie				11,383.66
01/01/98	106	UPS	Shippi				11,239.65
01/01/98	107	Edison General	Utilitie				11,124.10
01/01/98	108	City Services	Utilitie				11,069.71
01/01/98	109	Pacific Properties	Rent				9,489.71
01/01/98	110	Valley Bell	Teleco				9,352.76
01/01/98	111	General Casualty	Insura				9,165.26
01/01/98	112	Hamilton Davis	Insura				9,073.26
01/02/98		DEPOSIT	DEPO			5,985.82	15,059.08
01/05/98	113	Office Max	Office				14,888.62
01/05/98	114	Poly Payroll Servic	Payrol				13,071.30
01/05/98	115	Oregon National E	Purch				12,884.93

515 visible/515 total

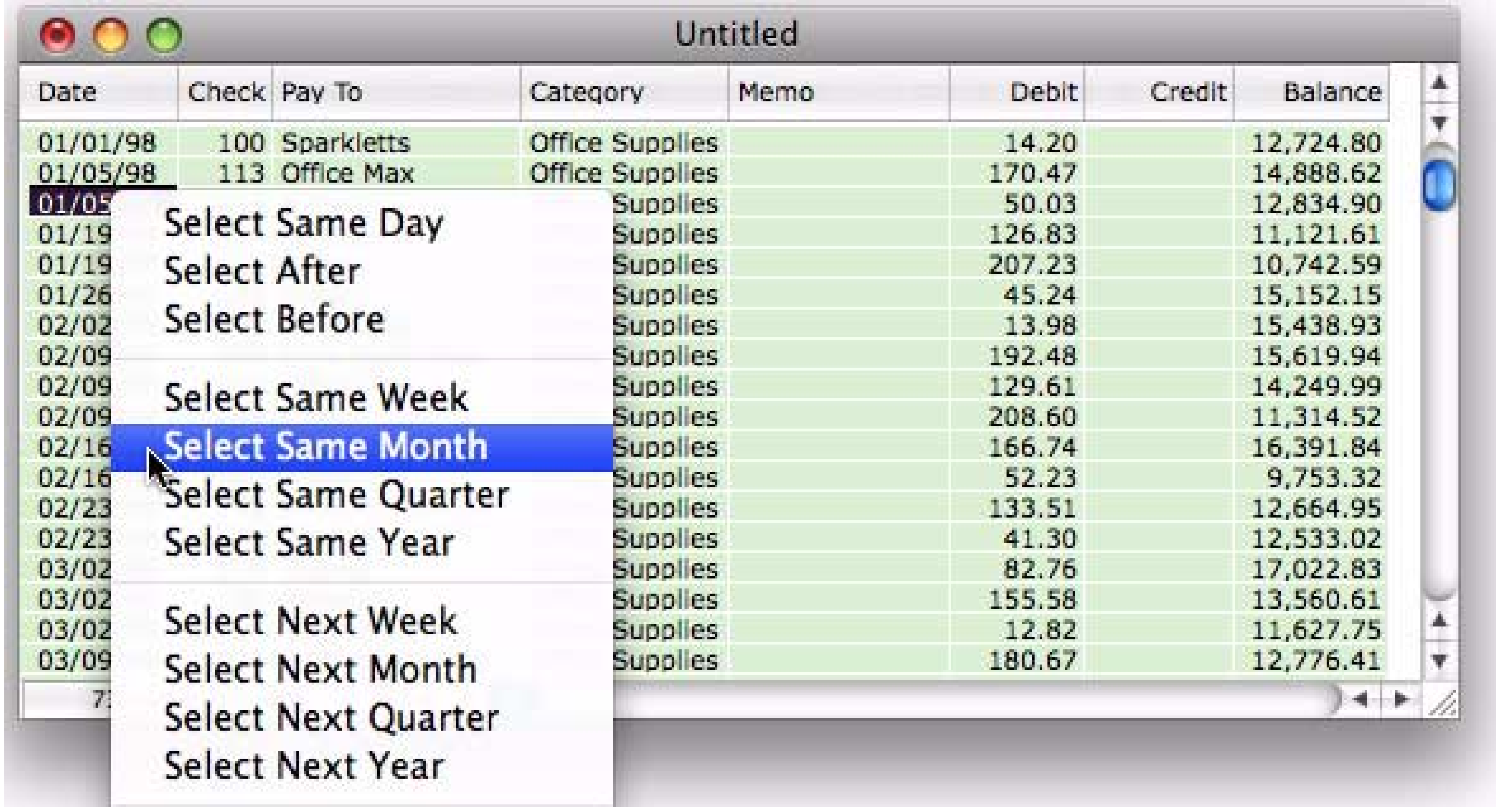
Panorama will select the 73 checks for office supplies in the database. All of the other checks will become temporarily invisible.



Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724.80
01/05/98	113	Office Max	Office Supplies		170.47		14,888.62
01/05/98	116	Kinko's	Office Supplies		50.03		12,834.90
01/19/98	131	Staples	Office Supplies		126.83		11,121.61
01/19/98	133	Costco	Office Supplies		207.23		10,742.59
01/26/98	135	Kinko's	Office Supplies		45.24		15,152.15
02/02/98	150	Sparkletts	Office Supplies		13.98		15,438.93
02/09/98	153	Fry's Electronics	Office Supplies		192.48		15,619.94
02/09/98	156	Office Max	Office Supplies		129.61		14,249.99
02/09/98	160	Costco	Office Supplies		208.60		11,314.52
02/16/98	161	Fry's Electronics	Office Supplies		166.74		16,391.84
02/16/98	169	Kinko's	Office Supplies		52.23		9,753.32
02/23/98	172	Kinko's	Office Supplies		133.51		12,664.95
02/23/98	175	Staples	Office Supplies		41.30		12,533.02
03/02/98	179	Staples	Office Supplies		82.76		17,022.83
03/02/98	186	Kinko's	Office Supplies		155.58		13,560.61
03/02/98	189	Sparkletts	Office Supplies		12.82		11,627.75
03/09/98	201	Fry's Electronics	Office Supplies		180.67		12,776.41

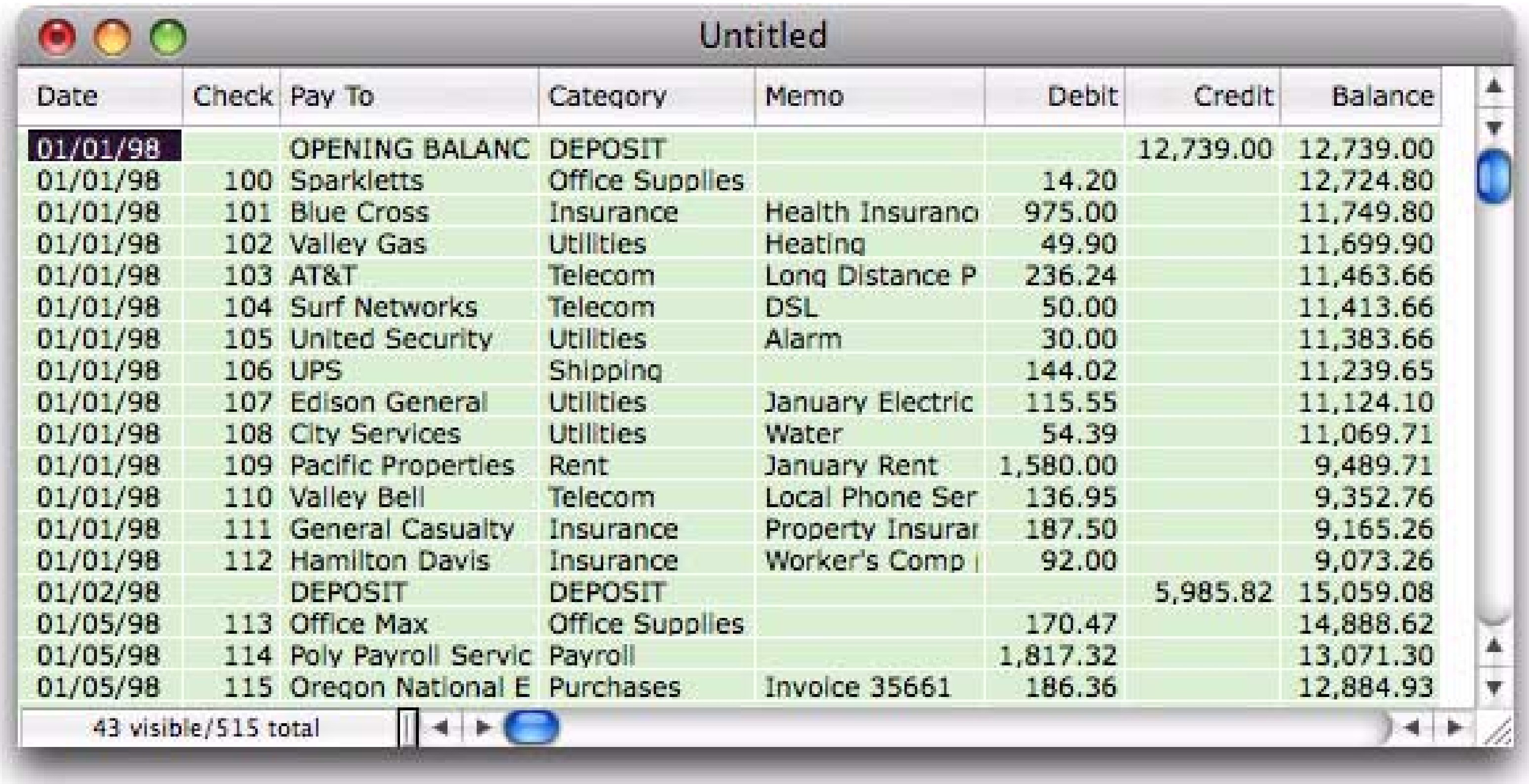
73 visible/515 total

To see only the records in October, right click on any cell in that month and choose **Select Same Month**.



Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724.80
01/05/98	113	Office Max	Office Supplies		170.47		14,888.62
01/05			Supplies		50.03		12,834.90
01/19			Supplies		126.83		11,121.61
01/19			Supplies		207.23		10,742.59
01/26			Supplies		45.24		15,152.15
02/02			Supplies		13.98		15,438.93
02/09			Supplies		192.48		15,619.94
02/09			Supplies		129.61		14,249.99
02/09			Supplies		208.60		11,314.52
02/16			Supplies		166.74		16,391.84
02/16			Supplies		52.23		9,753.32
02/23			Supplies		133.51		12,664.95
02/23			Supplies		41.30		12,533.02
03/02			Supplies		82.76		17,022.83
03/02			Supplies		155.58		13,560.61
03/02			Supplies		12.82		11,627.75
03/09			Supplies		180.67		12,776.41

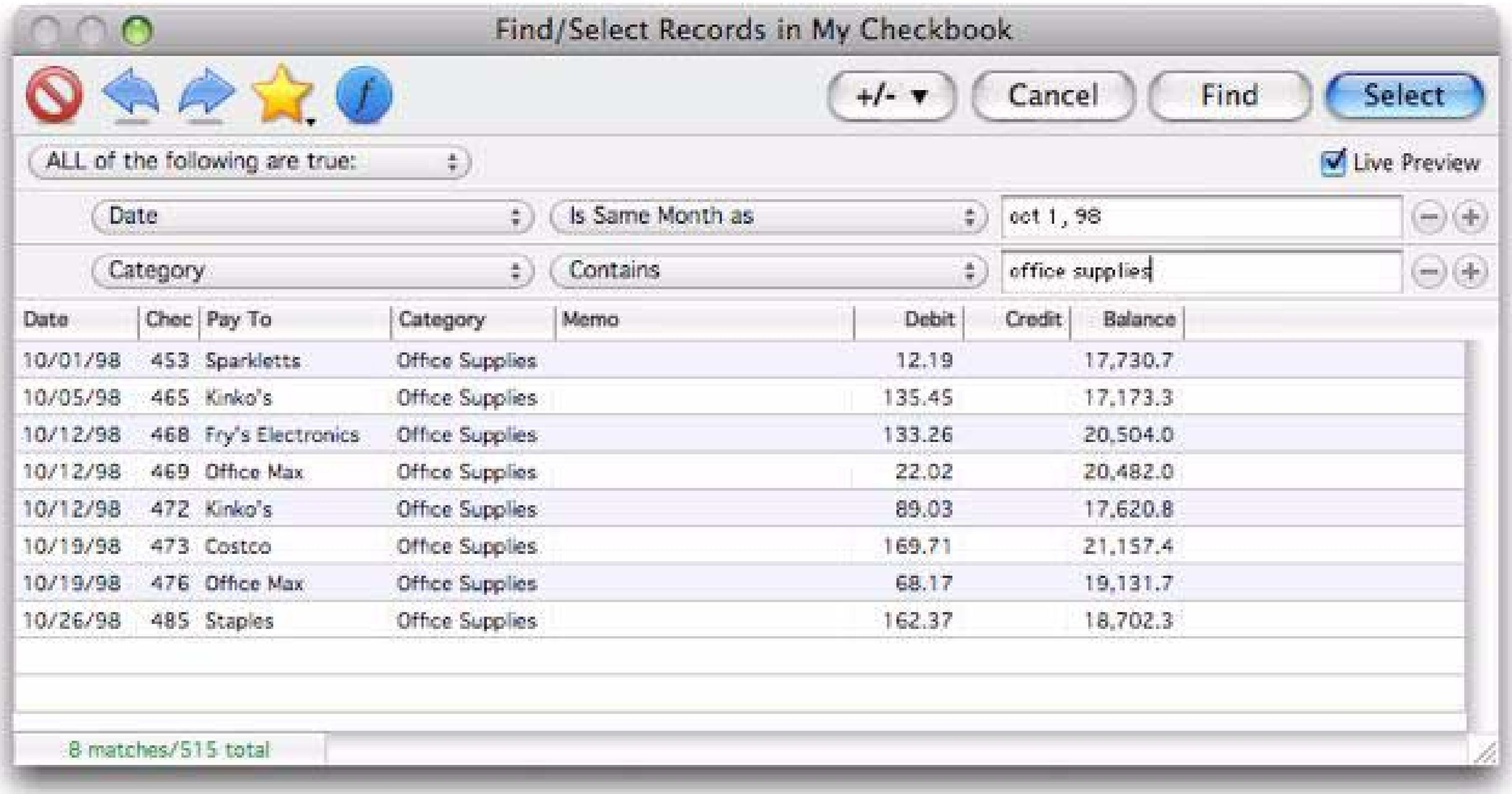
Now all 43 records in October are shown.



Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANC	DEPOSIT			12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724.80
01/01/98	101	Blue Cross	Insurance	Health Insuranc	975.00		11,749.80
01/01/98	102	Valley Gas	Utilities	Heating	49.90		11,699.90
01/01/98	103	AT&T	Telecom	Long Distance P	236.24		11,463.66
01/01/98	104	Surf Networks	Telecom	DSL	50.00		11,413.66
01/01/98	105	United Security	Utilities	Alarm	30.00		11,383.66
01/01/98	106	UPS	Shipping		144.02		11,239.65
01/01/98	107	Edison General	Utilities	January Electric	115.55		11,124.10
01/01/98	108	City Services	Utilities	Water	54.39		11,069.71
01/01/98	109	Pacific Properties	Rent	January Rent	1,580.00		9,489.71
01/01/98	110	Valley Bell	Telecom	Local Phone Ser	136.95		9,352.76
01/01/98	111	General Casualty	Insurance	Property Insurar	187.50		9,165.26
01/01/98	112	Hamilton Davis	Insurance	Worker's Comp I	92.00		9,073.26
01/02/98		DEPOSIT	DEPOSIT			5,985.82	15,059.08
01/05/98	113	Office Max	Office Supplies		170.47		14,888.62
01/05/98	114	Poly Payroll Servic	Payroll		1,817.32		13,071.30
01/05/98	115	Oregon National E	Purchases	Invoice 35661	186.36		12,884.93

43 visible/515 total

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.



ALL of the following are true:

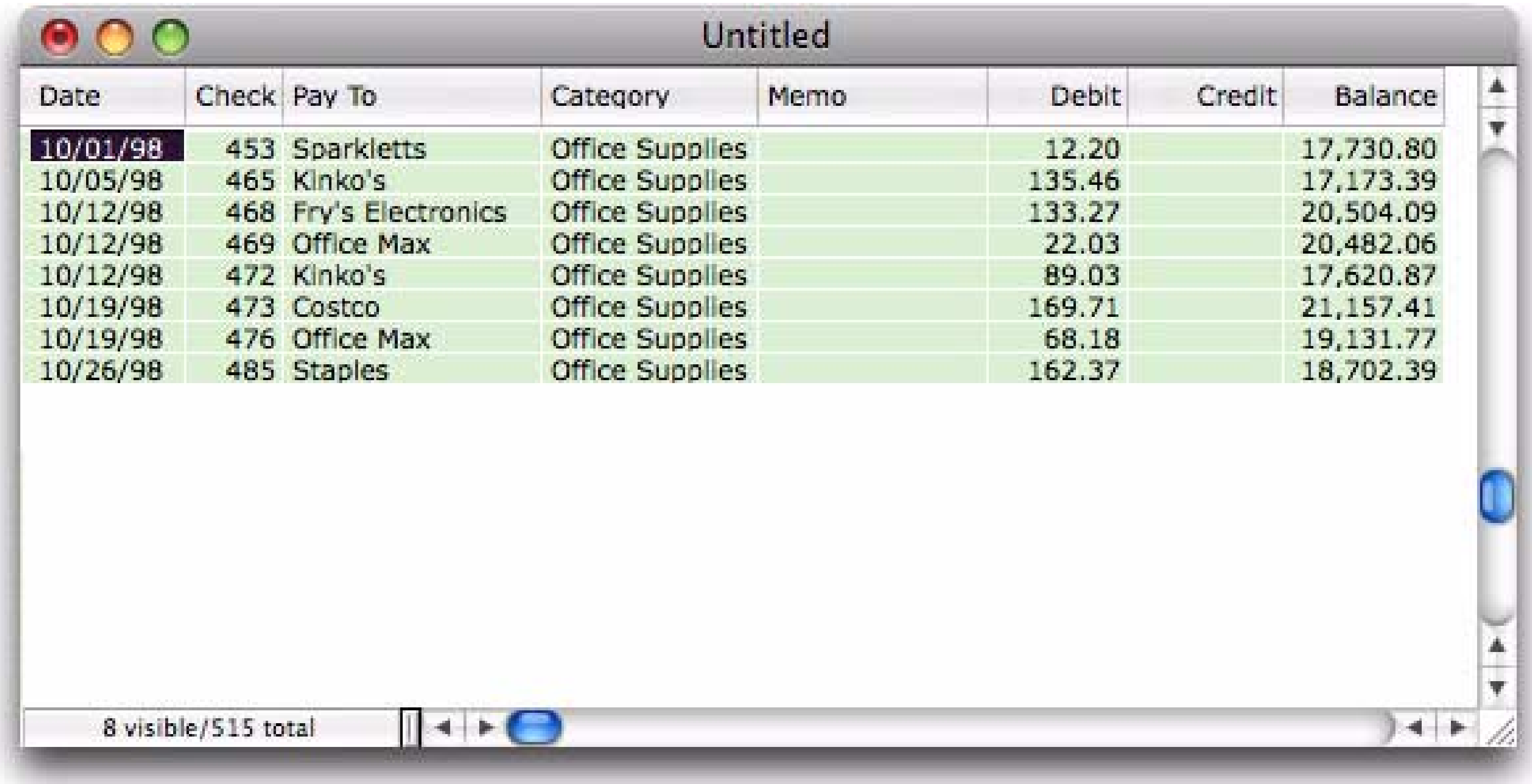
☑ Live Preview

Date	Is Same Month as	oct 1, 98
Category	Contains	office supplies

Date	Chec	Pay To	Category	Memo	Debit	Credit	Balance
10/01/98	453	Sparkletts	Office Supplies		12.19		17,730.7
10/05/98	465	Kinko's	Office Supplies		135.45		17,173.3
10/12/98	468	Fry's Electronics	Office Supplies		133.26		20,504.0
10/12/98	469	Office Max	Office Supplies		22.02		20,482.0
10/12/98	472	Kinko's	Office Supplies		89.03		17,620.8
10/19/98	473	Costco	Office Supplies		169.71		21,157.4
10/19/98	476	Office Max	Office Supplies		68.17		19,131.7
10/26/98	485	Staples	Office Supplies		162.37		18,702.3

8 matches/515 total

Press the **Select** button (or the **Enter** key) to actually select the 8 checks for office supply expenses in October 1998.



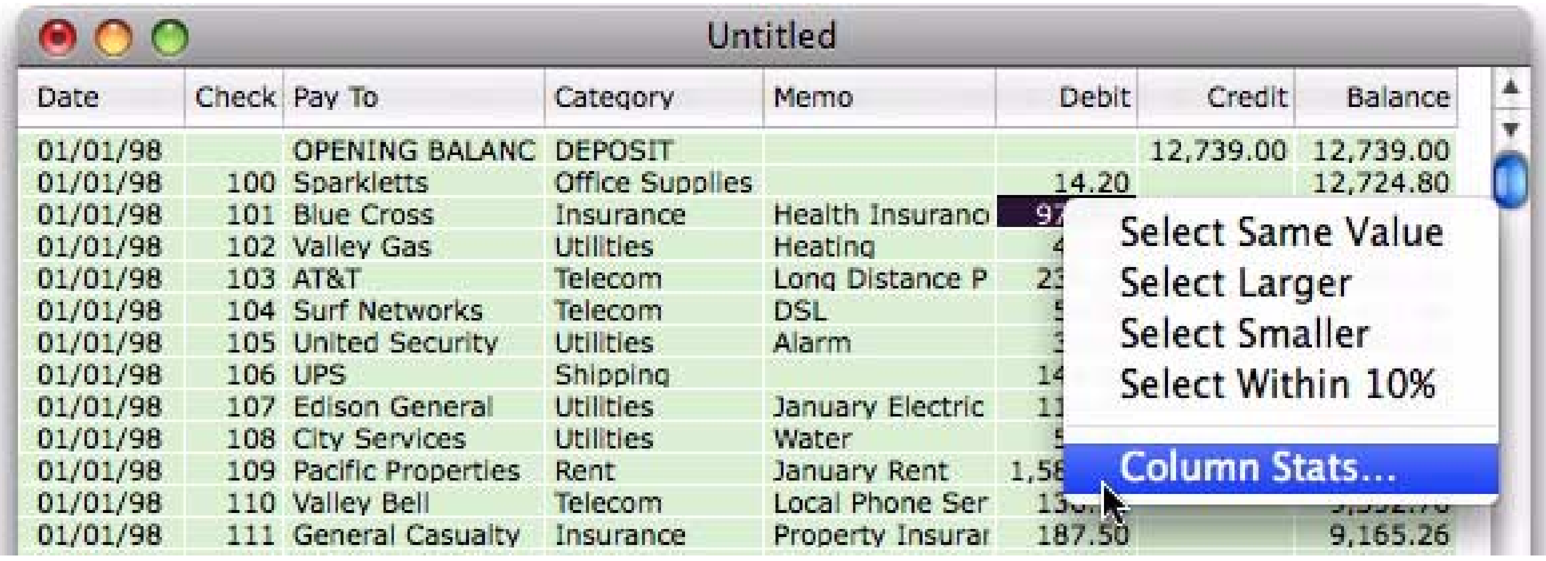
Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
10/01/98	453	Sparkletts	Office Supplies		12.20		17,730.80
10/05/98	465	Kinko's	Office Supplies		135.46		17,173.39
10/12/98	468	Fry's Electronics	Office Supplies		133.27		20,504.09
10/12/98	469	Office Max	Office Supplies		22.03		20,482.06
10/12/98	472	Kinko's	Office Supplies		89.03		17,620.87
10/19/98	473	Costco	Office Supplies		169.71		21,157.41
10/19/98	476	Office Max	Office Supplies		68.18		19,131.77
10/26/98	485	Staples	Office Supplies		162.37		18,702.39

8 visible/515 total

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.

Calculating the Grand Total

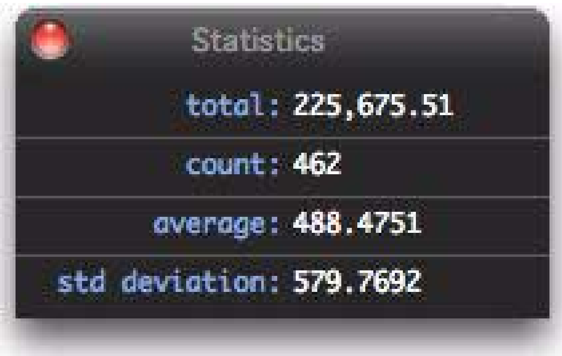
To calculate the grand total of all the checks in the database simply right click anywhere in the Debit field and choose **Column Stats**.



Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANC	DEPOSIT			12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724.80
01/01/98	101	Blue Cross	Insurance	Health Insurano	97		
01/01/98	102	Valley Gas	Utilities	Heating	4		
01/01/98	103	AT&T	Telecom	Long Distance P	23		
01/01/98	104	Surf Networks	Telecom	DSL	5		
01/01/98	105	United Security	Utilities	Alarm	3		
01/01/98	106	UPS	Shipping		14		
01/01/98	107	Edison General	Utilities	January Electric	11		
01/01/98	108	City Services	Utilities	Water	5		
01/01/98	109	Pacific Properties	Rent	January Rent	1,58		
01/01/98	110	Valley Bell	Telecom	Local Phone Ser	13		
01/01/98	111	General Casualty	Insurance	Property Insurar	187.50		9,165.26

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



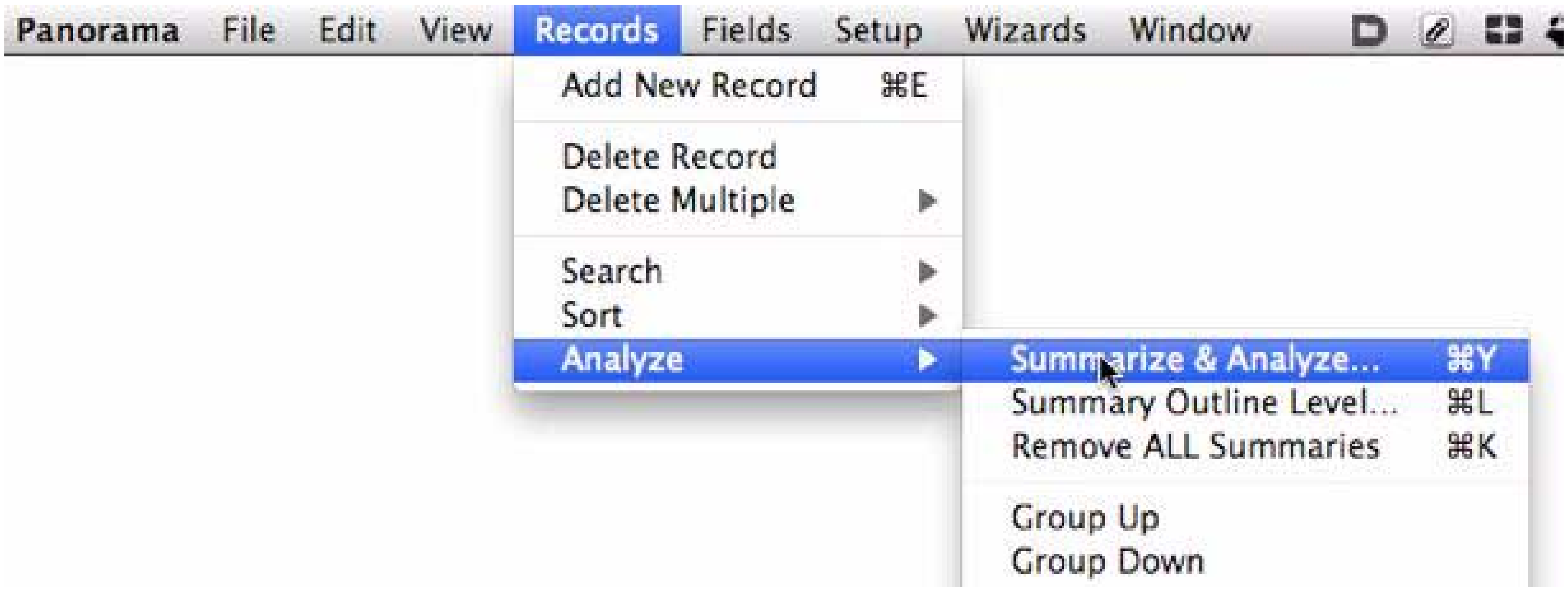
Statistics

total: 225,675.51
count: 462
average: 488.4751
std deviation: 579.7692

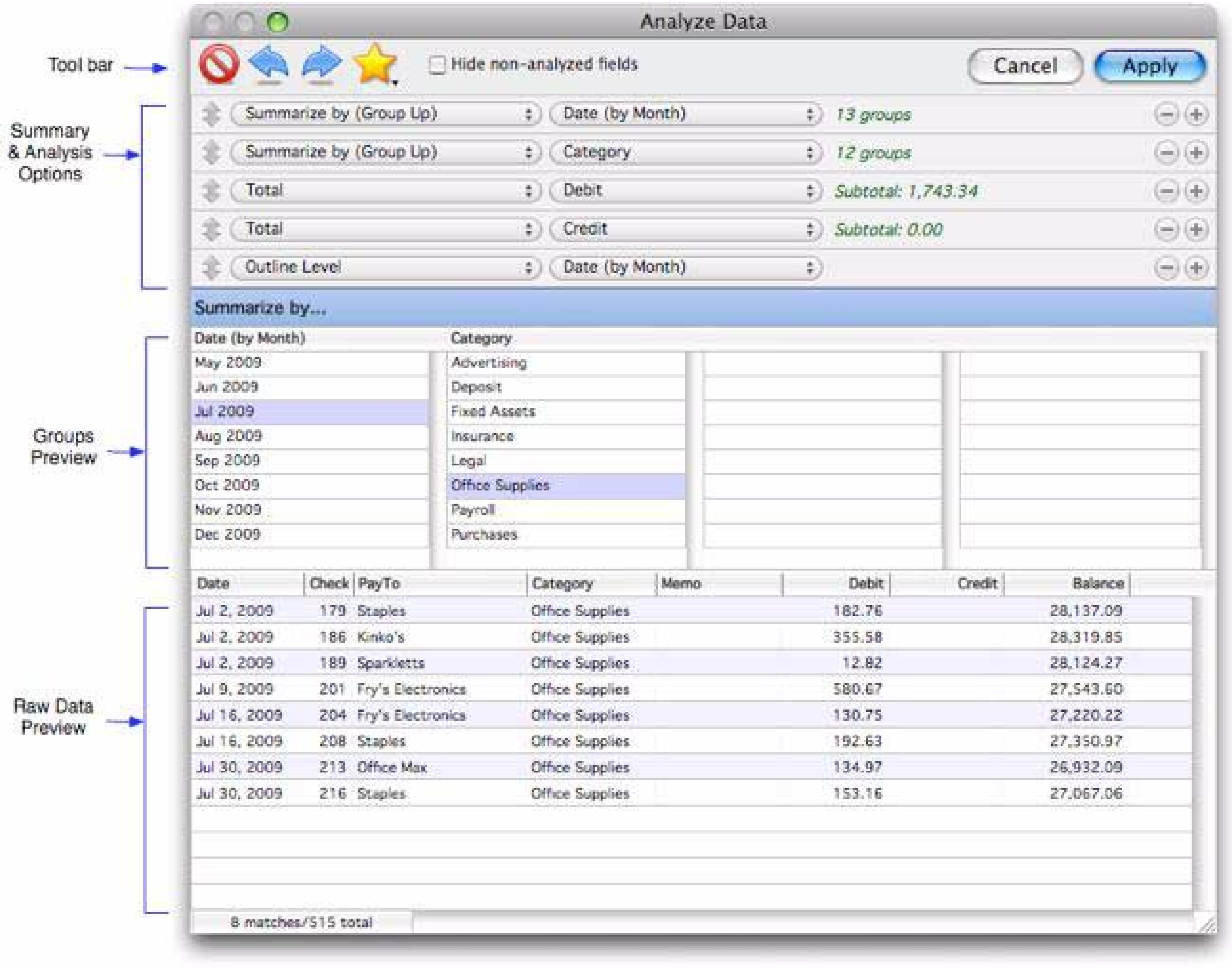
If only a subset of records is selected then the statistics will reflect that subset. For example, if only records from July are selected then the total will include only checks from July.

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.



Summarize by (Group Up)	Date (by Month)	13 groups
Summarize by (Group Up)	Category	12 groups
Total	Debit	Subtotal: 1,743.34
Total	Credit	Subtotal: 0.00
Outline Level	Date (by Month)	

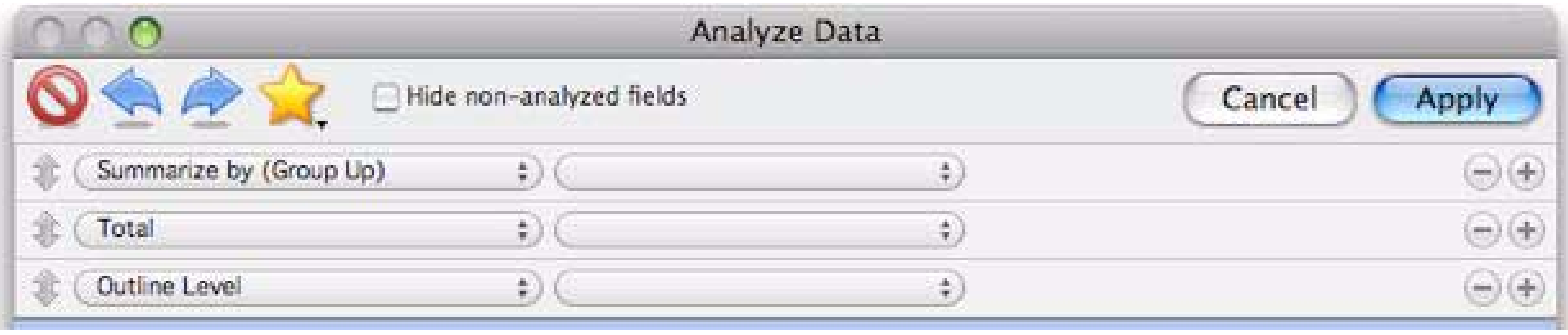
Summarize by...

Date (by Month)	Category		
May 2009	Advertising		
Jun 2009	Deposit		
Jul 2009	Fixed Assets		
Aug 2009	Insurance		
Sep 2009	Legal		
Oct 2009	Office Supplies		
Nov 2009	Payroll		
Dec 2009	Purchases		

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
Jul 2, 2009	179	Staples	Office Supplies		182.76		28,137.09
Jul 2, 2009	186	Kinko's	Office Supplies		355.58		28,319.85
Jul 2, 2009	189	Sparkletts	Office Supplies		12.82		28,124.27
Jul 9, 2009	201	Fry's Electronics	Office Supplies		580.67		27,543.60
Jul 16, 2009	204	Fry's Electronics	Office Supplies		130.75		27,220.22
Jul 16, 2009	208	Staples	Office Supplies		192.63		27,350.97
Jul 30, 2009	213	Office Max	Office Supplies		134.97		26,932.09
Jul 30, 2009	216	Staples	Office Supplies		153.16		27,067.06

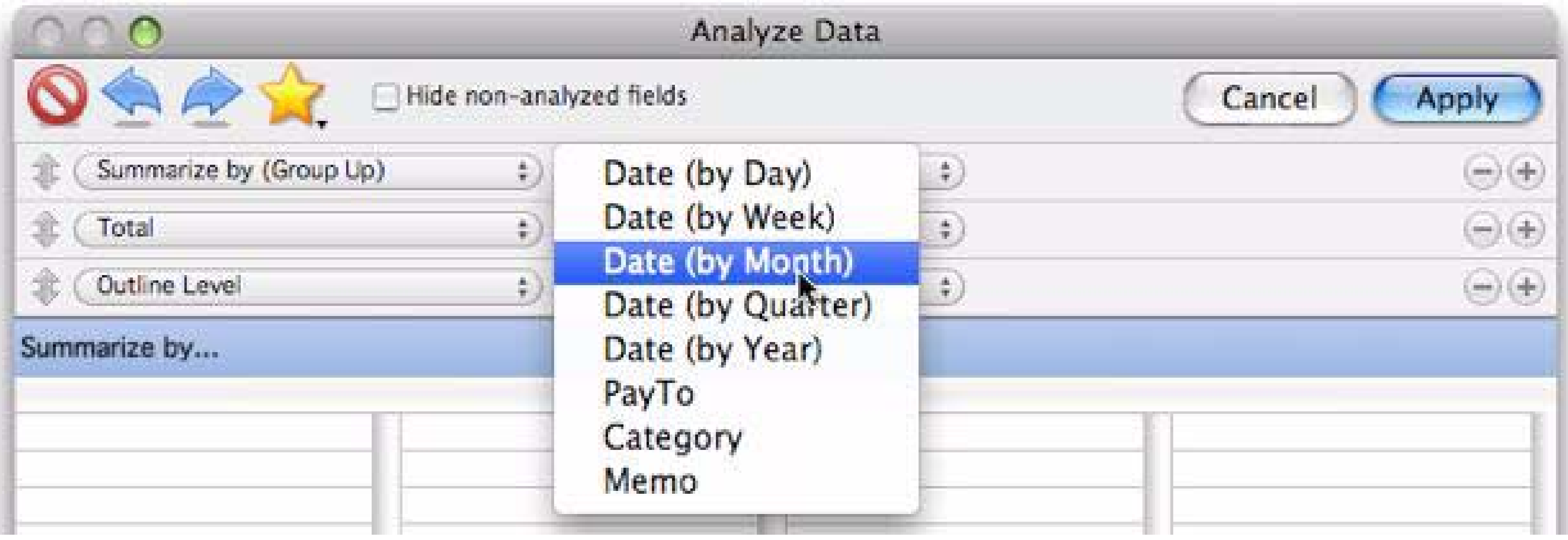
8 matches/515 total

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:



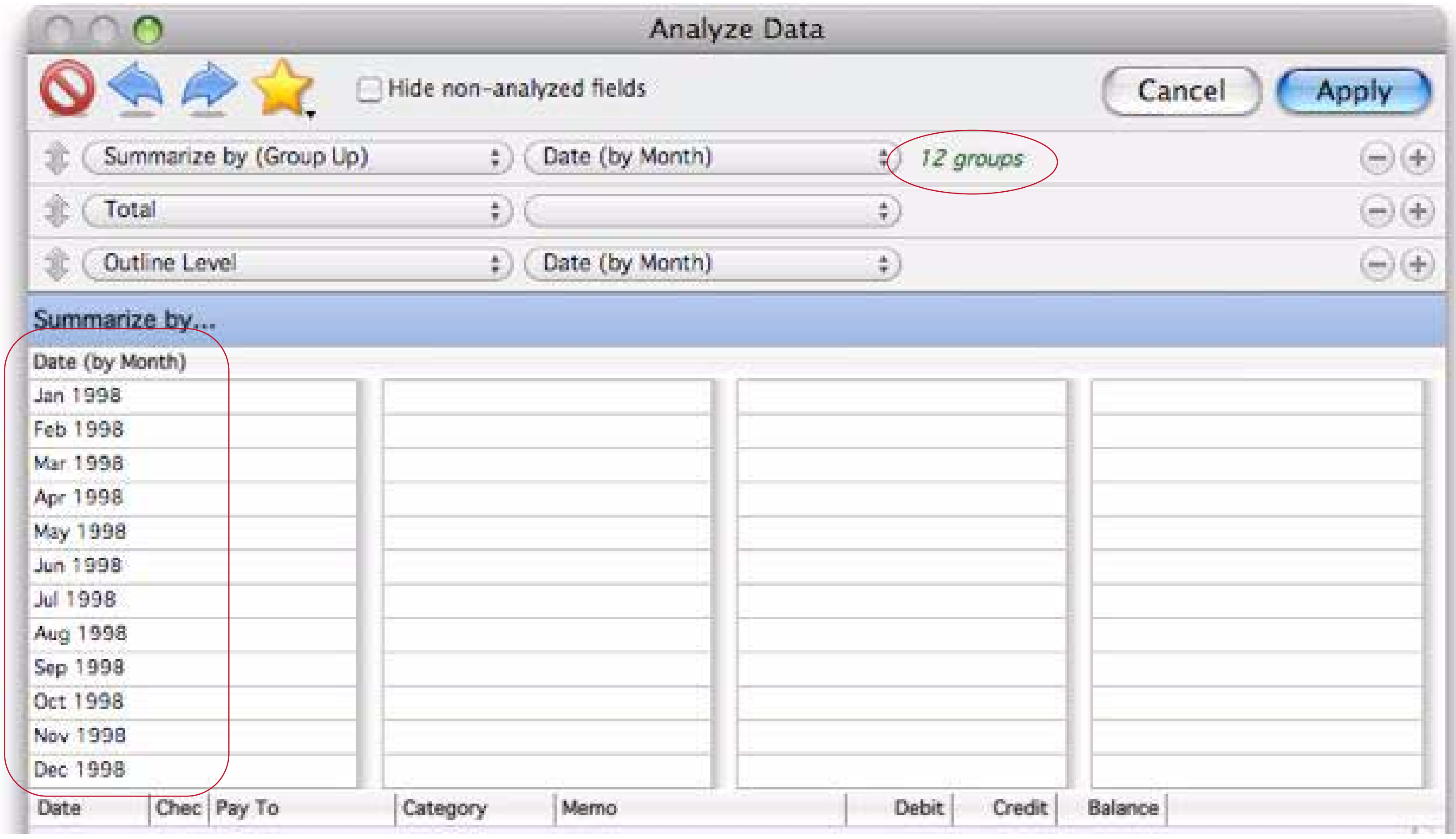
Summarize by (Group Up)	
Total	
Outline Level	

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.)



Summarize by (Group Up)
Total
Outline Level
Summarize by...

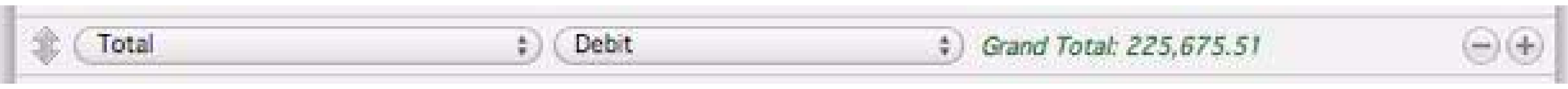
Once you've selected the summarization field the dialog will show you how many different groups of data are associated with that field, and also list all of the groups in the *Group Preview* area below.



Summarize by (Group Up) | Date (by Month) | 12 groups
Total |
Outline Level | Date (by Month)

Date (by Month)
Jan 1998
Feb 1998
Mar 1998
Apr 1998
May 1998
Jun 1998
Jul 1998
Aug 1998
Sep 1998
Oct 1998
Nov 1998
Dec 1998

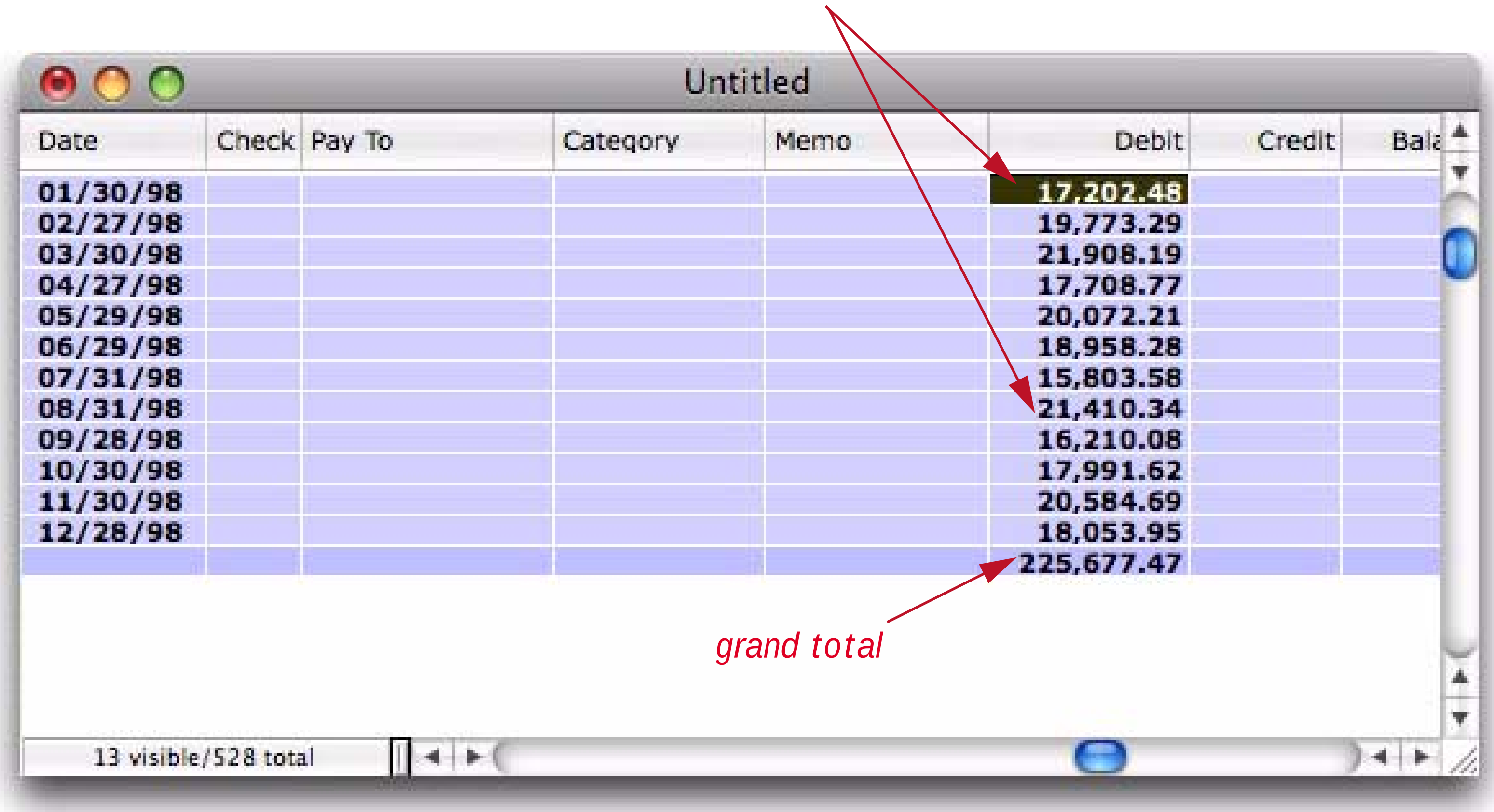
Next, use the pop-up menu in the second row to choose a column you want to perform calculations on. (In addition to totals, you can also calculate counts, averages, minimums and maximums.) Once you've chosen a column the dialog will show you the grand total for this column.



Total | Debit | Grand Total: 225,675.51

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

Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
01/30/98					17,202.48		
02/27/98					19,773.29		
03/30/98					21,908.19		
04/27/98					17,708.77		
05/29/98					20,072.21		
06/29/98					18,958.28		
07/31/98					15,803.58		
08/31/98					21,410.34		
09/28/98					16,210.08		
10/30/98					17,991.62		
11/30/98					20,584.69		
12/28/98					18,053.95		
					225,677.47		

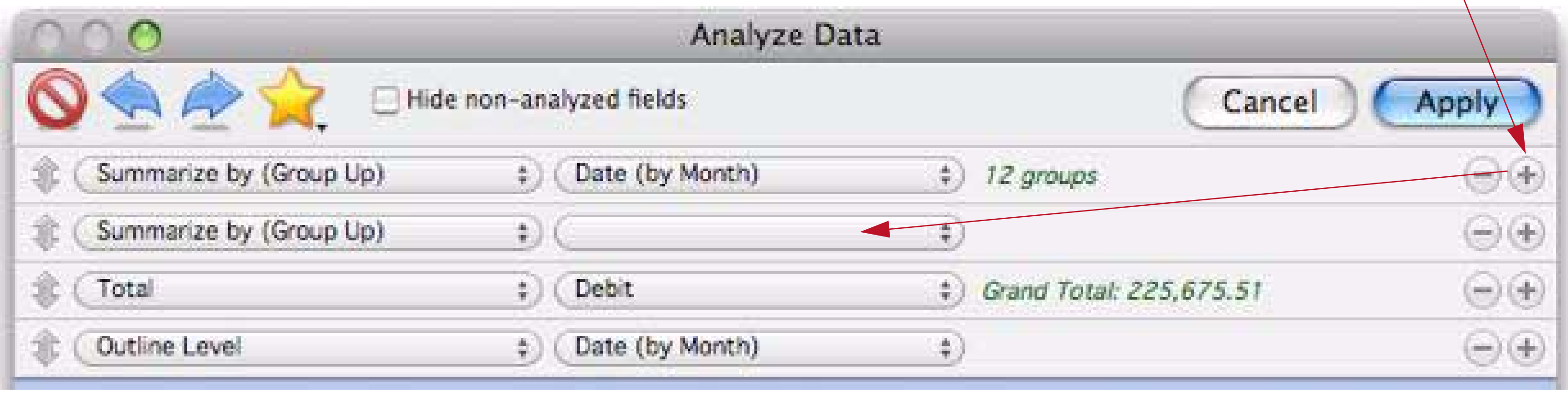
grand total

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

Multi-Level Summaries

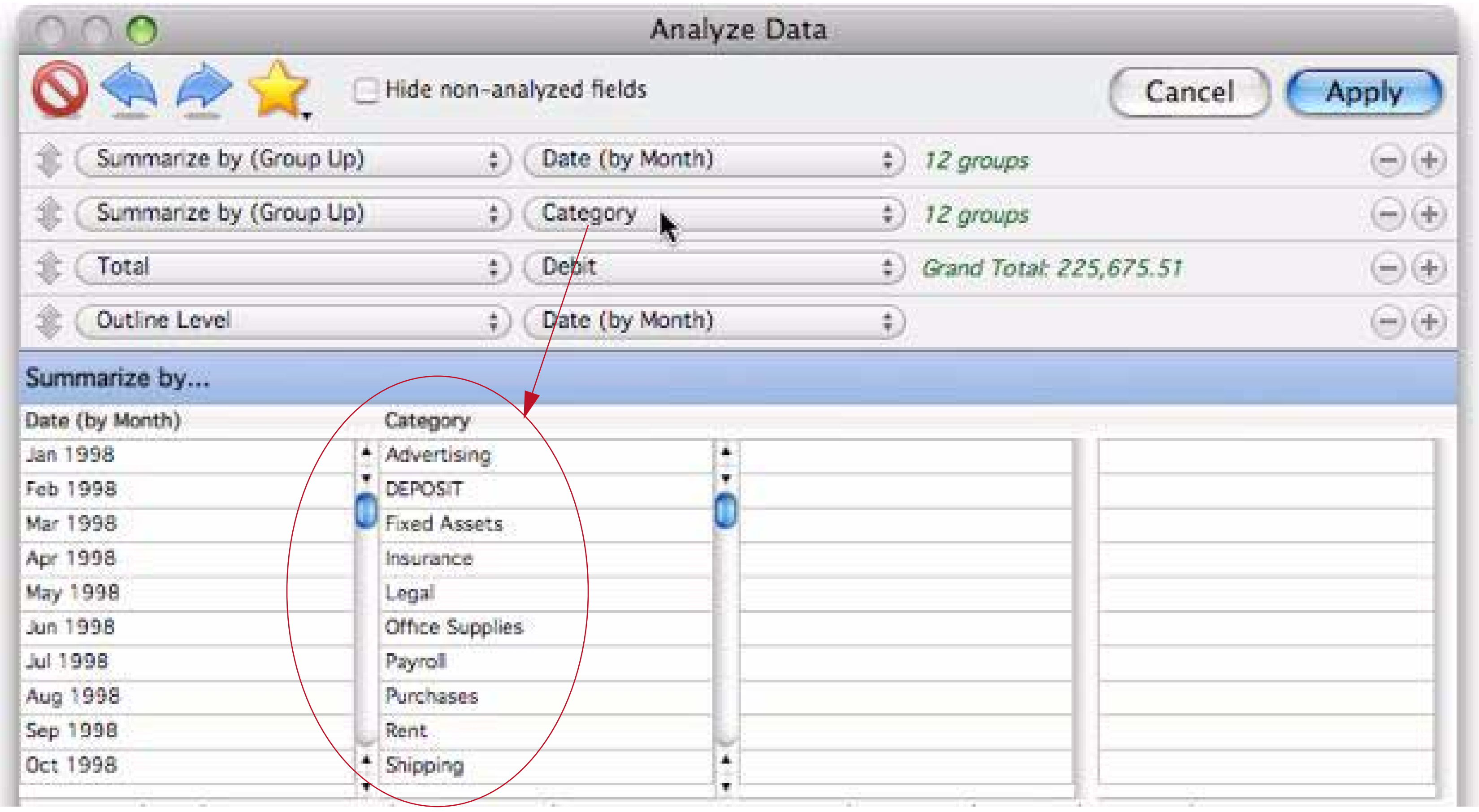
The previous example create one summary level. Panorama can create up to seven nested summary levels, for example Categories within Months, or Cities within States within Months within Years. To add an additional summary level, re-open the **Summarize & Analyze** dialog, then press the + button on the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

click + to add another summary level



Summarize by (Group Up)	Date (by Month)	12 groups
Summarize by (Group Up)		
Total	Debit	Grand Total: 225,675.51
Outline Level	Date (by Month)	

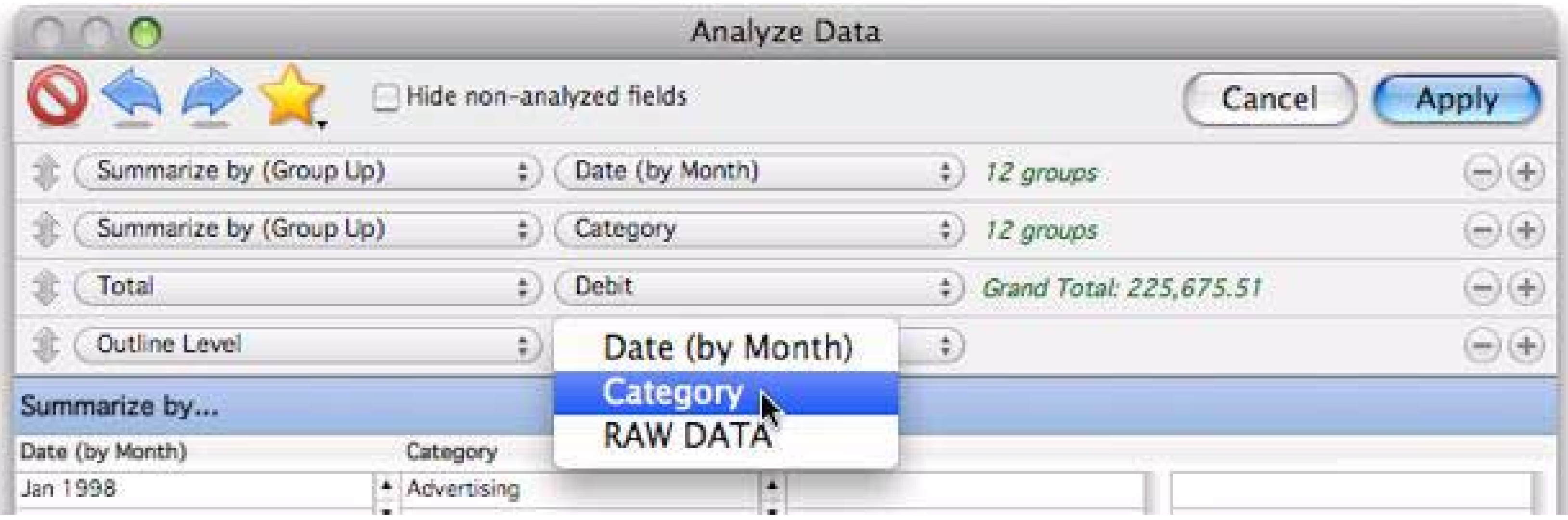
Now use the pop-up menu to select the field to be summarized. The summary preview will show the groups that will appear at this summary level.



Summarize by (Group Up)	Date (by Month)	12 groups
Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 225,675.51
Outline Level	Date (by Month)	

Date (by Month)	Category
Jan 1998	Advertising
Feb 1998	DEPOSIT
Mar 1998	Fixed Assets
Apr 1998	Insurance
May 1998	Legal
Jun 1998	Office Supplies
Jul 1998	Payroll
Aug 1998	Purchases
Sep 1998	Rent
Oct 1998	Shipping

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.

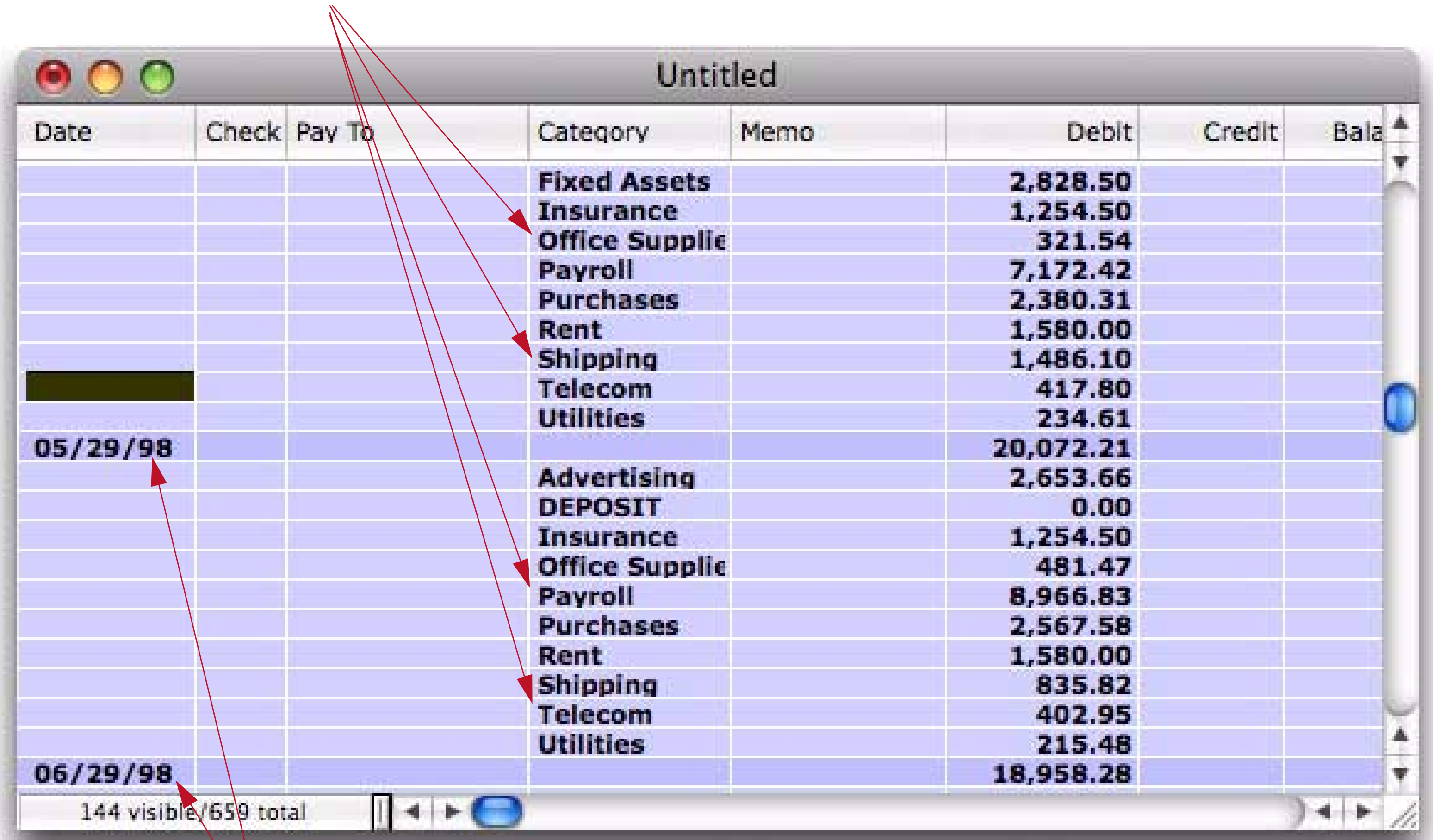


Summarize by (Group Up)	Date (by Month)	12 groups
Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 225,675.51
Outline Level	Category	

Date (by Month)	Category
Jan 1998	Advertising

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

sub summaries by category (within month)

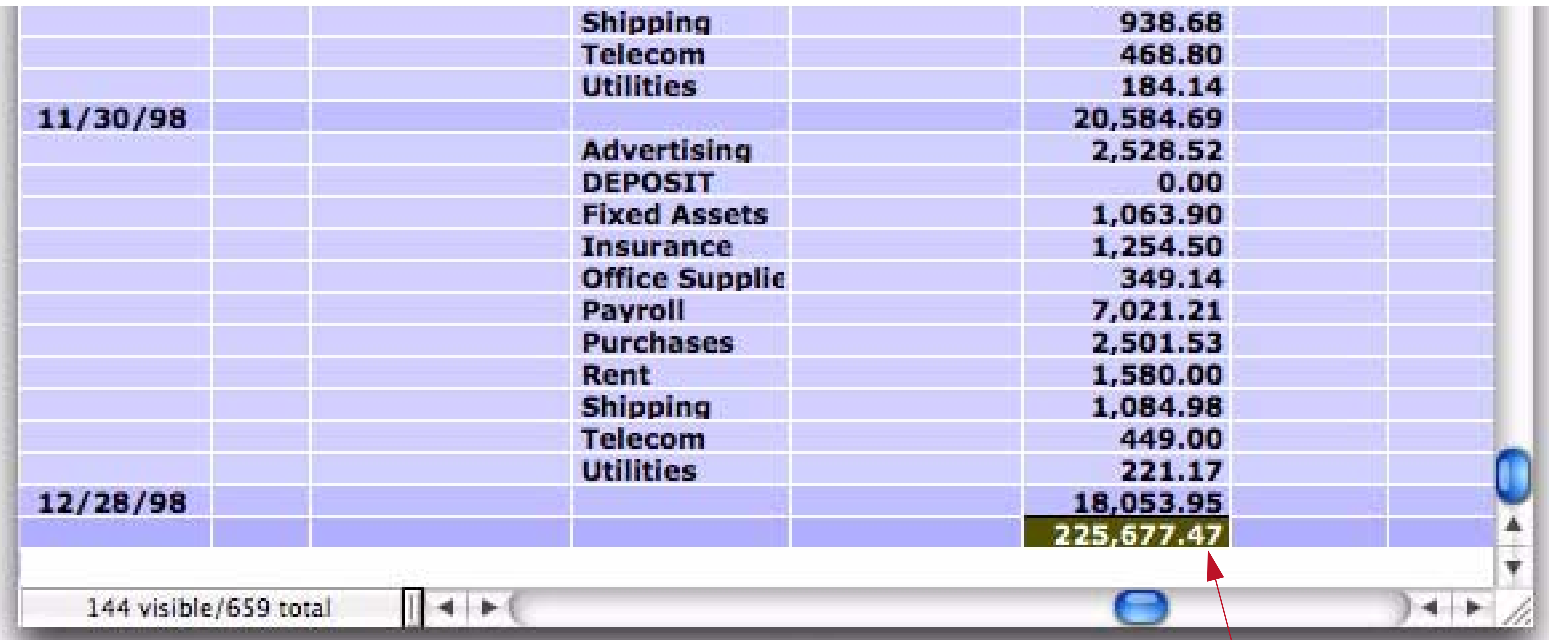


Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
			Fixed Assets		2,828.50		
			Insurance		1,254.50		
			Office Supplie		321.54		
			Payroll		7,172.42		
			Purchases		2,380.31		
			Rent		1,580.00		
			Shipping		1,486.10		
			Telecom		417.80		
			Utilities		234.61		
05/29/98					20,072.21		
			Advertising		2,653.66		
			DEPOSIT		0.00		
			Insurance		1,254.50		
			Office Supplie		481.47		
			Payroll		8,966.83		
			Purchases		2,567.58		
			Rent		1,580.00		
			Shipping		835.82		
			Telecom		402.95		
			Utilities		215.48		
06/29/98					18,958.28		

144 visible/659 total

summaries by month

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



			Shipping		938.68		
			Telecom		468.80		
			Utilities		184.14		
11/30/98					20,584.69		
			Advertising		2,528.52		
			DEPOSIT		0.00		
			Fixed Assets		1,063.90		
			Insurance		1,254.50		
			Office Supplie		349.14		
			Payroll		7,021.21		
			Purchases		2,501.53		
			Rent		1,580.00		
			Shipping		1,084.98		
			Telecom		449.00		
			Utilities		221.17		
12/28/98					18,053.95		
					225,677.47		

144 visible/659 total

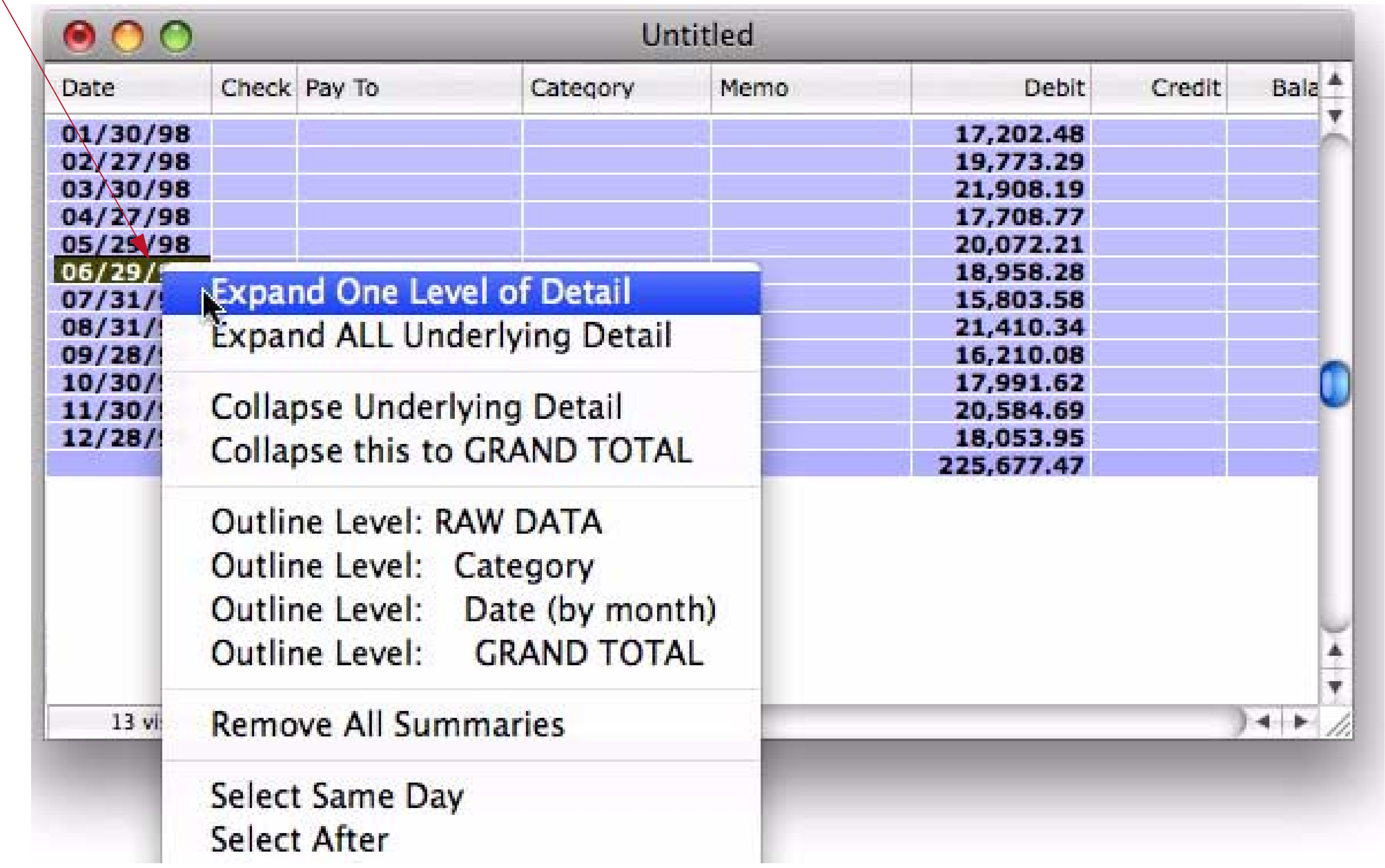
grand total

Using the same technique you can add up to seven nested summary levels. See "Data Analysis" on page 167 to learn more about analyzing data with summaries.

Expanding and Collapsing the Summary Outline

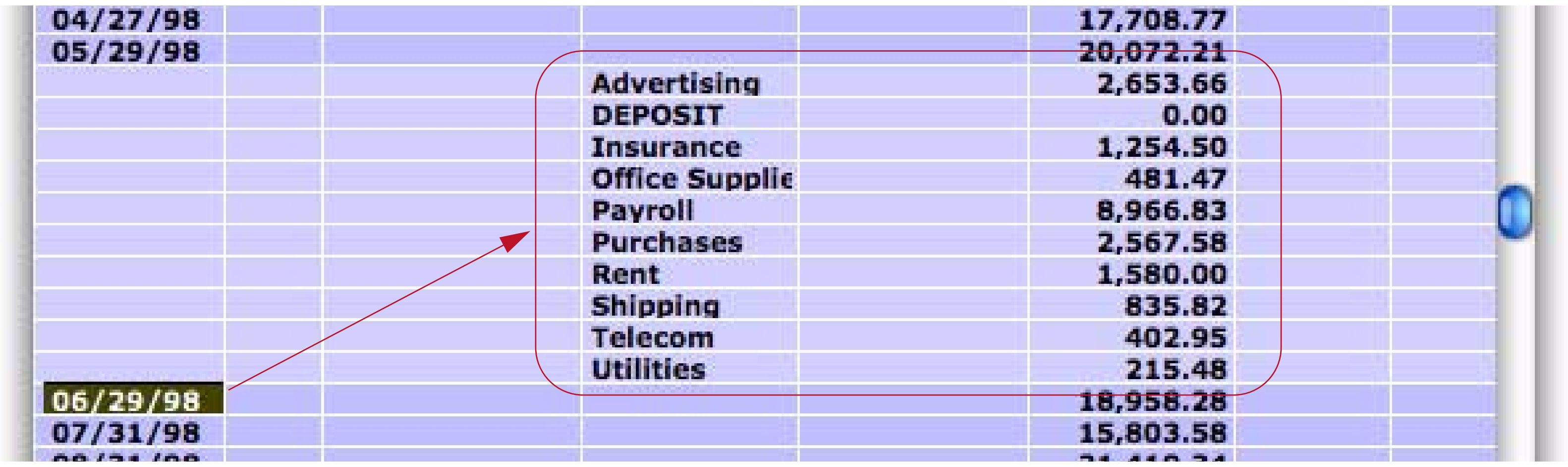
A unique feature of Panorama is that summaries aren't just static on a report, they can be dynamically expanded or collapse to show more or less detail. You can "zoom out" to look for major trends, then "zoom in" to examine specific details. We call this collapsing (zoom out) and expanding (zoom in). To expand a particular summary, ricght click anywhere in the summary and choose **Expand One Level of Detail** from the pop-up menu (if you don't have a two button mouse then hold down the **Control** key while you click).

right click and choose Expand One Level of Detail


Untitled
Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to GRAND TOTAL
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)
Outline Level: GRAND TOTAL
Remove All Summaries
Select Same Day
Select After
13 vi

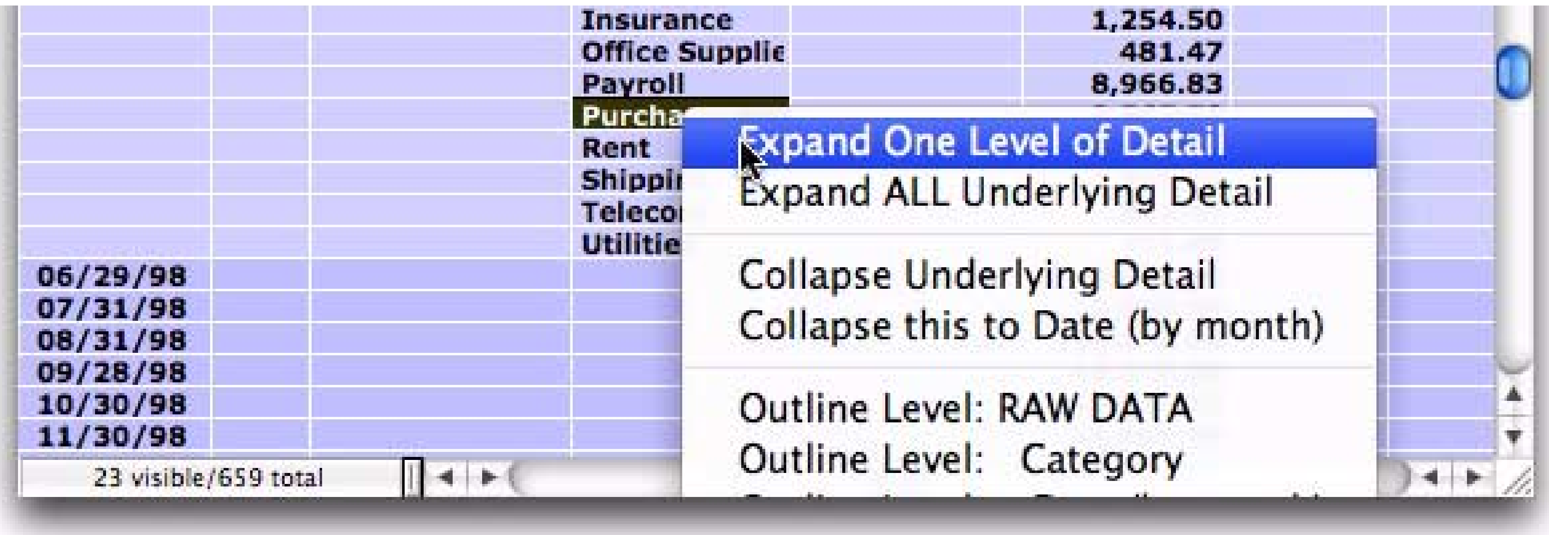
Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
01/30/98					17,202.48		
02/27/98					19,773.29		
03/30/98					21,908.19		
04/27/98					17,708.77		
05/29/98					20,072.21		
06/29/					18,958.28		
07/31/					15,803.58		
08/31/					21,410.34		
09/28/					16,210.08		
10/30/					17,991.62		
11/30/					20,584.69		
12/28/					18,053.95		
					225,677.47		

Panorama makes the next level of detail visible.



04/27/98					17,708.77		
05/29/98					20,072.21		
			Advertising		2,653.66		
			DEPOSIT		0.00		
			Insurance		1,254.50		
			Office Supplie		481.47		
			Payroll		8,966.83		
			Purchases		2,567.58		
			Rent		1,580.00		
			Shipping		835.82		
			Telecom		402.95		
			Utilities		215.48		
06/29/98					18,958.28		
07/31/98					15,803.58		

If the database has more than one summary level you can repeat the process all the way down to the raw data.

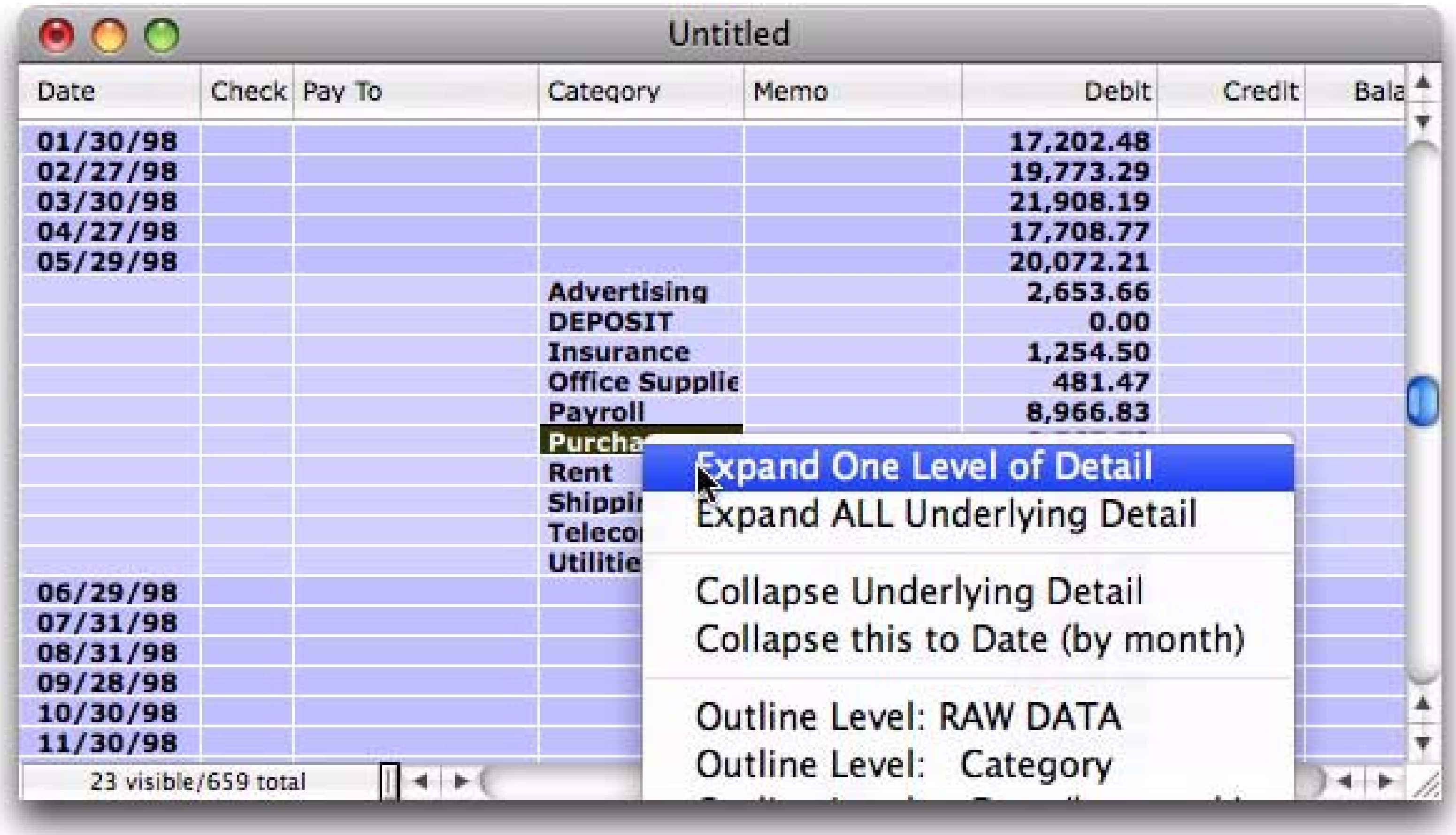


	Insurance	1,254.50
	Office Supplie	481.47
	Payroll	8,966.83
	Purcha	
	Rent	
	Shippi	
	Teleco	
	Utilitie	
06/29/98		
07/31/98		
08/31/98		
09/28/98		
10/30/98		
11/30/98		

23 visible/659 total

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA
Outline Level: Category

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



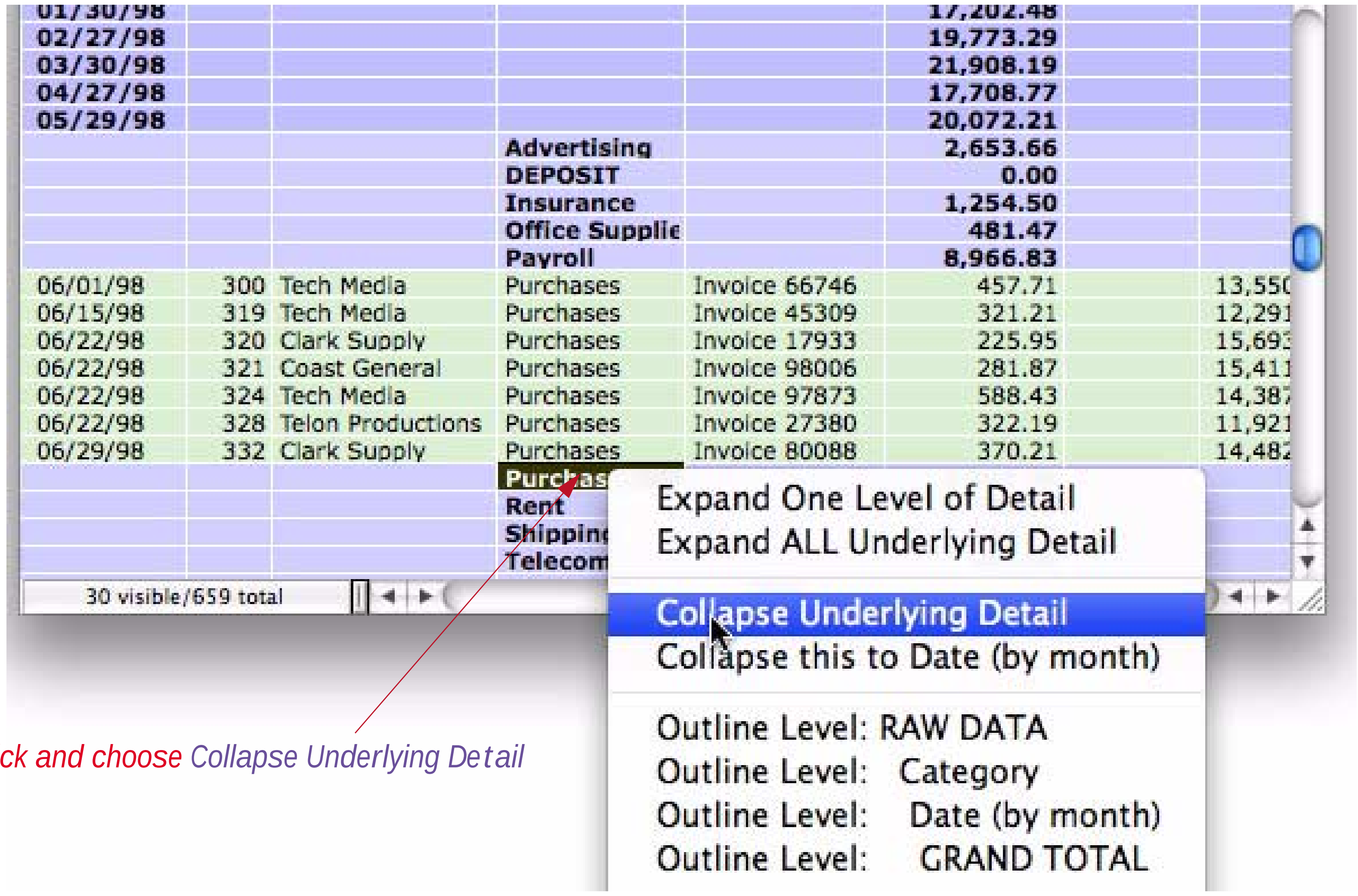
Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
01/30/98					17,202.48		
02/27/98					19,773.29		
03/30/98					21,908.19		
04/27/98					17,708.77		
05/29/98					20,072.21		
			Advertising		2,653.66		
			DEPOSIT		0.00		
			Insurance		1,254.50		
			Office Supplie		481.47		
			Payroll		8,966.83		
			Purcha				
			Rent				
			Shippi				
			Teleco				
			Utilitie				
06/29/98							
07/31/98							
08/31/98							
09/28/98							
10/30/98							
11/30/98							

23 visible/659 total

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA
Outline Level: Category

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

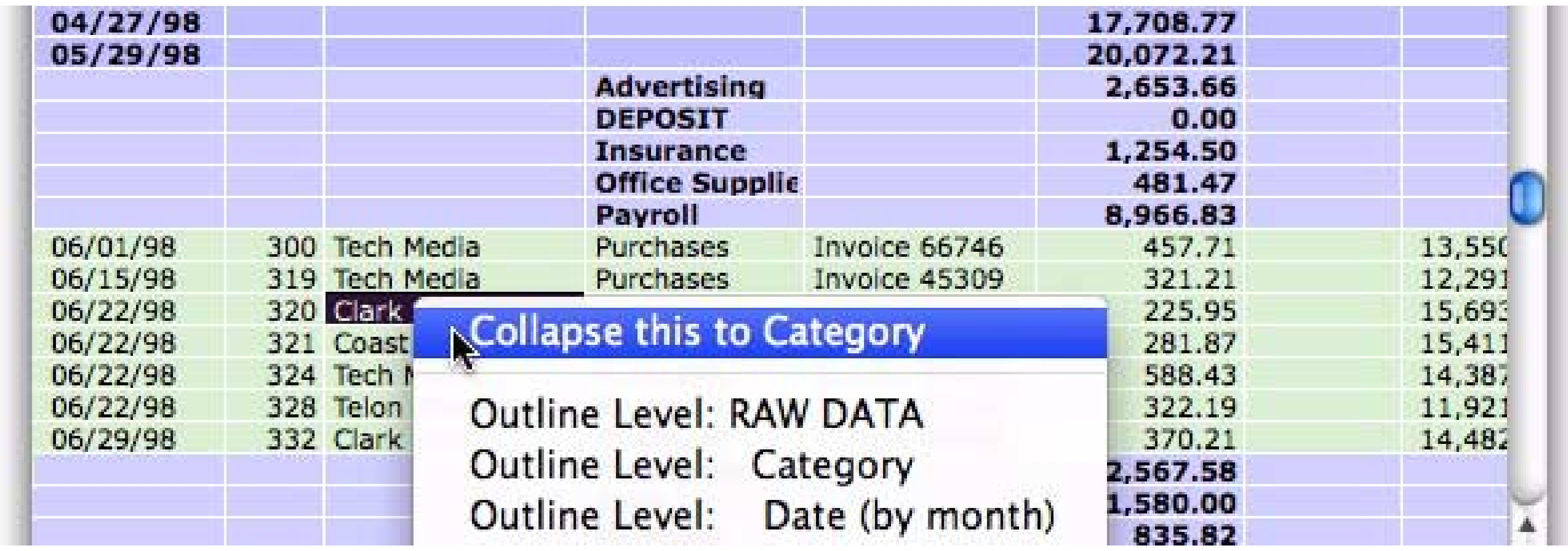


01/30/98					17,202.48		
02/27/98					19,773.29		
03/30/98					21,908.19		
04/27/98					17,708.77		
05/29/98					20,072.21		
			Advertising		2,653.66		
			DEPOSIT		0.00		
			Insurance		1,254.50		
			Office Supplie		481.47		
			Payroll		8,966.83		
06/01/98	300	Tech Media	Purchases	Invoice 66746	457.71		13,550
06/15/98	319	Tech Media	Purchases	Invoice 45309	321.21		12,291
06/22/98	320	Clark Supply	Purchases	Invoice 17933	225.95		15,693
06/22/98	321	Coast General	Purchases	Invoice 98006	281.87		15,411
06/22/98	324	Tech Media	Purchases	Invoice 97873	588.43		14,387
06/22/98	328	Telon Productions	Purchases	Invoice 27380	322.19		11,921
06/29/98	332	Clark Supply	Purchases	Invoice 80088	370.21		14,482
			Purchas				
			Rent				
			Shippinc				
			Telecom				

30 visible/659 total
Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)
Outline Level: GRAND TOTAL

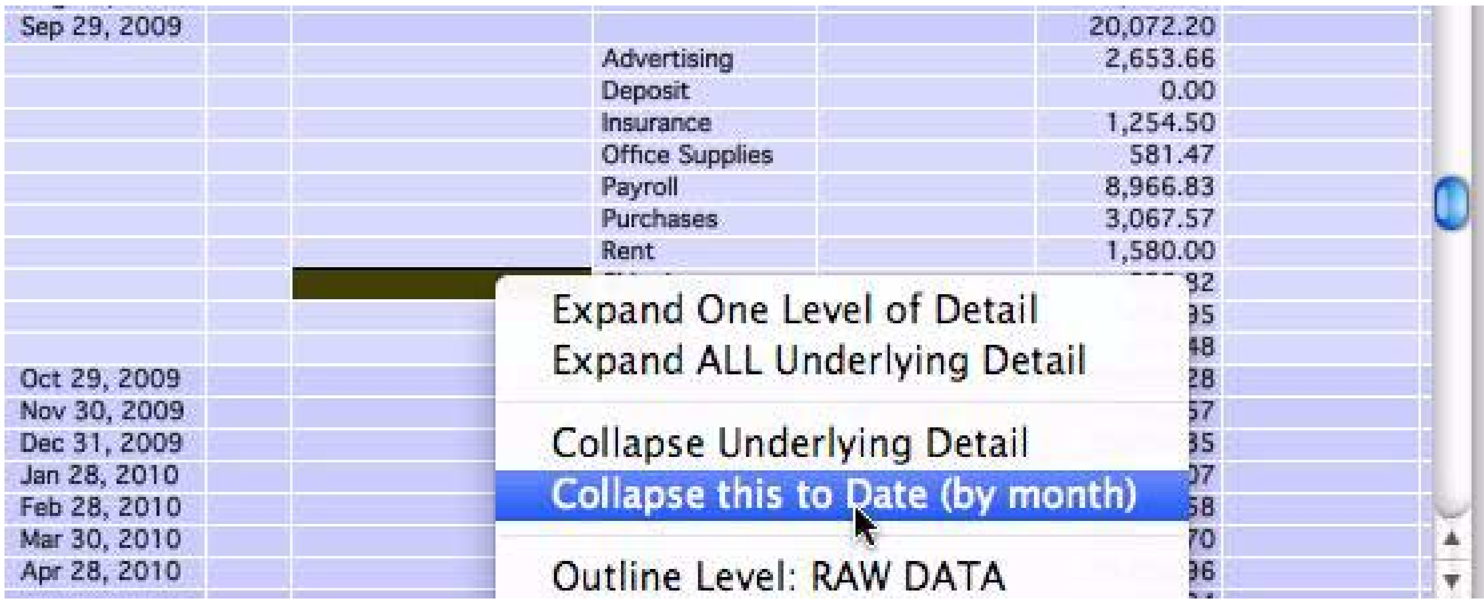
right click and choose Collapse Underlying Detail

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.



04/27/98					17,708.77		
05/29/98					20,072.21		
			Advertising		2,653.66		
			DEPOSIT		0.00		
			Insurance		1,254.50		
			Office Supplie		481.47		
			Payroll		8,966.83		
06/01/98	300	Tech Media	Purchases	Invoice 66746	457.71		13,550
06/15/98	319	Tech Media	Purchases	Invoice 45309	321.21		12,291
06/22/98	320	Clark			225.95		15,693
06/22/98	321	Coast			281.87		15,411
06/22/98	324	Tech M			588.43		14,387
06/22/98	328	Telon			322.19		11,921
06/29/98	332	Clark			370.21		14,482
					2,567.58		
					1,580.00		
					835.82		

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.

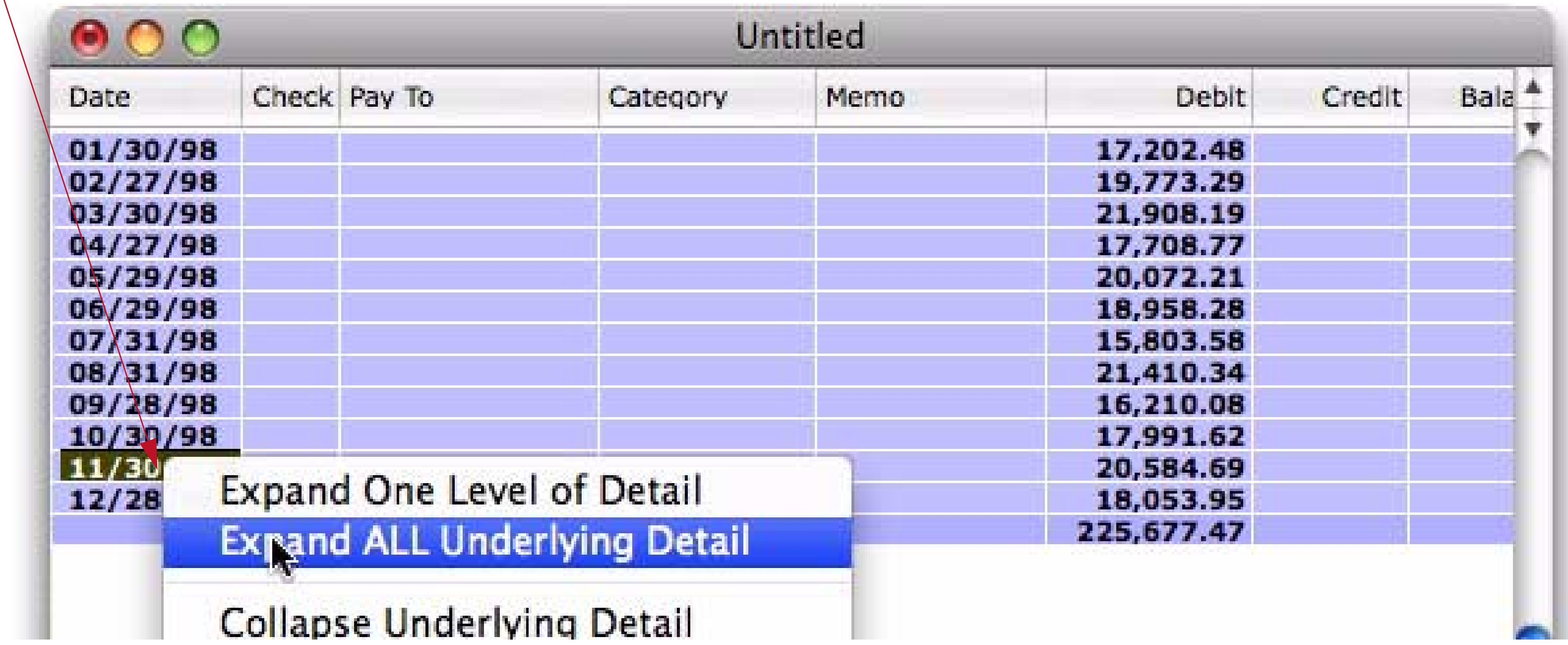


Sep 29, 2009		20,072.20
	Advertising	2,653.66
	Deposit	0.00
	Insurance	1,254.50
	Office Supplies	581.47
	Payroll	8,966.83
	Purchases	3,067.57
	Rent	1,580.00
		92
		95
		48
Oct 29, 2009		28
Nov 30, 2009		57
Dec 31, 2009		35
Jan 28, 2010		07
Feb 28, 2010		58
Mar 30, 2010		70
Apr 28, 2010		96

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA

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 right click on the summary and choose **Expand ALL Underlying Detail**.

right click and choose Expand ALL Underlying Detail

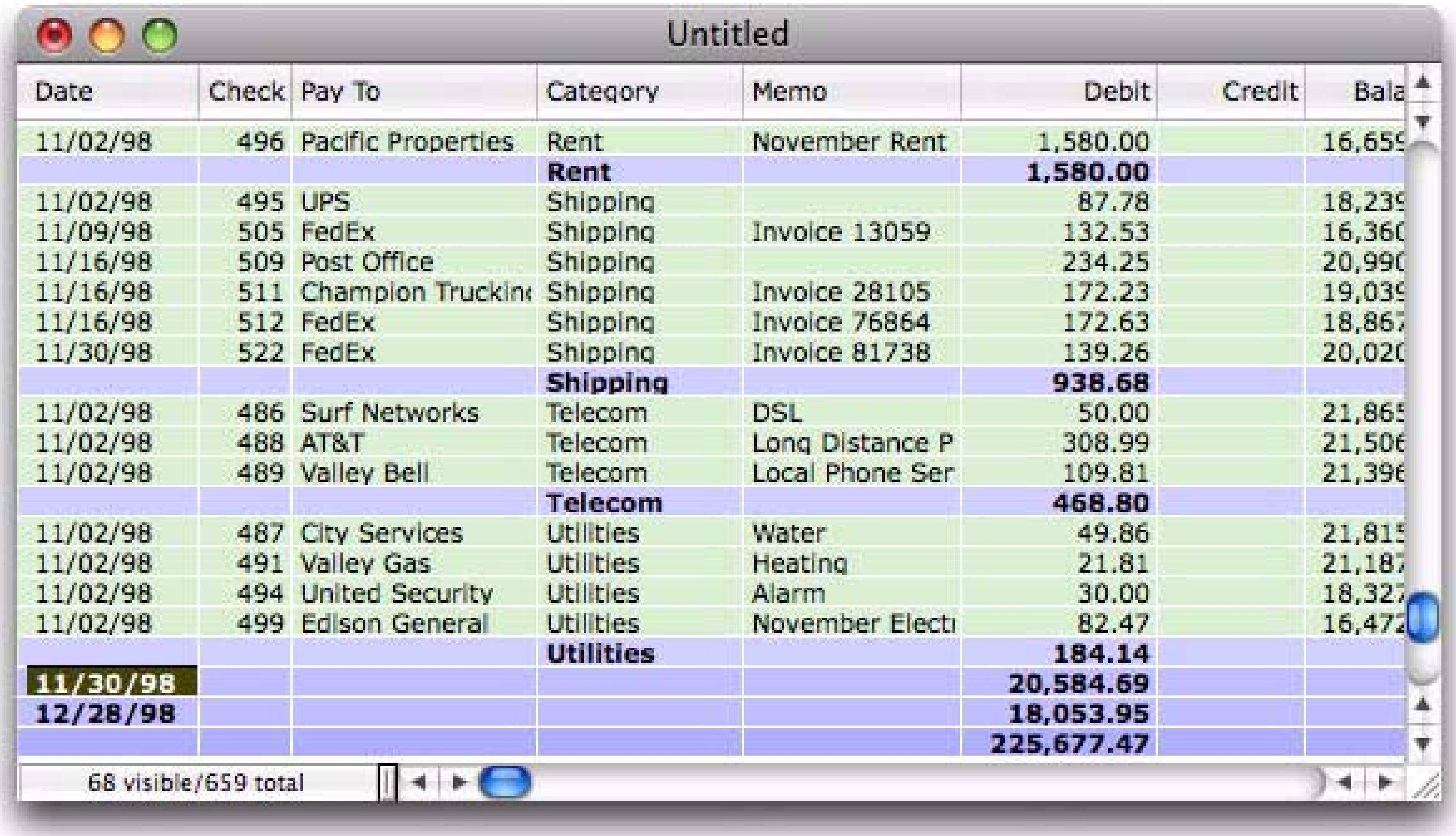


Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
01/30/98					17,202.48		
02/27/98					19,773.29		
03/30/98					21,908.19		
04/27/98					17,708.77		
05/29/98					20,072.21		
06/29/98					18,958.28		
07/31/98					15,803.58		
08/31/98					21,410.34		
09/28/98					16,210.08		
10/30/98					17,991.62		
11/30					20,584.69		
12/28					18,053.95		
					225,677.47		

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail

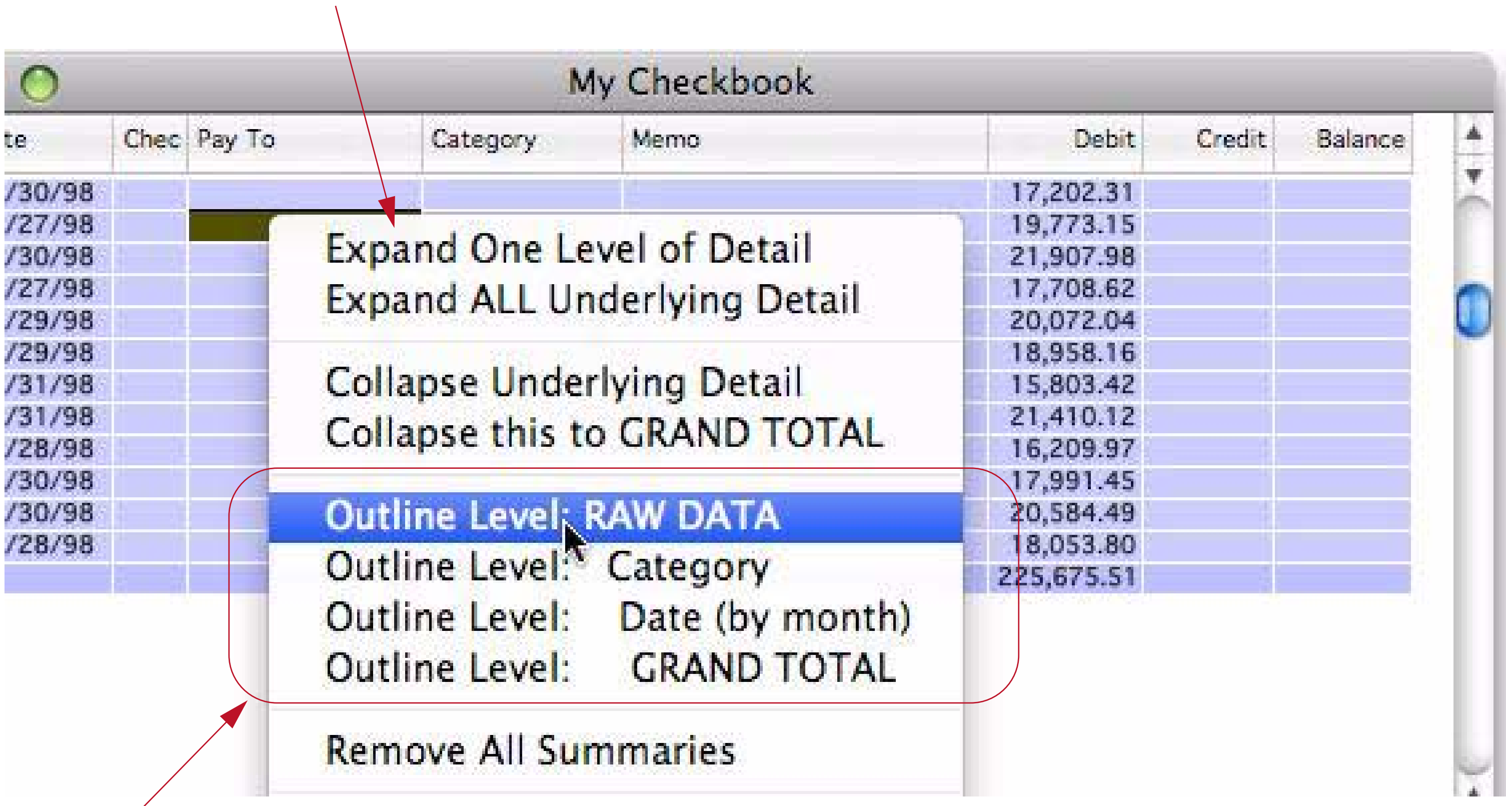
This makes all subsummaries and raw detail associated with this summary record visible. In the example below, we now can see all of the data and sub-summaries for November 1998.



Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
11/02/98	496	Pacific Properties	Rent	November Rent	1,580.00		16,659
			Rent		**1,580.00**		
11/02/98	495	UPS	Shipping		87.78		18,239
11/09/98	505	FedEx	Shipping	Invoice 13059	132.53		16,360
11/16/98	509	Post Office	Shipping		234.25		20,990
11/16/98	511	Champion Truckin	Shipping	Invoice 28105	172.23		19,039
11/16/98	512	FedEx	Shipping	Invoice 76864	172.63		18,867
11/30/98	522	FedEx	Shipping	Invoice 81738	139.26		20,020
			Shipping		**938.68**		
11/02/98	486	Surf Networks	Telecom	DSL	50.00		21,865
11/02/98	488	AT&T	Telecom	Long Distance P	308.99		21,506
11/02/98	489	Valley Bell	Telecom	Local Phone Ser	109.81		21,396
			Telecom		**468.80**		
11/02/98	487	City Services	Utilities	Water	49.86		21,815
11/02/98	491	Valley Gas	Utilities	Heating	21.81		21,187
11/02/98	494	United Security	Utilities	Alarm	30.00		18,327
11/02/98	499	Edison General	Utilities	November Electi	82.47		16,472
			Utilities		**184.14**		
11/30/98					**20,584.69**		
12/28/98					**18,053.95**		
					225,677.47		

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.



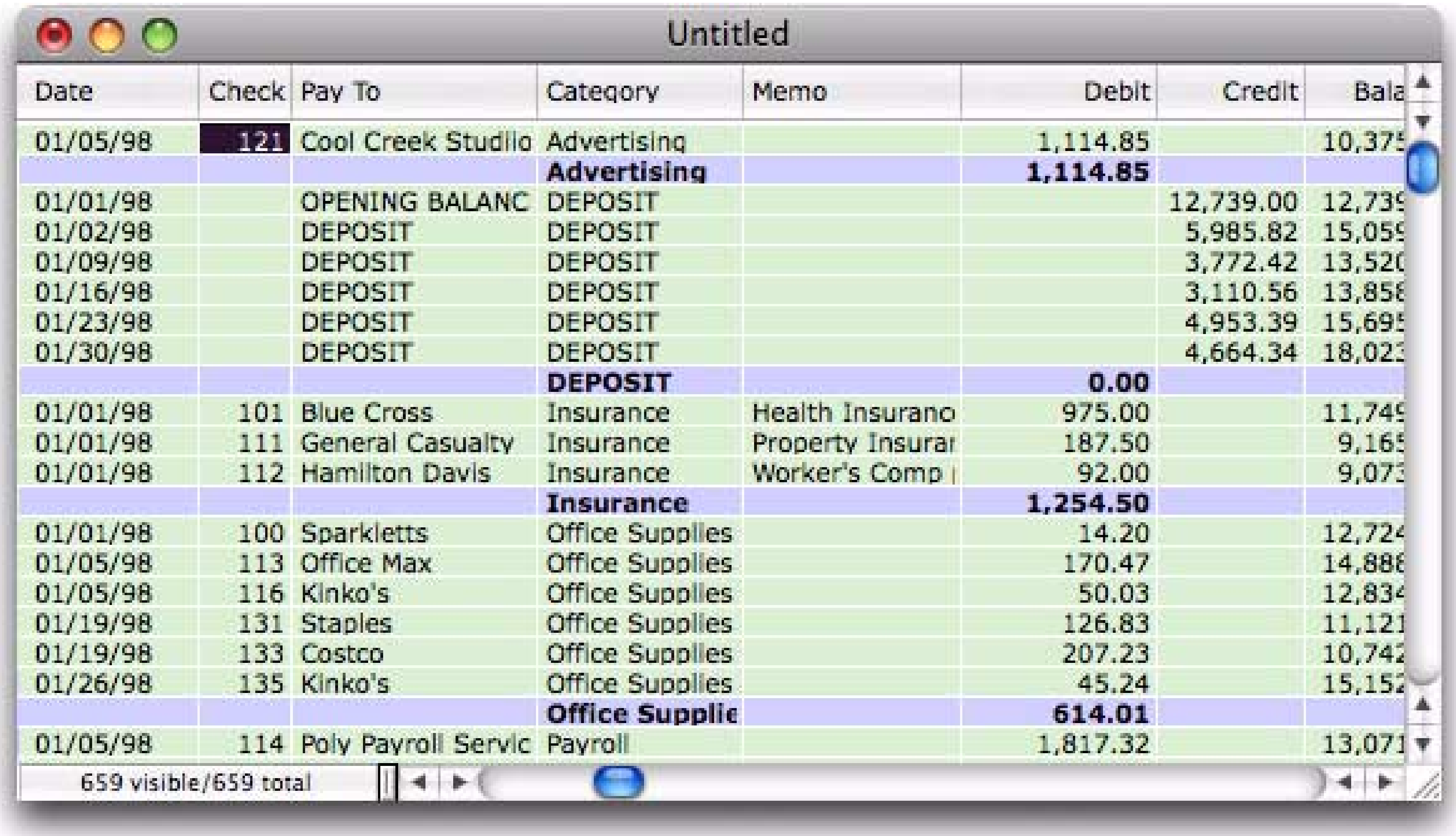
My Checkbook
te
Chec
Pay To
Category
Memo
Debit
Credit
Balance
Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to GRAND TOTAL
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)
Outline Level: GRAND TOTAL
Remove All Summaries

te	Debit
/30/98	17,202.31
/27/98	19,773.15
/30/98	21,907.98
/27/98	17,708.62
/29/98	20,072.04
/29/98	18,958.16
/31/98	15,803.42
/31/98	21,410.12
/28/98	16,209.97
/30/98	17,991.45
/30/98	20,584.49
/28/98	18,053.80
	225,675.51

right click anywhere in data sheet

then choose the level you want to see

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



Untitled

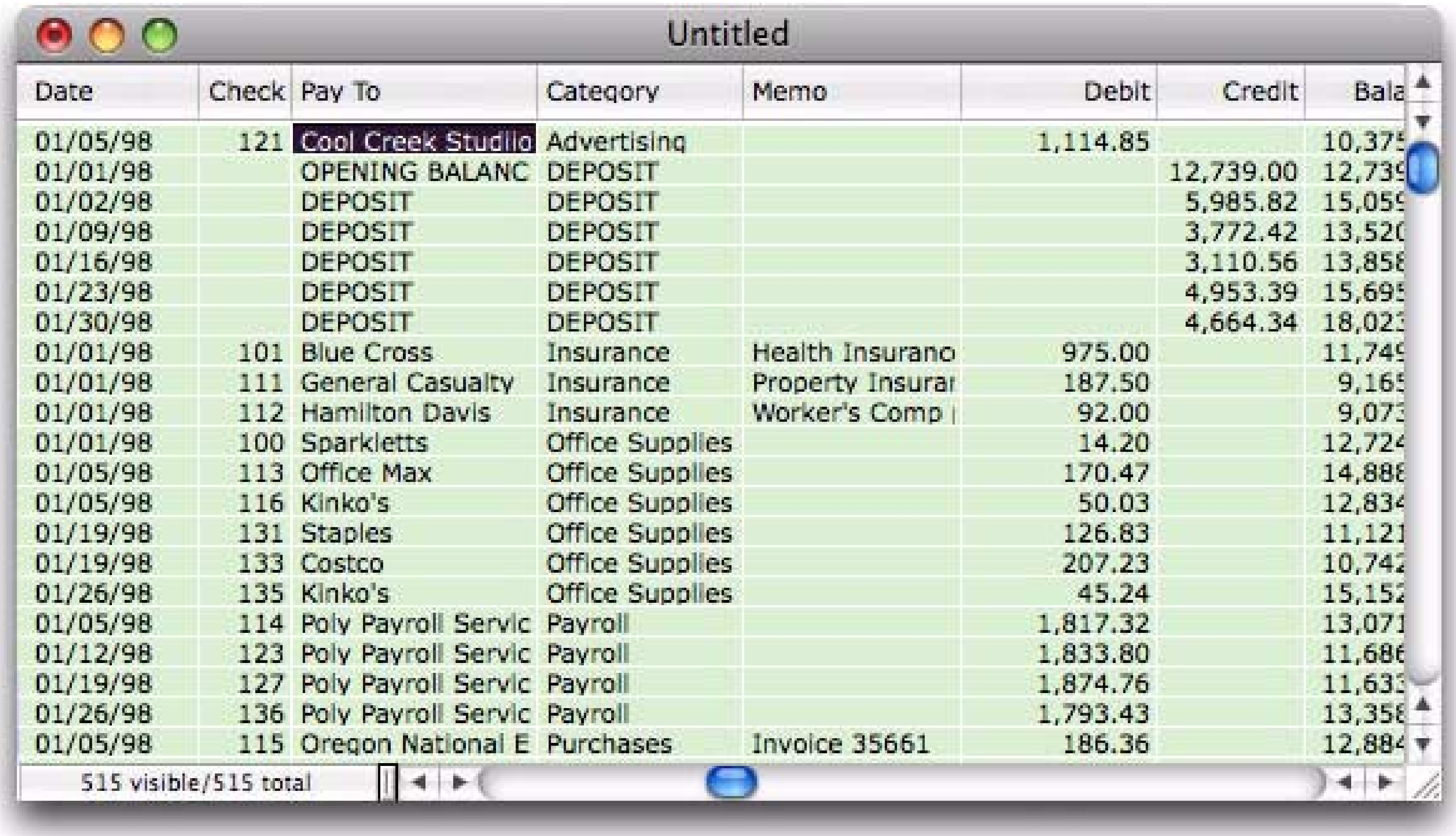
Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
01/05/98	121	Cool Creek Studio	Advertising		1,114.85		10,375
			Advertising		**1,114.85**		
01/01/98		OPENING BALANC	DEPOSIT			12,739.00	12,739
01/02/98		DEPOSIT	DEPOSIT			5,985.82	15,059
01/09/98		DEPOSIT	DEPOSIT			3,772.42	13,520
01/16/98		DEPOSIT	DEPOSIT			3,110.56	13,858
01/23/98		DEPOSIT	DEPOSIT			4,953.39	15,695
01/30/98		DEPOSIT	DEPOSIT			4,664.34	18,023
			DEPOSIT		**0.00**		
01/01/98	101	Blue Cross	Insurance	Health Insuranc	975.00		11,749
01/01/98	111	General Casualty	Insurance	Property Insurar	187.50		9,165
01/01/98	112	Hamilton Davis	Insurance	Worker's Comp	92.00		9,073
			Insurance		**1,254.50**		
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724
01/05/98	113	Office Max	Office Supplies		170.47		14,888
01/05/98	116	Kinko's	Office Supplies		50.03		12,834
01/19/98	131	Staples	Office Supplies		126.83		11,121
01/19/98	133	Costco	Office Supplies		207.23		10,742
01/26/98	135	Kinko's	Office Supplies		45.24		15,152
			Office Supplie		**614.01**		
01/05/98	114	Poly Payroll Servic	Payroll		1,817.32		13,071

659 visible/659 total

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.

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.



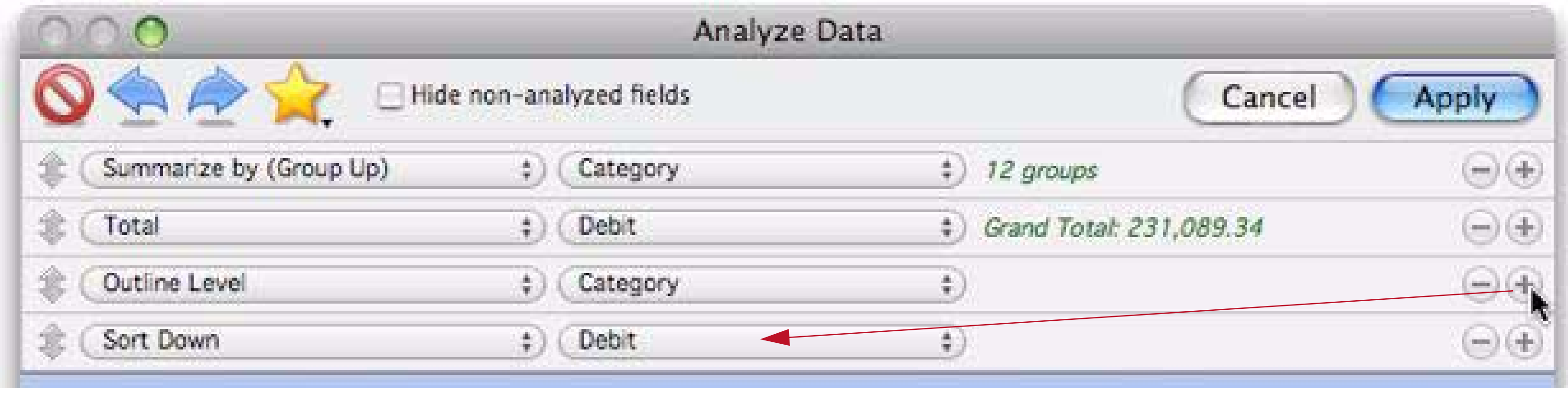
Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
01/05/98	121	Cool Creek Studio	Advertising		1,114.85		10,375
01/01/98		OPENING BALANC	DEPOSIT			12,739.00	12,739
01/02/98		DEPOSIT	DEPOSIT			5,985.82	15,059
01/09/98		DEPOSIT	DEPOSIT			3,772.42	13,520
01/16/98		DEPOSIT	DEPOSIT			3,110.56	13,858
01/23/98		DEPOSIT	DEPOSIT			4,953.39	15,695
01/30/98		DEPOSIT	DEPOSIT			4,664.34	18,023
01/01/98	101	Blue Cross	Insurance	Health Insuranc	975.00		11,749
01/01/98	111	General Casualty	Insurance	Property Insurar	187.50		9,165
01/01/98	112	Hamilton Davis	Insurance	Worker's Comp	92.00		9,073
01/01/98	100	Sparkletts	Office Supplies		14.20		12,724
01/05/98	113	Office Max	Office Supplies		170.47		14,888
01/05/98	116	Kinko's	Office Supplies		50.03		12,834
01/19/98	131	Staples	Office Supplies		126.83		11,121
01/19/98	133	Costco	Office Supplies		207.23		10,742
01/26/98	135	Kinko's	Office Supplies		45.24		15,152
01/05/98	114	Poly Payroll Servic	Payroll		1,817.32		13,071
01/12/98	123	Poly Payroll Servic	Payroll		1,833.80		11,686
01/19/98	127	Poly Payroll Servic	Payroll		1,874.76		11,633
01/26/98	136	Poly Payroll Servic	Payroll		1,793.43		13,358
01/05/98	115	Oregon National E	Purchases	Invoice 35661	186.36		12,884

515 visible/515 total

Ranking Summaries

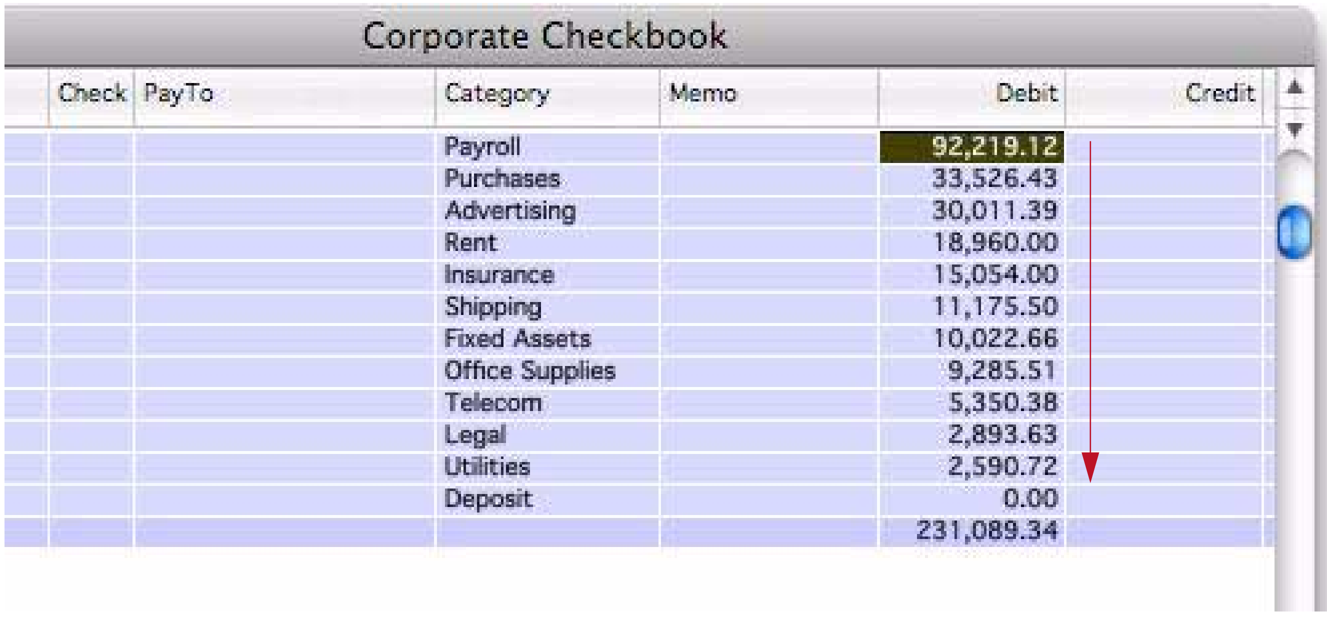
Panorama normally generates summaries in alphabetical order. By adding an extra rule to the **Summarize & Analyze** dialog you can tell Panorama to rank the summaries by value. For example, if you are summarizing by month they could be ranked to show the month with the highest sales (or spending, etc.)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



□ Hide non-analyzed fields

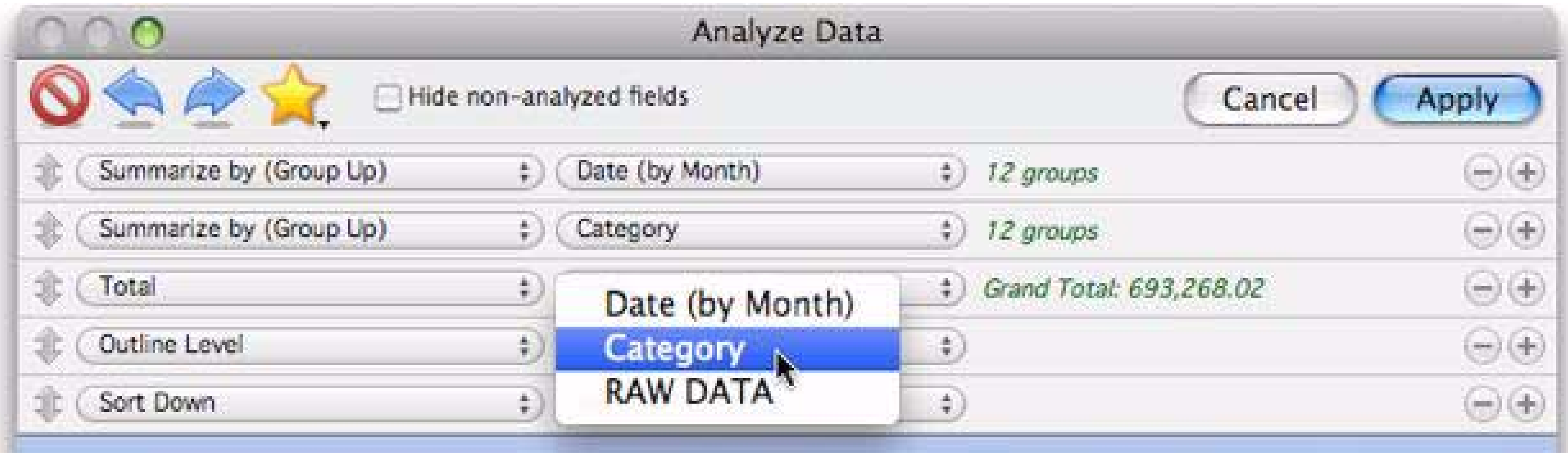
Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 231,089.34
Outline Level	Category	
Sort Down	Debit	

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.



Check	PayTo	Category	Memo	Debit	Credit
		Payroll		92,219.12	
		Purchases		33,526.43	
		Advertising		30,011.39	
		Rent		18,960.00	
		Insurance		15,054.00	
		Shipping		11,175.50	
		Fixed Assets		10,022.66	
		Office Supplies		9,285.51	
		Telecom		5,350.38	
		Legal		2,893.63	
		Utilities		2,590.72	
		Deposit		0.00	
				231,089.34	

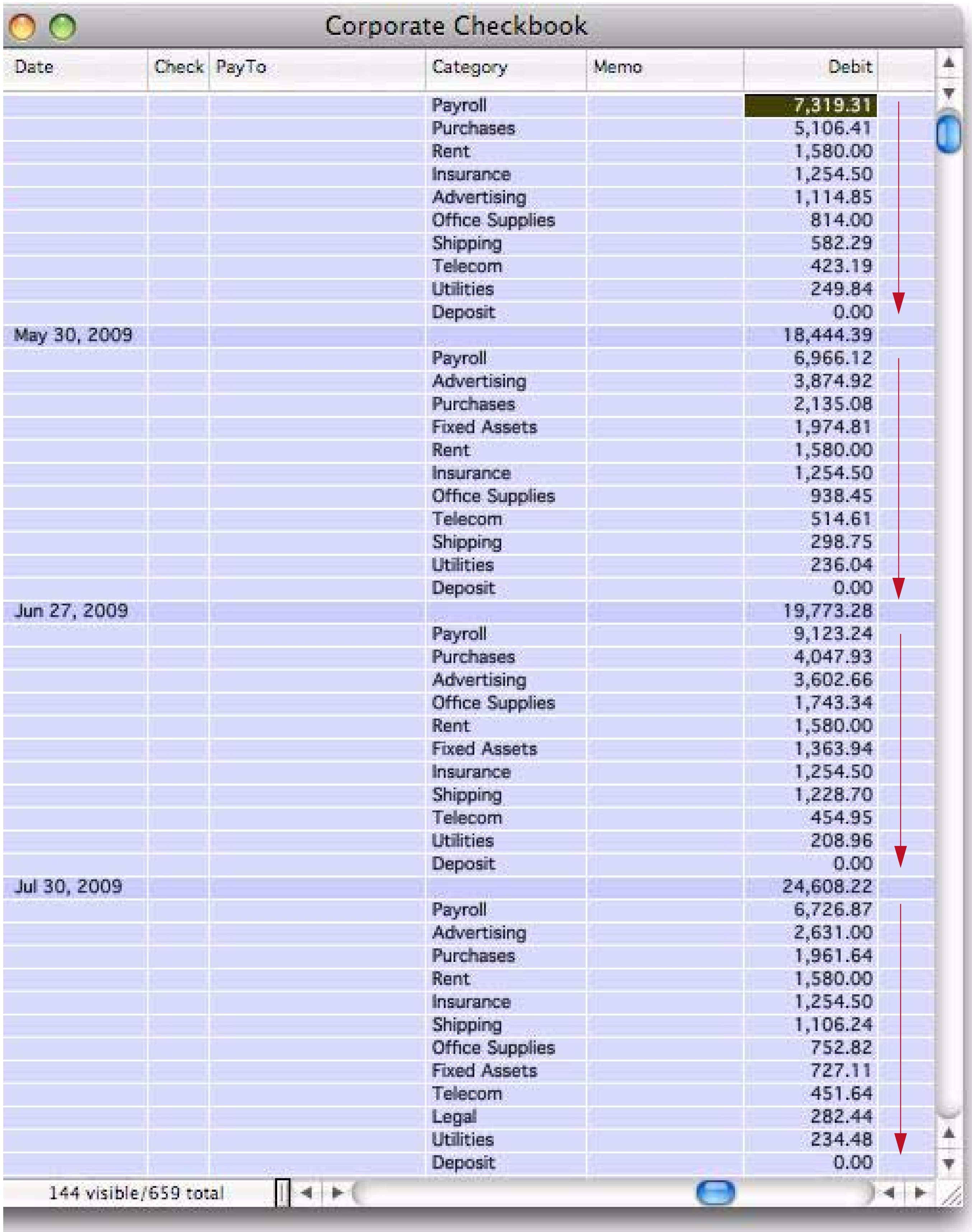
For multi-level nested summaries you can use the outline level pop-up menu to pick which level is ranked.



□ Hide non-analyzed fields

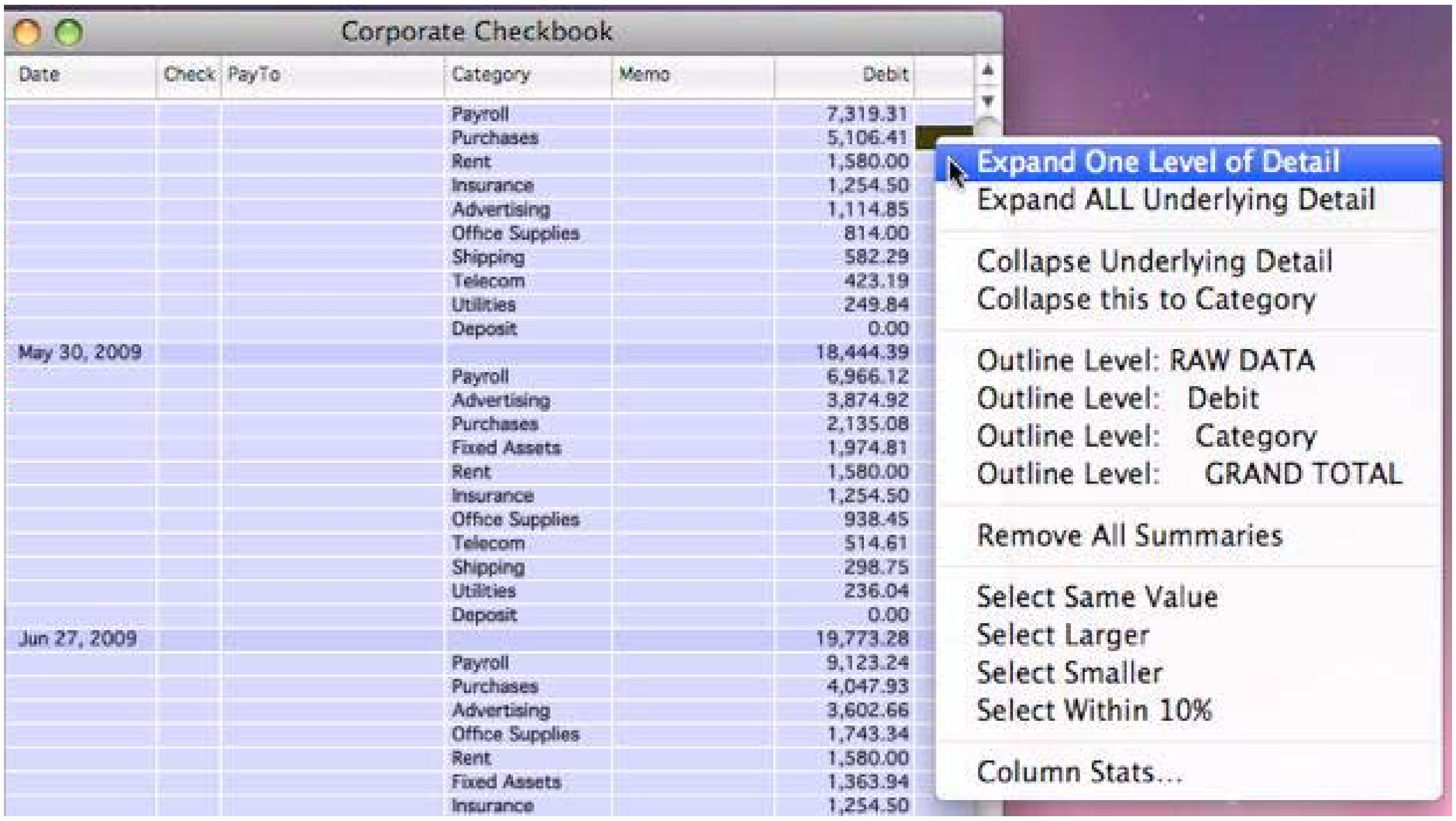
Summarize by (Group Up)	Date (by Month)	12 groups
Summarize by (Group Up)	Category	12 groups
Total		Grand Total: 693,268.02
Outline Level		
Sort Down		

Whatever level you specified will be ranked. In this example, the category summaries are ranked within each month.



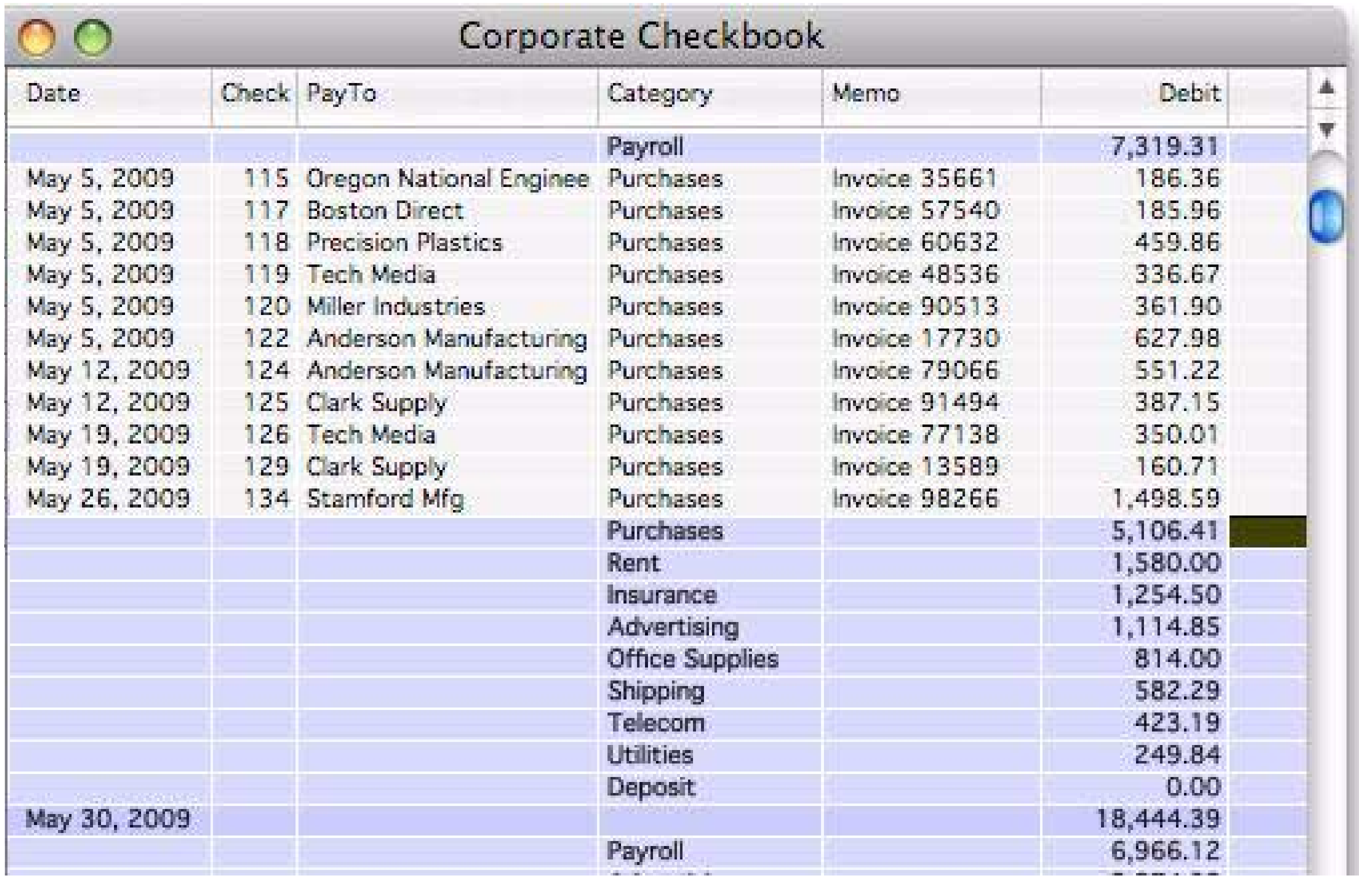
Date	Check	PayTo	Category	Memo	Debit
			Payroll		7,319.31
			Purchases		5,106.41
			Rent		1,580.00
			Insurance		1,254.50
			Advertising		1,114.85
			Office Supplies		814.00
			Shipping		582.29
			Telecom		423.19
			Utilities		249.84
			Deposit		0.00
May 30, 2009					18,444.39
			Payroll		6,966.12
			Advertising		3,874.92
			Purchases		2,135.08
			Fixed Assets		1,974.81
			Rent		1,580.00
			Insurance		1,254.50
			Office Supplies		938.45
			Telecom		514.61
			Shipping		298.75
			Utilities		236.04
			Deposit		0.00
Jun 27, 2009					19,773.28
			Payroll		9,123.24
			Purchases		4,047.93
			Advertising		3,602.66
			Office Supplies		1,743.34
			Rent		1,580.00
			Fixed Assets		1,363.94
			Insurance		1,254.50
			Shipping		1,228.70
			Telecom		454.95
			Utilities		208.96
			Deposit		0.00
Jul 30, 2009					24,608.22
			Payroll		6,726.87
			Advertising		2,631.00
			Purchases		1,961.64
			Rent		1,580.00
			Insurance		1,254.50
			Shipping		1,106.24
			Office Supplies		752.82
			Fixed Assets		727.11
			Telecom		451.64
			Legal		282.44
			Utilities		234.48
			Deposit		0.00

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).



Date	Check	PayTo	Category	Memo	Debit
			Payroll		7,319.31
			Purchases		5,106.41
			Rent		1,580.00
			Insurance		1,254.50
			Advertising		1,114.85
			Office Supplies		814.00
			Shipping		582.29
			Telecom		423.19
			Utilities		249.84
			Deposit		0.00
May 30, 2009					18,444.39
			Payroll		6,966.12
			Advertising		3,874.92
			Purchases		2,135.08
			Fixed Assets		1,974.81
			Rent		1,580.00
			Insurance		1,254.50
			Office Supplies		938.45
			Telecom		514.61
			Shipping		298.75
			Utilities		236.04
			Deposit		0.00
Jun 27, 2009					19,773.28
			Payroll		9,123.24
			Purchases		4,047.93
			Advertising		3,602.66
			Office Supplies		1,743.34
			Rent		1,580.00
			Fixed Assets		1,363.94
			Insurance		1,254.50

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



Date	Check	PayTo	Category	Memo	Debit
			Payroll		7,319.31
May 5, 2009	115	Oregon National Enginee	Purchases	Invoice 35661	186.36
May 5, 2009	117	Boston Direct	Purchases	Invoice 57540	185.96
May 5, 2009	118	Precision Plastics	Purchases	Invoice 60632	459.86
May 5, 2009	119	Tech Media	Purchases	Invoice 48536	336.67
May 5, 2009	120	Miller Industries	Purchases	Invoice 90513	361.90
May 5, 2009	122	Anderson Manufacturing	Purchases	Invoice 17730	627.98
May 12, 2009	124	Anderson Manufacturing	Purchases	Invoice 79066	551.22
May 12, 2009	125	Clark Supply	Purchases	Invoice 91494	387.15
May 19, 2009	126	Tech Media	Purchases	Invoice 77138	350.01
May 19, 2009	129	Clark Supply	Purchases	Invoice 13589	160.71
May 26, 2009	134	Stamford Mfg	Purchases	Invoice 98266	1,498.59
			Purchases		5,106.41
			Rent		1,580.00
			Insurance		1,254.50
			Advertising		1,114.85
			Office Supplies		814.00
			Shipping		582.29
			Telecom		423.19
			Utilities		249.84
			Deposit		0.00
May 30, 2009					18,444.39
			Payroll		6,966.12

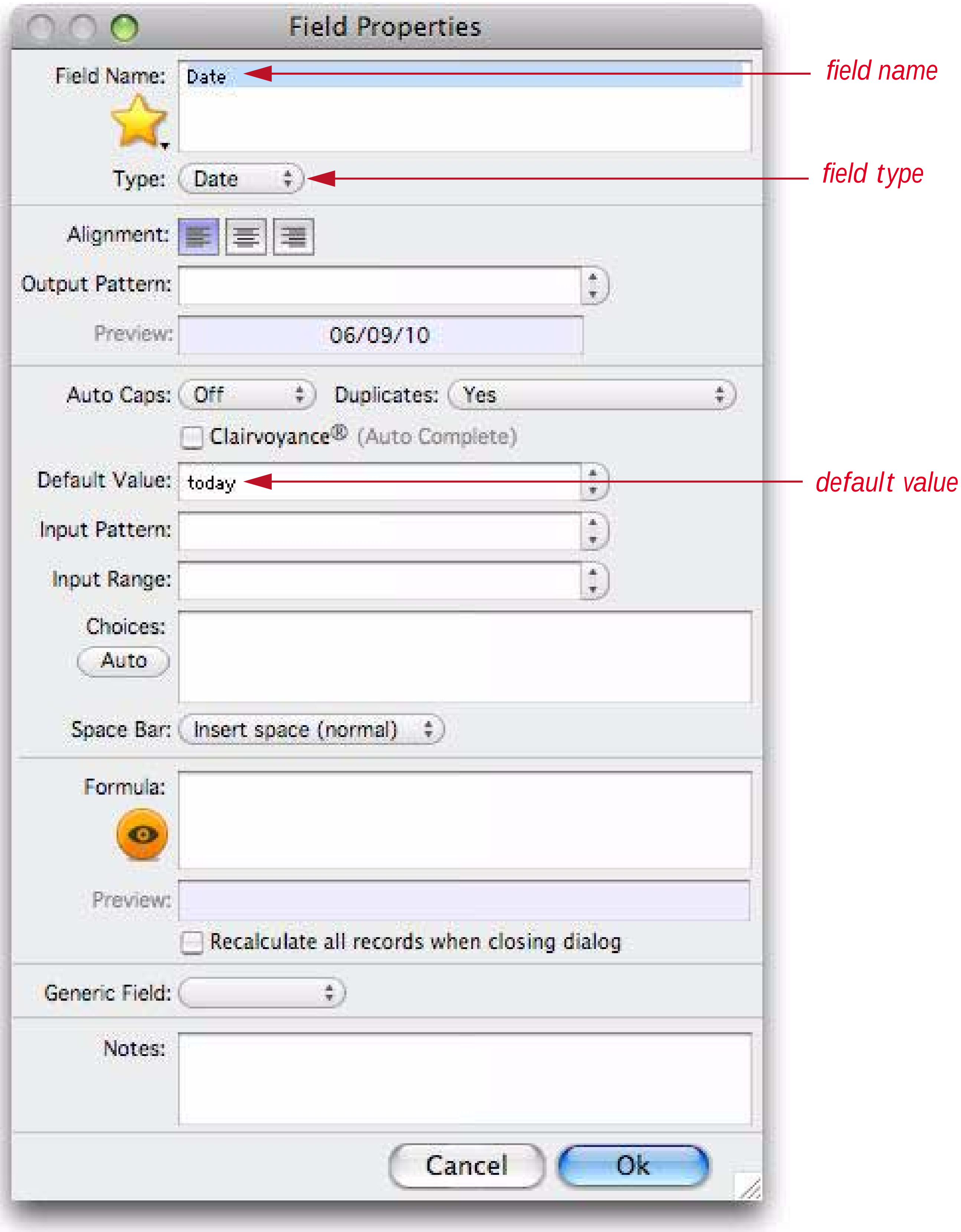
The ability to "zoom" in and out like this is a great tool for actually understanding your data.

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 191). (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.



Field Properties

Field Name: Date

Type: Date

Alignment:

Output Pattern:

Preview: 06/09/10

Auto Caps: Off
Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value: today

Input Pattern:

Input Range:

Choices:

Space Bar: Insert space (normal)

Formula:

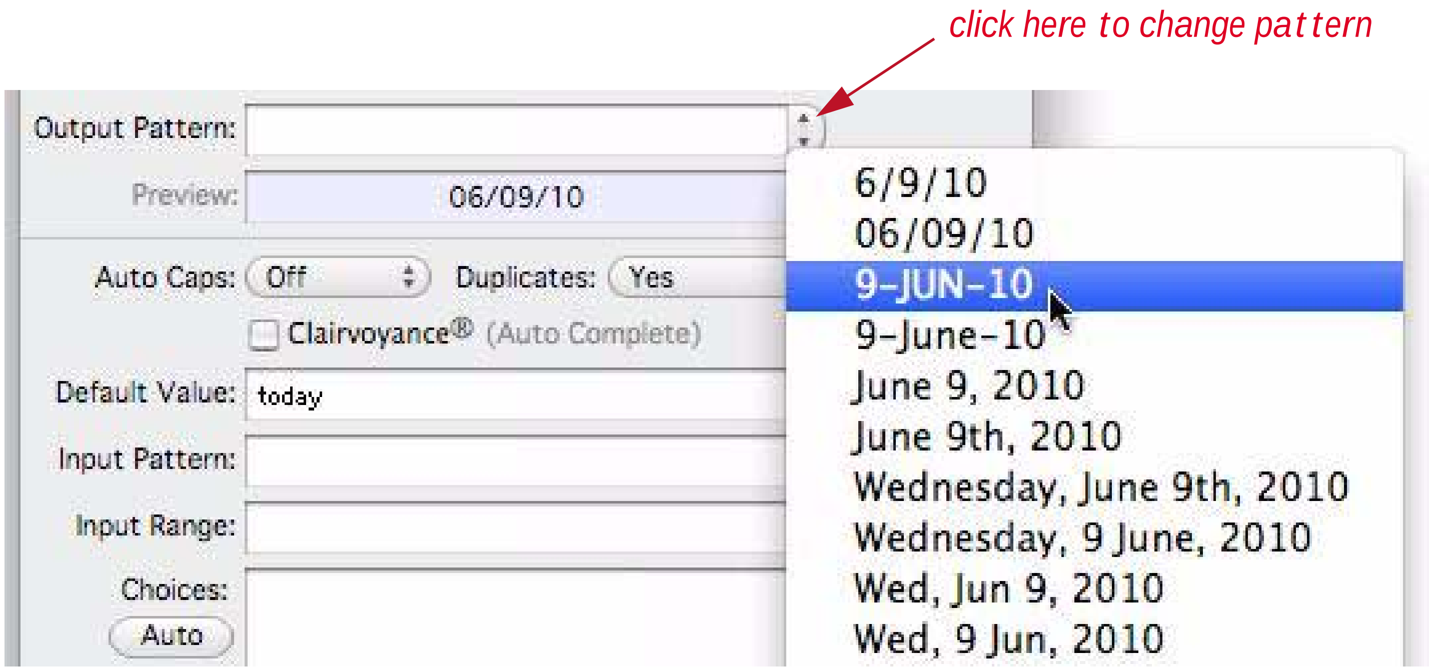
Preview:

□ Recalculate all records when closing dialog

Generic Field:

Notes:

To change the output pattern, click on the icon and choose the option you want.



Output Pattern:

Preview: 06/09/10

Auto Caps: Off Duplicates: Yes

☐ Clairvoyance® (Auto Complete)

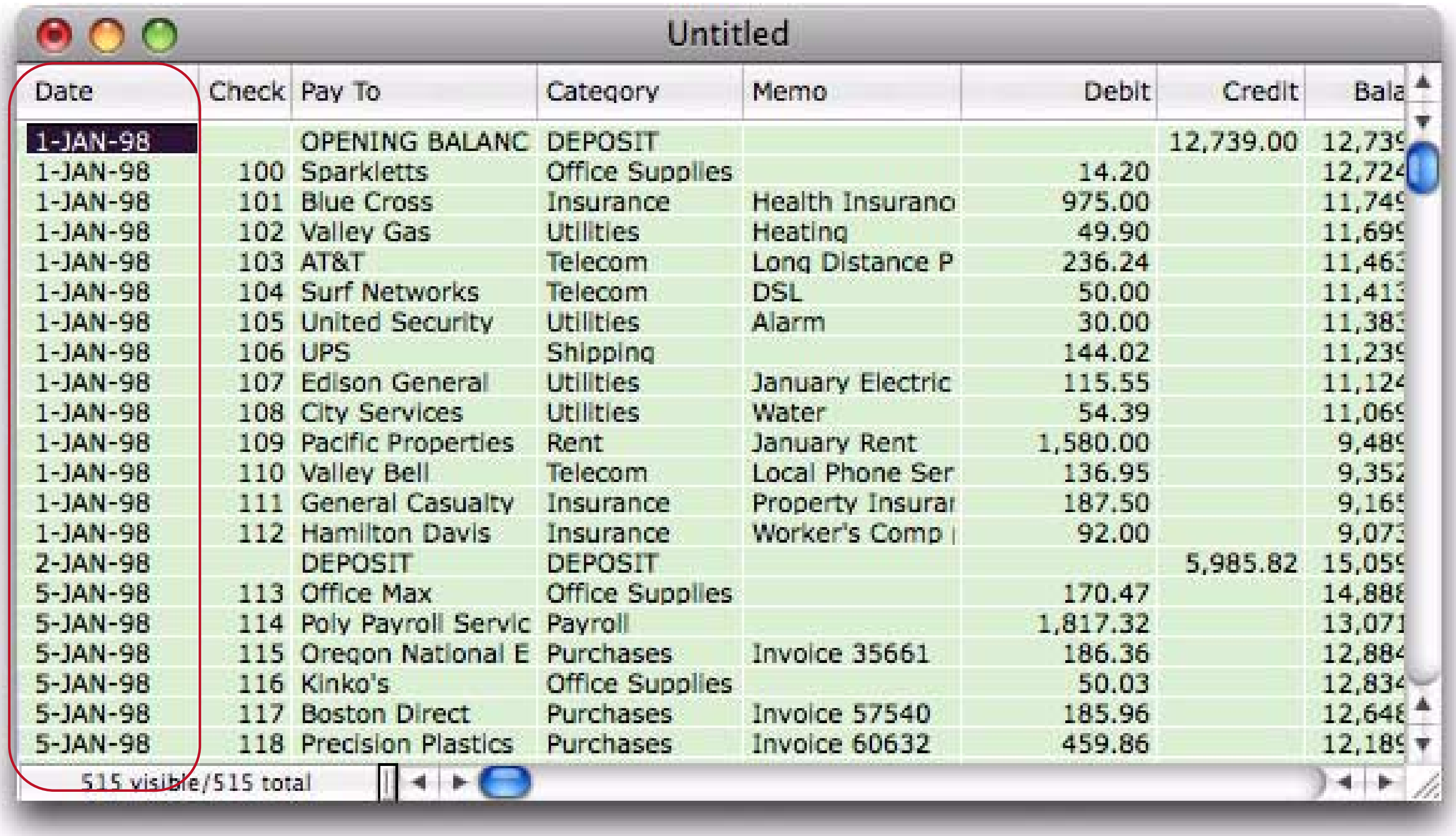
Default Value: today

Input Pattern:

Input Range:

Choices:

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.

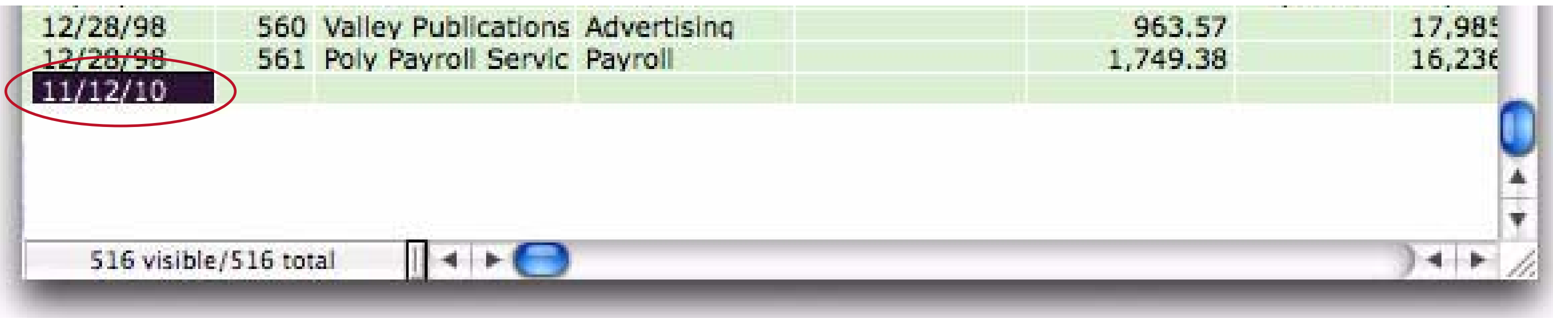

Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Bala
1-JAN-98		OPENING BALANC	DEPOSIT			12,739.00	12,739
1-JAN-98	100	Sparkletts	Office Supplies		14.20		12,724
1-JAN-98	101	Blue Cross	Insurance	Health Insuranc	975.00		11,749
1-JAN-98	102	Valley Gas	Utilities	Heating	49.90		11,699
1-JAN-98	103	AT&T	Telecom	Long Distance P	236.24		11,463
1-JAN-98	104	Surf Networks	Telecom	DSL	50.00		11,413
1-JAN-98	105	United Security	Utilities	Alarm	30.00		11,383
1-JAN-98	106	UPS	Shipping		144.02		11,239
1-JAN-98	107	Edison General	Utilities	January Electric	115.55		11,124
1-JAN-98	108	City Services	Utilities	Water	54.39		11,069
1-JAN-98	109	Pacific Properties	Rent	January Rent	1,580.00		9,489
1-JAN-98	110	Valley Bell	Telecom	Local Phone Ser	136.95		9,352
1-JAN-98	111	General Casualty	Insurance	Property Insurar	187.50		9,165
1-JAN-98	112	Hamilton Davis	Insurance	Worker's Comp		92.00		9,073
2-JAN-98		DEPOSIT	DEPOSIT			5,985.82	15,059
5-JAN-98	113	Office Max	Office Supplies		170.47		14,888
5-JAN-98	114	Poly Payroll Servic	Payroll		1,817.32		13,071
5-JAN-98	115	Oregon National E	Purchases	Invoice 35661	186.36		12,884
5-JAN-98	116	Kinko's	Office Supplies		50.03		12,834
5-JAN-98	117	Boston Direct	Purchases	Invoice 57540	185.96		12,648
5-JAN-98	118	Precision Plastics	Purchases	Invoice 60632	459.86		12,189

515 visible/515 total

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, select **Add New Record** from the Records menu). The new check automatically defaults to today's date.


12/28/98	560	Valley Publications	Advertising	963.57	17,985
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38	16,236
11/12/10					

516 visible/516 total

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.

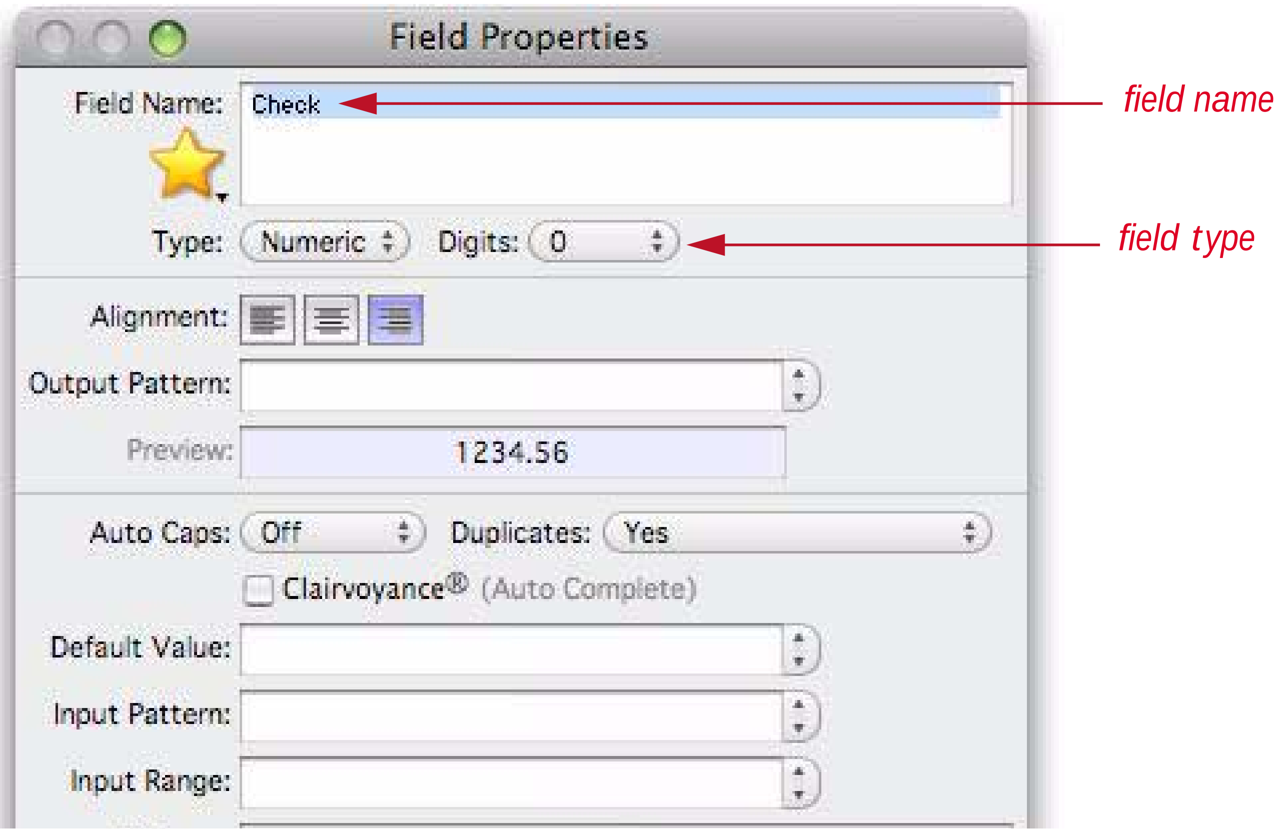
If the date is in the current week, you can simply type in the name of the day, for example **saturday** or **tue**. To specify a day in the previous or upcoming weeks add the words last or next, for example **next tuesday** or **last saturday**.

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 191). (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.



Field Properties

Field Name: Check

Type: Numeric

Digits: 0

Output Pattern:

Preview: 1234.56

Auto Caps: Off

Duplicates: Yes

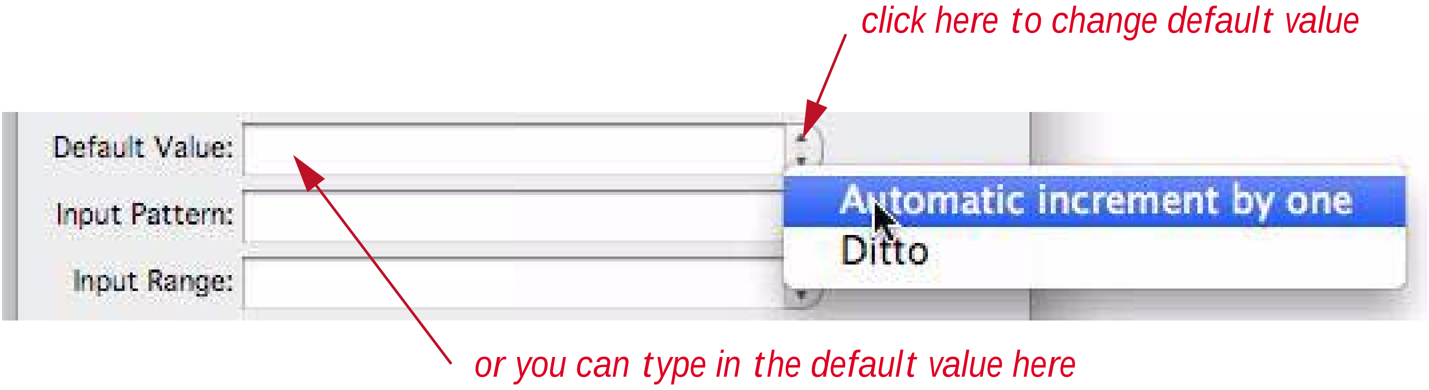
□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

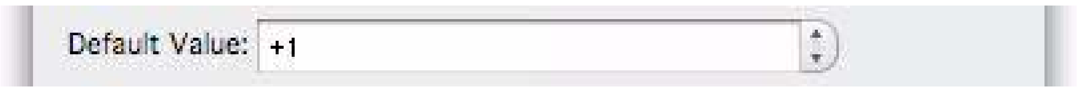
To set up the default value for this field, click on the icon and choose the option you want.



click here to change default value

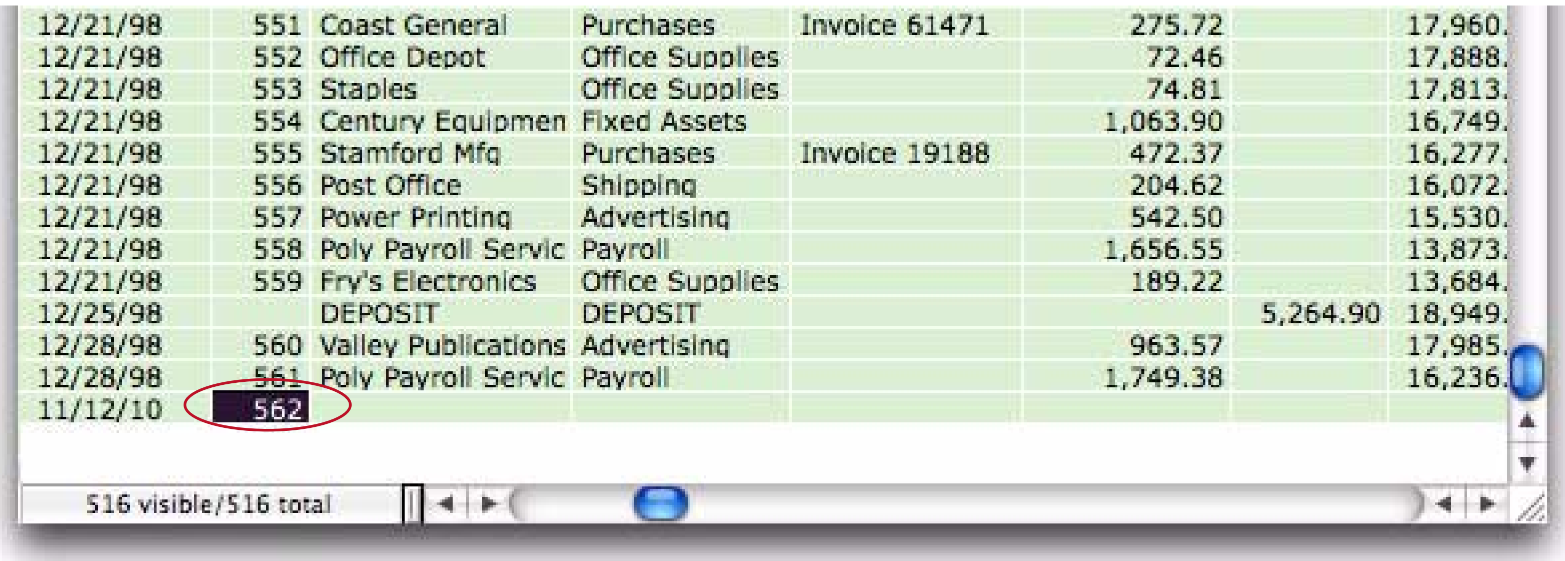
or you can type in the default value here

Choosing **Automatic increment by one** sets the default value to +1.



Default Value: +1

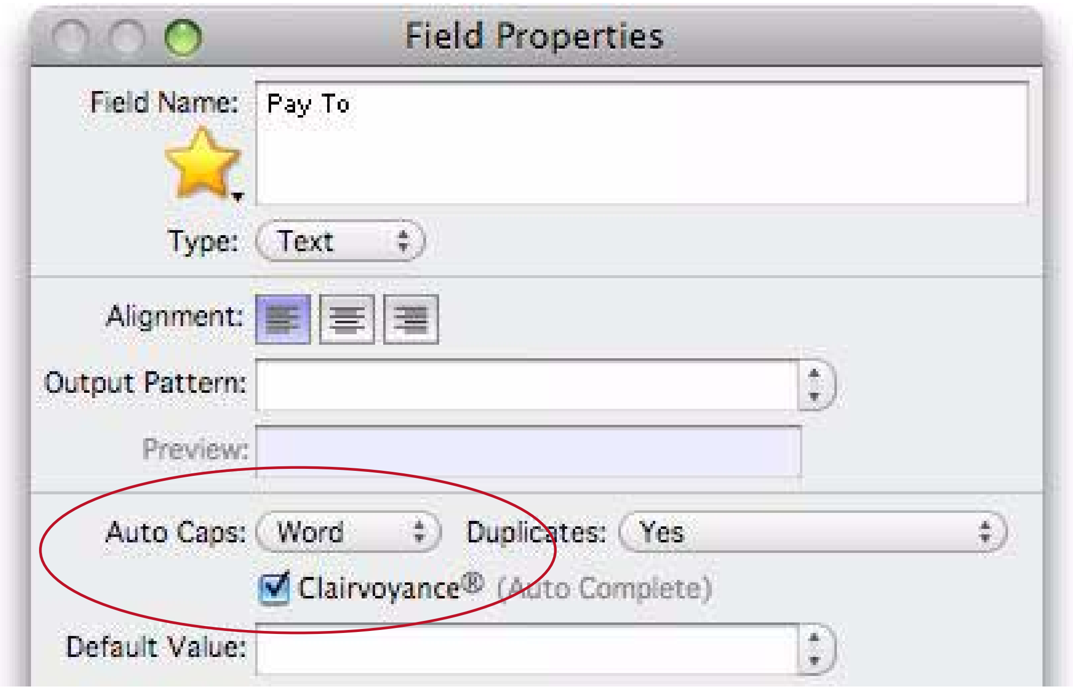
Press the **OK** button to get back to the data sheet. Then choose **Add New Record** from the Records menu. The new check automatically defaults to today’s date and is assigned the next check number, in this case 562.



12/21/98	551	Coast General	Purchases	Invoice 61471	275.72		17,960.
12/21/98	552	Office Depot	Office Supplies		72.46		17,888.
12/21/98	553	Staples	Office Supplies		74.81		17,813.
12/21/98	554	Century Equipmen	Fixed Assets		1,063.90		16,749.
12/21/98	555	Stamford Mfg	Purchases	Invoice 19188	472.37		16,277.
12/21/98	556	Post Office	Shipping		204.62		16,072.
12/21/98	557	Power Printing	Advertising		542.50		15,530.
12/21/98	558	Poly Payroll Servic	Payroll		1,656.55		13,873.
12/21/98	559	Fry's Electronics	Office Supplies		189.22		13,684.
12/25/98		DEPOSIT	DEPOSIT			5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising		963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll		1,749.38		16,236.
11/12/10	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 204). 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 191). (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.



Field Properties

Field Name: Pay To

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Word

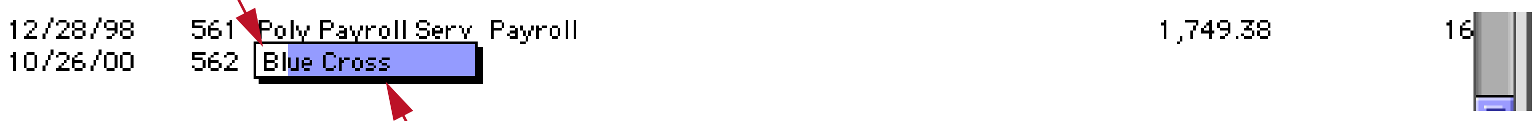
Duplicates: Yes

☑ Clairvoyance® (Auto Complete)

Default Value:

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



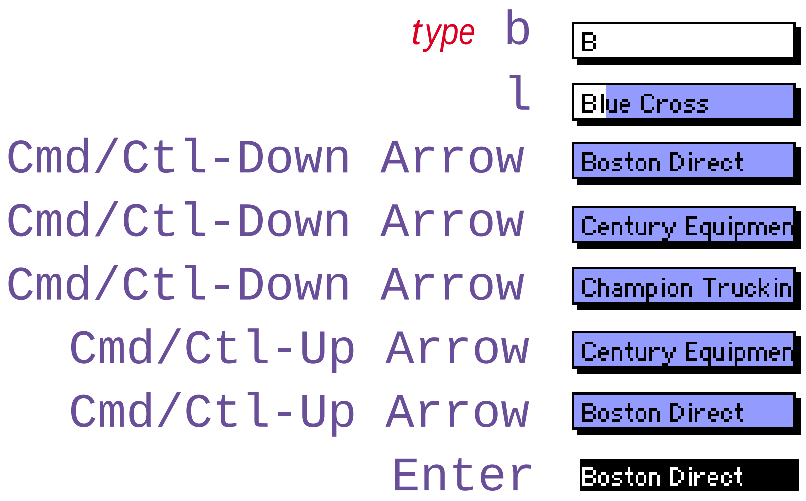
```
12/28/98   561 Poly Payroll Serv  Payroll                    1,749.38        16
10/26/00   562 Blue Cross
```

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

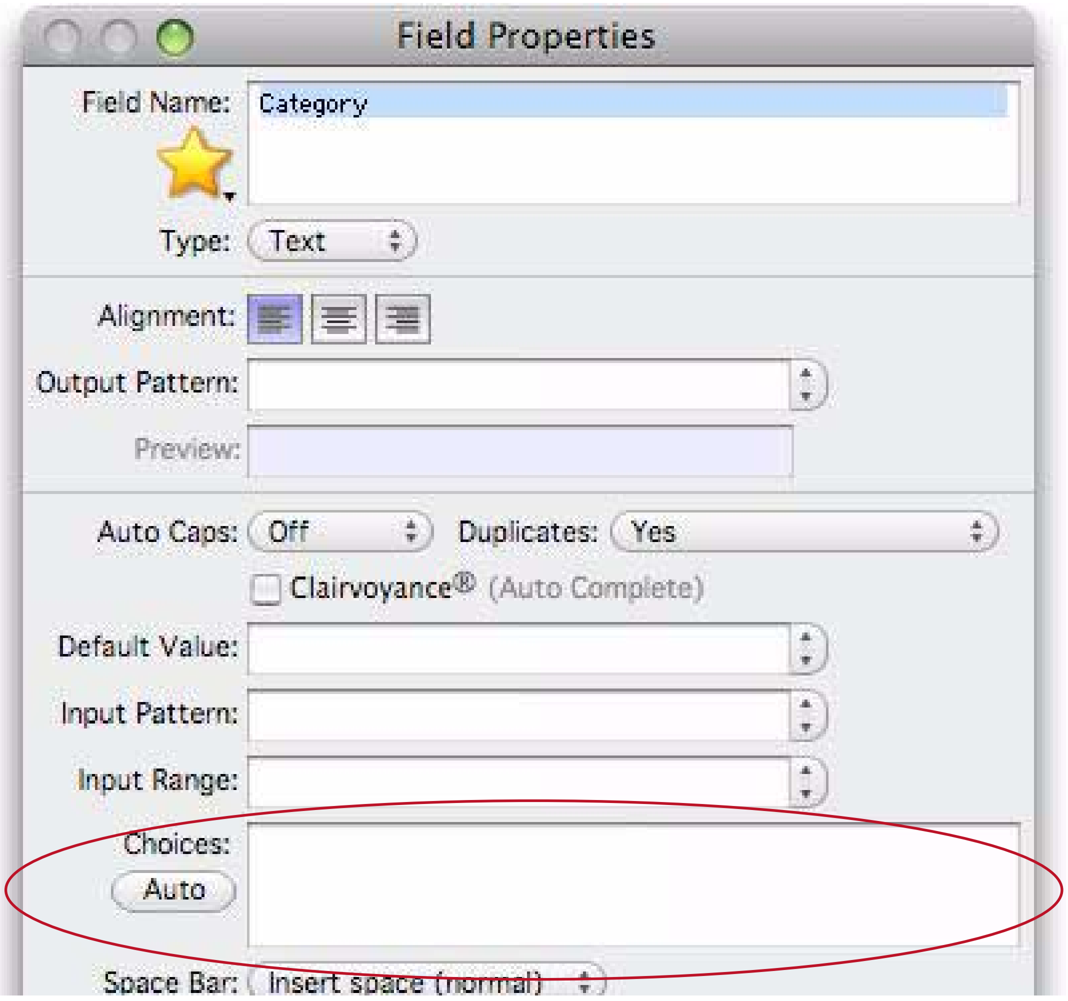
When you hold down the **Command** key (Mac) or **Control** key (Windows), the up and down arrows on the keyboard become clairvoyant arrows, or “**clairrows**.” With the key held down you can use the arrows to scan through the values that are already in the database. Each time you press **Command/Control-Down 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 Equipmen
Cmd/Ctl-Down Arrow	Champion Truckin
Cmd/Ctl-Up Arrow	Century Equipmen
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 215). This palette will have a radio button for each category. This palette is set up with the Choices option in the **Field Properties** dialog.



Field Properties

Field Name: Category

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Off Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

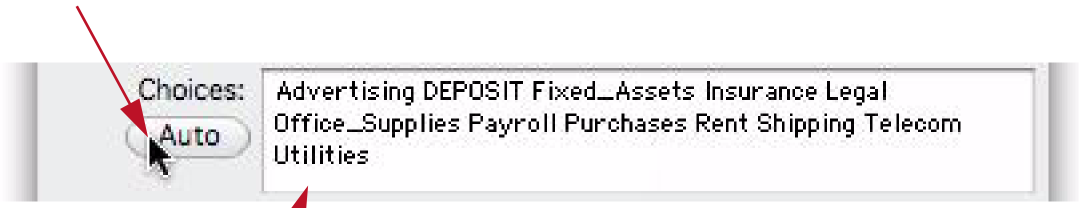
Input Range:

Choices:

Space Bar: Insert space (normal)

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.

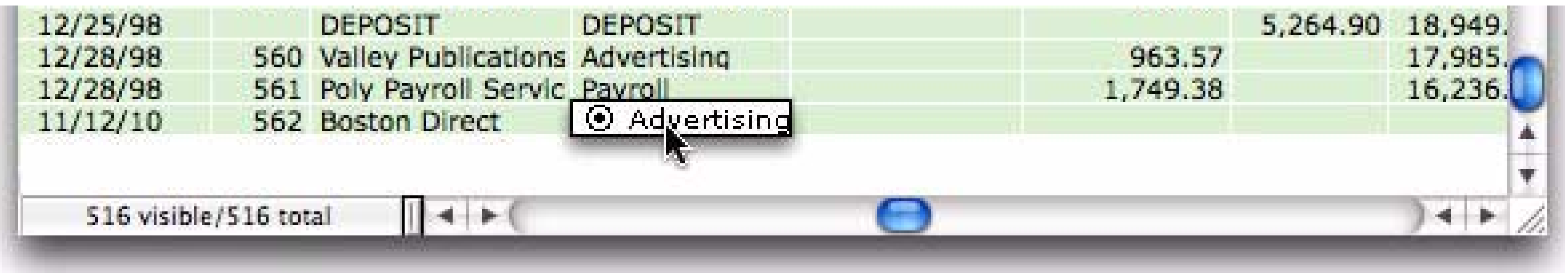
Click the Auto button…



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

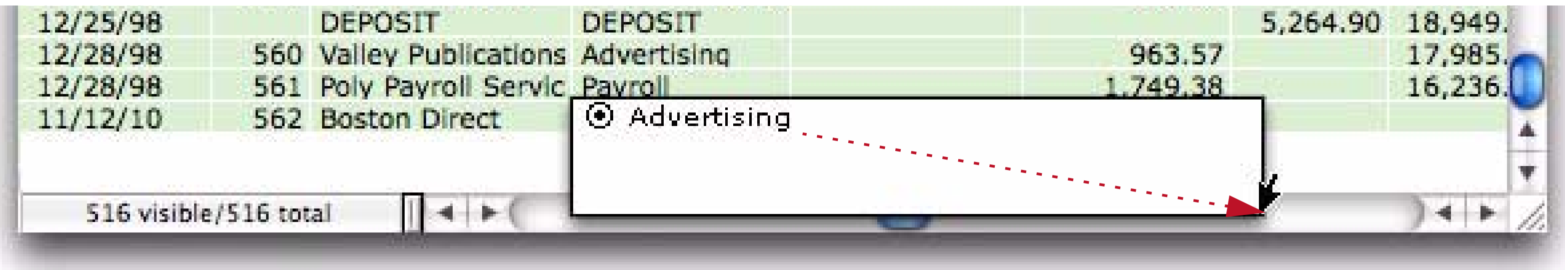
The choices are automatically filled in

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.



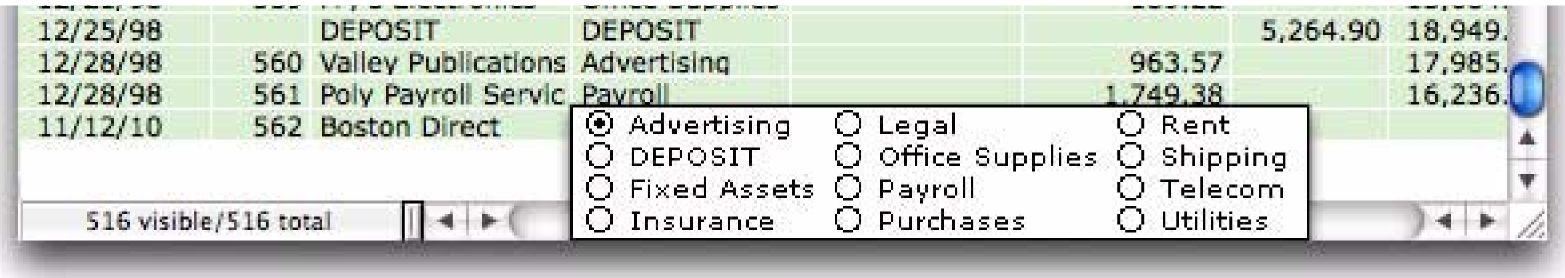
12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct	● Advertising			

Move the mouse to the bottom right corner of the Input Box. The cursor will flip over (see “Expanding the Input Box” on page 125). Drag the mouse to expand the Input Box.



12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct	● Advertising			

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

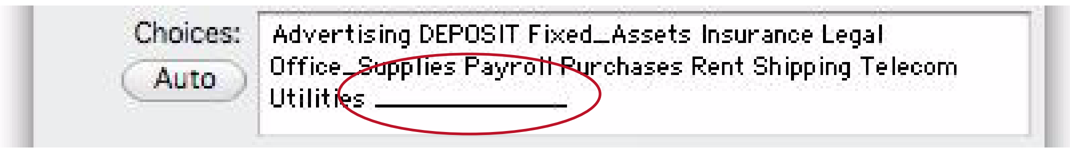


12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct				

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

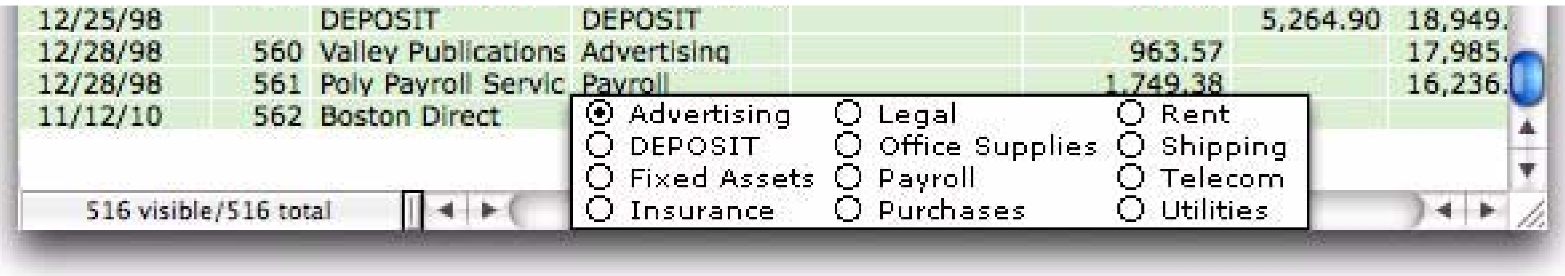
The box can be tall and skinny, short and fat, or anything in between. To select a value just click on the button and press **Enter** or **Tab**, or simply double click on the button. You can also select a value by typing in the first few letters of the value, for example U for Utilities or Pu for Purchases.

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 Office_Supplies Payroll Purchases Rent Shipping Telecom Utilities ____________

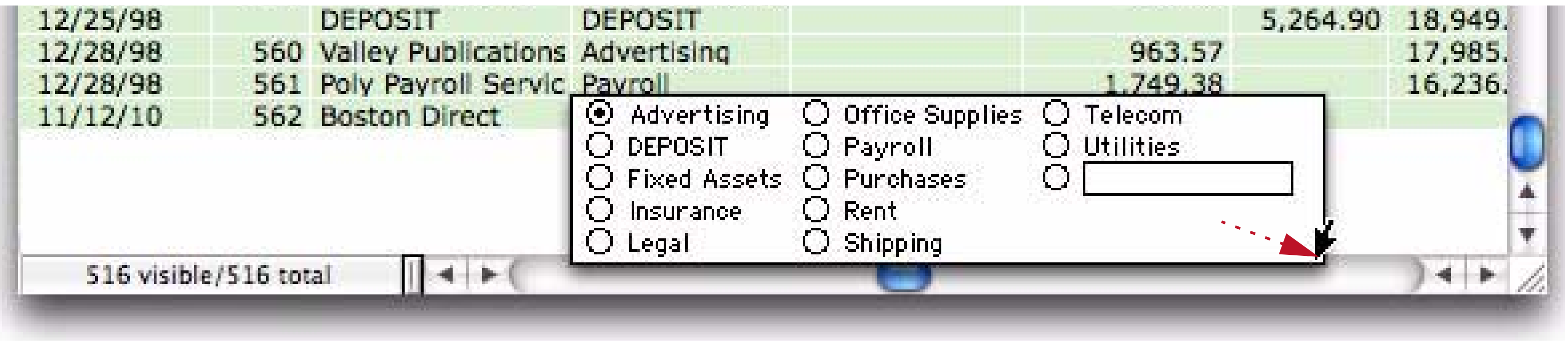
Press OK to close the dialog and go back to the data sheet, then double click on the Category field.



12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct				

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

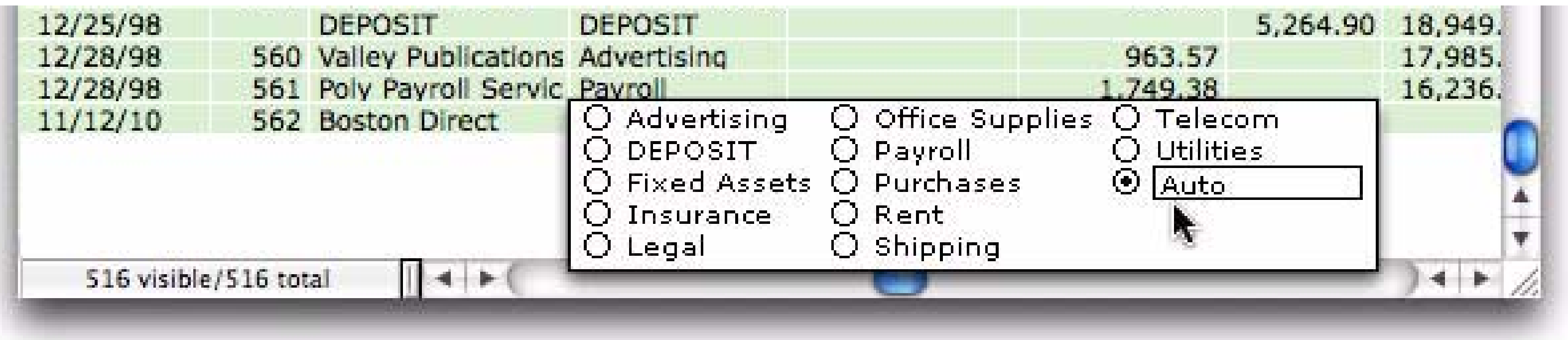
It looks just the same as before! What's up with that? To find out, expand the Input Box just a little bit more.



12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct				

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

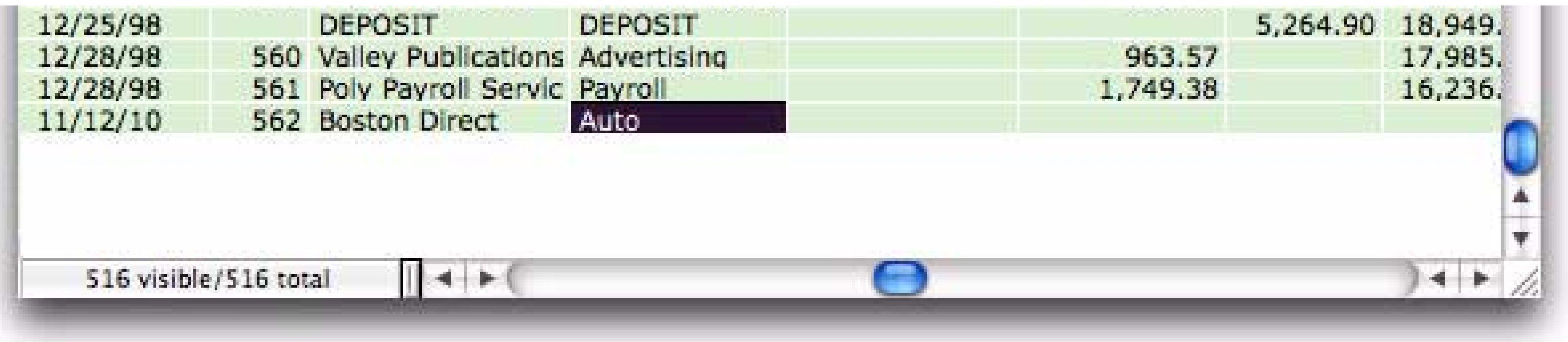
Now you can see that there is one additional radio button at the end of the list. To enter a new category click on this radio button and then type in the new category, in this case Auto.



12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct				

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

Press the **Enter** key when the entry is completed.

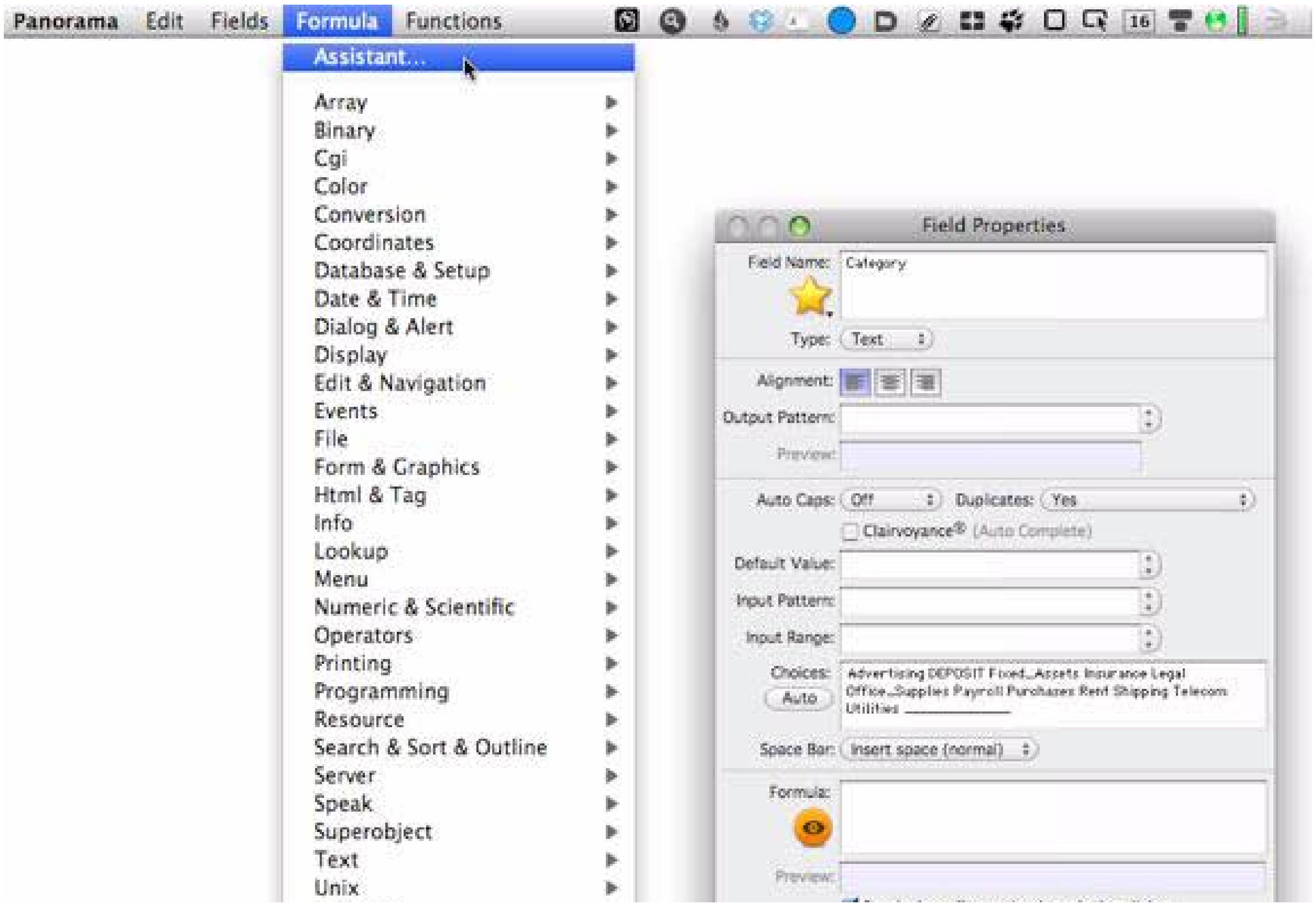


12/25/98		DEPOSIT	DEPOSIT		5,264.90	18,949.
12/28/98	560	Valley Publications	Advertising	963.57		17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38		16,236.
11/12/10	562	Boston Direct	Auto			

To learn more about this feature see "The Choice Palette" on page 215. 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.



Field Name: Category

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Off Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

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

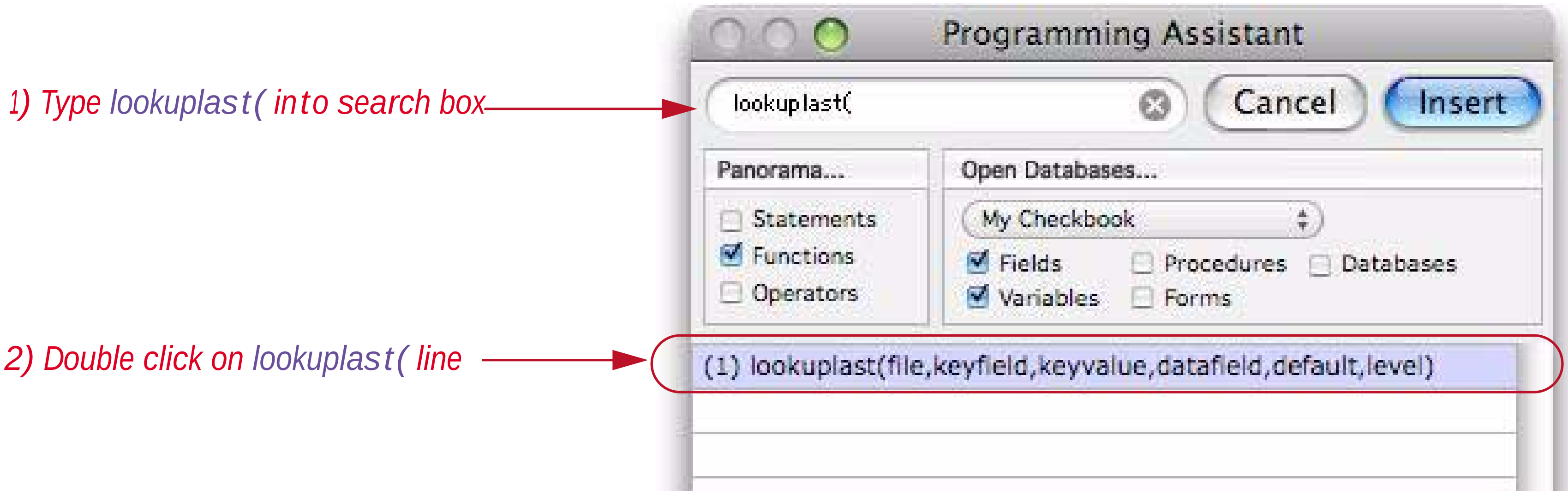
Auto

Space Bar: Insert space (normal)

Formula:

Preview:

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).



1) Type lookuplast(into search box

lookuplast(

□ Statements
☑ Functions
□ Operators

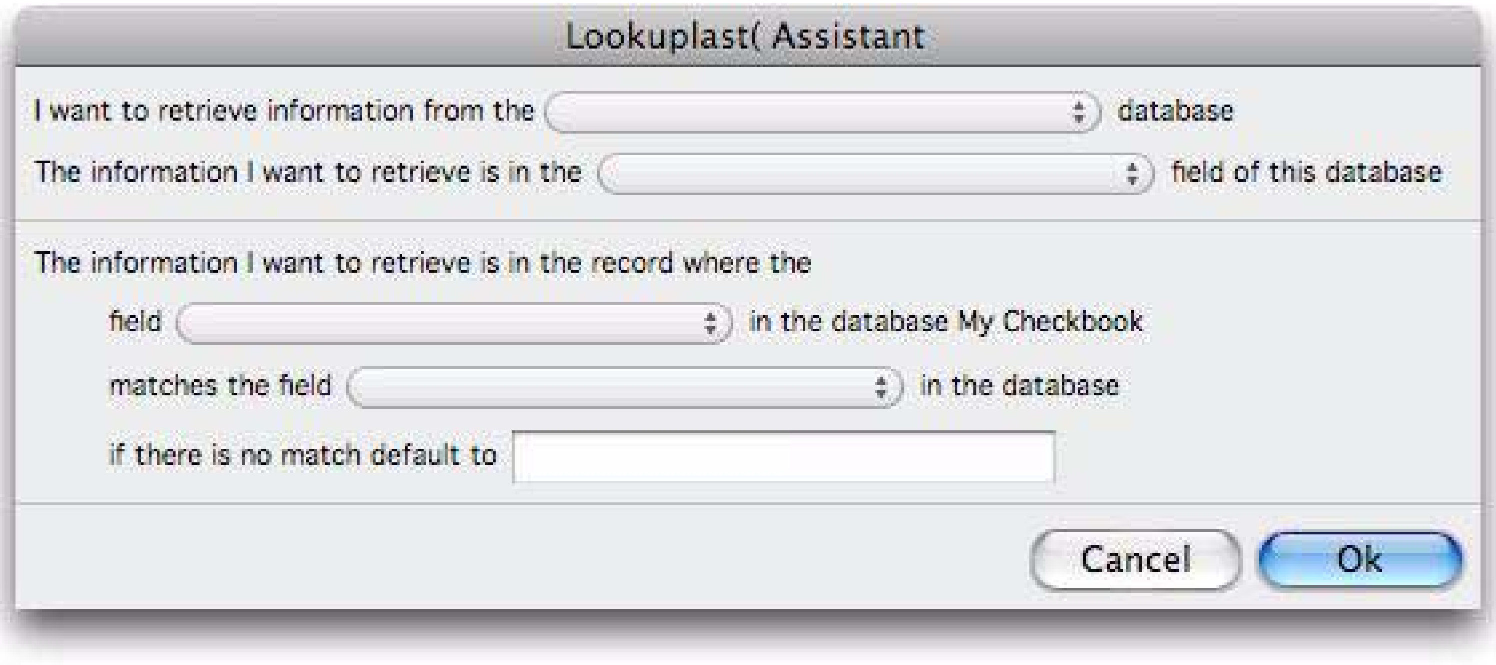
My Checkbook

☑ Fields □ Procedures □ Databases
☑ Variables □ Forms

2) Double click on lookuplast(line

(1) lookuplast(file,keyfield,keyvalue,datafield,default,level)

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 321).



Lookuplast(Assistant

I want to retrieve information from the [ ] database

The information I want to retrieve is in the [ ] field of this database

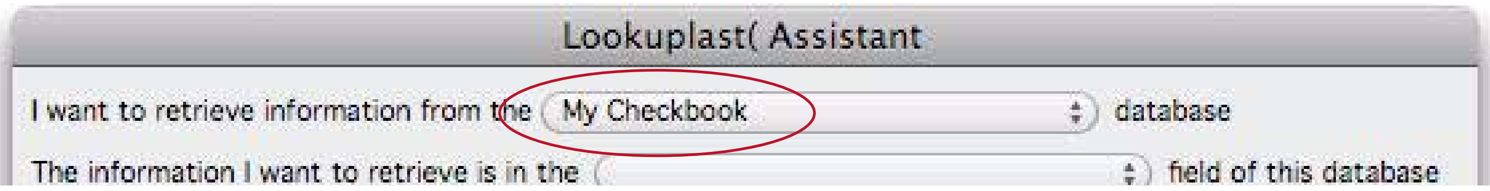
The information I want to retrieve is in the record where the

field [ ] in the database My Checkbook

matches the field [ ] in the database

if there is no match default to [ ]

Start by selecting the database you want to look up data from, in this case the current database.

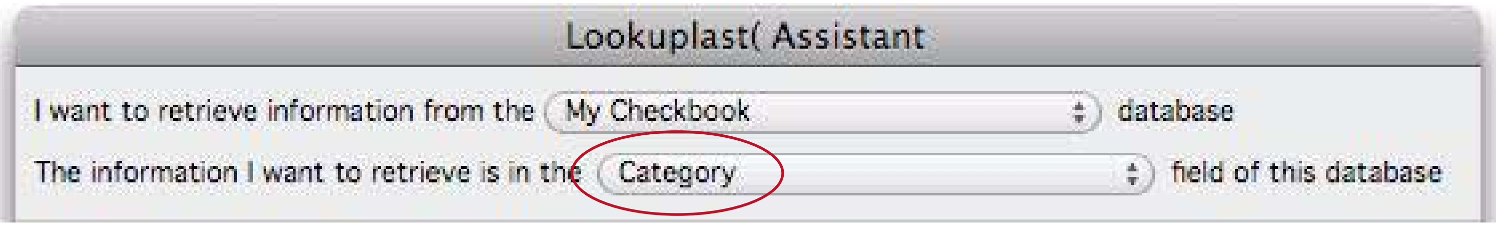


Lookuplast(Assistant

I want to retrieve information from the My Checkbook database

The information I want to retrieve is in the [ ] field of this database

Now tell Panorama what you want to look up, in this case the Category.

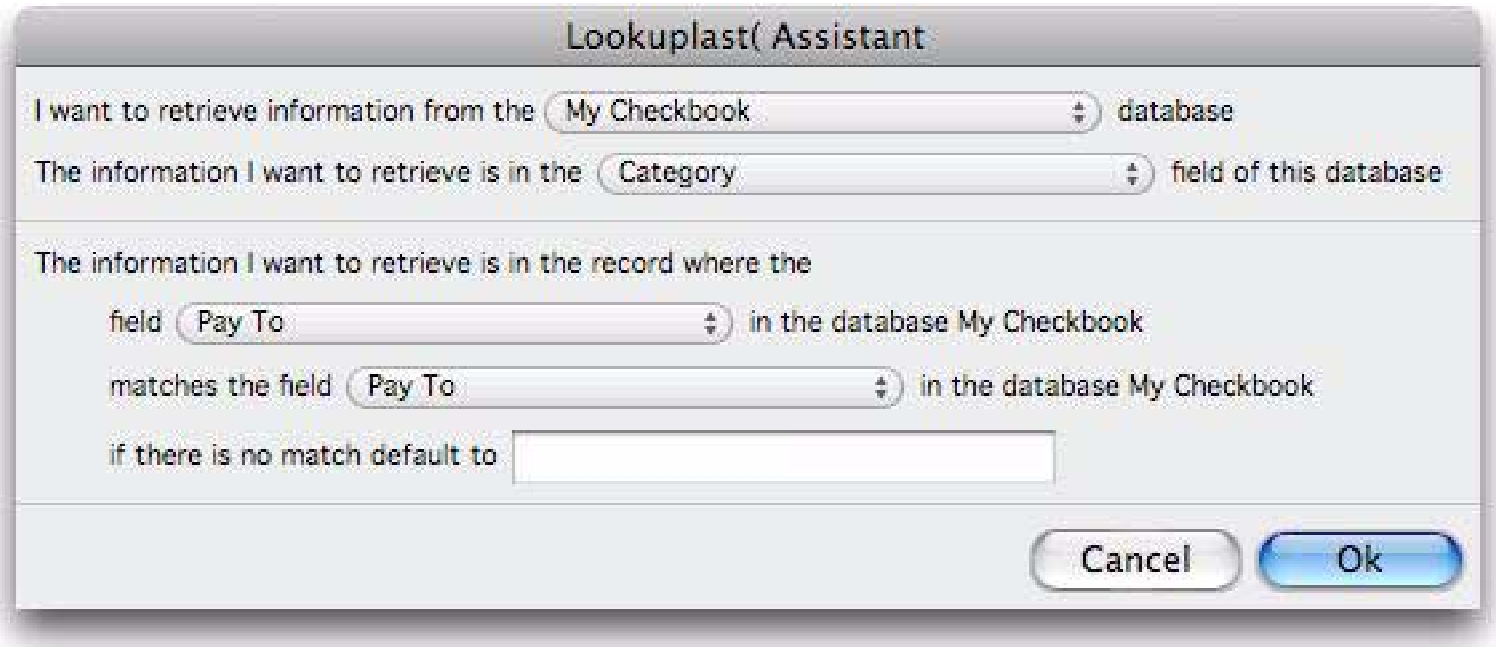


Lookuplast(Assistant

I want to retrieve information from the My Checkbook database

The information I want to retrieve is in the Category field of this database

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.



Lookuplast(Assistant

I want to retrieve information from the My Checkbook database

The information I want to retrieve is in the Category field of this database

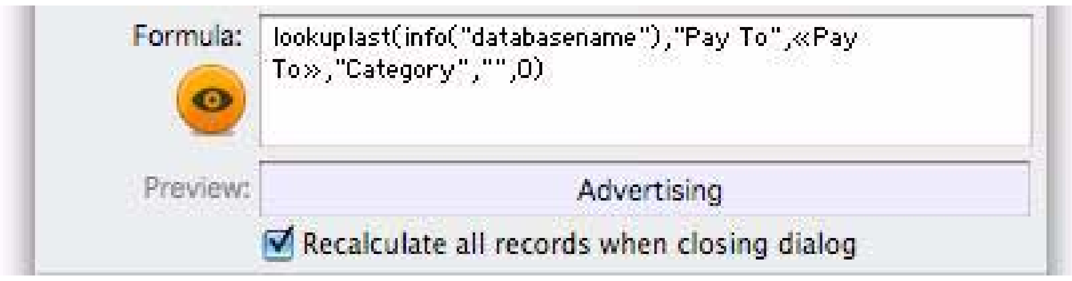
The information I want to retrieve is in the record where the

field Pay To in the database My Checkbook

matches the field Pay To in the database My Checkbook

if there is no match default to [ ]

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.



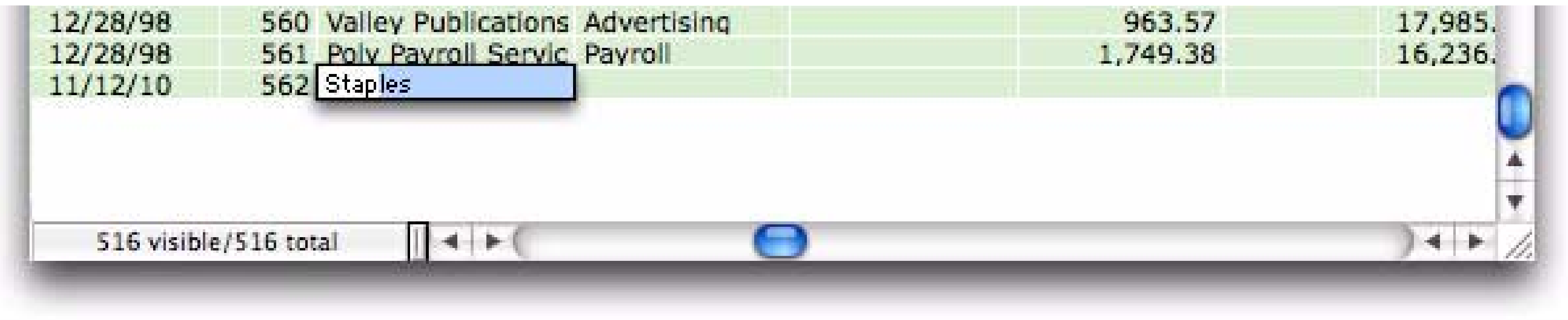
Formula:

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

Preview: Advertising

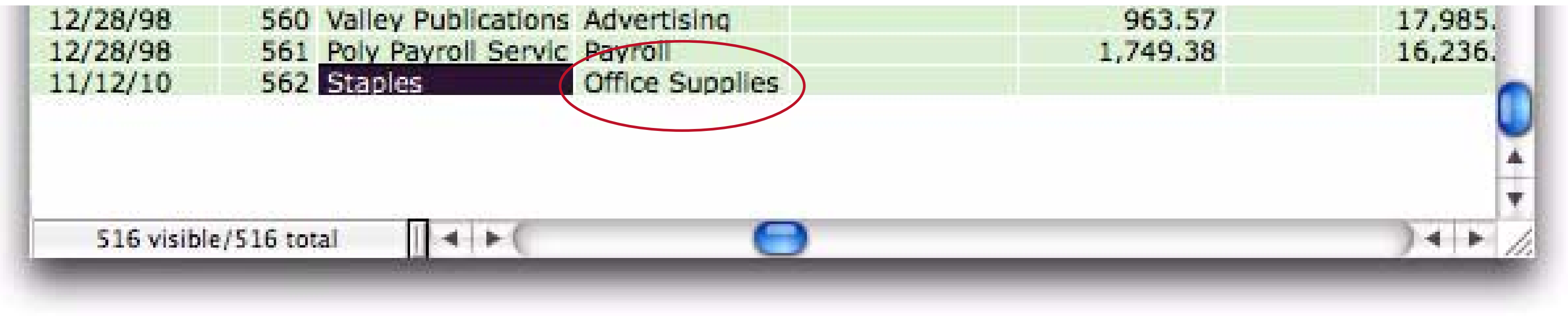
☑ Recalculate all records when closing dialog

To learn more about how this formula works see “Linking With Another Database” on page 321. For now just press the **Ok** button to go back to the data sheet. Then start typing Staples into the Category field.



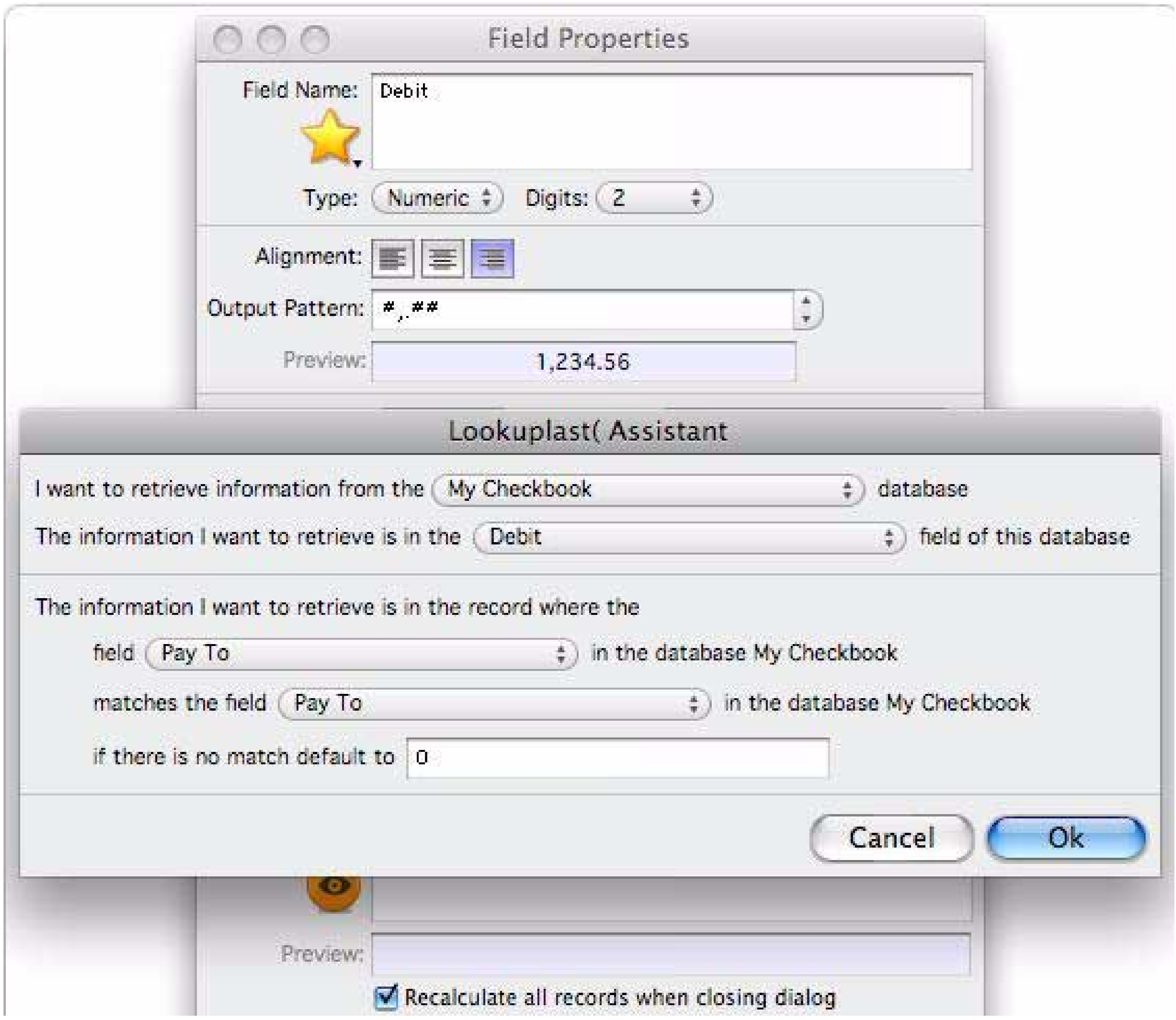
12/28/98	560	Valley Publications	Advertising	963.57	17,985.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38	16,236.
11/12/10	562	Staples			

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.
12/28/98	561	Poly Payroll Servic	Payroll	1,749.38	16,236.
11/12/10	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 **Field Properties** dialog 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 321).



Field Name: Debit

Type: Numeric Digits: 2

Output Pattern: #,.##

Preview: 1,234.56

I want to retrieve information from the My Checkbook database

The information I want to retrieve is in the Debit field of this database

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

field Pay To in the database My Checkbook

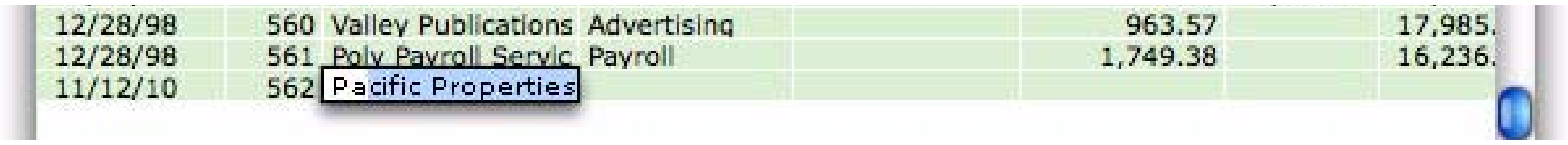
matches the field Pay To in the database My Checkbook

if there is no match default to 0

Preview:

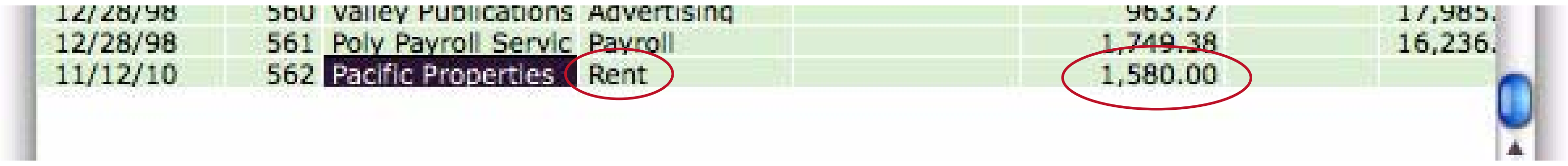
☑ Recalculate all records when closing dialog

Press the **Ok** button to close the dialog and go back to the data sheet, then start typing Pacific Properties into the Category field.



```
12/28/98   560  Valley Publications  Advertising        963.57    17,985.
12/28/98   561  Poly Payroll Servic  Payroll          1,749.38    16,236.
11/12/10   562  Pacific Properties
```

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

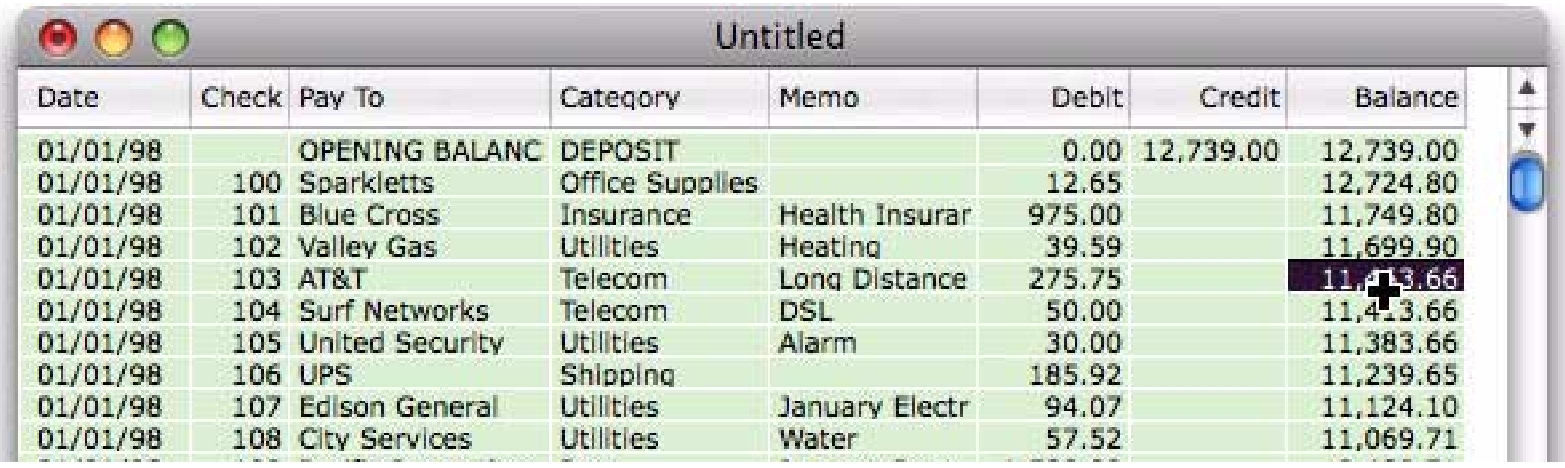


```
12/28/98   560  Valley Publications  Advertising        963.57    17,985.
12/28/98   561  Poly Payroll Servic  Payroll          1,749.38    16,236.
11/12/10   562  Pacific Properties   Rent             1,580.00
```

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

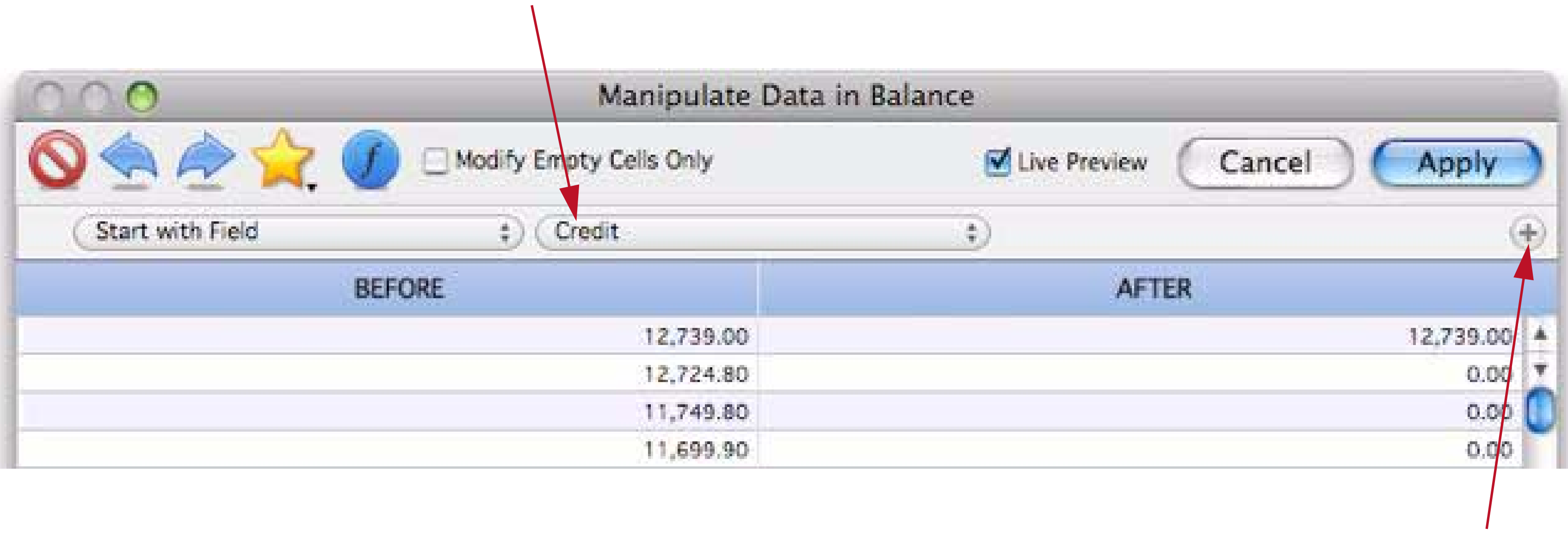
Calculating the running checkbook balance is a two step process. Start by scrolling over to the Balance field and click somewhere in the field.



Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANC	DEPOSIT		0.00	12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		12.65		12,724.80
01/01/98	101	Blue Cross	Insurance	Health Insurar	975.00		11,749.80
01/01/98	102	Valley Gas	Utilities	Heating	39.59		11,699.90
01/01/98	103	AT&T	Telecom	Long Distance	275.75		11,413.66
01/01/98	104	Surf Networks	Telecom	DSL	50.00		11,413.66
01/01/98	105	United Security	Utilities	Alarm	30.00		11,383.66
01/01/98	106	UPS	Shipping		185.92		11,239.65
01/01/98	107	Edison General	Utilities	January Electr	94.07		11,124.10
01/01/98	108	City Services	Utilities	Water	57.52		11,069.71

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



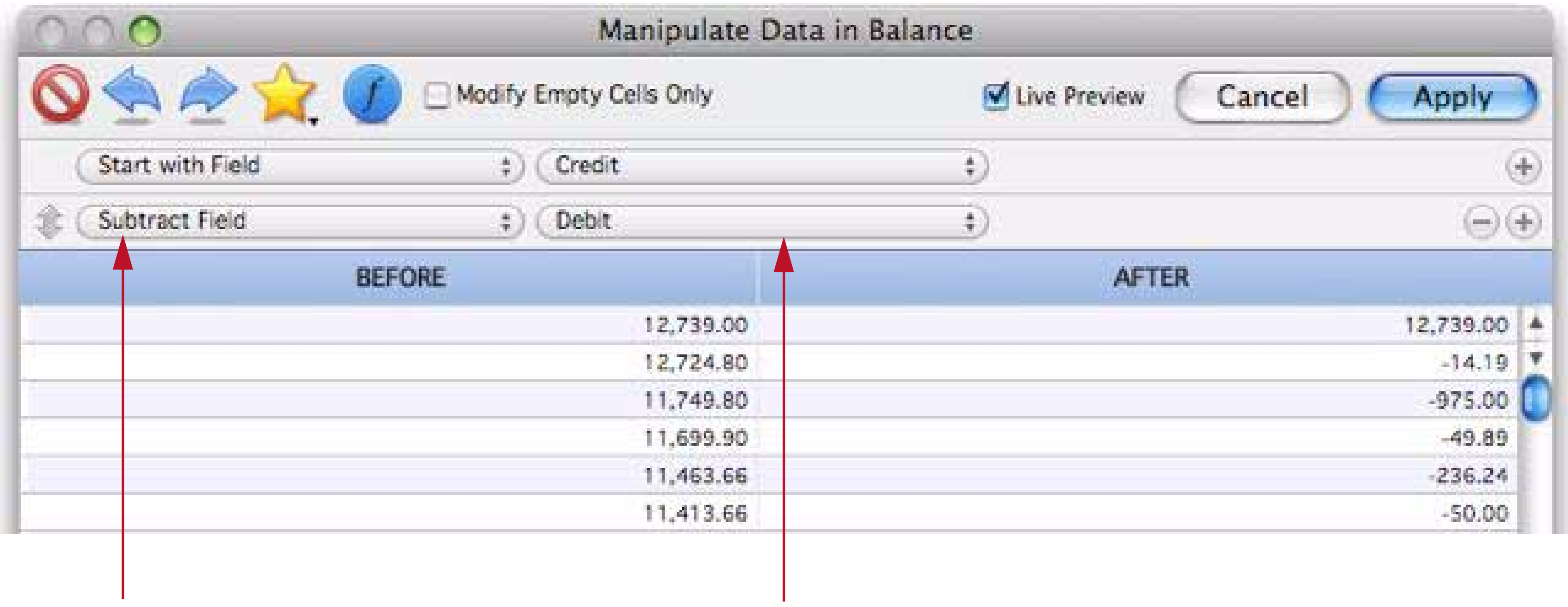
□ Modify Empty Cells Only ☑ Live Preview

Start with Field: Credit

BEFORE	AFTER
12,739.00	12,739.00
12,724.80	0.00
11,749.80	0.00
11,699.90	0.00

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.



Manipulate Data in Balance

□ Modify Empty Cells Only ☑ Live Preview Cancel Apply

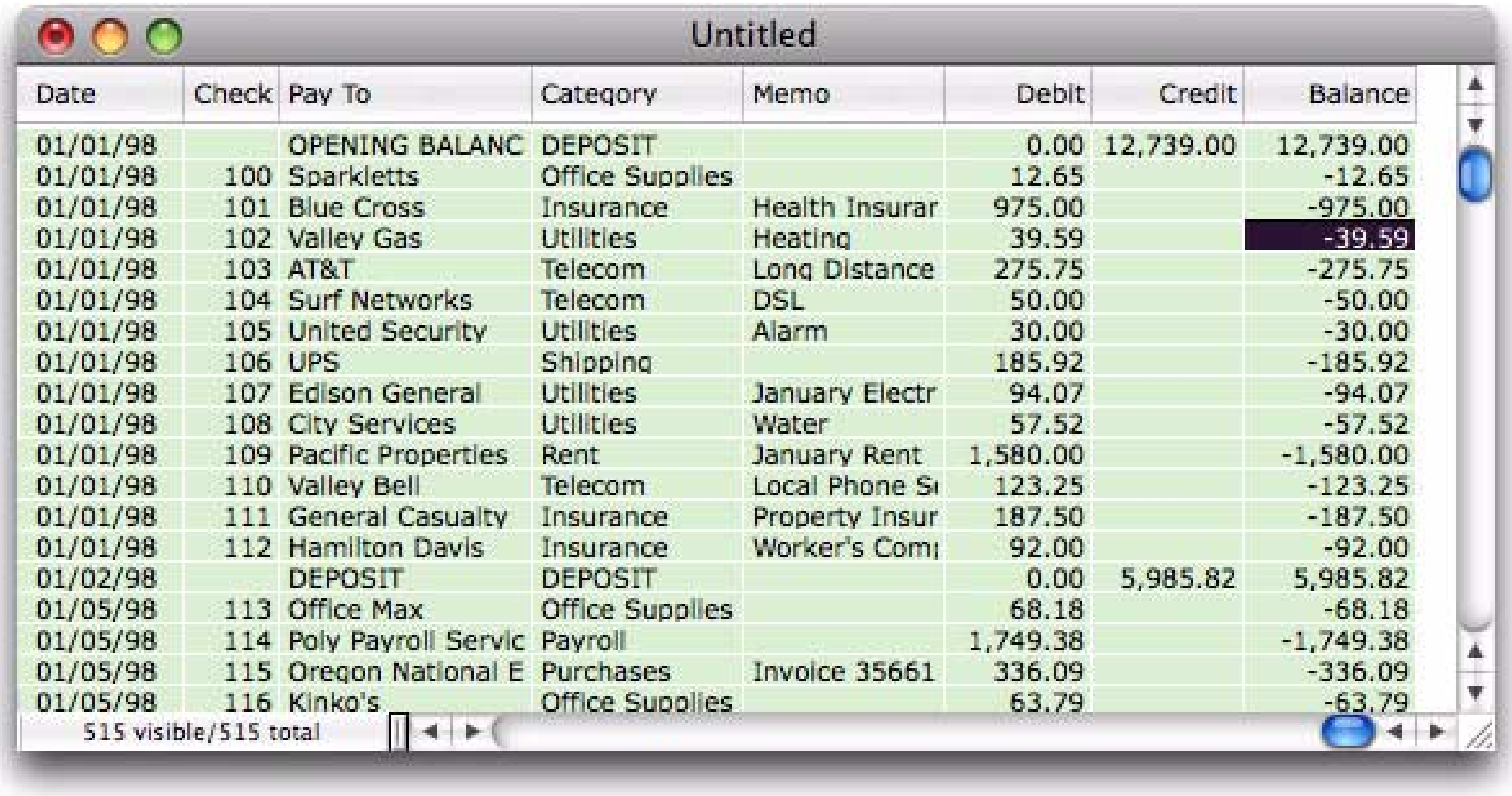
Start with Field	Credit
Subtract Field	Debit

BEFORE	AFTER
12,739.00	12,739.00
12,724.80	-14.19
11,749.80	-975.00
11,699.90	-49.89
11,463.66	-236.24
11,413.66	-50.00

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.

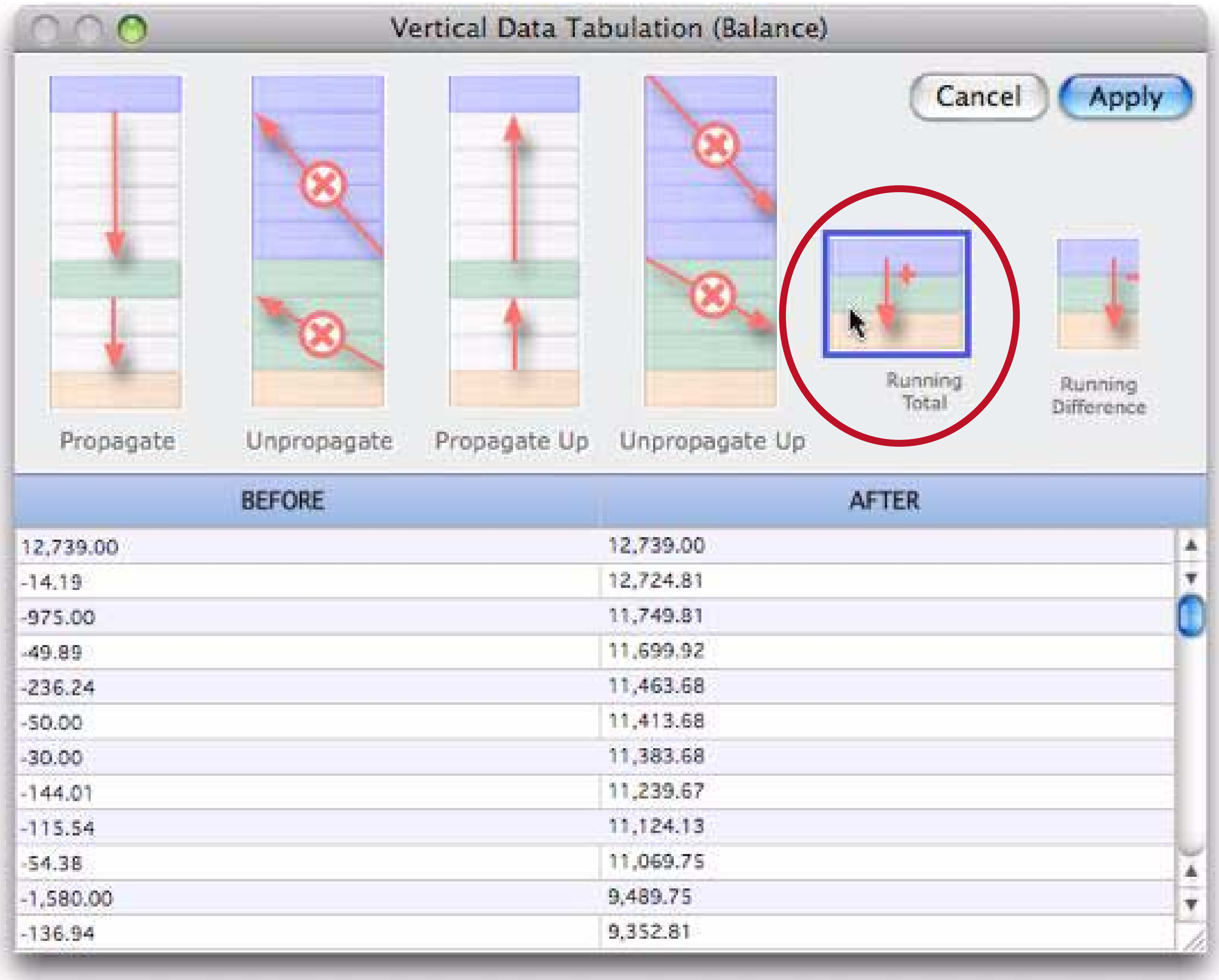


Untitled

Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANC	DEPOSIT		0.00	12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		12.65		-12.65
01/01/98	101	Blue Cross	Insurance	Health Insurar	975.00		-975.00
01/01/98	102	Valley Gas	Utilities	Heating	39.59		-39.59
01/01/98	103	AT&T	Telecom	Long Distance	275.75		-275.75
01/01/98	104	Surf Networks	Telecom	DSL	50.00		-50.00
01/01/98	105	United Security	Utilities	Alarm	30.00		-30.00
01/01/98	106	UPS	Shipping		185.92		-185.92
01/01/98	107	Edison General	Utilities	January Electr	94.07		-94.07
01/01/98	108	City Services	Utilities	Water	57.52		-57.52
01/01/98	109	Pacific Properties	Rent	January Rent	1,580.00		-1,580.00
01/01/98	110	Valley Bell	Telecom	Local Phone S	123.25		-123.25
01/01/98	111	General Casualty	Insurance	Property Insur	187.50		-187.50
01/01/98	112	Hamilton Davis	Insurance	Worker's Com	92.00		-92.00
01/02/98		DEPOSIT	DEPOSIT		0.00	5,985.82	5,985.82
01/05/98	113	Office Max	Office Supplies		68.18		-68.18
01/05/98	114	Poly Payroll Servic	Payroll		1,749.38		-1,749.38
01/05/98	115	Oregon National E	Purchases	Invoice 35661	336.09		-336.09
01/05/98	116	Kinko's	Office Supplies		63.79		-63.79

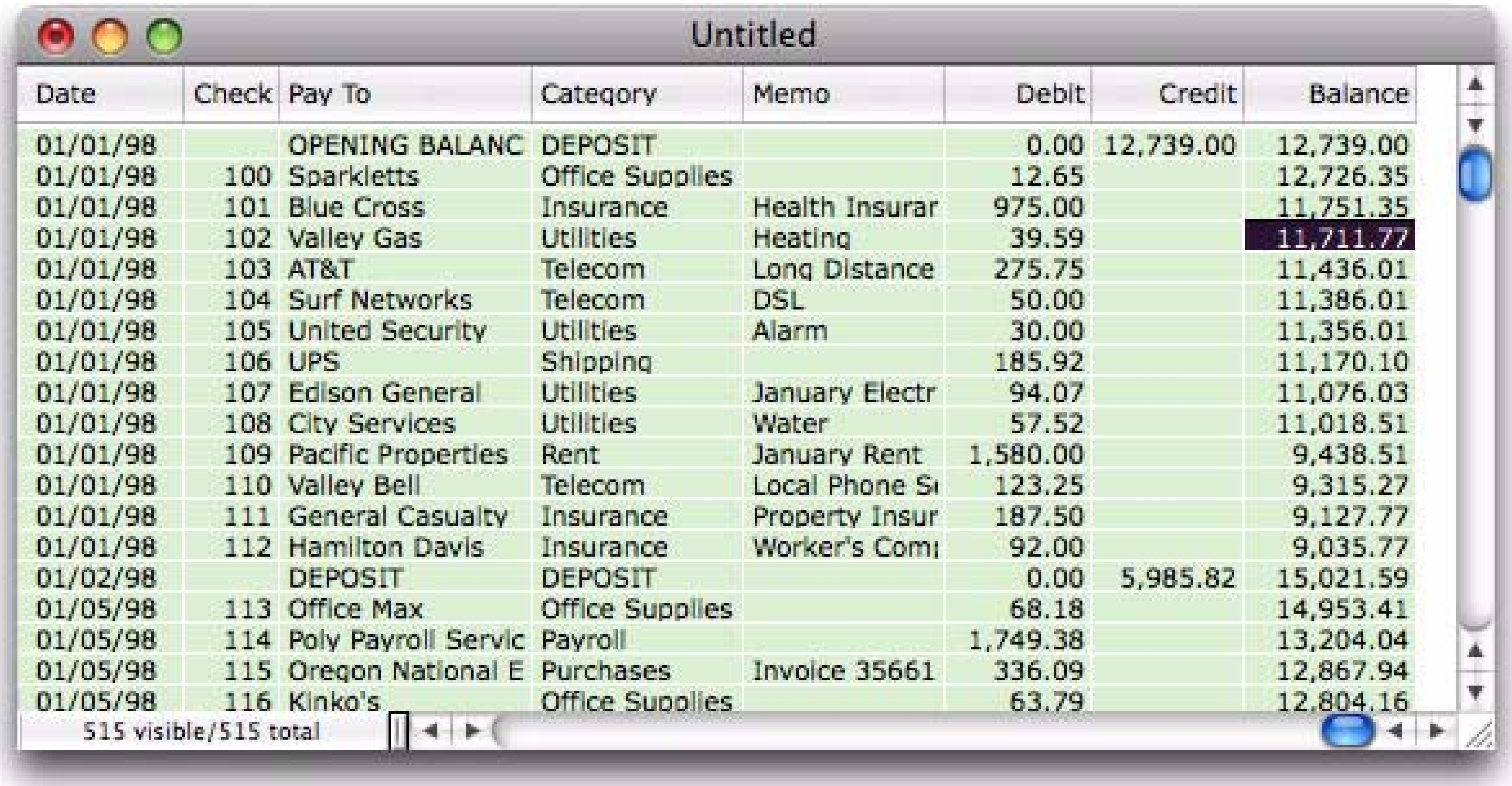
515 visible/515 total

To complete the balance calculation choose the **Vertical Data Tabulation** command from the **Fields** menu. Then click on the **Running Total** option.



BEFORE	AFTER
12,739.00	12,739.00
-14.19	12,724.81
-975.00	11,749.81
-49.89	11,699.92
-236.24	11,463.68
-50.00	11,413.68
-30.00	11,383.68
-144.01	11,239.67
-115.54	11,124.13
-54.38	11,069.75
-1,580.00	9,489.75
-136.94	9,352.81

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



Date	Check	Pay To	Category	Memo	Debit	Credit	Balance
01/01/98		OPENING BALANC	DEPOSIT		0.00	12,739.00	12,739.00
01/01/98	100	Sparkletts	Office Supplies		12.65		12,726.35
01/01/98	101	Blue Cross	Insurance	Health Insurar	975.00		11,751.35
01/01/98	102	Valley Gas	Utilities	Heating	39.59		11,711.77
01/01/98	103	AT&T	Telecom	Long Distance	275.75		11,436.01
01/01/98	104	Surf Networks	Telecom	DSL	50.00		11,386.01
01/01/98	105	United Security	Utilities	Alarm	30.00		11,356.01
01/01/98	106	UPS	Shipping		185.92		11,170.10
01/01/98	107	Edison General	Utilities	January Electr	94.07		11,076.03
01/01/98	108	City Services	Utilities	Water	57.52		11,018.51
01/01/98	109	Pacific Properties	Rent	January Rent	1,580.00		9,438.51
01/01/98	110	Valley Bell	Telecom	Local Phone Se	123.25		9,315.27
01/01/98	111	General Casualty	Insurance	Property Insur	187.50		9,127.77
01/01/98	112	Hamilton Davis	Insurance	Worker's Com	92.00		9,035.77
01/02/98		DEPOSIT	DEPOSIT		0.00	5,985.82	15,021.59
01/05/98	113	Office Max	Office Supplies		68.18		14,953.41
01/05/98	114	Poly Payroll Servic	Payroll		1,749.38		13,204.04
01/05/98	115	Oregon National E	Purchases	Invoice 35661	336.09		12,867.94
01/05/98	116	Kinko's	Office Supplies		63.79		12,804.16

515 visible/515 total

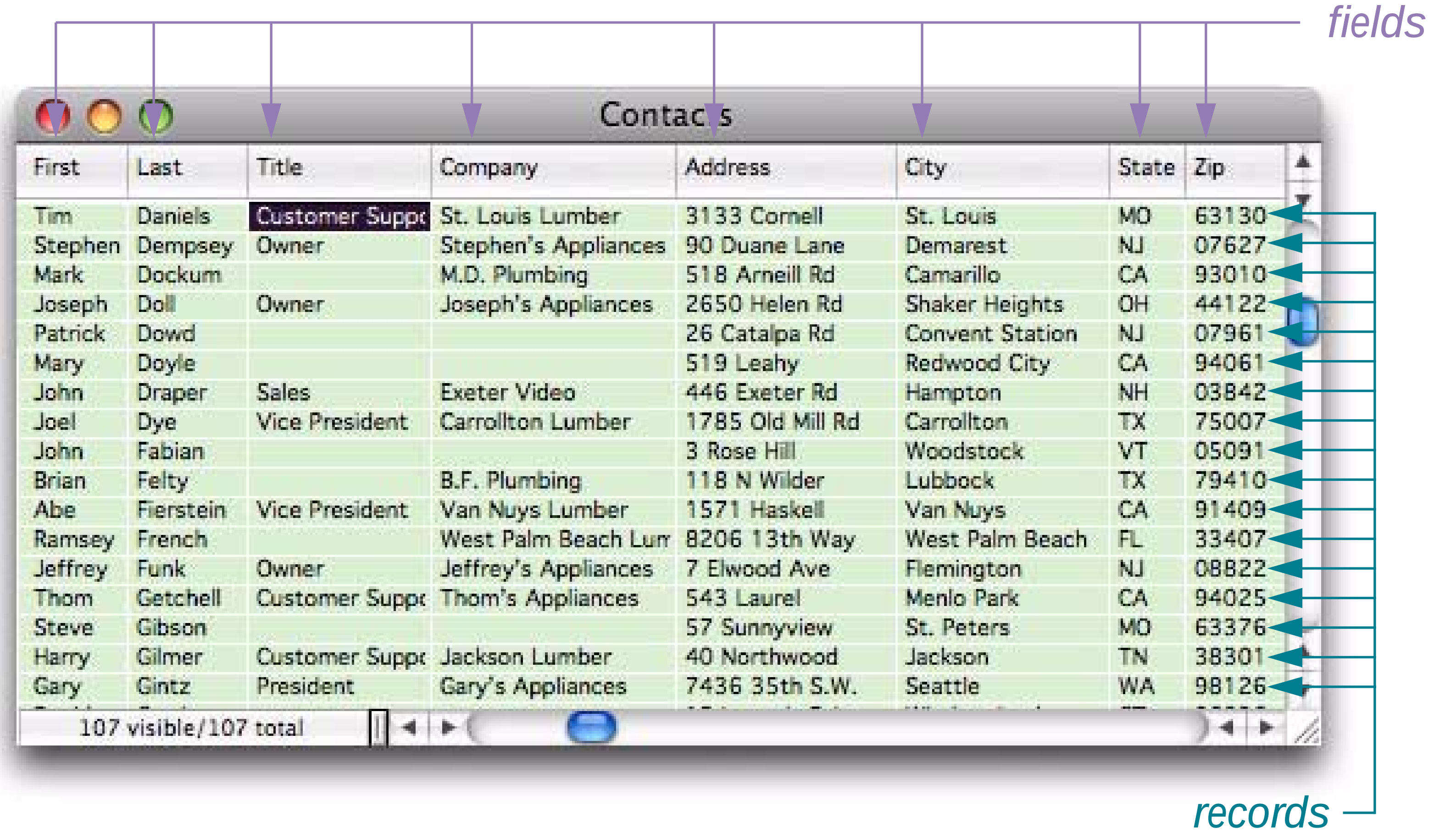
The balance calculation is complete. Before moving on, however, it’s a good idea to… you guessed it, **Save** the database.

Chapter 1: Data Structure

A database is an organized collection of data. Panorama Sheets is a software tool that helps you organize your data in the first place, and to re-organize it over and over again as your needs change.

The Data Sheet

Visually, Panorama Sheets uses a row and column tabular format to structure your data. This is called the **Data Sheet**.



First	Last	Title	Company	Address	City	State	Zip
Tim	Daniels	Customer Suppo	St. Louis Lumber	3133 Cornell	St. Louis	MO	63130
Stephen	Dempsey	Owner	Stephen's Appliances	90 Duane Lane	Demarest	NJ	07627
Mark	Dockum		M.D. Plumbing	518 Arneill Rd	Camarillo	CA	93010
Joseph	Doll	Owner	Joseph's Appliances	2650 Helen Rd	Shaker Heights	OH	44122
Patrick	Dowd			26 Catalpa Rd	Convent Station	NJ	07961
Mary	Doyle			519 Leahy	Redwood City	CA	94061
John	Draper	Sales	Exeter Video	446 Exeter Rd	Hampton	NH	03842
Joel	Dye	Vice President	Carrollton Lumber	1785 Old Mill Rd	Carrollton	TX	75007
John	Fabian			3 Rose Hill	Woodstock	VT	05091
Brian	Felty		B.F. Plumbing	118 N Wilder	Lubbock	TX	79410
Abe	Fierstein	Vice President	Van Nuys Lumber	1571 Haskell	Van Nuys	CA	91409
Ramsey	French		West Palm Beach Lum	8206 13th Way	West Palm Beach	FL	33407
Jeffrey	Funk	Owner	Jeffrey's Appliances	7 Elwood Ave	Flemington	NJ	08822
Thom	Getchell	Customer Suppo	Thom's Appliances	543 Laurel	Menlo Park	CA	94025
Steve	Gibson			57 Sunnyview	St. Peters	MO	63376
Harry	Gilmer	Customer Suppo	Jackson Lumber	40 Northwood	Jackson	TN	38301
Gary	Gintz	President	Gary's Appliances	7436 35th S.W.	Seattle	WA	98126

107 visible/107 total

Each row in the data sheet is called a **record**. Each column is called a **field**. The intersection of a row and a column is called a **data cell**, or just a **cell**. These are the fundamental components of any database. As you work with a database, you will constantly be adding new records, revising and removing old records, and rearranging (sorting, etc.) existing records. Fields can also be added, revised, and removed, but you will do this much less often. Once the fields are set up, you will usually leave them alone.

Records

A record consists of a group of related information. Here are some typical examples of database records:

- In a contact database (like the one shown on the previous page), each record contains information about a single person or company.
- In a personnel database, each record contains information about a single employee.
- In a real estate database, each record contains information about a single property.
- In an inventory database, each record contains information about a single item of inventory.

Most databases have anywhere from a few dozen to several thousand individual records. **Panorama Sheets** always displays the current number of records in the lower left hand corner of the window (the contacts database shown on the previous page has 107 records).

Fields

A field is a group of information that is all of the same type. Here are some typical examples of database fields:

- Address – contains street addresses
- Phone – contains phone numbers
- Birthday – contains dates
- Balance – contains numbers

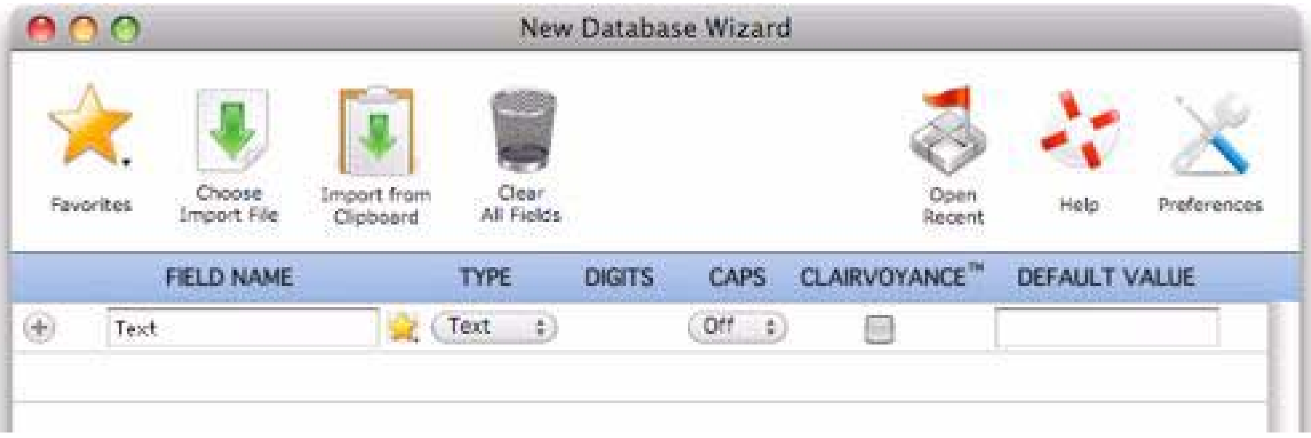
Most databases have somewhere between five and one-hundred fields. Panorama Sheets allows up to 250 fields per database (if you need more, you can upgrade to Panorama Pro, which allows up to 2,000 fields).

Every record in a database contains exactly the same fields. If certain records don't use a particular field it can be left empty, but the field itself still exists for every record. For example, notice that in the contacts database on the previous page, some of the Title and Company entries are empty.

Each field has its own separate properties, starting with the name of the field. For example, a field can contain either text, numbers or dates. Each field can have a default value that is assigned when new records are created, and fields can also be automatically calculated based on the values in other fields. Numeric and date fields can have patterns associated with them to customize how these values are displayed. Overall there are more than a dozen properties that can be assigned to each field. (The fact that properties are assigned to fields, rather than to each cell, is a major difference between Panorama Sheets and spreadsheet software. In a spreadsheet, properties are assigned to each individual cell. This is a disadvantage for database work because the spreadsheet software does not understand or enforce any structure for the data, and because individual cells may move around as you sort, search and manipulate the data. Panorama's records and fields maintain their structure even as data is manipulated.)

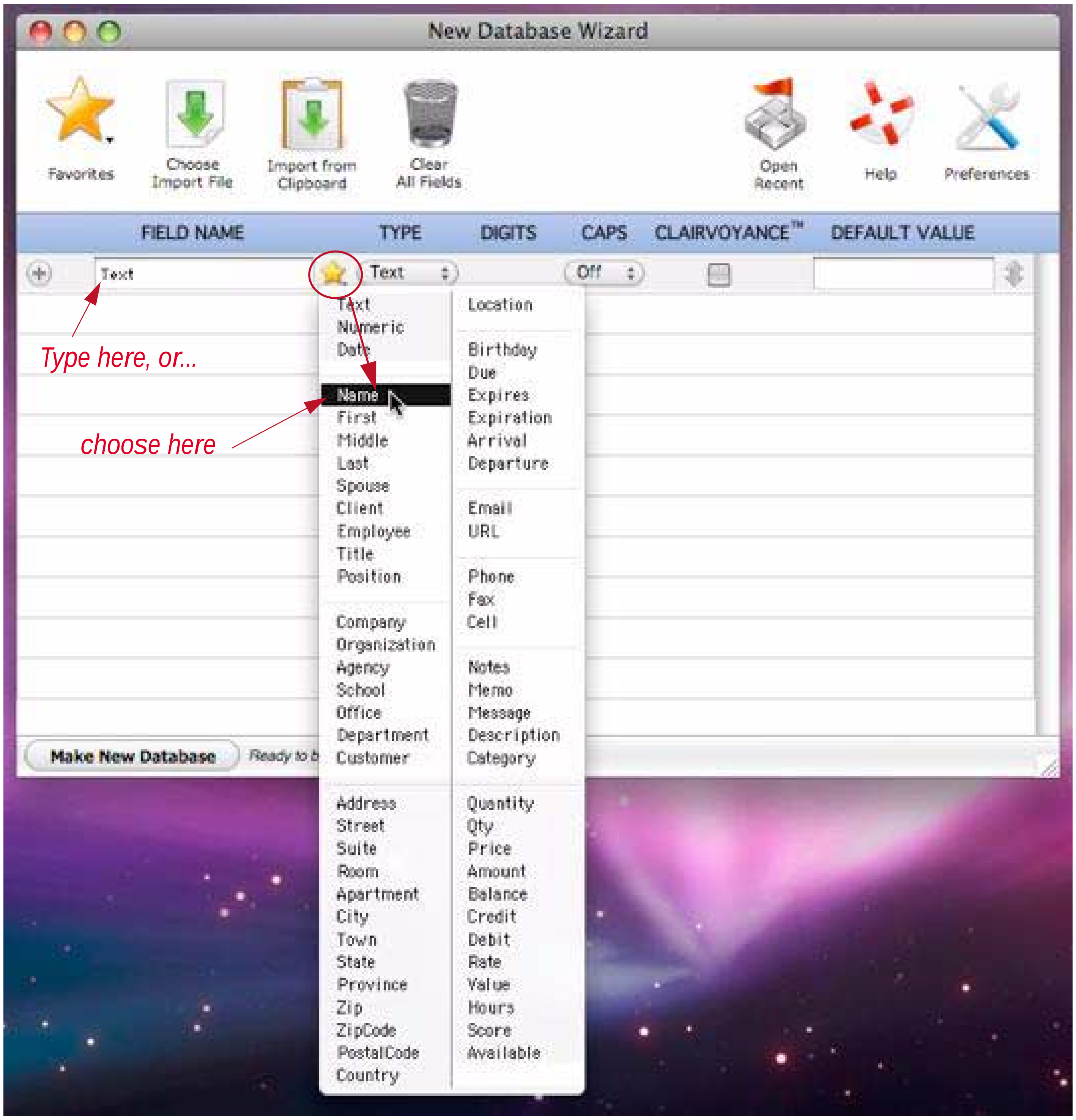
Creating a New Database from Scratch

The first step in using Panorama is to create a new database and set up the initial fields the database will contain (you can always add or remove fields later). Choose **File>New Database** to open the wizard that helps you set up the new database.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Text	Text		Off	□	

The new database structure starts with a single field, named *Text*. That's probably not the name you want, so start by typing in the actual name of the first field. You can also click on the yellow star to choose from a list of common field names.

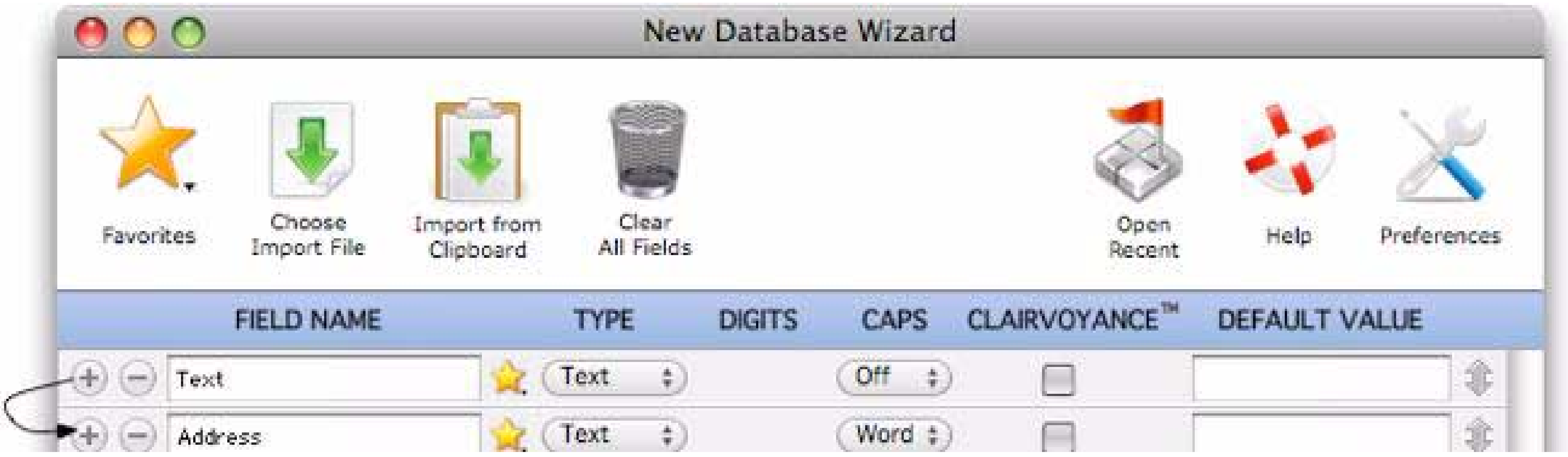


FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Text	Text		Off	□	

Type here, or...

choose here

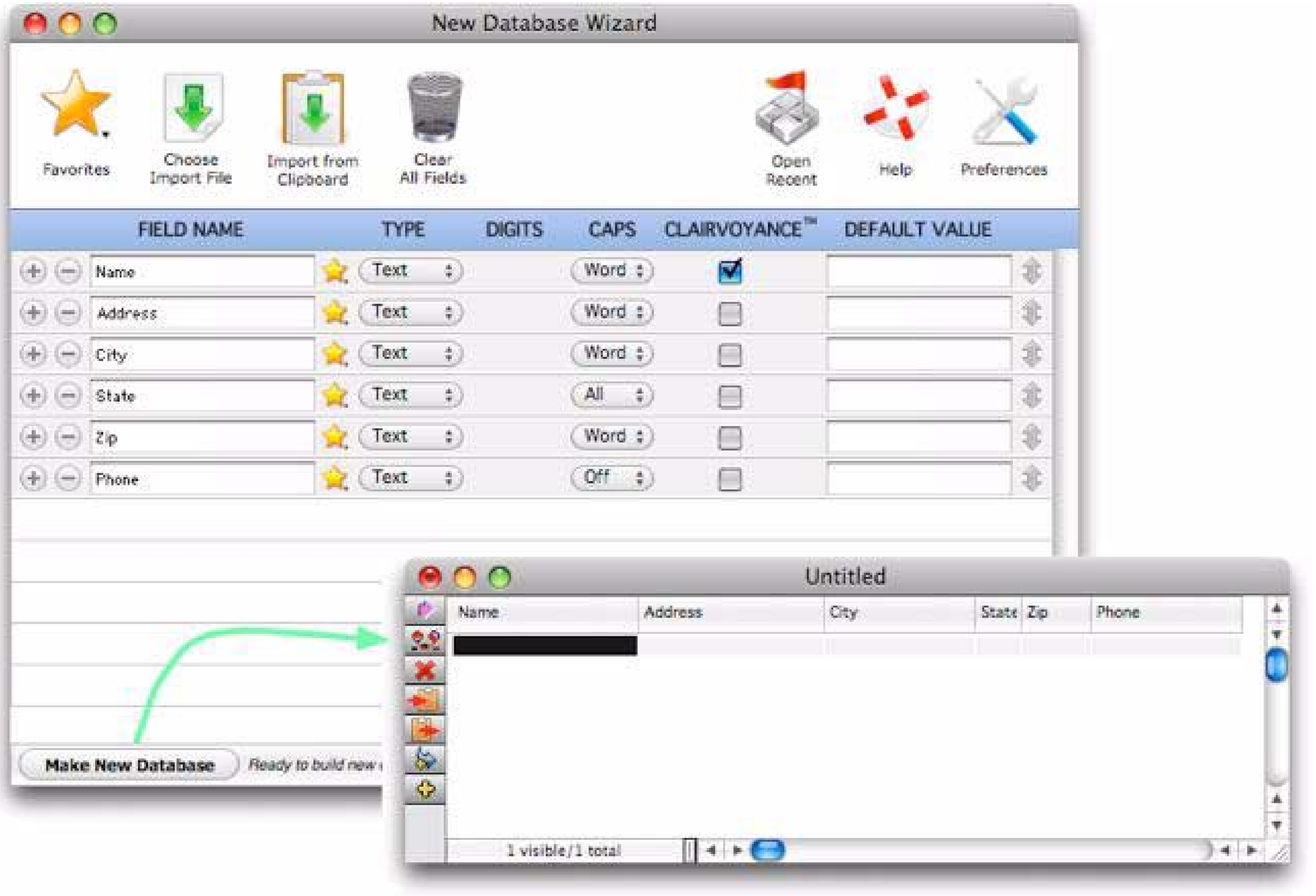
To add a second field, press the + button and fill in the field name (either by typing or clicking on the yellow start), like this:



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Text	Text		Off	☐	
Address	Text		Word	☐	

Tip: There's a shortcut if you're creating a field with a common name — right click on the + button (if you have a one button mouse, hold down the **Control** key while you click), then choose the field name from the pop-up menu.

Once all of the fields have been added, press the **Make New Database** button.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Name	Text		Word	☑	
Address	Text		Word	☐	
City	Text		Word	☐	
State	Text		All	☐	
Zip	Text		Word	☐	
Phone	Text		Off	☐	

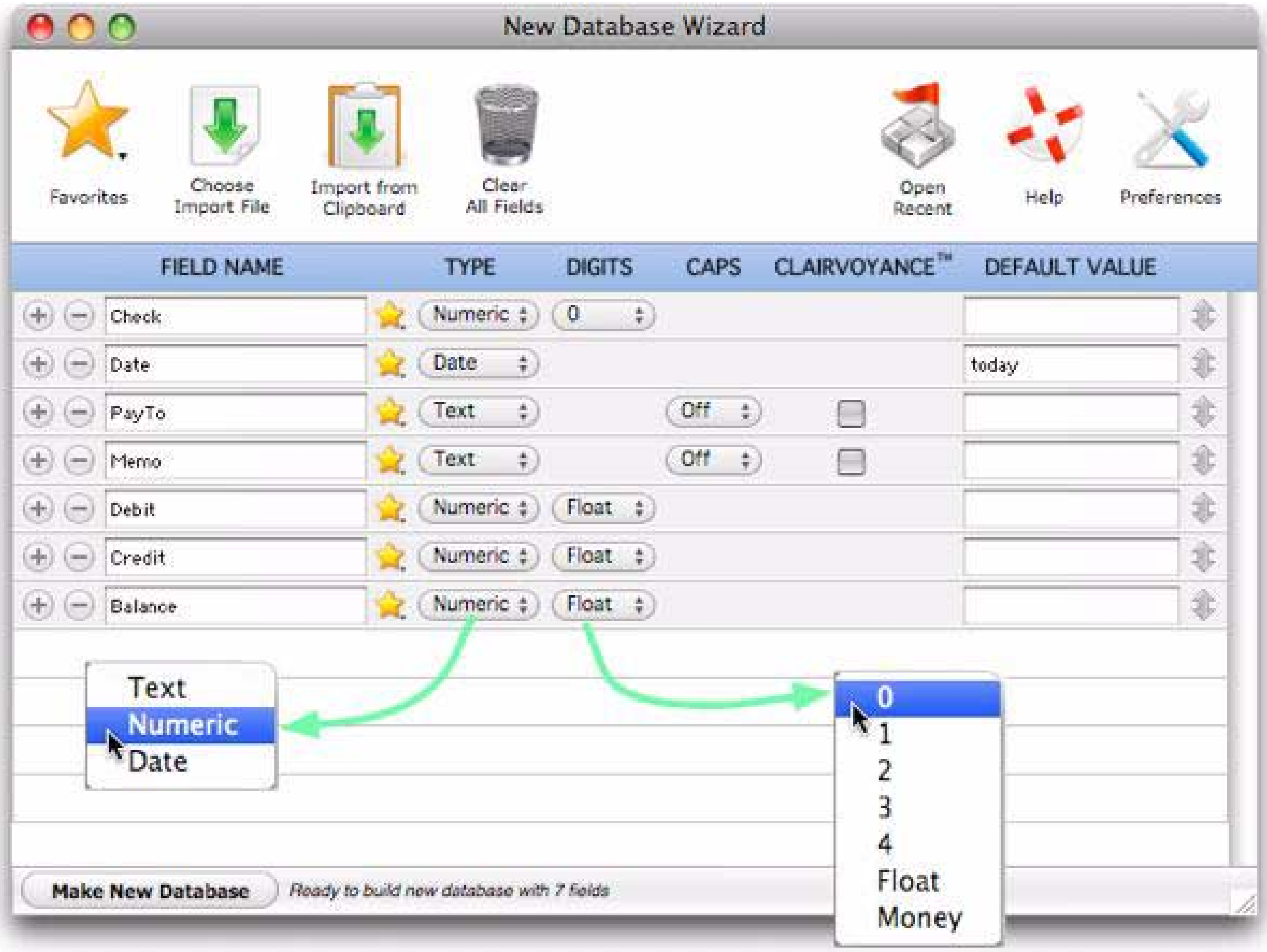
Name	Address	City	State	Zip	Phone

1 visible/1 total

Panorama automatically sets the width of each field. See also to learn how to manually adjust the width of a field. Before you continue you should save your new database by choosing **File>Save**. When you save, Panorama will ask you to give the new database a name, and to specify a location for the file.

Text, Numeric and Date Fields

In Panorama, all data is not the same. To get the most out of a database, Panorama needs to know what type of data you intend to store in each field — text, numbers or dates (see also). The **New Database Wizard** normally creates fields designed for holding text. If a field will contain numbers or dates use the pop-up menu to designate the data type.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Check	Numeric	0			
Date	Date				today
PayTo	Text		Off	☐	
Memo	Text		Off	☐	
Debit	Numeric	Float			
Credit	Numeric	Float			
Balance	Numeric	Float			

Ready to build new database with 7 fields

Numbers

Numeric data can be stored in either **fixed point** or **floating point** format. If you choose fixed point you have a choice of 0, 1, 2, 3, or 4 digits after the decimal point (the Money type is also fixed point, 2 digits).

Number of Digits After Decimal Point	Example	Largest Value	Smallest Value	Typical Uses
0	93842	2,100,000,000	1	Quantities, Part Numbers
1	73.1	210,000,000	0.1	Rarely Used
2	253.22	21,000,000	0.01	Money (Dollars, Pounds, etc.)
3	0.447	2,100,000	0.001	Rarely Used
4	929.1123	210,000	0.0001	Rarely Used
Float	1.46e-12	$1.7 \cdot 10^{308}$	$2.3 \cdot 10^{-308}$	Scientific Data

You may wonder why there are so many choices for storing numeric data. After all, a number is a number—right? Not quite. By choosing different numeric storage formats you are making a trade-off between space, speed, accuracy, and range.

Storing numbers using floating point gives you the most accuracy and numeric range. Floating point allows you to store extremely large or small values with up to 16 digits of accuracy. If you are in doubt, go ahead and pick floating point format.

Fixed point storage is more limited. The accuracy is only about 9 digits. The largest number that can be stored is about 2 billion ($2 \cdot 10^9$) while the smallest fixed point number is 0.0001 (10^{-4}). Trying to store larger or smaller values using fixed point storage will result in errors.

On the other hand the space required for fixed point storage is up to 8 times smaller than floating point for the same number, and Panorama can perform fixed point arithmetic somewhat faster than floating point. You should use fixed point numeric storage whenever possible. Check the table above to see if the numbers you will be using fit in one of the fixed point numeric ranges. (With today's modern computers, you may not need to worry about performance or memory usage in most applications, and it's usually ok to use floating point for most applications.)

Money. Usually the best way to store monetary values is using either 2-digit fixed point or Panorama's special Money format. The money format is the same as 2-digit fixed point but automatically enters the decimal point for you during data entry. This table below shows how Panorama interprets data you enter into a money field.

When you enter…	it becomes
87204	872.04
3267	32.67
14	0.14
2	0.02
42.	42.00
15.4	15.40
156.78	156.78

Both the 2-digit and money formats allow you to store monetary values up to 21 million dollars, pounds, francs, etc. (If your business deals with values greater than 21 million you should use floating point numeric storage.)

Guidelines for Picking Field Names

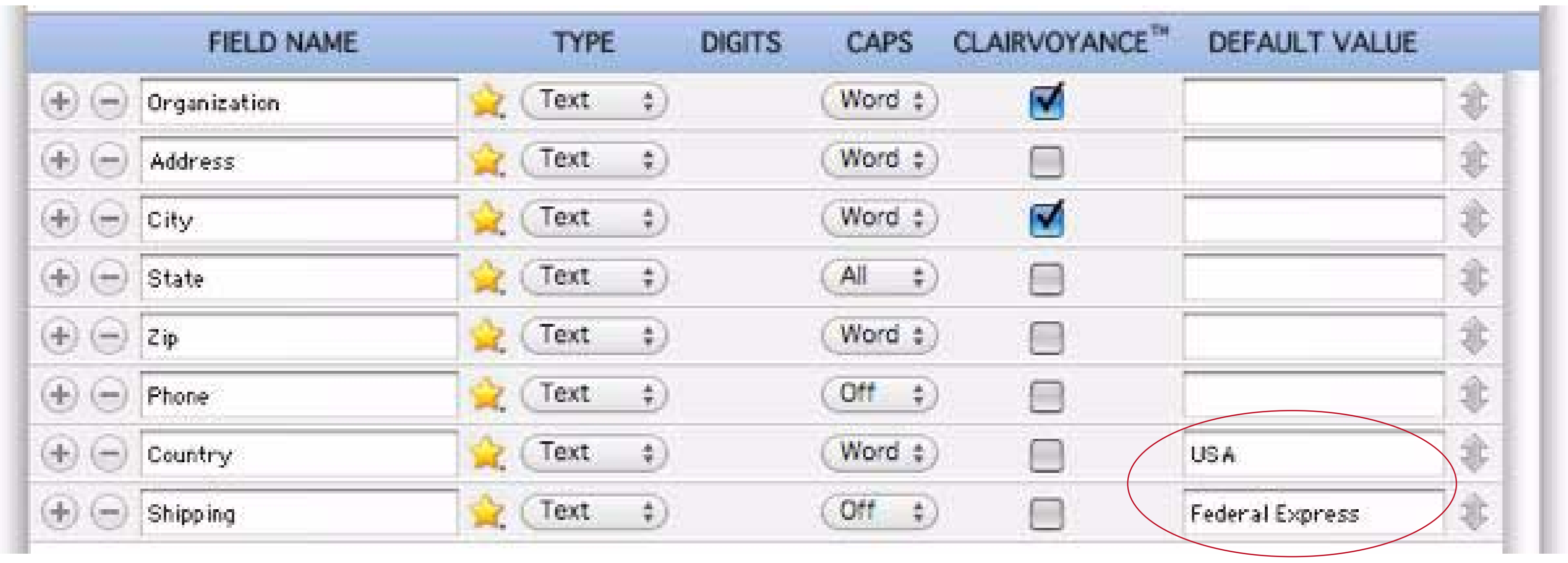
Each field in a Panorama database is identified by a field name. Field names serve several purposes: they remind you what the field is for (i.e. the Dates field probably contains dates, the Name field probably contains names, etc.), they appear at the top of each column in the data sheet, and they are used to identify fields in formulas (for example **`Amount=Qty*Price`**).

There are no absolute restrictions on the field names you choose. Field names may be as long as you want, and they may contain any character that can be typed from the keyboard. Field names may be split over two or more lines. You can even have two or more fields with the same name (but we recommend that you avoid this, see the next paragraph).

However, if you are planning to use a field in a formula, you may want to avoid some of these unusual possibilities. If you have two or more fields with the same name, only the first field will be accessible to a formula. Field names containing blanks or punctuation (for instance P/E Ratio) are more difficult to use in a formula. To use such a field in a formula, you must surround the field name with « and » (for example **`«P/E Ratio»`**. See "Fields" on page 286). (If you left out the «», Panorama would think you were trying to divide **`P`** by **`E`**, with **`Ratio`** left over.) You may want to avoid field names like Date, Seconds, And, Or, and Sum. These names can be confusing when used in a formula because Panorama has functions with the same names.

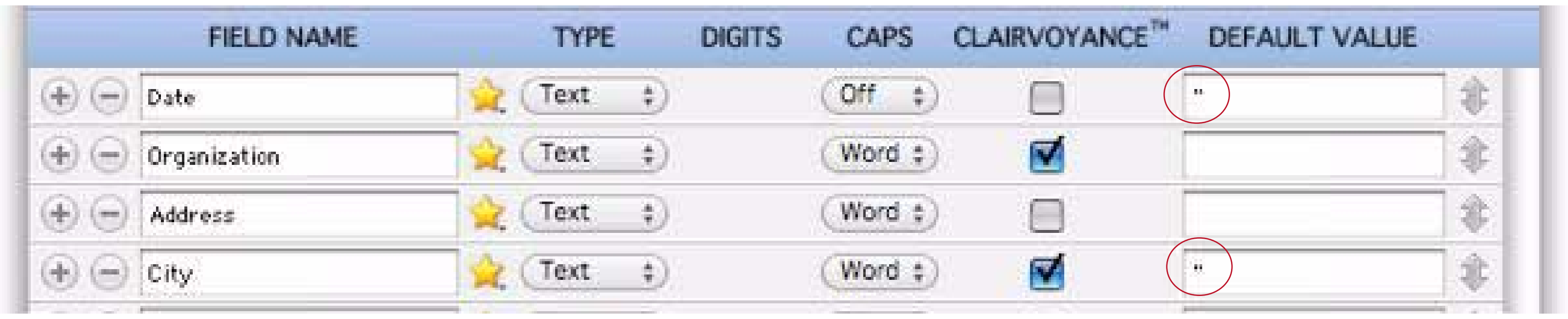
Default Values

You can assign a default value to any field. To default to a fixed value, simply enter the value.



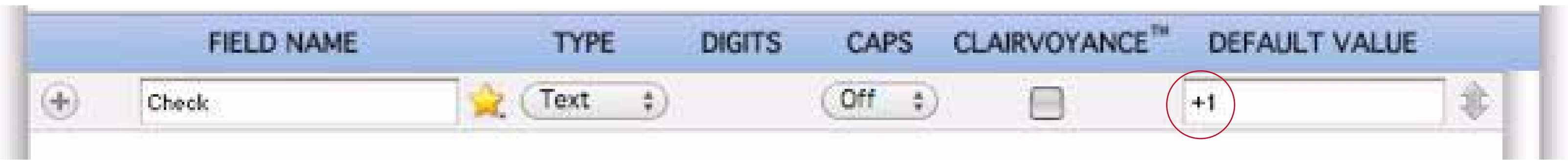
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Organization	Text		Word	☑	
Address	Text		Word	☐	
City	Text		Word	☑	
State	Text		All	☐	
Zip	Text		Word	☐	
Phone	Text		Off	☐	
Country	Text		Word	☐	USA
Shipping	Text		Off	☐	Federal Express

To repeat the previous value in this field (ditto) use the " symbol. When the defaults are set up as shown below, a new record will automatically contain the same date and city as the previous record.



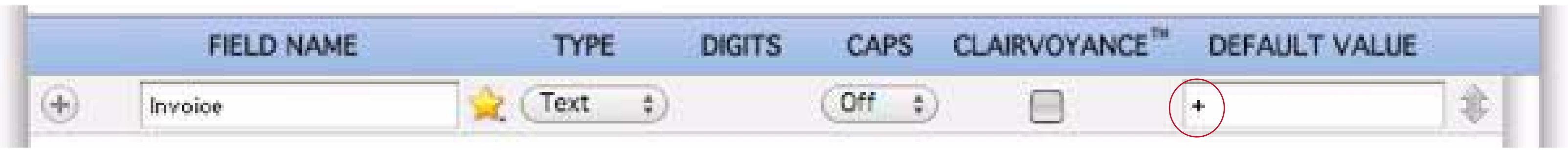
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Date	Text		Off	☐	"
Organization	Text		Word	☑	
Address	Text		Word	☐	
City	Text		Word	☑	"

To automatically increment a numeric or date field use plus followed by a number (+1, +2, +5, etc.), like this. When creating a new record, Panorama will take the value in the current record, increment it as specified, and put the new number into the specified field.



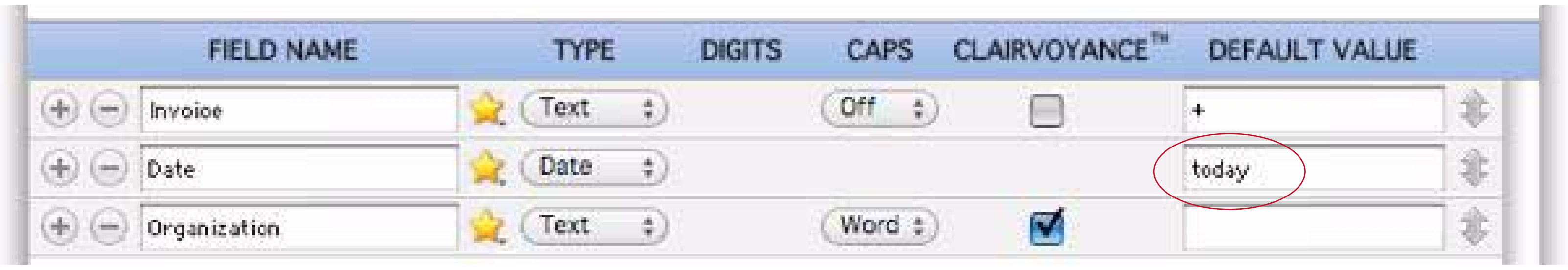
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Check	Text		Off	☐	+1

You can also use the + symbol by itself. In that situation, Panorama uses an internal counter. The counter is increased each time a new record is added. The counter can also be changed manually if necessary using **Setup>Next Record Number**.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Invoice	Text		Off	☐	+

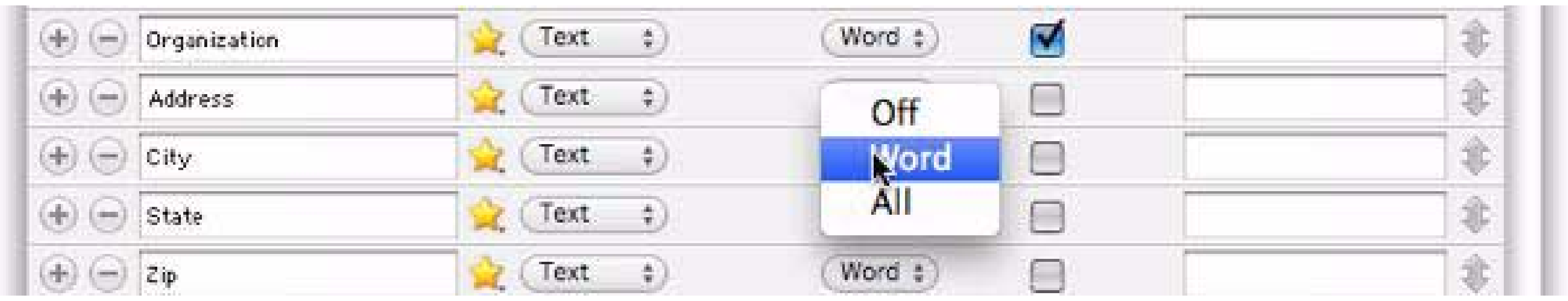
To default to today's date use today. (This option only works for date fields).



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Invoice	Text		Off	☐	+
Date	Date				today
Organization	Text		Word	☑	

Automatic Capitalization

When you are creating text fields you can enable automatic capitalization, either for all characters, by word or by sentence.



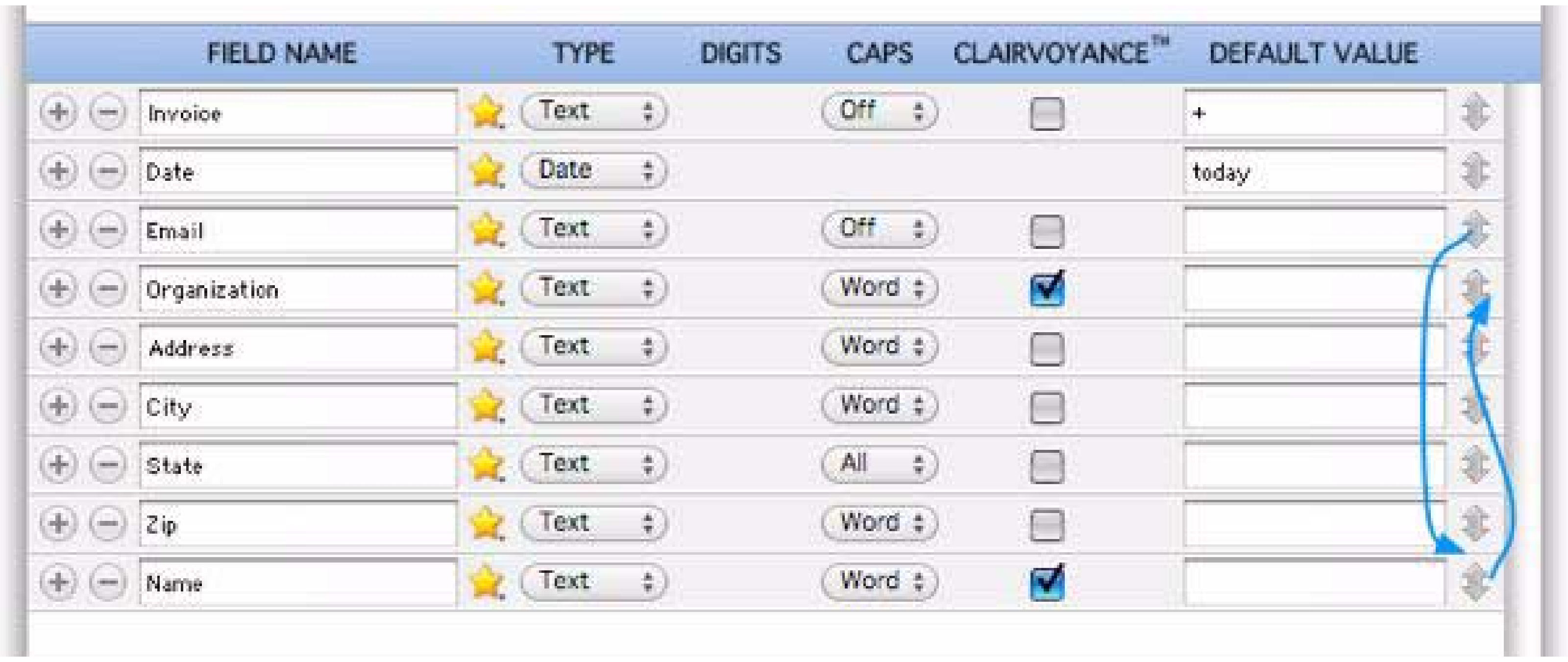
Organization	Text	Word	☑	
Address	Text		☐	
City	Text		☐	
State	Text		☐	
Zip	Text	Word	☐	

Clairvoyance® (Auto Fill)

Another option for text fields is Clairvoyance®. When enabled, Panorama will auto-complete text entry for you based on previous entries in the database. For more information, see also.

Rearranging Fields

To re-arrange fields before you create the database, just drag on the double arrows on the right side of the windows.

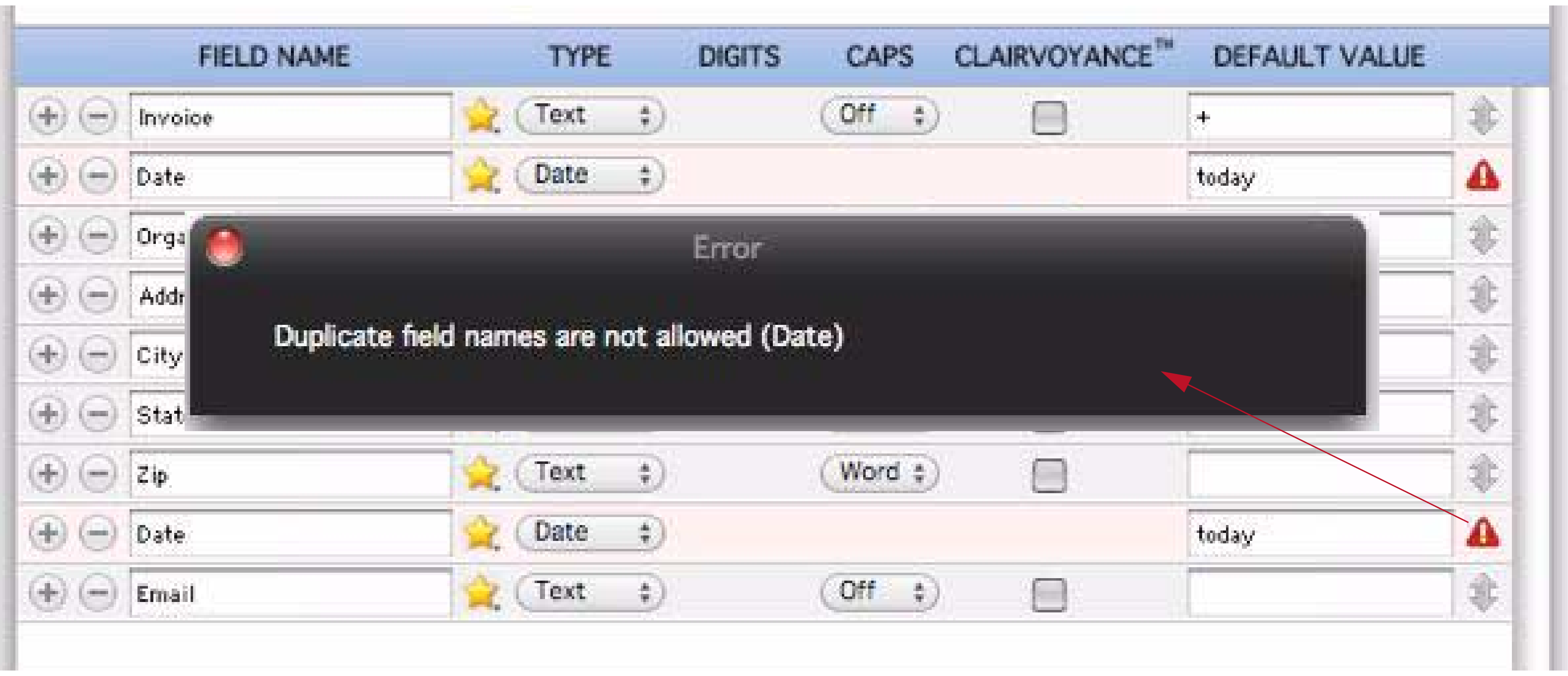


FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Invoice	Text		Off	☐	+
Date	Date				today
Email	Text		Off	☐	
Organization	Text		Word	☑	
Address	Text		Word	☐	
City	Text		Word	☐	
State	Text		All	☐	
Zip	Text		Word	☐	
Name	Text		Word	☑	

Note: Fields cannot be dragged when you are importing data (see "Creating a Database from a Text File or Spreadsheet" on page 114), only when creating an empty new, database.

Field Name Warnings and Errors

The New Database wizard will warn you if you create a field name that is improper or that will require special handling in formulas. There are two types of improper field names — a blank field name, or a duplicate field name. If you create an improper field name Panorama will display a red background behind the field line, with a red alert icon. Click the red alert icon to see a description of the problem.



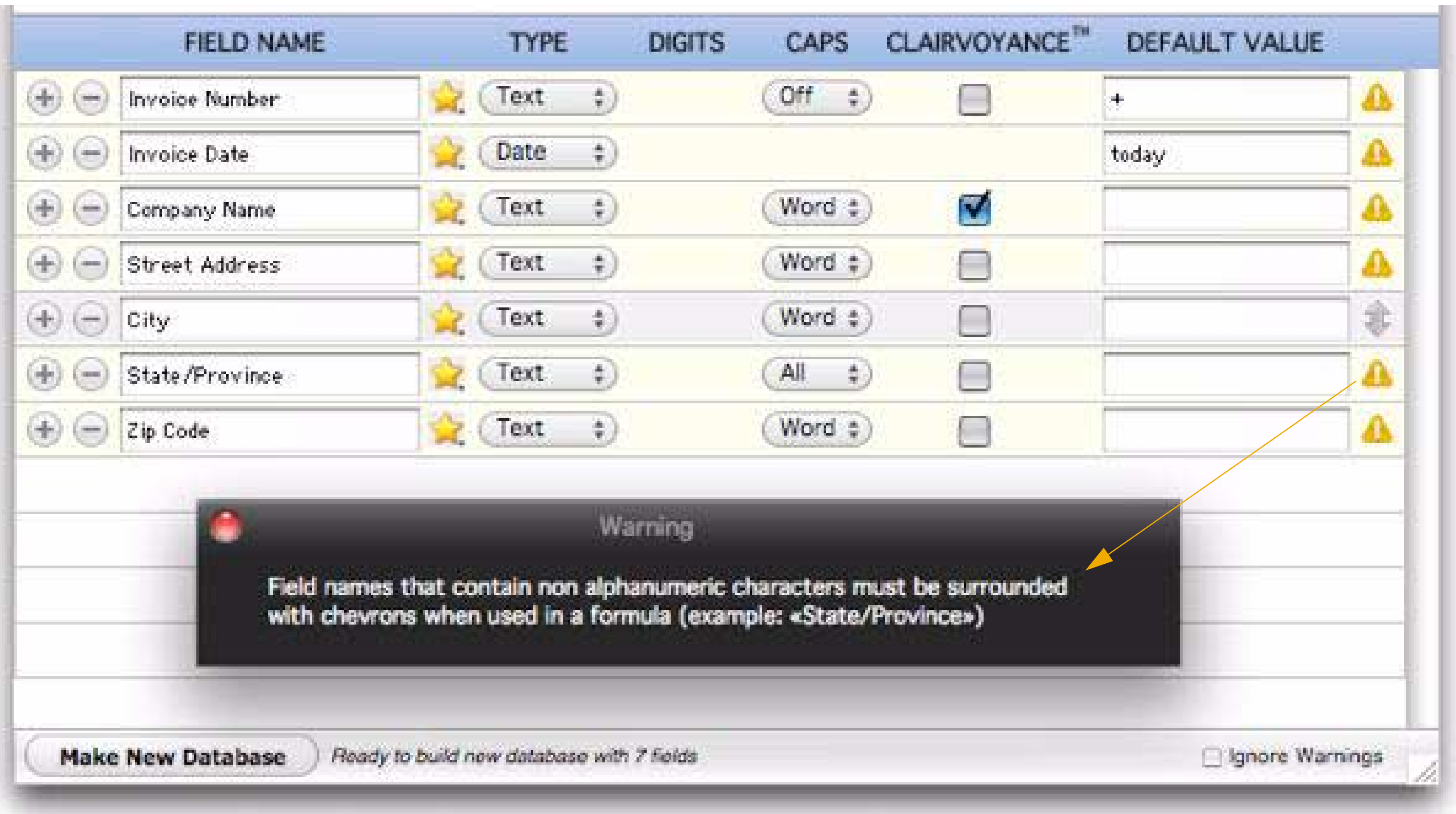
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Invoice	Text		Off	□	+
Date	Date				today
Orga					
Addr					
City					
Stat					
Zip	Text		Word	□	
Date	Date				today
Email	Text		Off	□	

Error

Duplicate field names are not allowed (Date)

The New Database wizard will not allow you to create the database until the improper field names have been fixed.

Field names that will require special handling in formulas are flagged with a yellow background and a yellow alert triangle.



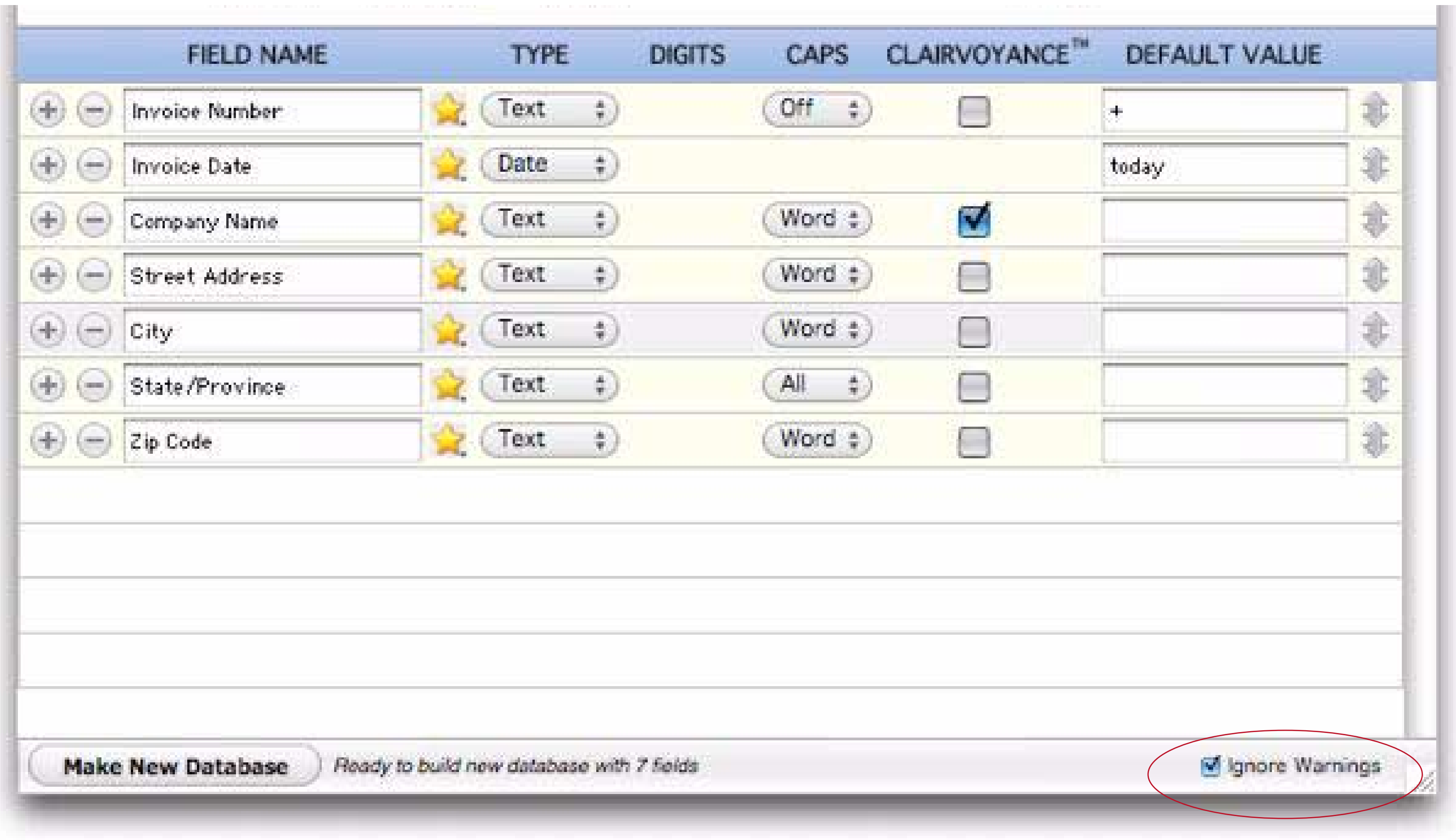
FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Invoice Number	Text		Off	□	+
Invoice Date	Date				today
Company Name	Text		Word	☑	
Street Address	Text		Word	□	
City	Text		Word	□	
State/Province	Text		All	□	
Zip Code	Text		Word	□	

Warning

Field names that contain non alphanumeric characters must be surrounded with chevrons when used in a formula (example: «State/Province»)

Make New Database   Ready to build new database with 7 fields   □ Ignore Warnings

Unlike improper field names, the **New Database Wizard** will allow you to create the database without changing these field names, though it will warn you when you actually create the database. It's simply up to you to make sure any formulas you create have the special handling necessary (see "Fields" on page 286). If you enable the Ignore Warnings option then Panorama will not display any warnings or yellow icons, though it does still show a yellow background for these fields.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Invoice Number	Text		Off	☐	+
Invoice Date	Date				today
Company Name	Text		Word	☑	
Street Address	Text		Word	☐	
City	Text		Word	☐	
State/Province	Text		All	☐	
Zip Code	Text		Word	☐	

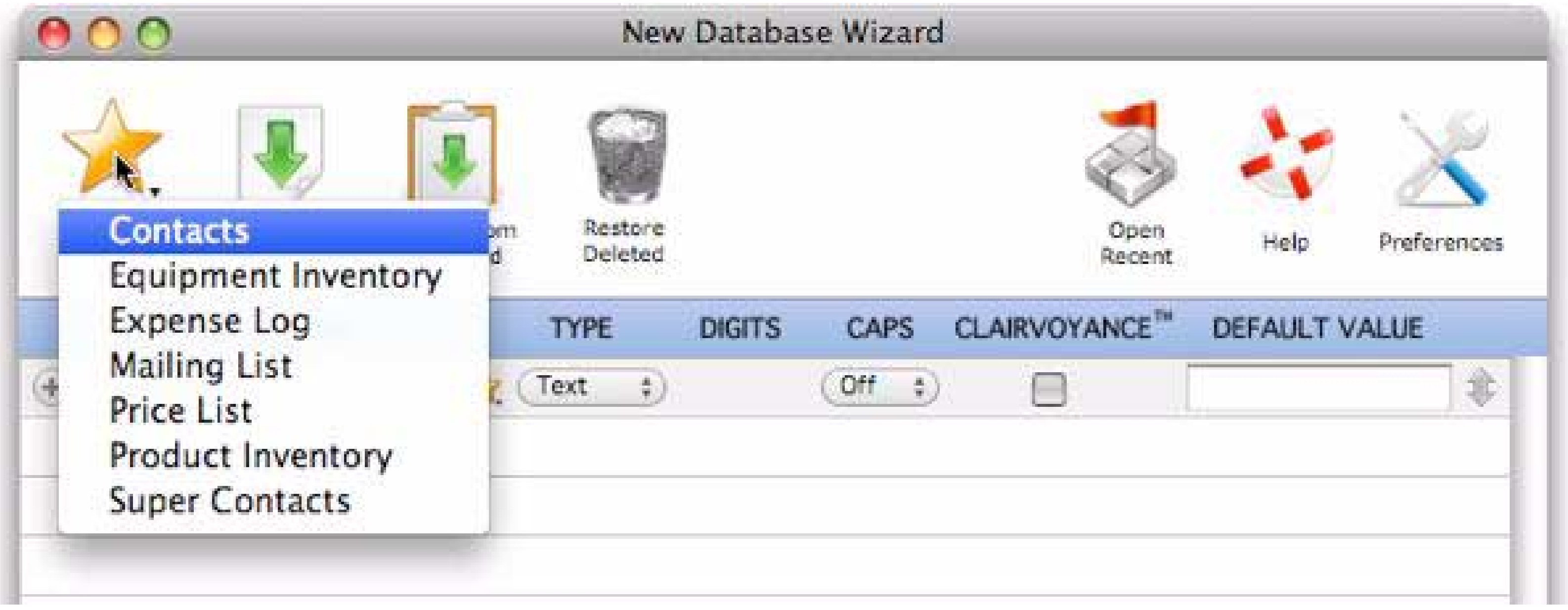
Make New Database

Ready to build new database with 7 fields

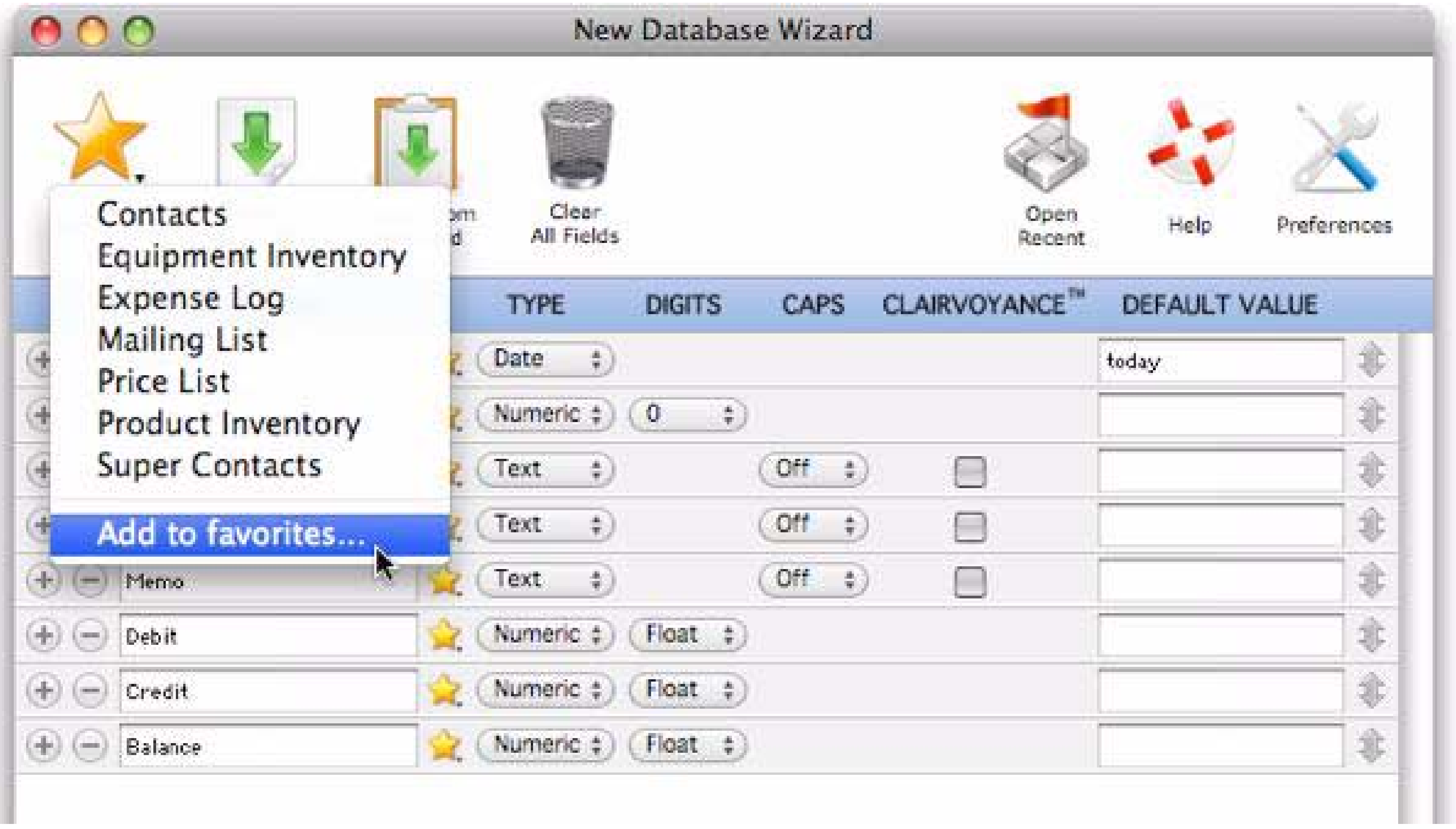
☑ Ignore Warnings

Favorite Field Structures

Panorama comes pre-equipped with a set of templates for creating new databases. To choose one of these, simply click on the yellow Favorites star.

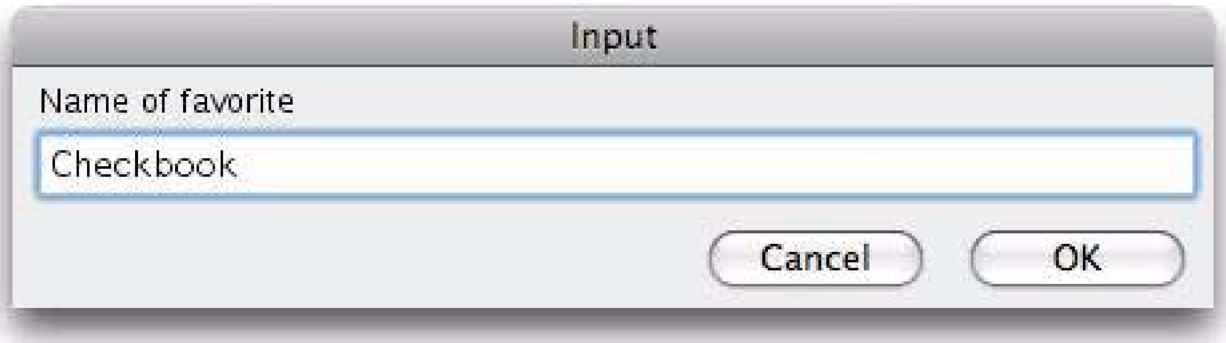


You can add your own templates at any time (and remove the standard templates as well). The first step is to set up the fields in the proper configuration, then click on the Favorites star and choose **Add to favorites**.



	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
	Date				today
	Numeric	0			
	Text		Off	□	
	Text		Off	□	
Memo	Text		Off	□	
Debit	Numeric	Float			
Credit	Numeric	Float			
Balance	Numeric	Float			

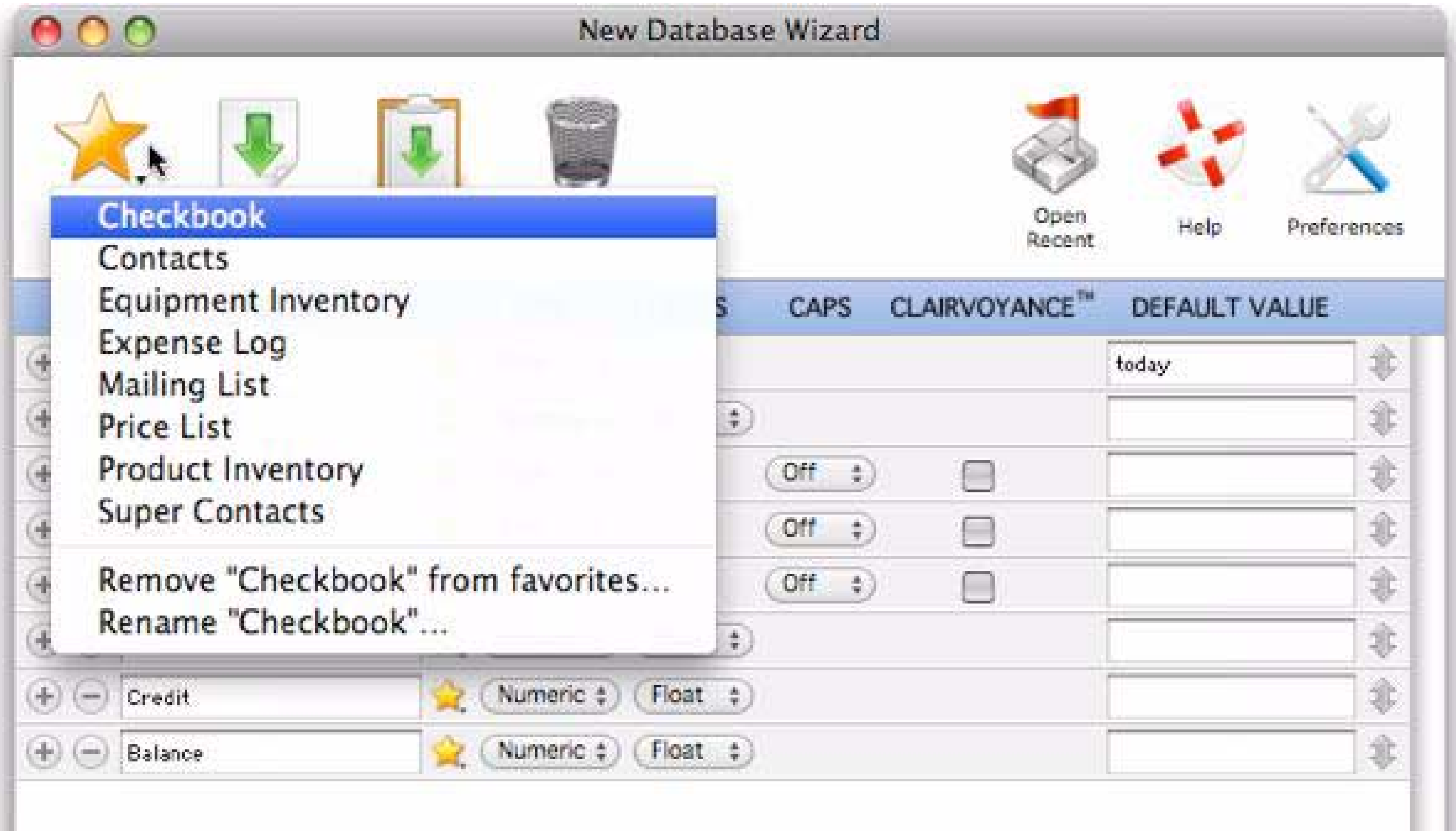
The wizard will ask for a name for the new favorite.



Name of favorite

Checkbook

That's all there is to it! The new favorite now appears in the menu (in alphabetical order).



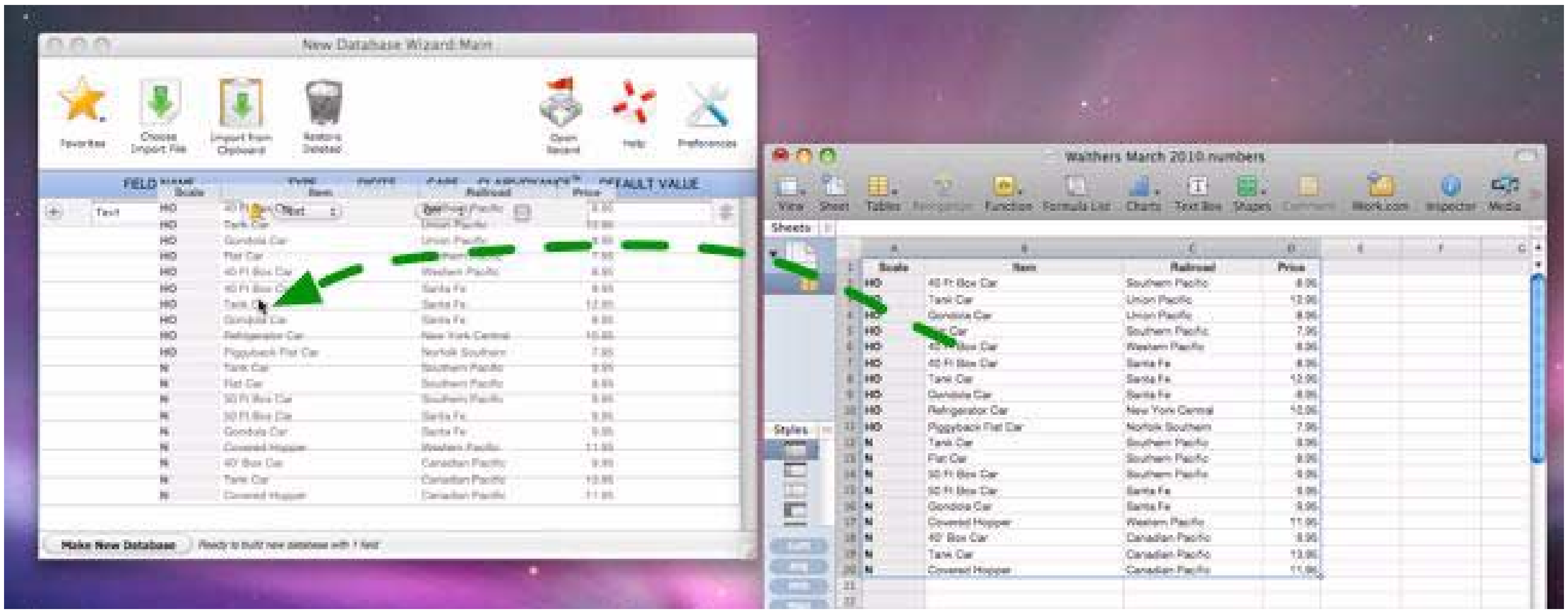
To rename or remove a favorite, first select it from the menu. Then open the menu again and choose **Remove** or **Rename**.

Creating a Database from a Text File or Spreadsheet

The **New Database Wizard** usually creates an empty database, but it can also create a database from a text file and automatically import the text. There are four possible ways to start this process.

1) Drag a tab or comma delimited text file onto the wizard.

2) Drag data directly from a spreadsheet, word processor or text editor onto the wizard (Mac only), as shown below.

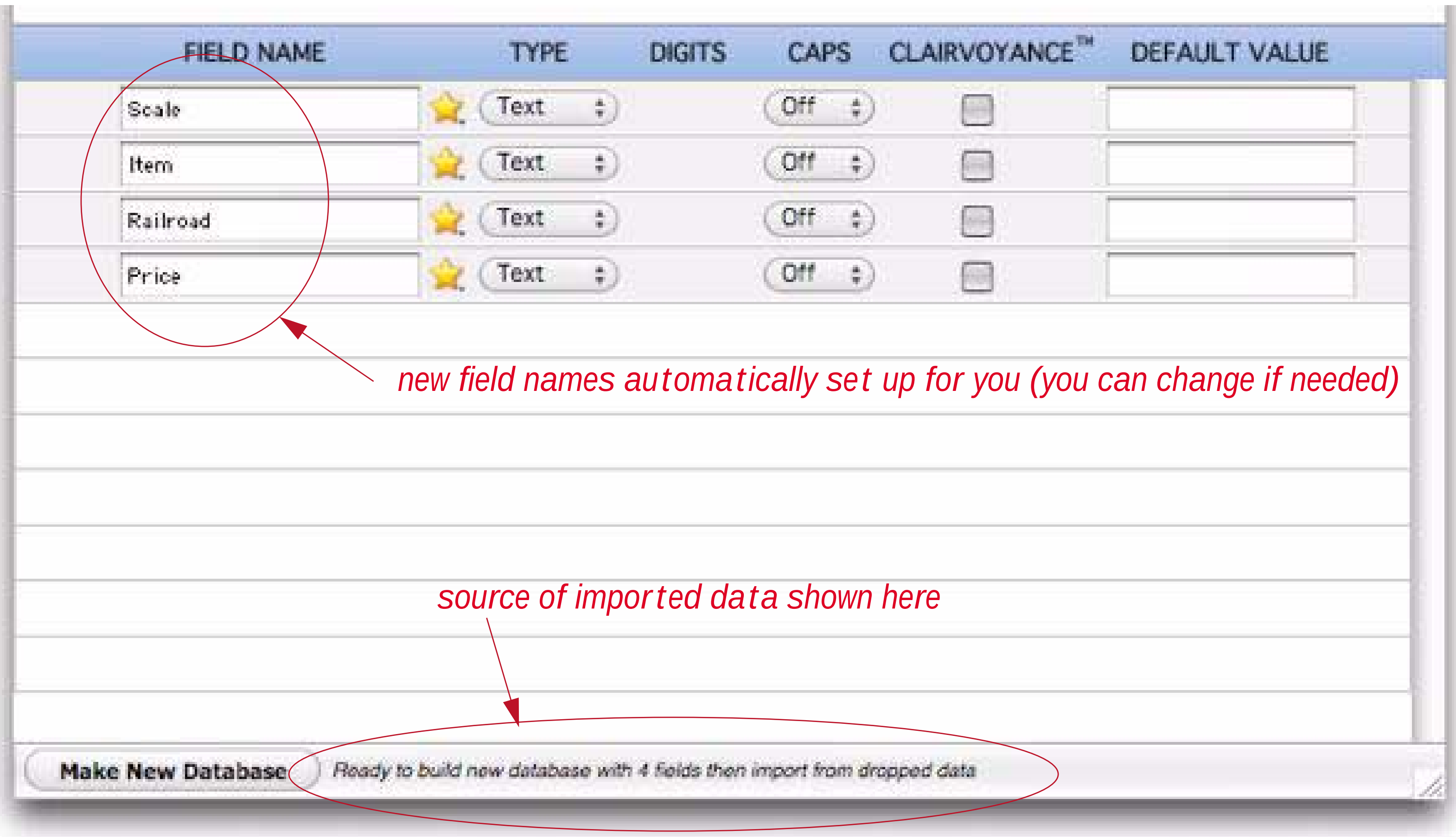


Scale	Item	Railroad	Price
HO	40 Ft Box Car	Southern Pacific	8.95
HO	Tank Car	Union Pacific	12.95
HO	Gondola Car	Union Pacific	8.95
HO	Flat Car	Southern Pacific	7.95
HO	40 Ft Box Car	Western Pacific	8.95
HO	40 Ft Box Car	Santa Fe	8.95
HO	Tank Car	Santa Fe	12.95
HO	Gondola Car	Santa Fe	8.95
HO	Refrigerator Car	New York Central	10.95
HO	Piggyback Flat Car	Norfolk Southern	7.95
N	Tank Car	Southern Pacific	8.95
N	Flat Car	Southern Pacific	8.95
N	50 Ft Box Car	Southern Pacific	9.95
N	50 Ft Box Car	Santa Fe	9.95
N	Gondola Car	Santa Fe	9.95
N	Covered Hopper	Western Pacific	11.95
N	40' Box Car	Canadian Pacific	8.95
N	Tank Car	Canadian Pacific	13.95
N	Covered Hopper	Canadian Pacific	11.95

3) Click on the **Choose Import File** button, then select a text file containing tab or comma delimited text.

4) Copy tab or comma delimited text into the clipboard, then press the **Import from Clipboard** button.

Whatever process you choose, the wizard will use the first line of the imported data as the initial field names.



FIELD NAME		TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Scale	★	Text		Off	□	
Item	★	Text		Off	□	
Railroad	★	Text		Off	□	
Price	★	Text		Off	□	

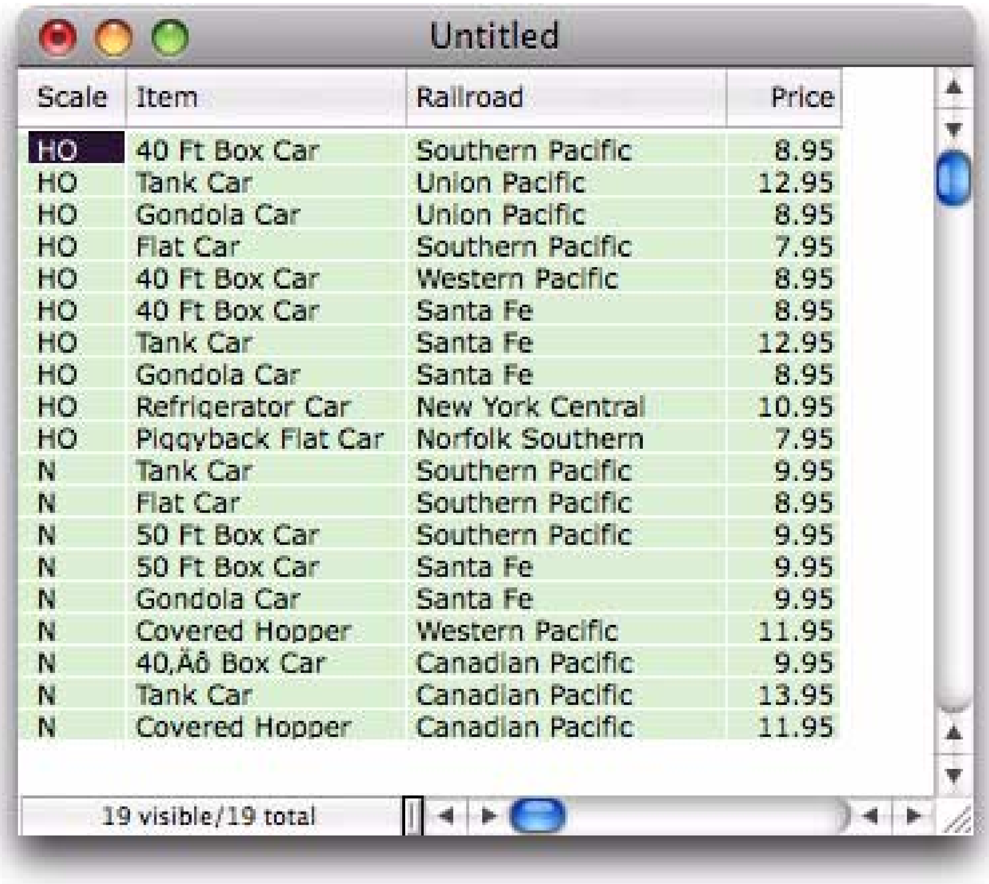
Ready to build new database with 4 fields then import from dropped data

new field names automatically set up for you (you can change if needed)

source of imported data shown here

You can make adjustments to the database design before actually creating the database, including changing the field names and types, setting up defaults, auto capitalization and Clairvoyance®. You cannot, however, add, remove or re-arrange fields (of course this can be done later, once the database is set up).

When everything is ready press the **Make New Database** button. Panorama creates the new database and brings in the data.



Scale	Item	Railroad	Price
HO	40 Ft Box Car	Southern Pacific	8.95
HO	Tank Car	Union Pacific	12.95
HO	Gondola Car	Union Pacific	8.95
HO	Flat Car	Southern Pacific	7.95
HO	40 Ft Box Car	Western Pacific	8.95
HO	40 Ft Box Car	Santa Fe	8.95
HO	Tank Car	Santa Fe	12.95
HO	Gondola Car	Santa Fe	8.95
HO	Refrigerator Car	New York Central	10.95
HO	Piggyback Flat Car	Norfolk Southern	7.95
N	Tank Car	Southern Pacific	9.95
N	Flat Car	Southern Pacific	8.95
N	50 Ft Box Car	Southern Pacific	9.95
N	50 Ft Box Car	Santa Fe	9.95
N	Gondola Car	Santa Fe	9.95
N	Covered Hopper	Western Pacific	11.95
N	40,Äô Box Car	Canadian Pacific	9.95
N	Tank Car	Canadian Pacific	13.95
N	Covered Hopper	Canadian Pacific	11.95

19 visible/19 total

The new database is ready to save and use.

Chapter 2: Using the Data Sheet

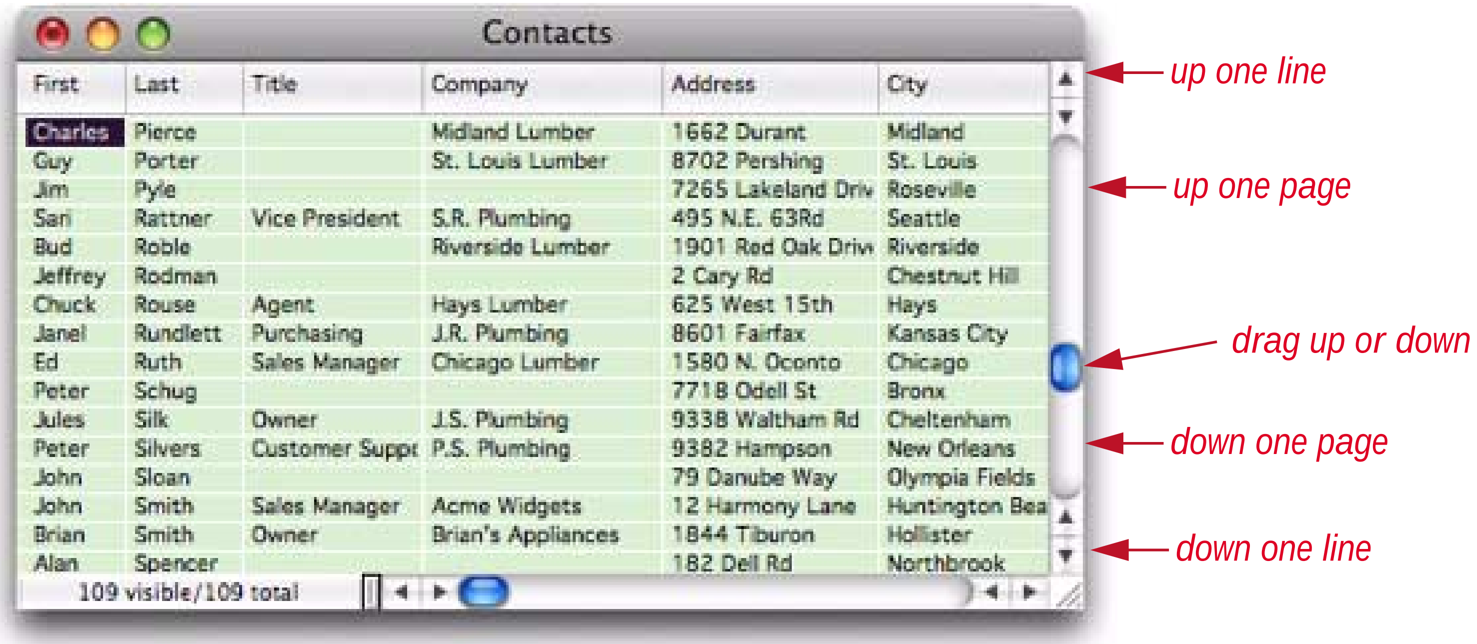
In this chapter you'll learn how to navigate within the data sheet, how to add and remove records, how to edit data within individual data cells, and how to adjust, add and remove fields.

Navigating the Database

Your database may contain thousands of records and hundreds of fields, so you can only see a small portion of the data at a time. You can navigate the database manually with the scroll bars or use Panorama's extensive searching tools to automatically hone in on the exact data you are looking for.

Moving From Record to Record

Use the vertical scroll bar to scroll a data sheet to any record in the database. Click on the scroll bar arrows to move up or down one record at a time. Click in the scroll bar's gray area to move up or down one window at a time. Drag the scroll bar thumb to move directly to any position in the database.



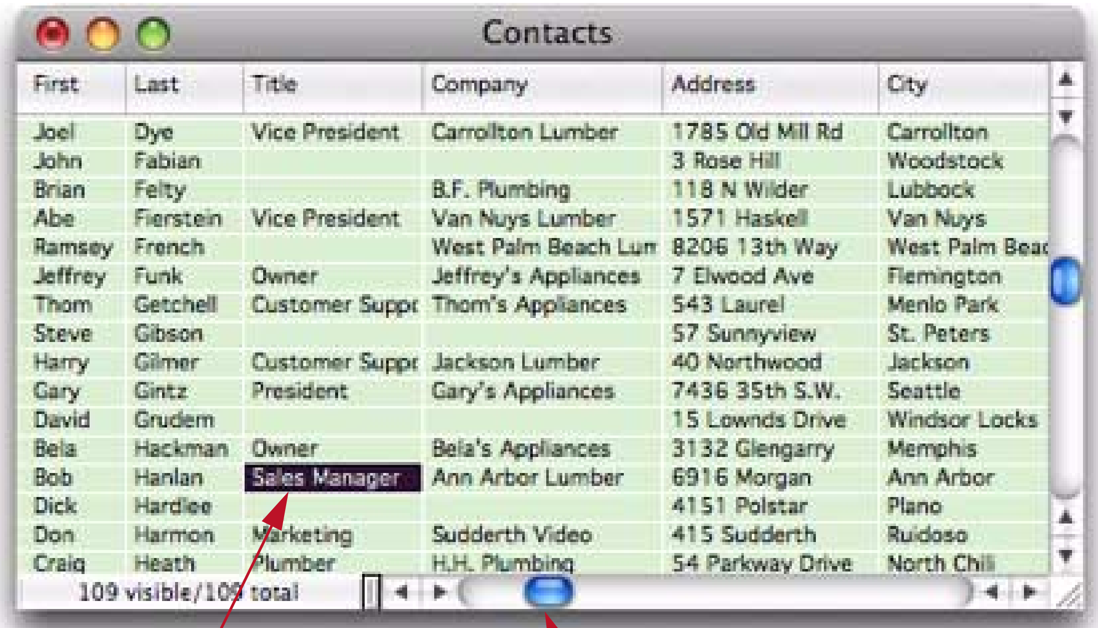
First	Last	Title	Company	Address	City
Charles	Pierce		Midland Lumber	1662 Durant	Midland
Guy	Porter		St. Louis Lumber	8702 Pershing	St. Louis
Jim	Pyle			7265 Lakeland Driv	Roseville
Sari	Rattner	Vice President	S.R. Plumbing	495 N.E. 63Rd	Seattle
Bud	Roble		Riverside Lumber	1901 Red Oak Driv	Riverside
Jeffrey	Rodman			2 Cary Rd	Chestnut Hill
Chuck	Rouse	Agent	Hays Lumber	625 West 15th	Hays
Janel	Rundlett	Purchasing	J.R. Plumbing	8601 Fairfax	Kansas City
Ed	Ruth	Sales Manager	Chicago Lumber	1580 N. Oconto	Chicago
Peter	Schug			7718 Odell St	Bronx
Jules	Silk	Owner	J.S. Plumbing	9338 Waltham Rd	Cheltenham
Peter	Silvers	Customer Suppc	P.S. Plumbing	9382 Hampson	New Orleans
John	Sloan			79 Danube Way	Olympia Fields
John	Smith	Sales Manager	Acme Widgets	12 Harmony Lane	Huntington Bea
Brian	Smith	Owner	Brian's Appliances	1844 Tiburon	Hollister
Alan	Spencer			182 Dell Rd	Northbrook

109 visible/109 total

In addition to manually moving from record to record, you can let Panorama search for the information you want to look at or modify. See also for more information about searching for and selecting data.

Moving from Field to Field

Within a data sheet, you can move to another field by clicking anywhere the field’s column (if it is visible) or by clicking on the horizontal scroll bar. (See “Splitting the Data Sheet Window” on page 119 for information on how to split a window into two separately scrollable “panes.”)

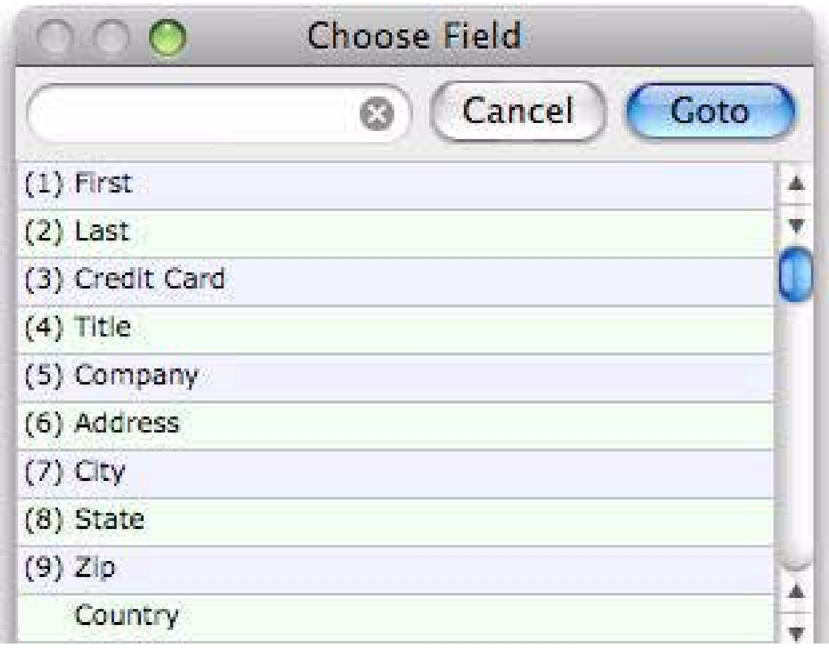


First	Last	Title	Company	Address	City
Joel	Dye	Vice President	Carrollton Lumber	1785 Old Mill Rd	Carrollton
John	Fabian			3 Rose Hill	Woodstock
Brian	Felty		B.F. Plumbing	118 N Wilder	Lubbock
Abe	Fierstein	Vice President	Van Nuys Lumber	1571 Haskell	Van Nuys
Ramsey	French		West Palm Beach Lun	8206 13th Way	West Palm Beac
Jeffrey	Funk	Owner	Jeffrey's Appliances	7 Elwood Ave	Flemington
Thom	Getchell	Customer Suppc	Thom's Appliances	543 Laurel	Menlo Park
Steve	Gibson			57 Sunnyview	St. Peters
Harry	Gilmer	Customer Suppc	Jackson Lumber	40 Northwood	Jackson
Gary	Gintz	President	Gary's Appliances	7436 35th S.W.	Seattle
David	Grudem			15 Lownds Drive	Windsor Locks
Bela	Hackman	Owner	Bela's Appliances	3132 Glengarry	Memphis
Bob	Hanlan	Sales Manager	Ann Arbor Lumber	6916 Morgan	Ann Arbor
Dick	Hardlee			4151 Polstar	Plano
Don	Harmon	Marketing	Sudderth Video	415 Sudderth	Ruidoso
Craig	Heath	Plumber	H.H. Plumbing	54 Parkway Drive	North Chili

click anywhere in a column to select a field

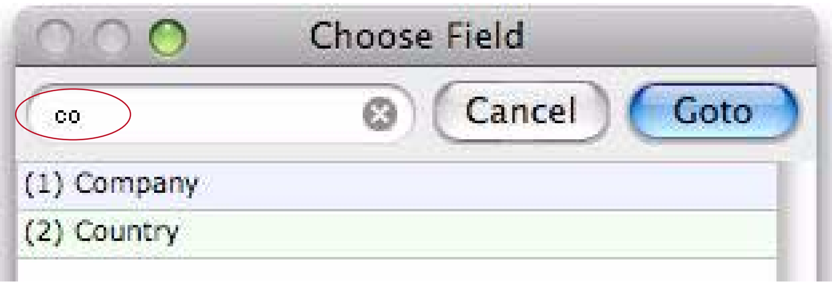
or use the scroll bar

You can also use the **Goto Field** dialog (in the **Fields** menu) to move to a specific field. This is especially useful if the database dozens or hundreds of fields. Initially the dialog displays a list of all of the fields in the database. To go to a specific field click on it and press the Goto button, or simply double click on the field name.



(1) First
(2) Last
(3) Credit Card
(4) Title
(5) Company
(6) Address
(7) City
(8) State
(9) Zip
Country

You can also search for the field you want. Type in a few letters from the field name in the search area.



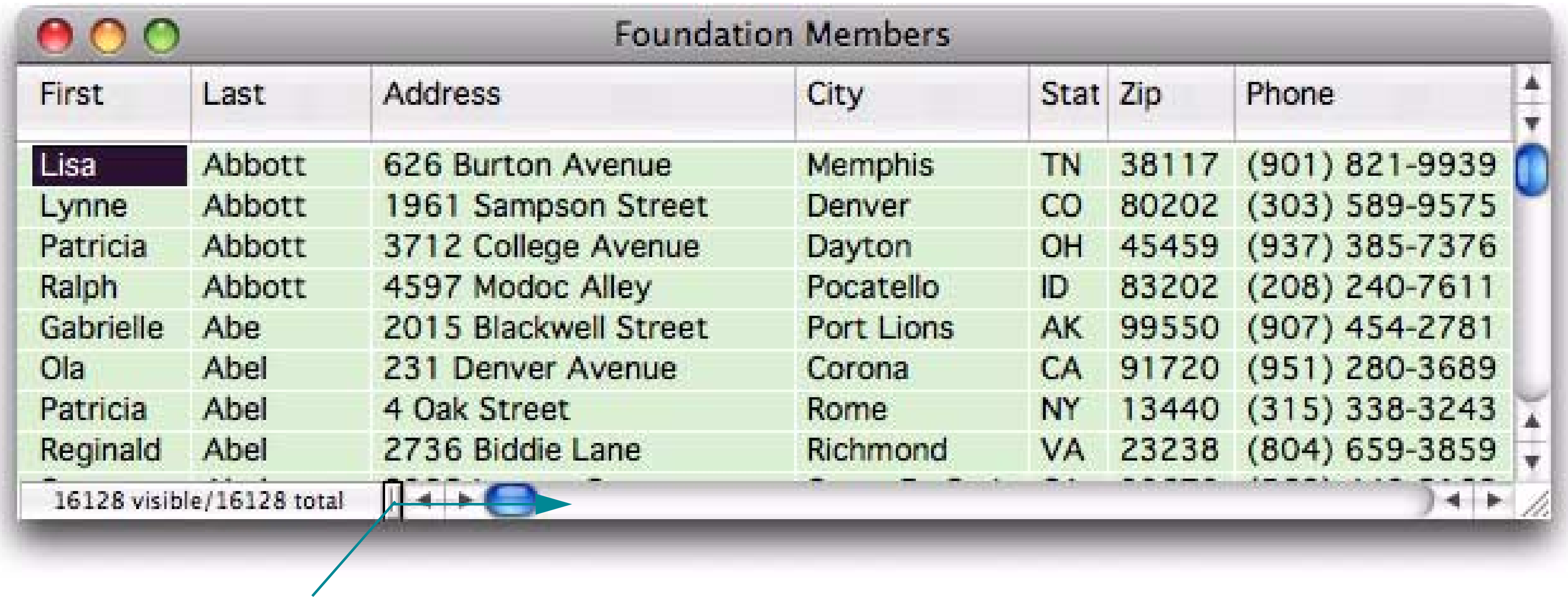
co

(1) Company
(2) Country

The first nine fields listed are numbered from (1) to (9). To go to one of these fields simply press the corresponding numeric key. For example to go to the Country field in the example above you could simply press c o 2.

Splitting the Data Sheet Window

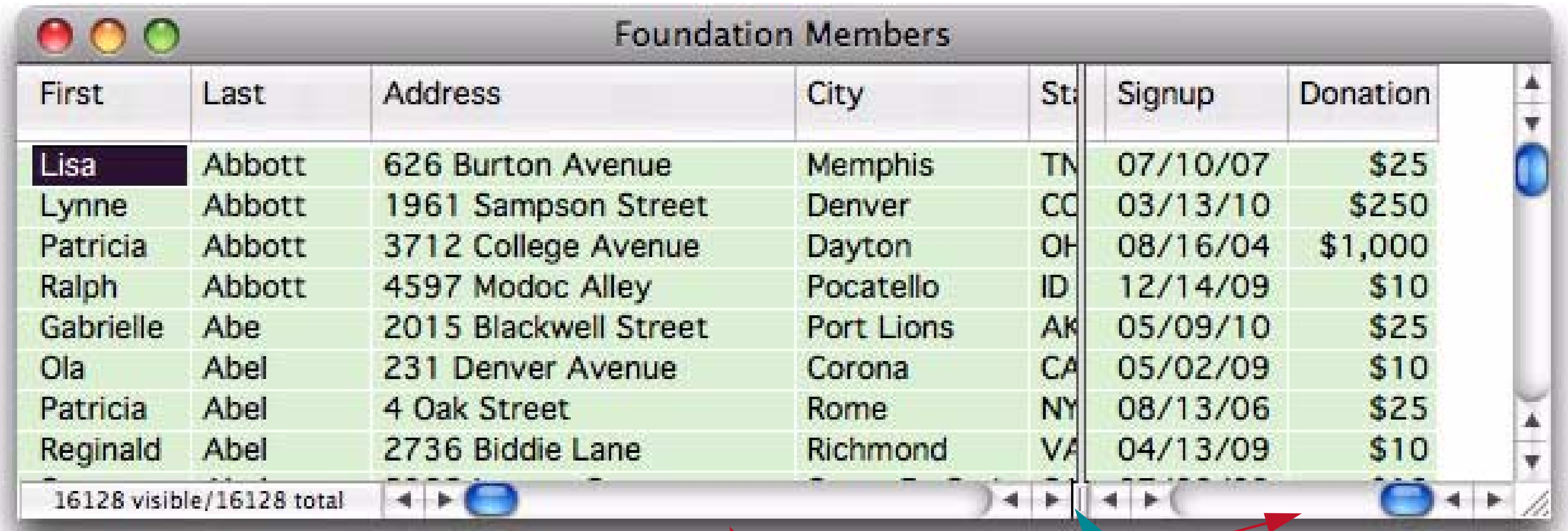
Data sheet windows can be split into two side by side **panes**. Each pane displays a different area of the database. The two panes are locked together vertically, but each pane has its own horizontal scroll bar.



First	Last	Address	City	Stat	Zip	Phone
Lisa	Abbott	626 Burton Avenue	Memphis	TN	38117	(901) 821-9939
Lynne	Abbott	1961 Sampson Street	Denver	CO	80202	(303) 589-9575
Patricia	Abbott	3712 College Avenue	Dayton	OH	45459	(937) 385-7376
Ralph	Abbott	4597 Modoc Alley	Pocatello	ID	83202	(208) 240-7611
Gabrielle	Abe	2015 Blackwell Street	Port Lions	AK	99550	(907) 454-2781
Ola	Abel	231 Denver Avenue	Corona	CA	91720	(951) 280-3689
Patricia	Abel	4 Oak Street	Rome	NY	13440	(315) 338-3243
Reginald	Abel	2736 Biddie Lane	Richmond	VA	23238	(804) 659-3859

press and drag to split window

To split a window, drag the **splitter** to the right. (The **splitter** is the small black rectangle to the left of the horizontal scroll bar.)



First	Last	Address	City	St	Signup	Donation
Lisa	Abbott	626 Burton Avenue	Memphis	TN	07/10/07	$25
Lynne	Abbott	1961 Sampson Street	Denver	CC	03/13/10	$250
Patricia	Abbott	3712 College Avenue	Dayton	OH	08/16/04	$1,000
Ralph	Abbott	4597 Modoc Alley	Pocatello	ID	12/14/09	$10
Gabrielle	Abe	2015 Blackwell Street	Port Lions	AK	05/09/10	$25
Ola	Abel	231 Denver Avenue	Corona	CA	05/02/09	$10
Patricia	Abel	4 Oak Street	Rome	NY	08/13/06	$25
Reginald	Abel	2736 Biddie Lane	Richmond	VA	04/13/09	$10

each pane may be scrolled separately

drag to adjust split

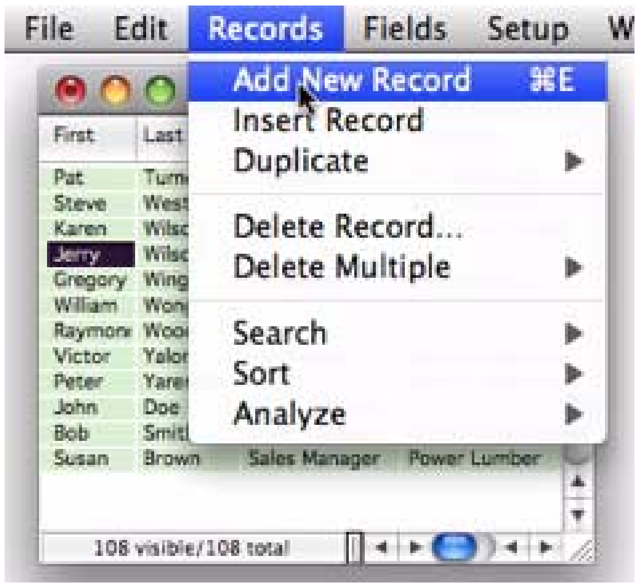
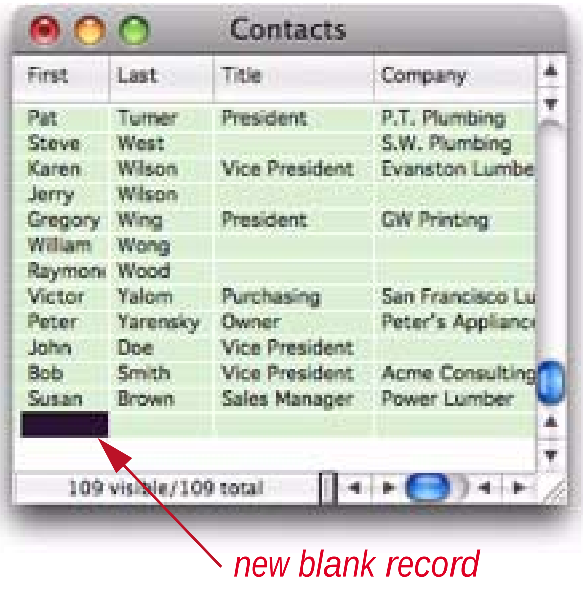
To remove the split, drag the splitter back to the left edge. To adjust the split location, drag the splitter into position.

Editing Records

A new database starts out with just one lonely record. Over its lifetime hundreds or even thousands of records will be added to a typical database. In addition, many records will become obsolete and be deleted. Both inserting and deleting records are easy tasks with Panorama.

Adding a New Record

To add a new record to the end (bottom) of the database, choose **Add New Record** from the Edit Menu.

before **Add New Record**	after **Add New Record**
	

Contacts

First	Last	Title	Company
Pat	Turner	President	P.T. Plumbing
Steve	West		S.W. Plumbing
Karen	Wilson	Vice President	Evanston Lumbe
Jerry	Wilson		
Gregory	Wing	President	GW Printing
William	Wong		
Raymon	Wood		
Victor	Yalom	Purchasing	San Francisco Lu
Peter	Yarensky	Owner	Peter's Applianc
John	Doe	Vice President	
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

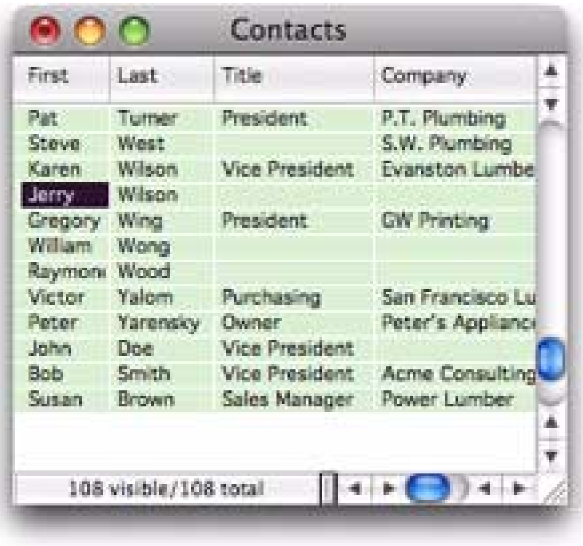
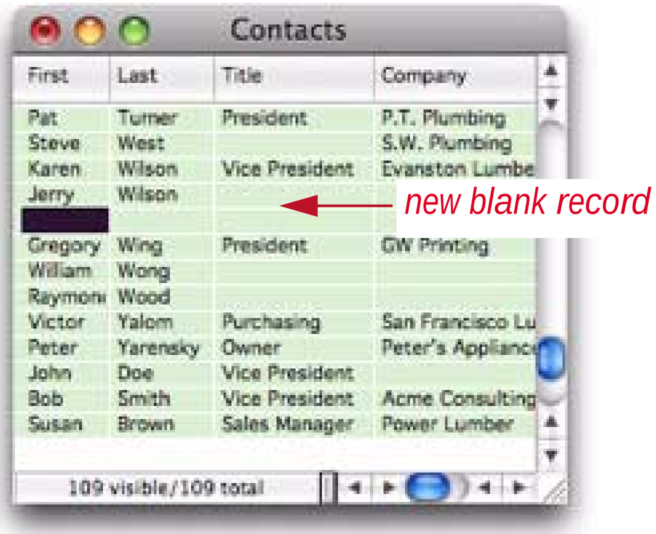
109 visible/109 total

new blank record

You can also add a new record by tabbing from the end of the bottom line of the data sheet.

Inserting a New Record

When you are working in the data sheet, you can insert a new record either above or below the current record. (In a form you can only add new records at the end of the database.) To insert a new record after the current record press the **Return** key.

before **Return**	after **Return**
	

Contacts

First	Last	Title	Company
Pat	Turner	President	P.T. Plumbing
Steve	West		S.W. Plumbing
Karen	Wilson	Vice President	Evanston Lumbe
Jerry	Wilson		
Gregory	Wing	President	GW Printing
William	Wong		
Raymon	Wood		
Victor	Yalom	Purchasing	San Francisco Lu
Peter	Yarensky	Owner	Peter's Applianc
John	Doe	Vice President	
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

108 visible/108 total

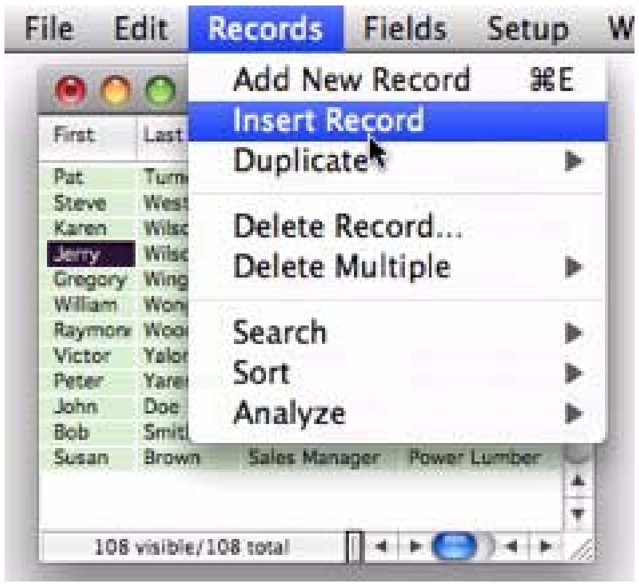
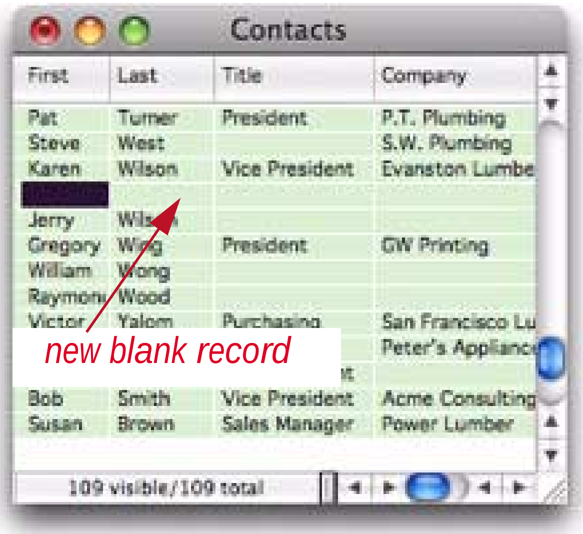
Contacts

First	Last	Title	Company
Pat	Turner	President	P.T. Plumbing
Steve	West		S.W. Plumbing
Karen	Wilson	Vice President	Evanston Lumbe
Jerry	Wilson		
Gregory	Wing	President	GW Printing
William	Wong		
Raymon	Wood		
Victor	Yalom	Purchasing	San Francisco Lu
Peter	Yarensky	Owner	Peter's Applianc
John	Doe	Vice President	
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

109 visible/109 total

new blank record

To insert a new record before the current record, click on the **Insert Record** tool.

before **Insert Record**	after **Insert Record**
	

First	Last		
Pat	Turn		
Steve	West		
Karen	Wils		
Jerry	Wils		
Gregory	Wing		
William	Won		
Raymon	Woo		
Victor	Yalo		
Peter	Yare		
John	Doe		
Bob	Smit		
Susan	Brown	Sales Manager	Power Lumber

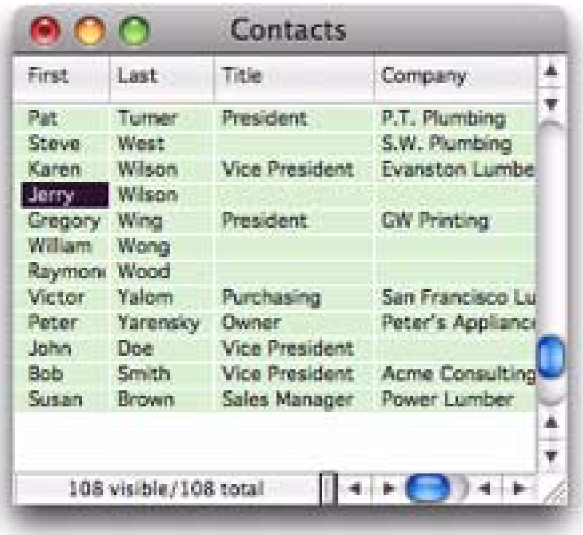
108 visible/108 total

Contacts

First	Last	Title	Company
Pat	Turner	President	P.T. Plumbing
Steve	West		S.W. Plumbing
Karen	Wilson	Vice President	Evanston Lumbe
Jerry	Wils		
Gregory	Wing	President	GW Printing
William	Wong		
Raymon	Wood		
Victor	Yalom	Purchasing	San Francisco Lu
			Peter's Applianc
		t	
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

109 visible/109 total

Usually new records are completely blank, ready for your input (as shown in the examples above). You can, however, ask Panorama to automatically fill in one or more cells whenever a new record is created. A field can default to a fixed value (like yes or no, or taxable, or today's date), an automatically incrementing number (1, 2, 3, …), or a copy of the data in a previous record. See "Default Values" on page 211 for more information.



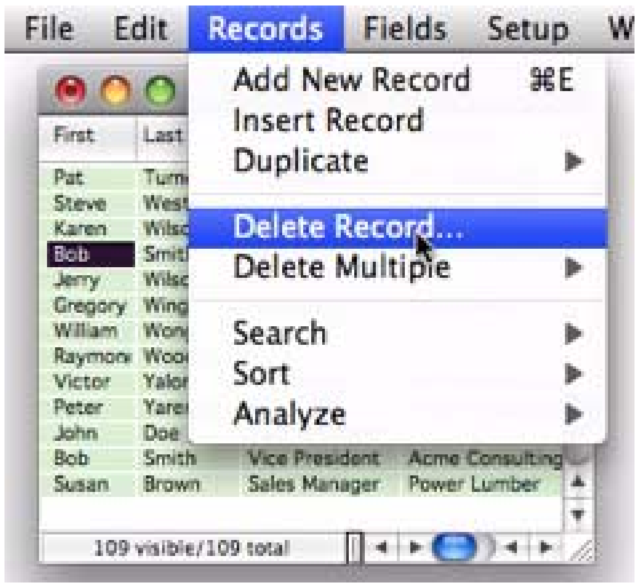
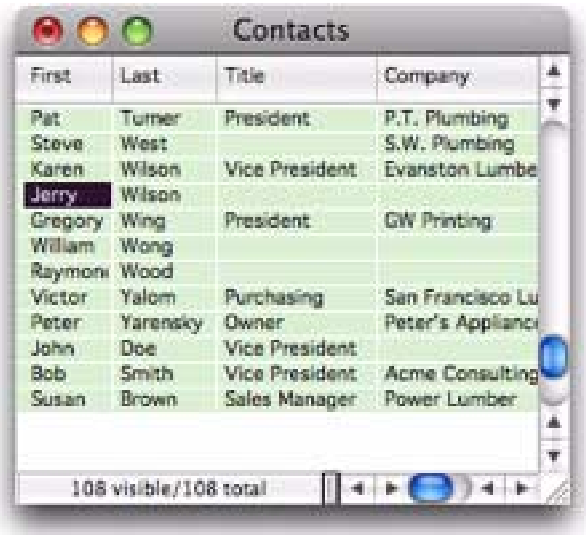
Contacts

First	Last	Title	Company
Pat	Turner	President	P.T. Plumbing
Steve	West		S.W. Plumbing
Karen	Wilson	Vice President	Evanston Lumbe
Jerry	Wilson		
Gregory	Wing	President	GW Printing
William	Wong		
Raymon	Wood		
Victor	Yalom	Purchasing	San Francisco Lu
Peter	Yarensky	Owner	Peter's Applianc
John	Doe	Vice President	
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

108 visible/108 total

Deleting a Record

To delete an entire record, choose **Records>Delete Record**.

before **Delete Record**	after **Delete Record**
	

First	Last		
Pat	Turn		
Steve	West		
Karen	Wilso		
Bob	Smit		
Jerry	Wilso		
Gregory	Wing		
William	Wong		
Raymon	Wood		
Victor	Yalor		
Peter	Yarei		
John	Doe		
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

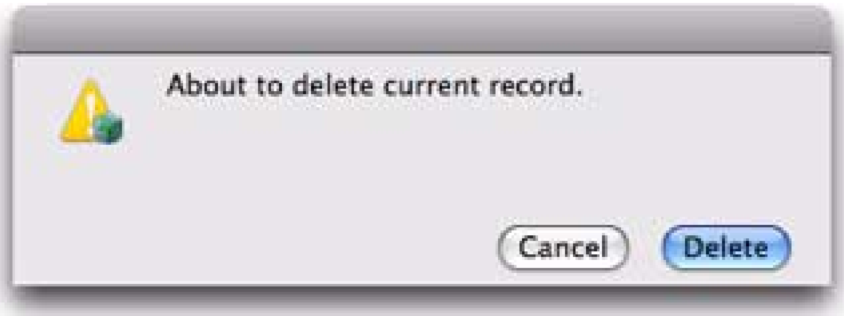
109 visible/109 total

Contacts

First	Last	Title	Company
Pat	Turner	President	P.T. Plumbing
Steve	West		S.W. Plumbing
Karen	Wilson	Vice President	Evanston Lumbe
Jerry	Wilson		
Gregory	Wing	President	GW Printing
William	Wong		
Raymon	Wood		
Victor	Yalom	Purchasing	San Francisco Lu
Peter	Yarensky	Owner	Peter's Applianc
John	Doe	Vice President	
Bob	Smith	Vice President	Acme Consulting
Susan	Brown	Sales Manager	Power Lumber

108 visible/108 total

You can also delete a record by pressing the **Delete** or **Backspace** key (upper right hand corner of the keyboard, above **Return**). Panorama will display an alert asking you to confirm that you really want to delete the record. (Mac only tip: If you want to skip the alert, hold down the **Option** key while you delete the record.)



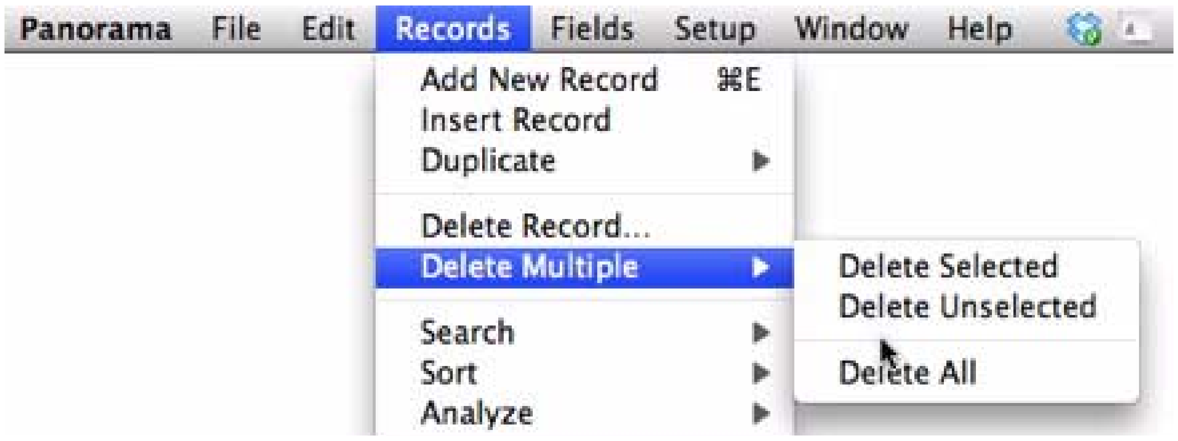
About to delete current record.

If you delete a line accidentally, you can use **Undo** to restore the line. You can also get the line back with the **Records>Duplicate>Paste Record** menu command.

Tip: A Panorama database must have at least one visible record—it cannot have zero records. If your database has only one record, Panorama will not allow you to delete it.

Deleting Multiple Records

Sometimes you may need to systematically delete large numbers of records. For example, you might need to delete all invoices previous to 1987 or all students with below passing grades. Instead of deleting these records one-by-one you can let Panorama do most of the work for you. First use the **Find/Select** command to select either the records you want to keep or the records you want to remove. If you selected the records you want to keep, use the **Remove Unselected** command to delete everything else. If you selected the records you want to remove use **Remove Selected**.



Remember, however, that you cannot delete every record—you must leave at least one record in the database at all times. See “The Find / Select Dialog” on page 144 and “Permanently Removing Unselected Data” on page 165 for more information on these commands.

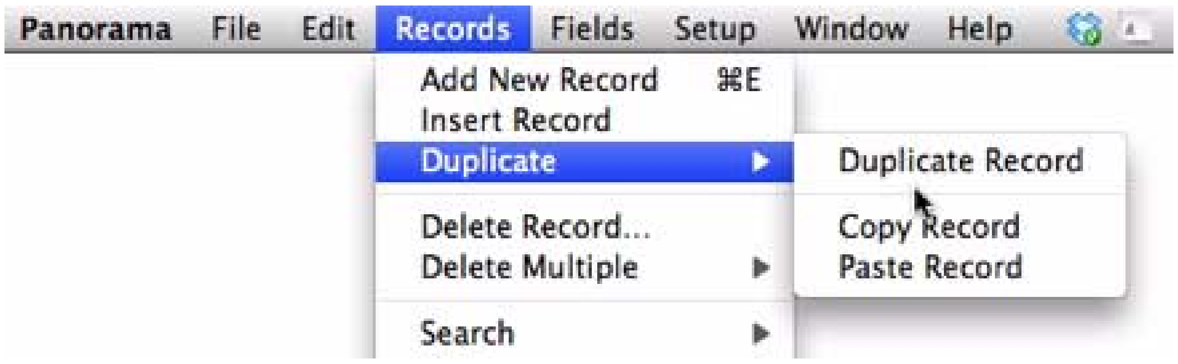
Delete All

To delete all the data in the database, use the **Delete All** command in the Edit Menu. This command deletes all the data, leaving just one blank record. Before it performs this dastardly deed, Panorama asks you to confirm that you really know what you are doing. Keep in mind that there is no **Undo** after **Delete All**. (However, if you saved a copy of your database, you can **Revert to Saved**.

You can use the **Delete All** command to set up a clone of an existing database. First open the original database, then use **Save As** to save it under a new name. Finally use **Delete All** to empty the new database. The new “cloned” database will contain all of the forms, crosstabs and procedures of the original database, but no data.

Duplicating a Record

In the data sheet you can easily make one or more copies of a record.

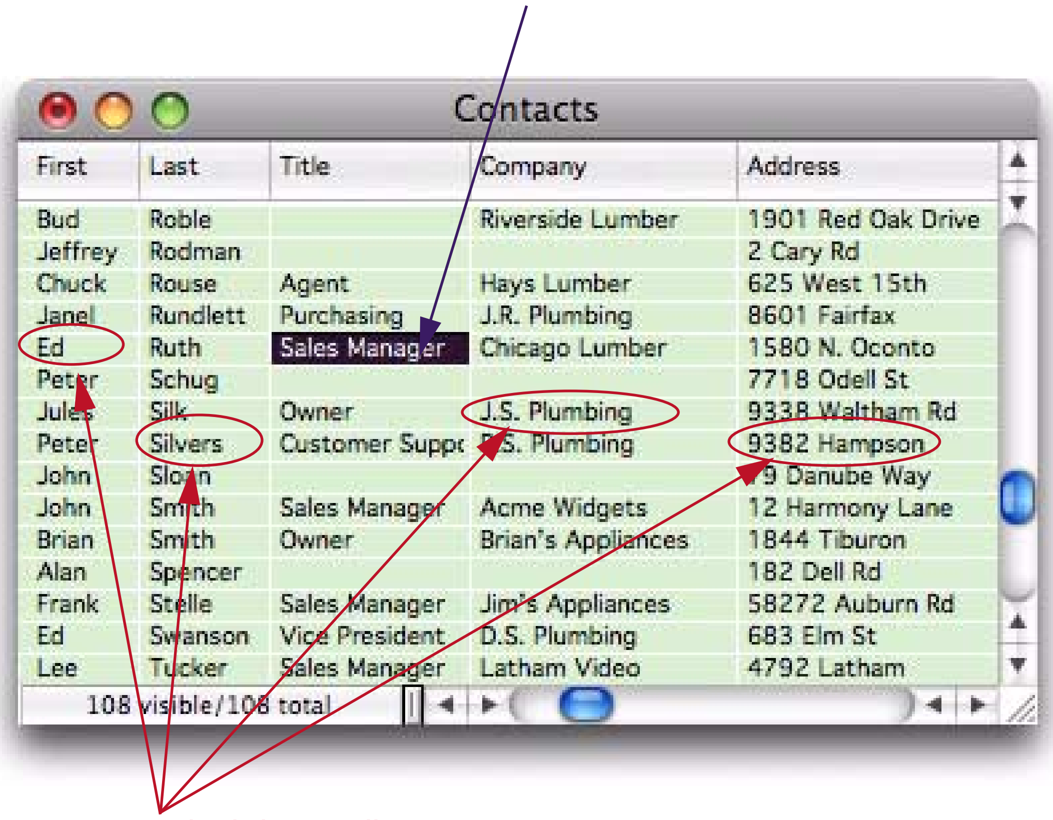


To make a copy of the current record just below the current record, choose **Records>Duplicate>Duplicate Record**. If you want to make a copy somewhere else, first use **Records>Duplicate>Copy Record**, then move to the spot where you want the copy to appear and choose **Records>Duplicate>Paste Record**. You can repeat the **Paste Record** command if you need multiple copies of the record. You can also move a record to a new position by using **Records>Delete Record**, then moving to the new position and choosing **Records>Duplicate>Paste Record**.

Editing Individual Data Cells

Data cells are the smallest unit of information handled by Panorama. Each data cell contains a single piece of information—a person’s name, a phone number, an account balance.

active data cell



First	Last	Title	Company	Address
Bud	Roble		Riverside Lumber	1901 Red Oak Drive
Jeffrey	Rodman			2 Cary Rd
Chuck	Rouse	Agent	Hays Lumber	625 West 15th
Janel	Rundlett	Purchasing	J.R. Plumbing	8601 Fairfax
Ed	Ruth	Sales Manager	Chicago Lumber	1580 N. Oconto
Peter	Schug			7718 Odell St
Jules	Silk	Owner	J.S. Plumbing	9338 Waltham Rd
Peter	Silvers	Customer Suppc	P.S. Plumbing	9382 Hampson
John	Sloan			79 Danube Way
John	Smith	Sales Manager	Acme Widgets	12 Harmony Lane
Brian	Smith	Owner	Brian’s Appliances	1844 Tiburon
Alan	Spencer			182 Dell Rd
Frank	Stelle	Sales Manager	Jim’s Appliances	58272 Auburn Rd
Ed	Swanson	Vice President	D.S. Plumbing	683 Elm St
Lee	Tucker	Sales Manager	Latham Video	4792 Latham

108 visible/108 total

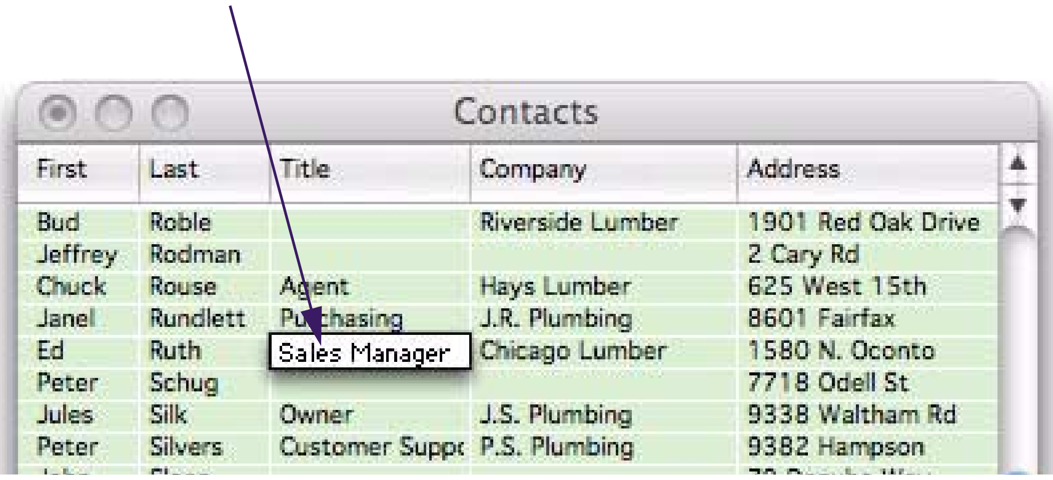
typical data cells

The currently selected cell is called the active cell. Only one cell can be active at a time. You can activate a cell by clicking on it, or by scrolling to it with the scroll bars. You can also move the active cell with the arrow keys.

The Input Box

Every data cell has a pop-up **Input Box** that is used to edit the text within the cell. The Input Box acts like a temporary window that pops up on top of the data cell for data entry and editing.

double click cell to open Input Box for editing contents of cell



First	Last	Title	Company	Address
Bud	Roble		Riverside Lumber	1901 Red Oak Drive
Jeffrey	Rodman			2 Cary Rd
Chuck	Rouse	Agent	Hays Lumber	625 West 15th
Janel	Rundlett	Purchasing	J.R. Plumbing	8601 Fairfax
Ed	Ruth	Sales Manager	Chicago Lumber	1580 N. Oconto
Peter	Schug			7718 Odell St
Jules	Silk	Owner	J.S. Plumbing	9338 Waltham Rd
Peter	Silvers	Customer Suppc	P.S. Plumbing	9382 Hampson

You can open the Input Box by double clicking on the cell, or by making the cell active and starting to type. Once the Input Box is open, you can edit the text within the cell using the usual mouse editing (word processing) techniques. Specifically, you can click the mouse to select an insertion point, drag the mouse to select a range of characters, cut, copy or paste selected text using the clipboard, or use the keyboard to type characters at the insertion point. (If you are not familiar with these techniques you should review the operating system documentation that came with your computer.)

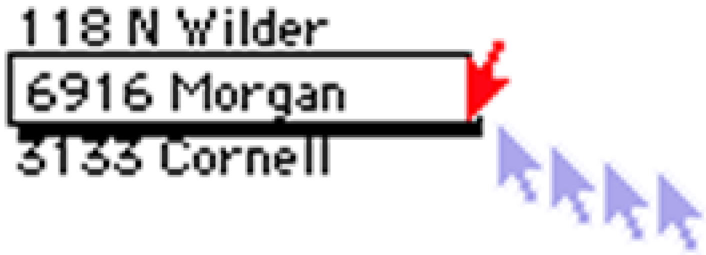
When you have finished editing the text within the cell, press the **Enter** key. This closes the Input Box and updates the data cell with your changes. The Input Box closes automatically (and updates the data) if you click on any other data cell or window. Tip: Clicking anywhere outside of the Input Box is the same as pressing the **Enter** key.

If the Input Box is only one line high pressing the **Return** key will close the Input Box and update the data cell. If the Input Box is more than one line high the **Return** key adds a new line to the data cell (see the next section).

If you would like to close the Input Box without updating the data cell, press **Command-Period** (Mac) or **Control-Period** (Windows). Pressing the **Esc** key also closes the Input Box without updating the data cell. Or you can use the **Undo** command to restore the original text, then press the **Enter** key.

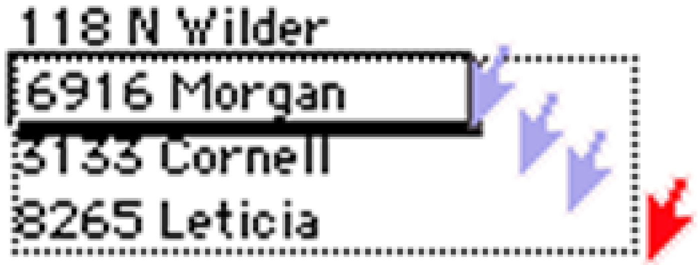
Expanding the Input Box

One of the most powerful features of the Input Box is that it can be expanded to accommodate large amounts of data. To expand the Input Box, move the mouse to the lower right corner of the box. When you reach the corner, the arrow will flip over. In the illustration below, you see the normal arrow cursor as you approach the corner. The arrow flips over when it reaches the corner of the Input Box. (The arrow doesn't actually change color as shown here, the color is simply to make the illustration more clear.)



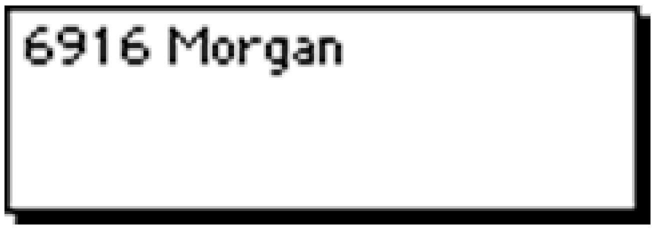
118 N Wilder
6916 Morgan
3133 Cornell

Once you see the upside down arrow, press the mouse and drag the corner of the box to its new location.



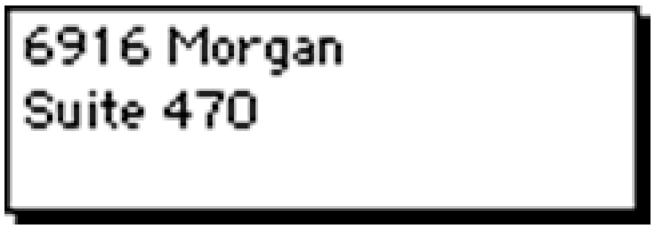
118 N Wilder
6916 Morgan
3133 Cornell
8265 Leticia

When you release the mouse Panorama will change the size of the box.



6916 Morgan

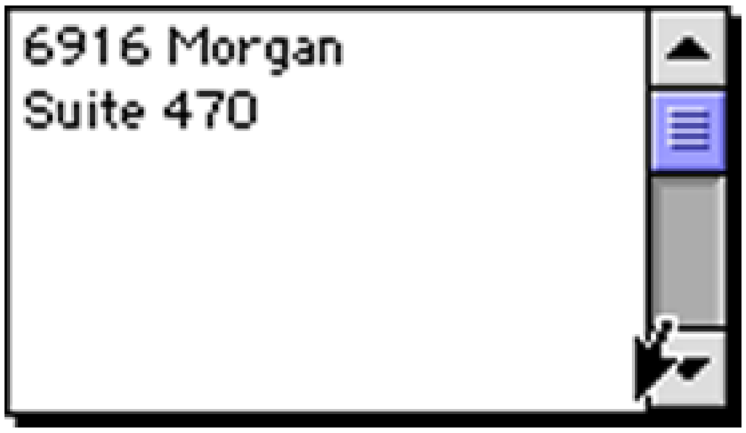
Now you can type additional lines into the Input Box. Press **Return** to start a new line.



6916 Morgan
Suite 470

Once you change the size of the Input Box, Panorama remembers the size permanently. In the data sheet, the Input Box size is remembered separately for each column, while in a form the size is remembered for each individual data cell object. (Of course Panorama will forget the sizes if you **Close** or **Quit** without saving the database.)

If you make the Input Box more than one inch high, a scroll bar is added on the right hand side of the box. The scroll bar allows you to enter and edit up to 32,767 characters per data cell.

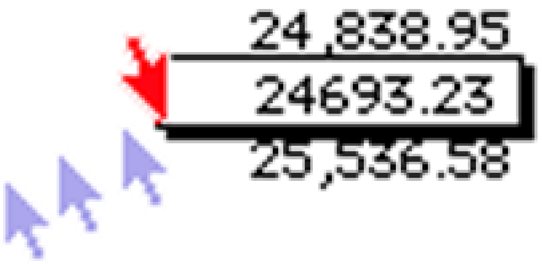


6916 Morgan
Suite 470

Tip: The scroll bar is actually outside the Input Box. To change the size of the Input Box you must click in the bottom corner of the box itself, just to the left of the scroll bar (as shown above). Do not try to drag the corner of the scroll bar.

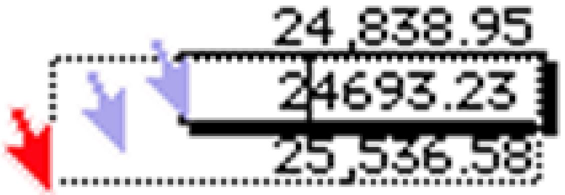
Expanding a Right Justified Input Box

If you are editing a right flush data cell, move the mouse to the lower left corner of the box instead of the lower right hand corner.



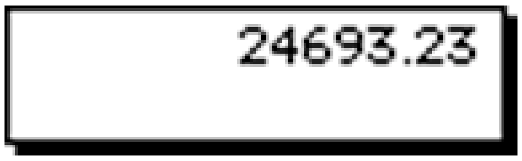
24,838.95
24693.23
25,536.58

Once the mouse is over the lower left hand corner you can expand down and/or to the left.



24,838.95
24693.23
25,536.58

Now you can edit the text in the expanded input Box. Press **Enter** when you are finished.



24693.23

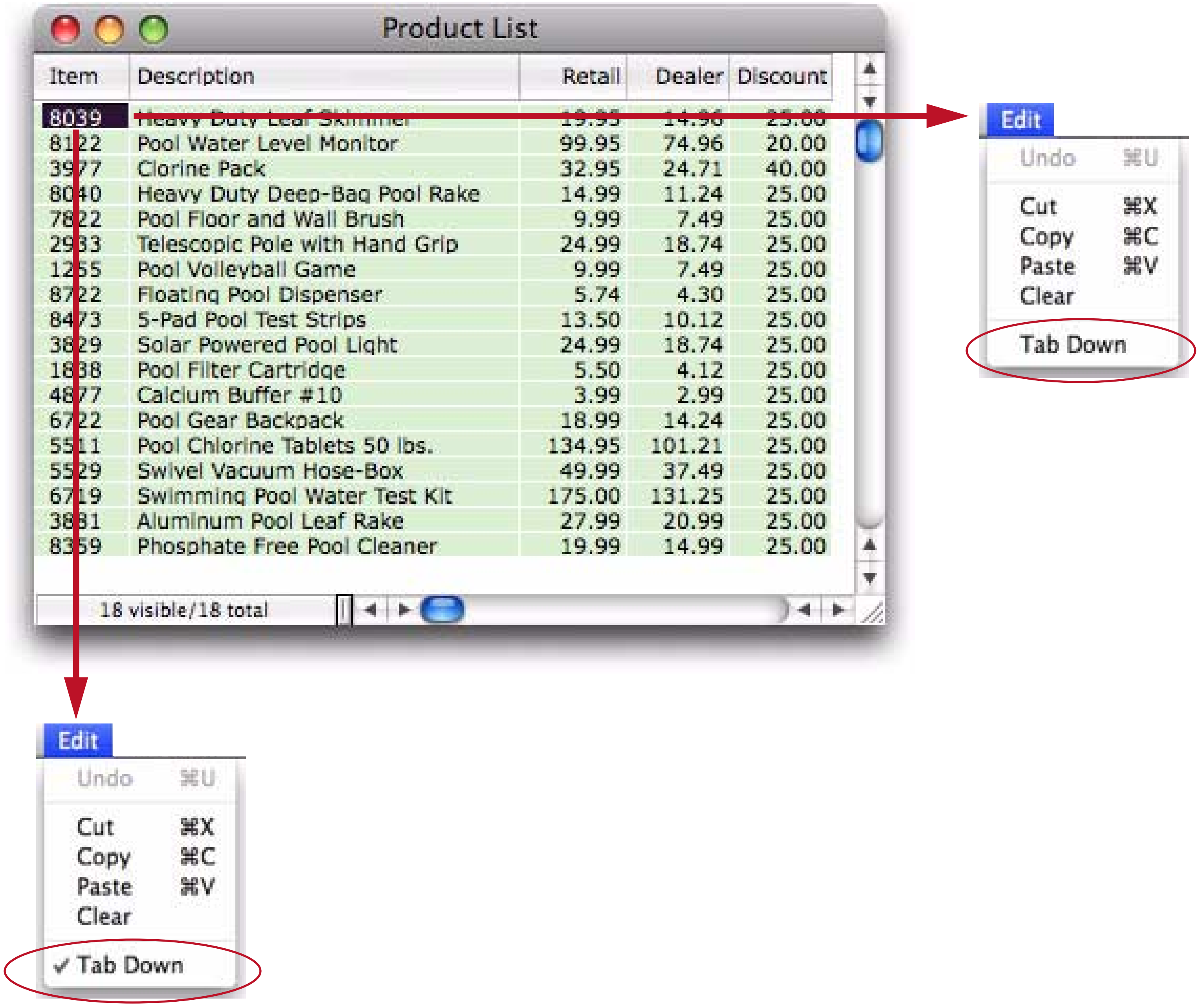
Tabbing from Cell to Cell

To make it easier to enter several cells in a row, Panorama allows you to use the **Tab** key to move from cell to cell as you enter data. In the data sheet you normally move from left to right, in a form from top to bottom. If you want to move backwards (to the left) press **Shift-Tab**.

Tab Down

In the data sheet the **Tab** key normally moves from left to right. Sometimes it may be more convenient to key a column from top to bottom instead of across a row from left to right. For instance, you may find it easier to key in a dozen names, then a dozen addresses, then a dozen cities, instead of keying in each record separately.

Choose **Edit>Tab Down** to change the tab direction from across to down. Choose it again to change back to normal tab operation. Panorama indicates that tab down is active by checking this menu item.



Product List

Item	Description	Retail	Dealer	Discount
8039	Heavy Duty Leaf Skimmer	19.95	14.96	25.00
8122	Pool Water Level Monitor	99.95	74.96	20.00
3977	Clorine Pack	32.95	24.71	40.00
8040	Heavy Duty Deep-Bag Pool Rake	14.99	11.24	25.00
7822	Pool Floor and Wall Brush	9.99	7.49	25.00
2933	Telescopic Pole with Hand Grip	24.99	18.74	25.00
1255	Pool Volleyball Game	9.99	7.49	25.00
8722	Floating Pool Dispenser	5.74	4.30	25.00
8473	5-Pad Pool Test Strips	13.50	10.12	25.00
3829	Solar Powered Pool Light	24.99	18.74	25.00
1838	Pool Filter Cartridge	5.50	4.12	25.00
4877	Calcium Buffer #10	3.99	2.99	25.00
6722	Pool Gear Backpack	18.99	14.24	25.00
5511	Pool Chlorine Tablets 50 lbs.	134.95	101.21	25.00
5529	Swivel Vacuum Hose-Box	49.99	37.49	25.00
6719	Swimming Pool Water Test Kit	175.00	131.25	25.00
3831	Aluminum Pool Leaf Rake	27.99	20.99	25.00
8359	Phosphate Free Pool Cleaner	19.99	14.99	25.00

18 visible/18 total

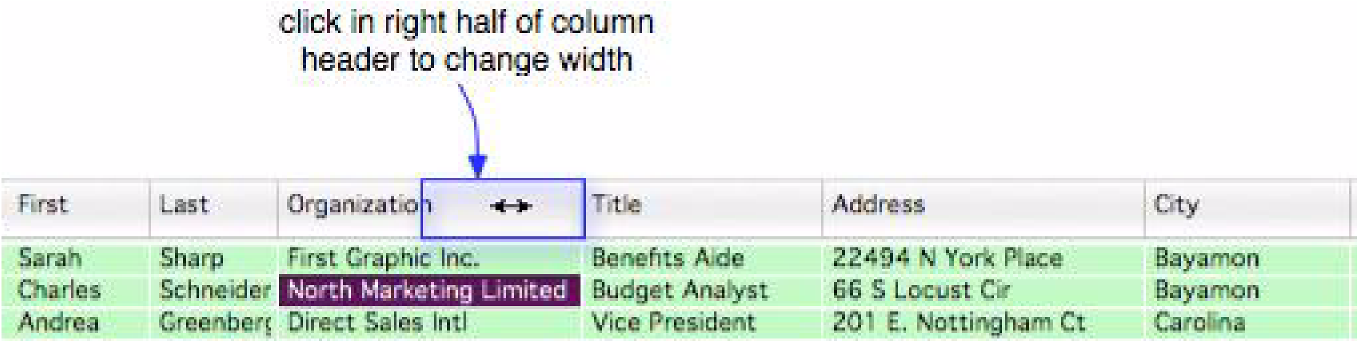
When the **Tab Down** option is enabled, pressing **Shift-Tab** moves up one cell.

Adjusting Fields and Field Structure

You won't modify, add or remove fields as nearly as often as you modify records and cells, but Panorama does make it easy and fast to change entire fields.

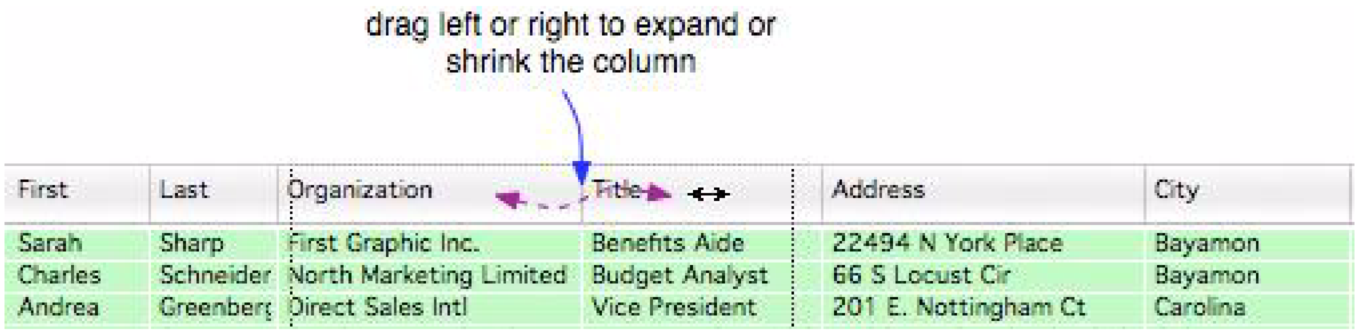
Changing the Width of a Field

To change the width of a field, move the mouse over the right half of column name (or the left half if the column is right aligned, like a numeric column). The mouse cursor will turn into a double headed arrow.



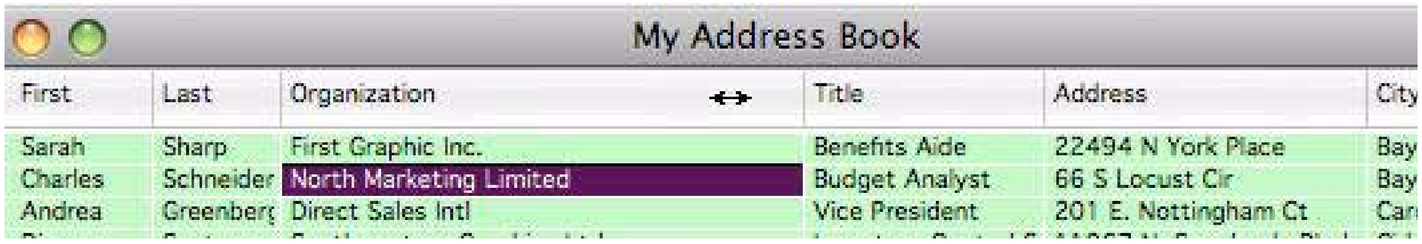
First	Last	Organization	Title	Address	City
Sarah	Sharp	First Graphic Inc.	Benefits Aide	22494 N York Place	Bayamon
Charles	Schneider	North Marketing Limited	Budget Analyst	66 S Locust Cir	Bayamon
Andrea	Greenberg	Direct Sales Intl	Vice President	201 E. Nottingham Ct	Carolina

When you see the double headed arrow, press the mouse. A gray box appears around the column. Drag the mouse left or right, then release the mouse when the field is the correct width.



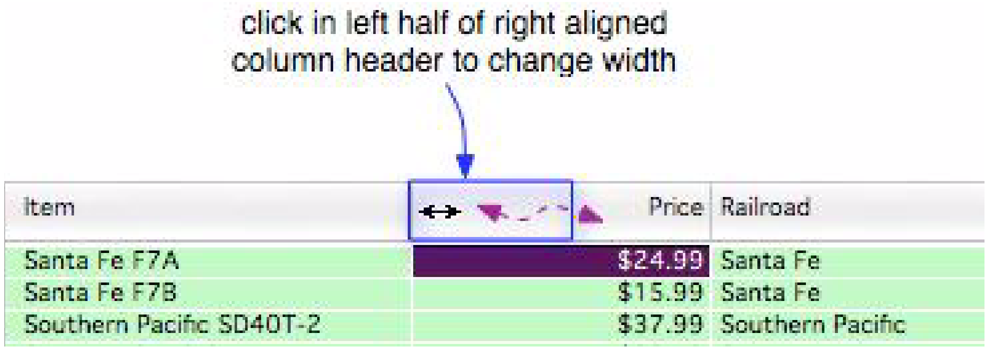
First	Last	Organization	Title	Address	City
Sarah	Sharp	First Graphic Inc.	Benefits Aide	22494 N York Place	Bayamon
Charles	Schneider	North Marketing Limited	Budget Analyst	66 S Locust Cir	Bayamon
Andrea	Greenberg	Direct Sales Intl	Vice President	201 E. Nottingham Ct	Carolina

When the mouse is released the column width is adjusted (in this case, made wider).



First	Last	Organization	Title	Address	City
Sarah	Sharp	First Graphic Inc.	Benefits Aide	22494 N York Place	Bay
Charles	Schneider	North Marketing Limited	Budget Analyst	66 S Locust Cir	Bay
Andrea	Greenberg	Direct Sales Intl	Vice President	201 E. Nottingham Ct	Car

If the column is right aligned (for example a numeric column) the process is flipped. Instead of dragging on the right half of the column header, you click and drag on the left half.


click in left half of right aligned column header to change width

Item	Price	Railroad
Santa Fe F7A	$24.99	Santa Fe
Santa Fe F7B	$15.99	Santa Fe
Southern Pacific SD40T-2	$37.99	Southern Pacific

It sounds more complicated than it is. Just move the mouse until you see the double headed arrow, then drag left or right.

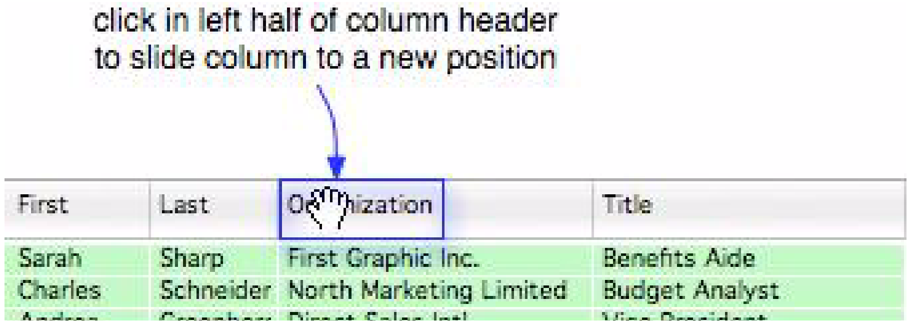
Automatically Setting the Field Width

If you'd like Panorama to set the field width for you, just choose the **Autoset Field Width** command from the **Fields** menu. To set the field width, Panorama calculates the average width of entries in the field, and then sets the width to 120% of that value. For most fields this should be close to the optimum width, but of course you can always make your own manual adjustments as described in the previous section.

The **Autoset ALL Field Widths** command sets the width of all fields. This can be handy after importing a lot of new data into a database.

Re Arranging the Field Order

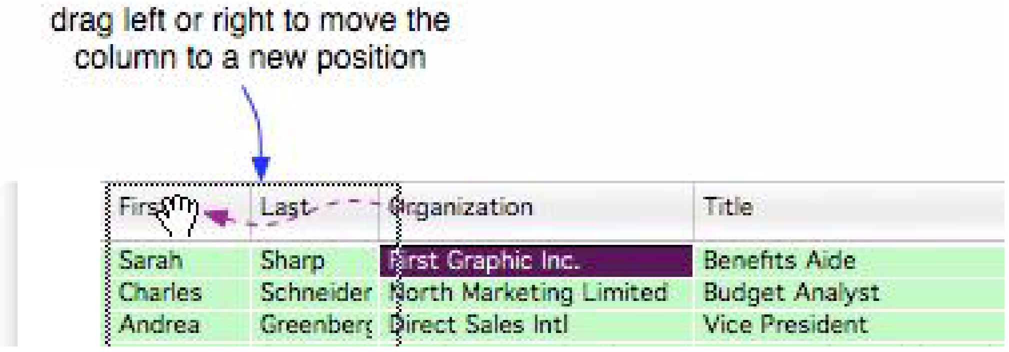
To move a field to a new position within the data sheet, move the mouse over the left half of column name (or the right half if the column is right aligned, like a numeric column). You'll see the mouse cursor turn into a hand.



click in left half of column header
to slide column to a new position

First	Last	Organization	Title
Sarah	Sharp	First Graphic Inc.	Benefits Aide
Charles	Schneider	North Marketing Limited	Budget Analyst

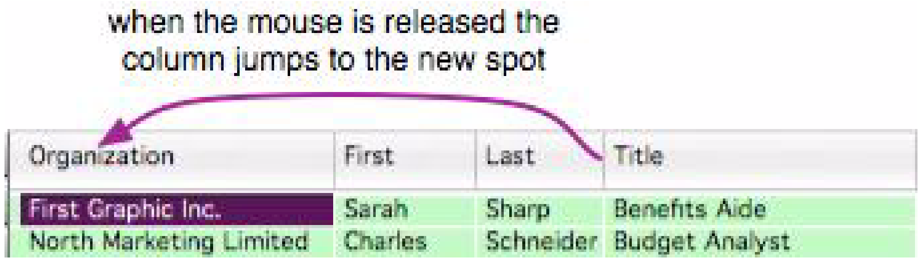
Now drag the column to the left or right to the new spot.



drag left or right to move the
column to a new position

First	Last	Organization	Title
Sarah	Sharp	First Graphic Inc.	Benefits Aide
Charles	Schneider	North Marketing Limited	Budget Analyst
Andrea	Greenberç	Direct Sales Intl	Vice President

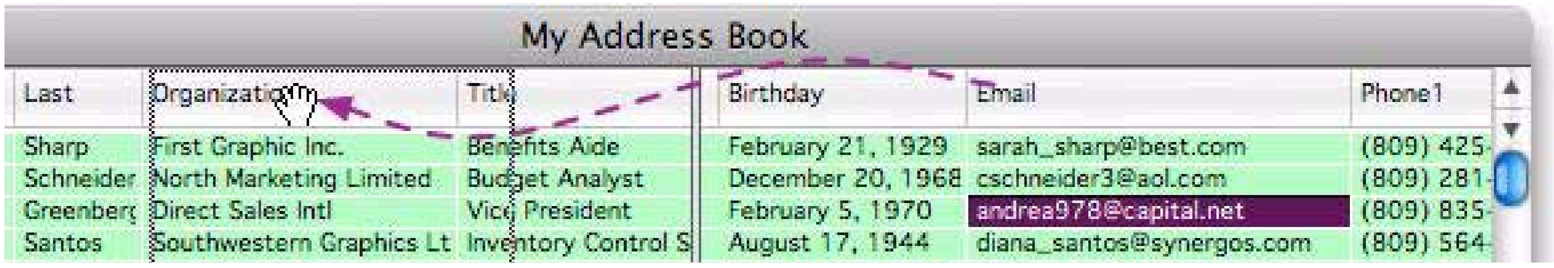
When the mouse is released the column moves to the new position.



when the mouse is released the
column jumps to the new spot

Organization	First	Last	Title
First Graphic Inc.	Sarah	Sharp	Benefits Aide
North Marketing Limited	Charles	Schneider	Budget Analyst

If the data sheet is split horizontally you can drag a column from one side to the other. This makes it easy to move a column a long horizontal distance within the sheet.



My Address Book

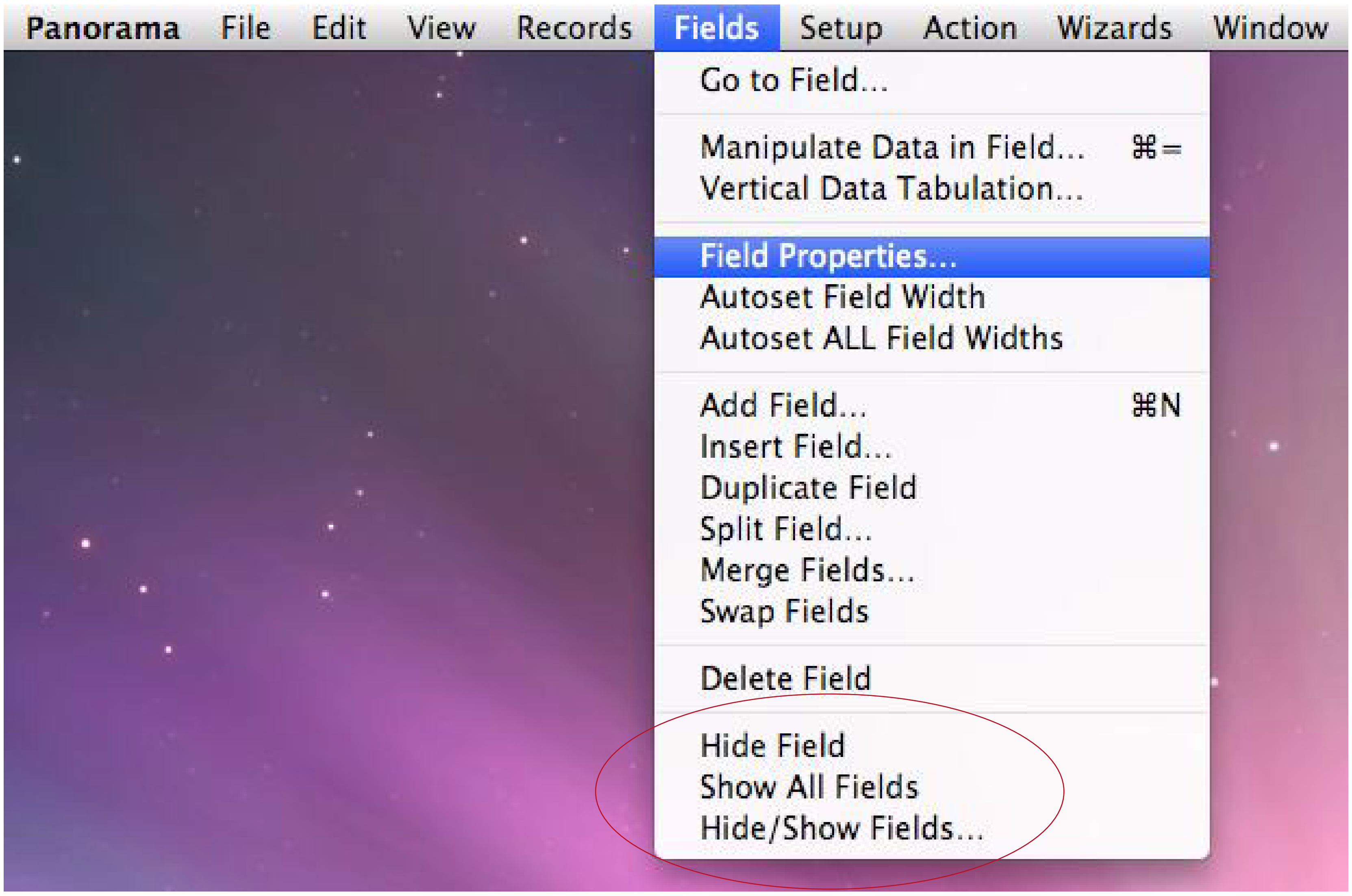
Last	Organization	Title	Birthday	Email	Phone1
Sharp	First Graphic Inc.	Benefits Aide	February 21, 1929	sarah_sharp@best.com	(809) 425-
Schneider	North Marketing Limited	Budget Analyst	December 20, 1968	cschneider3@aol.com	(809) 281-
Greenberç	Direct Sales Intl	Vice President	February 5, 1970	andrea978@capital.net	(809) 835-
Santos	Southwestern Graphics Lt	Inventory Control S	August 17, 1944	diana_santos@synergos.com	(809) 564-

In the example above, the Email field will be moved between the Last and Organization fields.

Note: You can also swap two adjacent fields with the **Swap Fields** command.

Temporarily Hiding One or More Fields

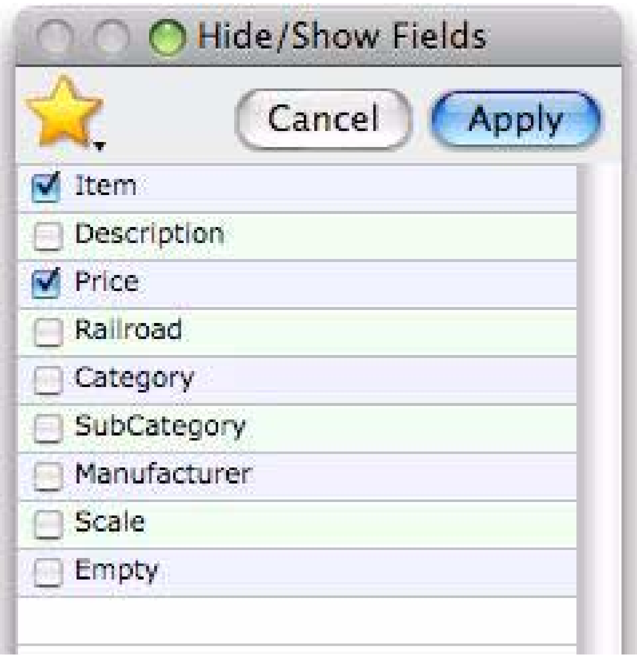
If you don't want to see one or more fields, you can temporarily hide them in the data sheet. This is great for de-cluttering the data sheet and is also useful for printing reports. The commands for hiding and showing fields are at the bottom of the **Fields** menu. (In addition to the menu bar, these commands also appear when you right-click on a data sheet column title.)



To hide the current field, choose **Hide Field** (Note: You must have at least one visible field).

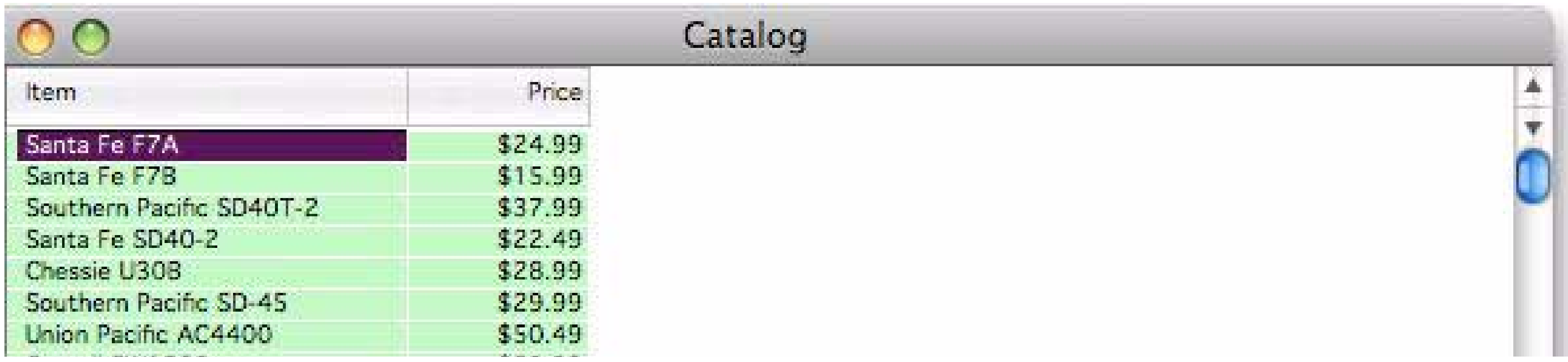
To make all hidden fields visible again, choose **Show All Fields**.

To hide and / or show a bunch of fields at once, open the **Hide/Show Fields** dialog.



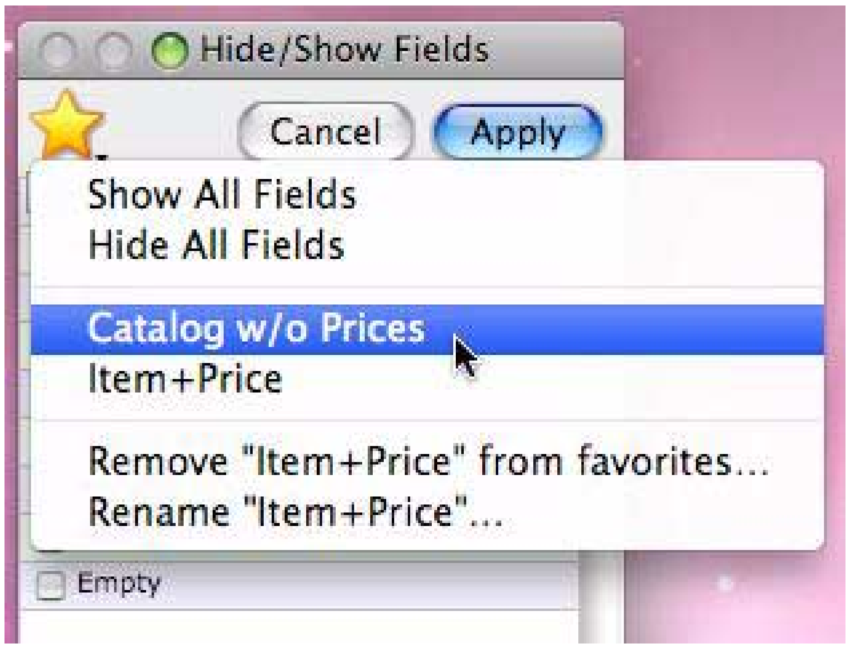
☑ Item
□ Description
☑ Price
□ Railroad
□ Category
□ SubCategory
□ Manufacturer
□ Scale
□ Empty

This dialog displays a list of all the fields in the database. Check the fields you want to be visible, then press the **Apply** button. All of the unchecked fields will be hidden.



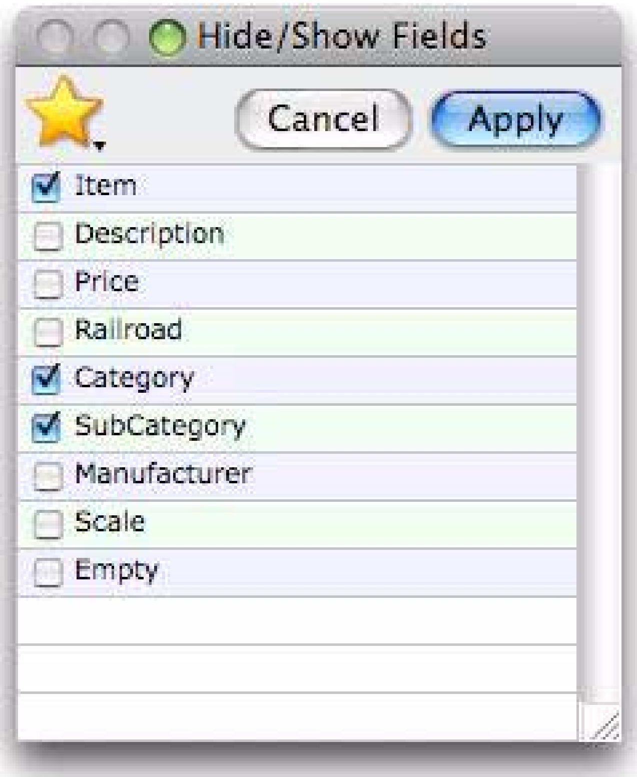
Item	Price
Santa Fe F7A	$24.99
Santa Fe F7B	$15.99
Southern Pacific SD40T-2	$37.99
Santa Fe SD40-2	$22.49
Chessie U30B	$28.99
Southern Pacific SD-45	$29.99
Union Pacific AC4400	$50.49

If you have a configuration that you want to use regularly, click on the **Favorites** icon (yellow star). This brings up a pop-up menu listing your favorite configurations.



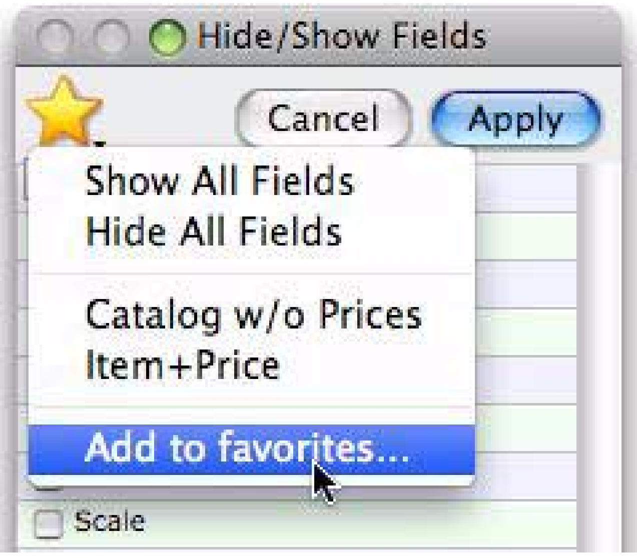
The first two items in the menu are permanent, and quickly show or hide all fields. The other items in this menu are custom and are set up by you on a database by database basis.

To create a new favorite, start by choosing the fields you want to show.



☑ Item
□ Description
□ Price
□ Railroad
☑ Category
☑ SubCategory
□ Manufacturer
□ Scale
□ Empty

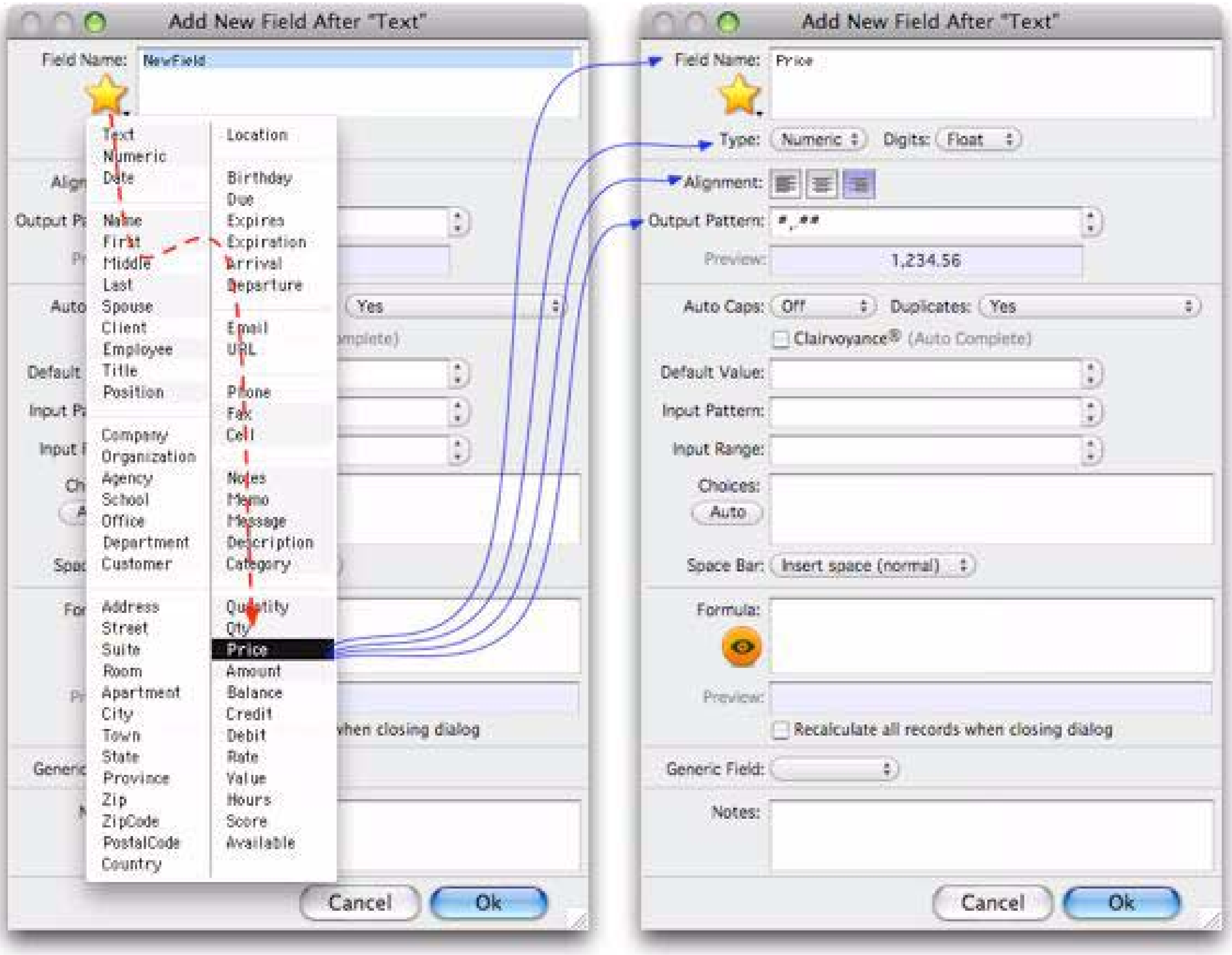
Then click on the star and choose **Add to favorites…**.



Panorama will ask you for a name for the new favorite and then save the configuration for later use.

Adding New Fields

To add a new field, use the **Add Field** or **Insert Field** command in the **Fields** Menu. The only difference is that **Add Field** adds the new field at the end of the database, **Insert Field** insert the new field in front of the current field. If your new field has a common name you can simply click on the star and choose the name from the pop-up menu. As shown in the diagram below, Panorama will automatically fill in all of the options that make sense for the field name you have chosen.


Add New Field After "Text"

Field Name: NewField

Add New Field After "Text"

Field Name: Price

Type: Numeric Digits: Float

Alignment:

Output Pattern: #,.##

Preview: 1,234.56

Auto Caps: Off Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

Choices:

Space Bar: Insert space (normal)

Formula:

Preview:

□ Recalculate all records when closing dialog

Generic Field:

Notes:

Press **Ok** to actually create the new field. (For a detailed description of all of the options in this dialog, see See "Advanced Field Properties" on page 191.)

Deleting a Field

To delete a field from the database, select a cell in the field and choose **Delete Field** from the Fields Menu. (If you are using the data sheet, you can also press **Command**-**Delete** (Mac) or **Control**-**Delete** (Windows) to delete a field.) This not only deletes the field, it also deletes any data in the field. If the field contains data, Panorama will warn you that it is about to delete the field. You must confirm that you really want to delete the field before Panorama will proceed.

Duplicating, Splitting and Merging Fields

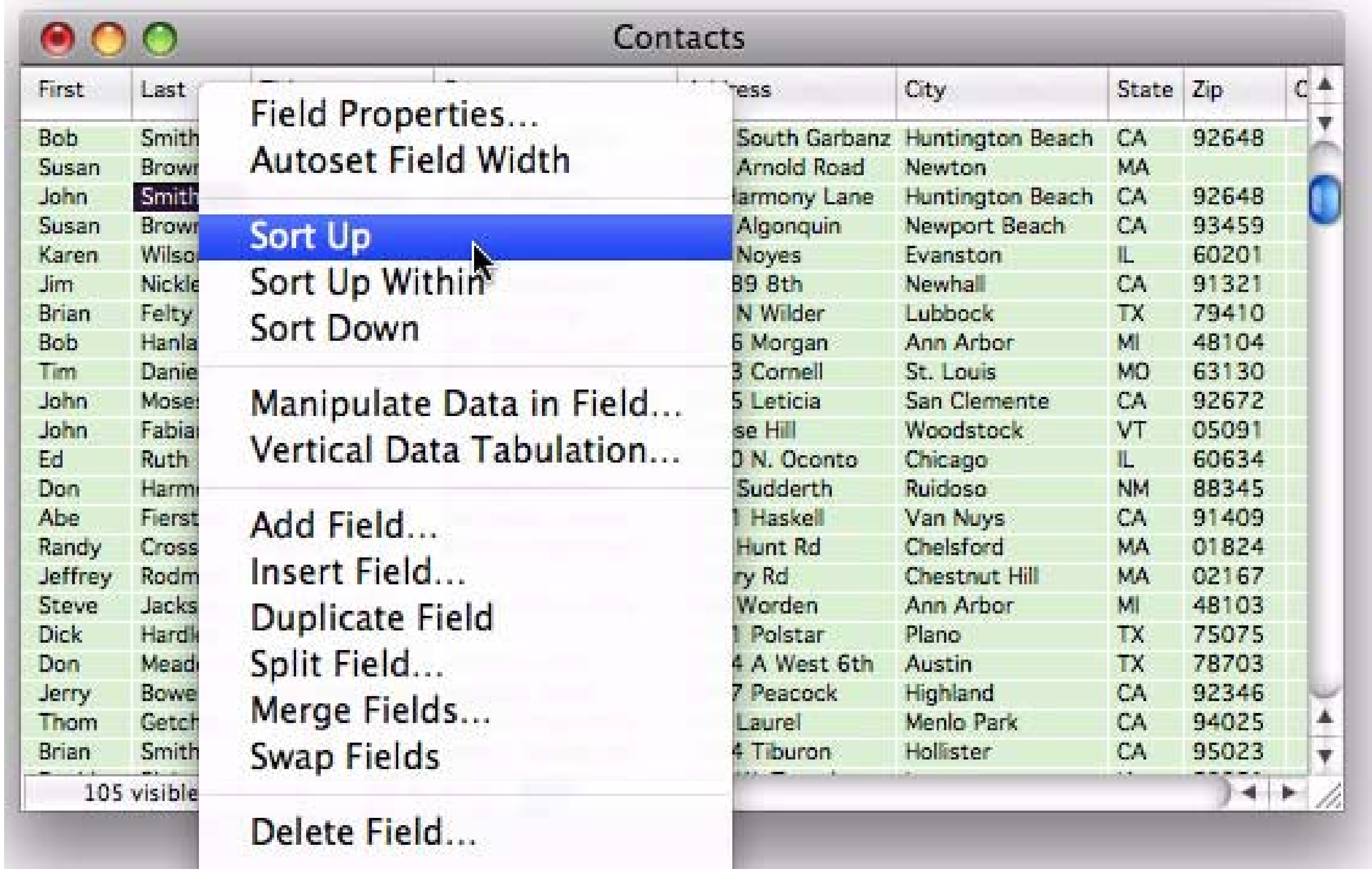
Panorama can duplicate an existing field (including the data), split one existing field into two (splitting the data as well), or merge two existing fields into one (merging the data). To learn more about these operations see also.

Chapter 3: Sorting

Most data is more useful when it is in some kind of order. Panorama has several commands that can quickly sort your data into whatever order you need.

Sorting a Single Field

To sort a field, right click on the field name and choose **Sort Up** or **Sort Down** from the pop-up menu. (If you don't have a two button mouse, hold down the **Control** key while you click on the field name.)

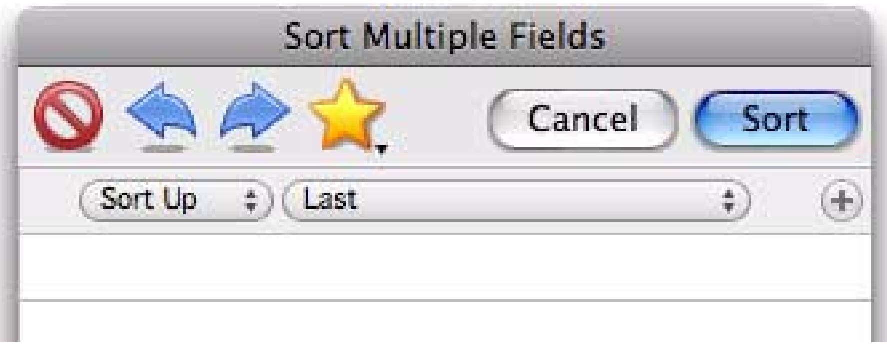


First	Last	ress	City	State	Zip
Bob	Smith	South Garbanz	Huntington Beach	CA	92648
Susan	Browr	Arnold Road	Newton	MA	
John	Smith	larmony Lane	Huntington Beach	CA	92648
Susan	Browr	Algonquin	Newport Beach	CA	93459
Karen	Wilso	Noyes	Evanston	IL	60201
Jim	Nickle	89 8th	Newhall	CA	91321
Brian	Felty	N Wilder	Lubbock	TX	79410
Bob	Hanla	6 Morgan	Ann Arbor	MI	48104
Tim	Danie	3 Cornell	St. Louis	MO	63130
John	Mose	5 Leticia	San Clemente	CA	92672
John	Fabia	se Hill	Woodstock	VT	05091
Ed	Ruth	0 N. Oconto	Chicago	IL	60634
Don	Harm	Sudderth	Ruidoso	NM	88345
Abe	Fierst	1 Haskell	Van Nuys	CA	91409
Randy	Cross	Hunt Rd	Chelsford	MA	01824
Jeffrey	Rodm	ry Rd	Chestnut Hill	MA	02167
Steve	Jacks	Worden	Ann Arbor	MI	48103
Dick	Hardi	1 Polstar	Plano	TX	75075
Don	Mead	4 A West 6th	Austin	TX	78703
Jerry	Bowe	7 Peacock	Highland	CA	92346
Thom	Getch	Laurel	Menlo Park	CA	94025
Brian	Smith	4 Tiburon	Hollister	CA	95023

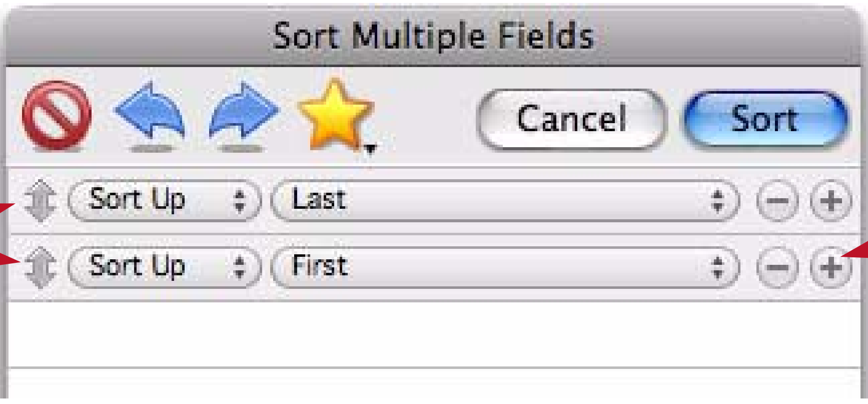
You can also sort a field by clicking on any cell in the field and choosing **Records>Sort>Sort Up** or **Records>Sort>Sort Down**.

Sorting Multiple Fields

To sort by multiple fields at once, open the **Records>Sort>Sort Multiple Fields** dialog. Then choose the primary field to sort by (in this case the last name).



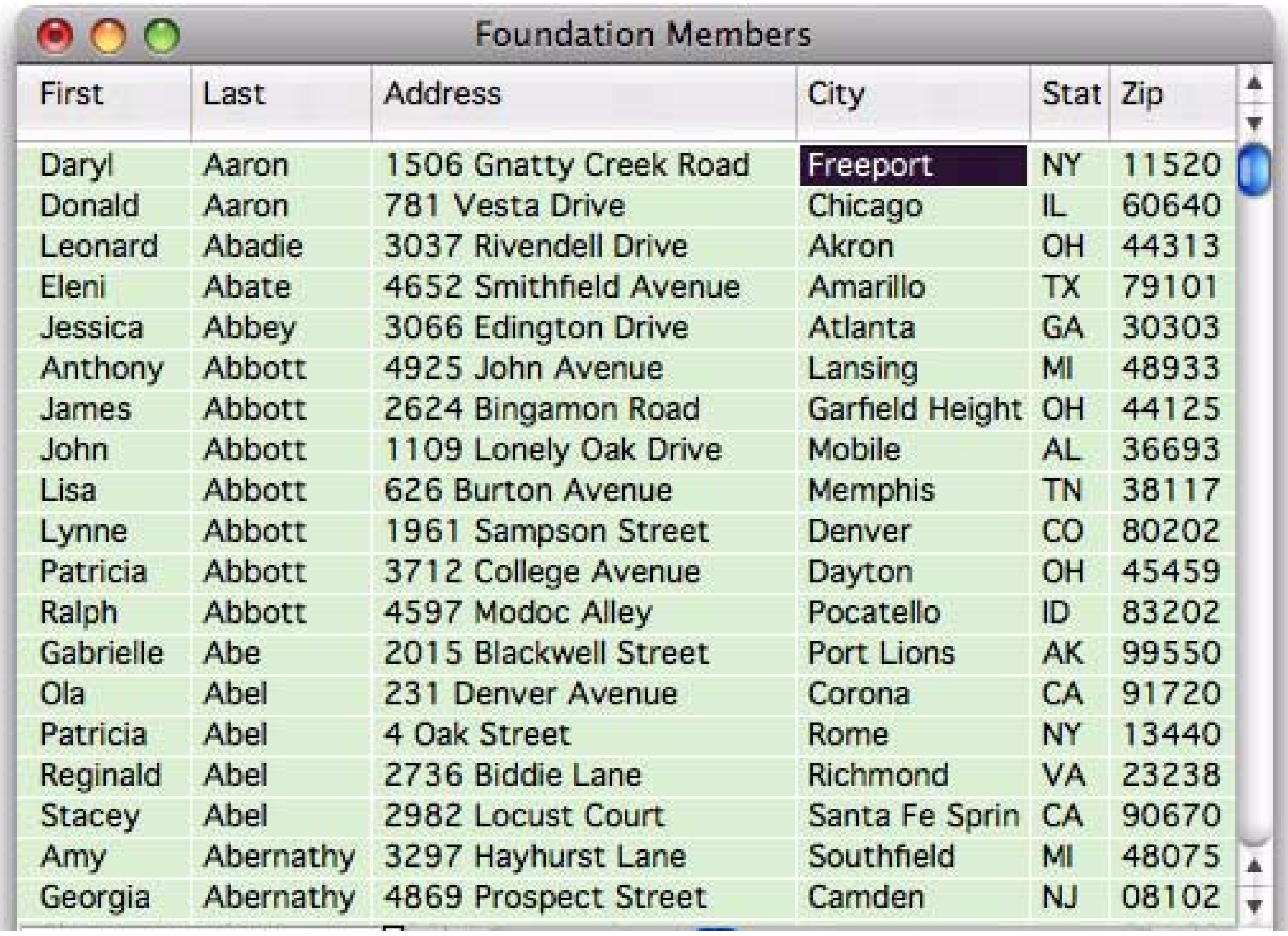
Press the + button to add another row to the dialog, and then choose the secondary field to sort by (in this case the first name).



Drag to re-arrange order

Add or remove fields to be sorted

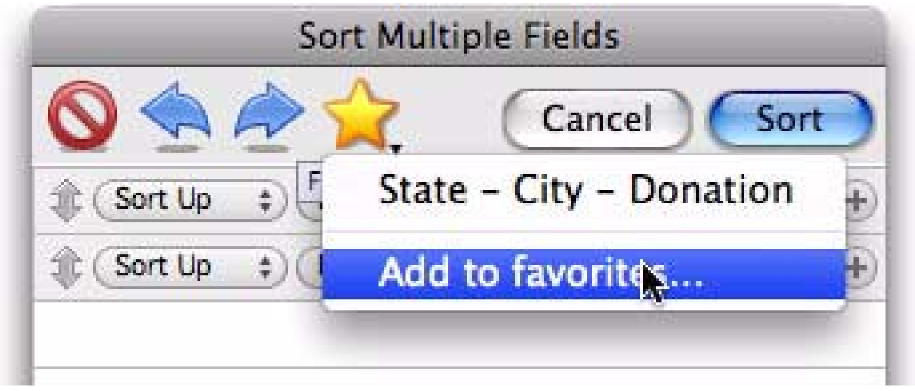
You can specify up to five fields to be sorted. When done, press the **Sort** button.



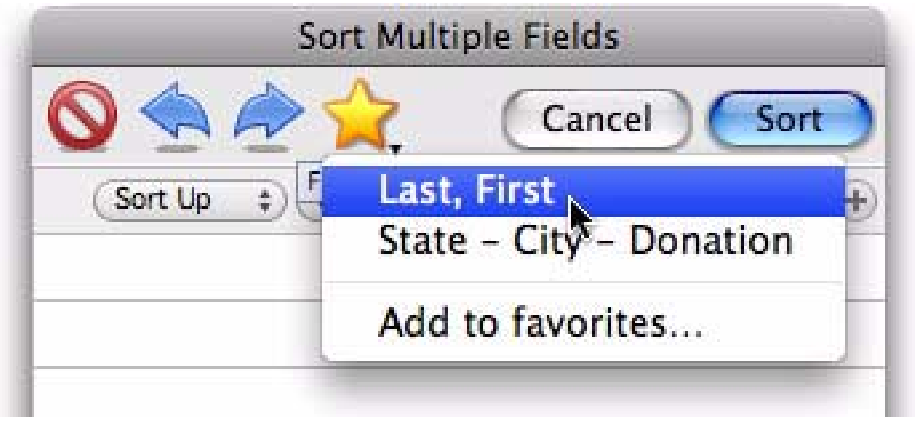
First	Last	Address	City	Stat	Zip
Daryl	Aaron	1506 Gnatty Creek Road	Freeport	NY	11520
Donald	Aaron	781 Vesta Drive	Chicago	IL	60640
Leonard	Abadie	3037 Rivendell Drive	Akron	OH	44313
Eleni	Abate	4652 Smithfield Avenue	Amarillo	TX	79101
Jessica	Abbey	3066 Edington Drive	Atlanta	GA	30303
Anthony	Abbott	4925 John Avenue	Lansing	MI	48933
James	Abbott	2624 Bingamon Road	Garfield Height	OH	44125
John	Abbott	1109 Lonely Oak Drive	Mobile	AL	36693
Lisa	Abbott	626 Burton Avenue	Memphis	TN	38117
Lynne	Abbott	1961 Sampson Street	Denver	CO	80202
Patricia	Abbott	3712 College Avenue	Dayton	OH	45459
Ralph	Abbott	4597 Modoc Alley	Pocatello	ID	83202
Gabrielle	Abe	2015 Blackwell Street	Port Lions	AK	99550
Ola	Abel	231 Denver Avenue	Corona	CA	91720
Patricia	Abel	4 Oak Street	Rome	NY	13440
Reginald	Abel	2736 Biddie Lane	Richmond	VA	23238
Stacey	Abel	2982 Locust Court	Santa Fe Sprin	CA	90670
Amy	Abernathy	3297 Hayhurst Lane	Southfield	MI	48075
Georgia	Abernathy	4869 Prospect Street	Camden	NJ	08102

This database contains seven people named Abbott. Their first names are sorted within the last name (*Anthony*, *James*, *John*, *Lisa* etc.).

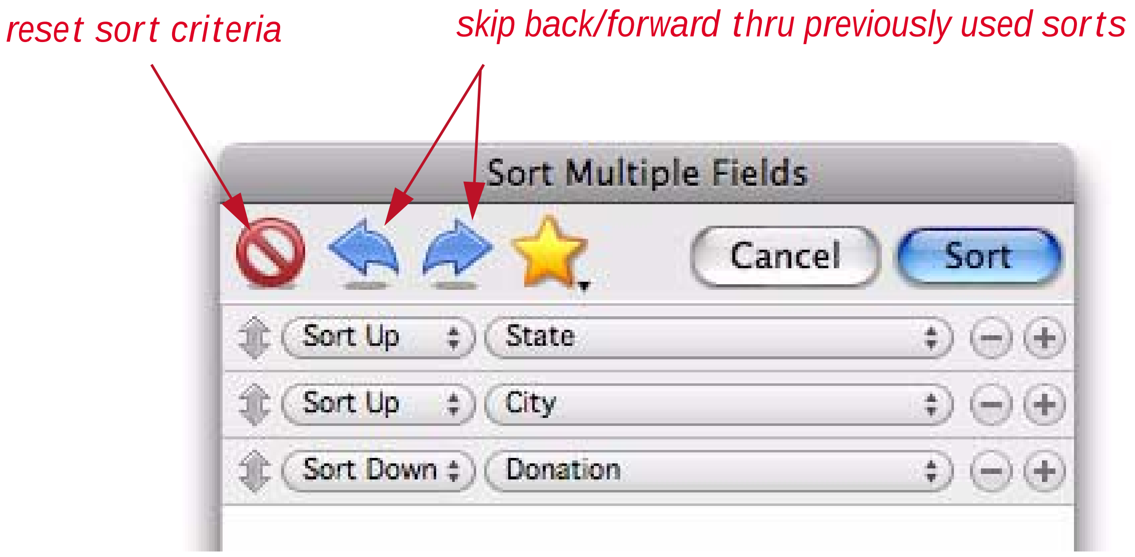
If you think you'll want to re-use a sort later you can save it as a favorite by clicking on the yellow star and choosing **Add to favorites**. Panorama will ask you to name your new favorite.



You can re-use a previously saved favorite by clicking on the yellow star and selecting the favorite from the pop-up menu.



The other buttons at the top of the dialog allow you to reset the sort criteria (back to one row) and two skip backwards and forwards thru the sorts you have recently performed.


reset sort criteria

skip back/forward thru previously used sorts

Sort Up — State

Sort Up — City

Sort Down — Donation

Incrementally Sorting Multiple Fields

Instead of sorting multiple fields all at once, you can also sort them incrementally, one field at a time. Start by sorting the primary field as described at the beginning of this chapter, using either **Sort Up** or **Sort Down**. Then click on the secondary field to be sorted and choose **Sort Up Within** or **Sort Down Within**. You can continue to use the **Sort...Within** commands to sort 2, 3, 4, or more fields.

Sorting Numbers and Dates

It is important to store numbers using the numeric data type, and dates using the date type. If you store numbers and dates using the text data type they will not sort correctly, as shown in this table.

Stored as Numeric (correct)	Stored as Text (incorrect)
9	6000
80	700
700	80
6000	9

If your numbers or dates are not sorting correctly, make sure they are stored using the correct data type. See "Numeric Data" on page 195 for more information on the numeric data type. See "Dates" on page 200 for more information on the date data type.

Sorting Right Justified Text

If your text is right justified, it will sort like a numeric field. In other words, 2 will sort before 10, and B will sort before AA. The actual sorting rules for right justified text are—1) short data sorts before longer data (B before AA) and 2) if two data items are the same length, they will be sorted in alphabetical order (AA before BA).

Sorting Selected Data

Sorting is not affected by the **Find/Select** command. The sort commands always sort the entire database—not just the selected records. When the invisible data is selected again you will see that it is sorted properly within the rest of the data.

Sorting Within Groups

Later you'll learn how Panorama can organize a database into groups, with summaries for each group (see also). If you attempt to sort your database after it has been grouped, Panorama will automatically sort the data within the groups instead of sorting the entire database. If you want to sort the entire database you must remove the groups with the **Records>Analyze>Remove All Summaries** command.

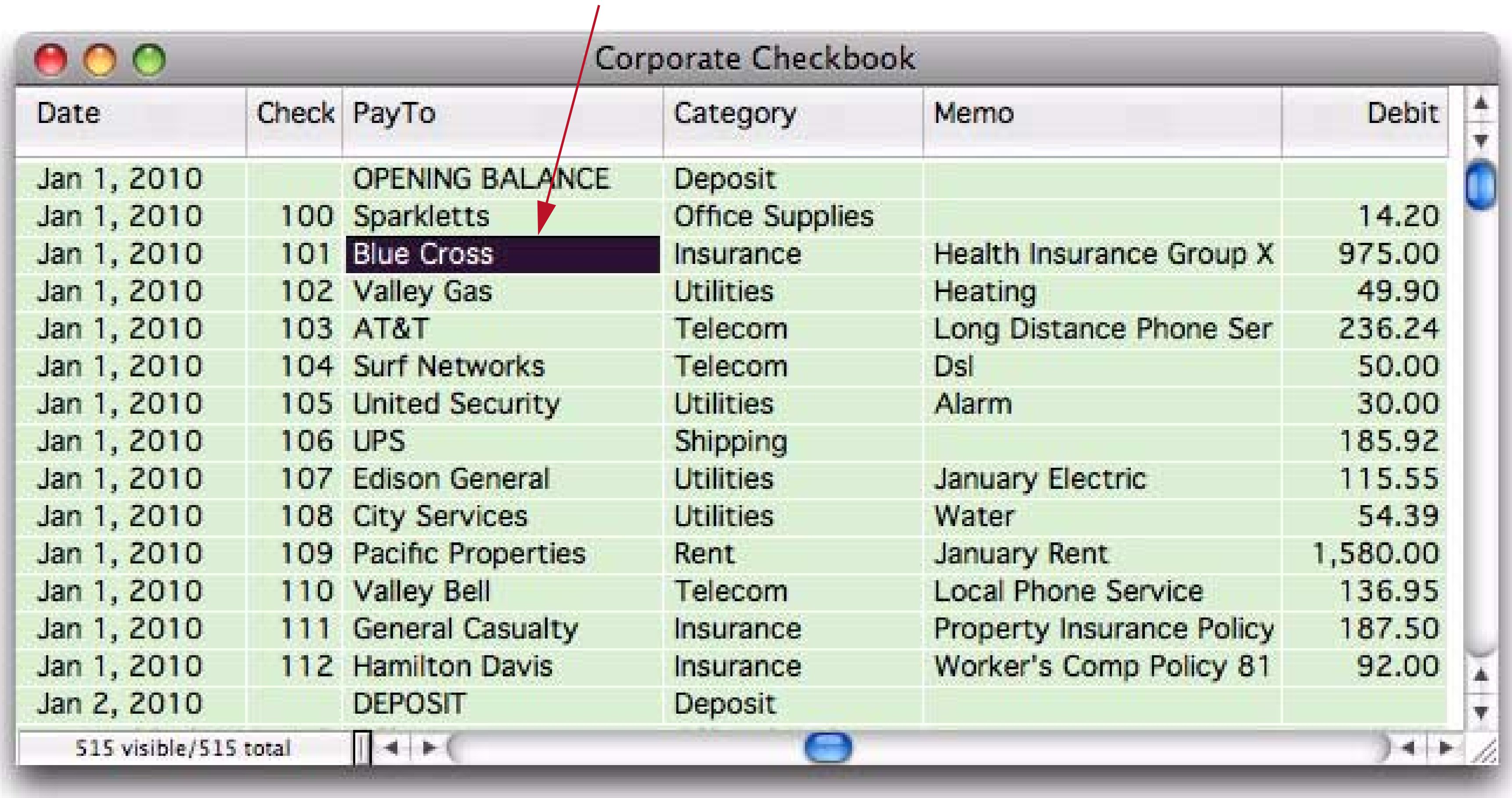
Chapter 4: Searching

A Panorama database may contain dozens, hundreds, or even thousands of records. Finding a particular piece of information could be like locating a needle in a haystack. Fortunately Panorama can easily locate information for you.

Finding vs. Selecting

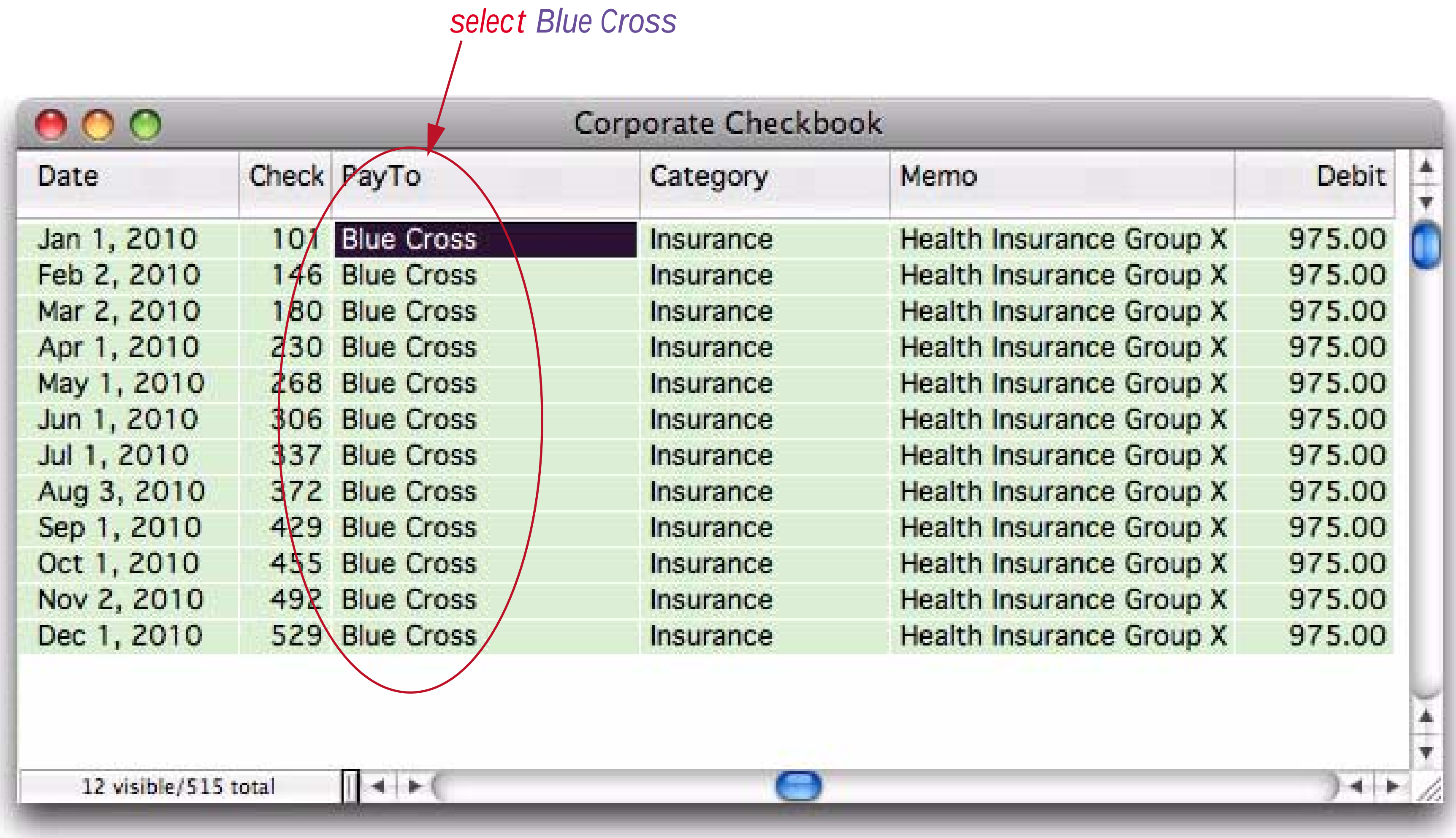
Panorama has two ways of locating information, finding and selecting. Finding is much like looking up a name in a phone book—Panorama points out the location of the information you are looking for. For example, you might ask Panorama to find a phone number or a price in a catalog. Panorama will locate the information, and position the database to that spot. In this example we've asked Panorama to find Blue Cross.

find Blue Cross



Date	Check	PayTo	Category	Memo	Debit
Jan 1, 2010		OPENING BALANCE	Deposit		
Jan 1, 2010	100	Sparkletts	Office Supplies		14.20
Jan 1, 2010	101	Blue Cross	Insurance	Health Insurance Group X	975.00
Jan 1, 2010	102	Valley Gas	Utilities	Heating	49.90
Jan 1, 2010	103	AT&T	Telecom	Long Distance Phone Ser	236.24
Jan 1, 2010	104	Surf Networks	Telecom	Dsl	50.00
Jan 1, 2010	105	United Security	Utilities	Alarm	30.00
Jan 1, 2010	106	UPS	Shipping		185.92
Jan 1, 2010	107	Edison General	Utilities	January Electric	115.55
Jan 1, 2010	108	City Services	Utilities	Water	54.39
Jan 1, 2010	109	Pacific Properties	Rent	January Rent	1,580.00
Jan 1, 2010	110	Valley Bell	Telecom	Local Phone Service	136.95
Jan 1, 2010	111	General Casualty	Insurance	Property Insurance Policy	187.50
Jan 1, 2010	112	Hamilton Davis	Insurance	Worker's Comp Policy 81	92.00
Jan 2, 2010		DEPOSIT	Deposit		

Selecting is like creating a whole new phone book containing only the information you are looking for. All the selected data remains visible, while everything else temporarily vanishes. For example, you might ask Panorama to select all customers that have purchased from you in the last six months, or all transactions over $250,000.



select Blue Cross

Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit
Jan 1, 2010	101	Blue Cross	Insurance	Health Insurance Group X	975.00
Feb 2, 2010	146	Blue Cross	Insurance	Health Insurance Group X	975.00
Mar 2, 2010	180	Blue Cross	Insurance	Health Insurance Group X	975.00
Apr 1, 2010	230	Blue Cross	Insurance	Health Insurance Group X	975.00
May 1, 2010	268	Blue Cross	Insurance	Health Insurance Group X	975.00
Jun 1, 2010	306	Blue Cross	Insurance	Health Insurance Group X	975.00
Jul 1, 2010	337	Blue Cross	Insurance	Health Insurance Group X	975.00
Aug 3, 2010	372	Blue Cross	Insurance	Health Insurance Group X	975.00
Sep 1, 2010	429	Blue Cross	Insurance	Health Insurance Group X	975.00
Oct 1, 2010	455	Blue Cross	Insurance	Health Insurance Group X	975.00
Nov 2, 2010	492	Blue Cross	Insurance	Health Insurance Group X	975.00
Dec 1, 2010	529	Blue Cross	Insurance	Health Insurance Group X	975.00

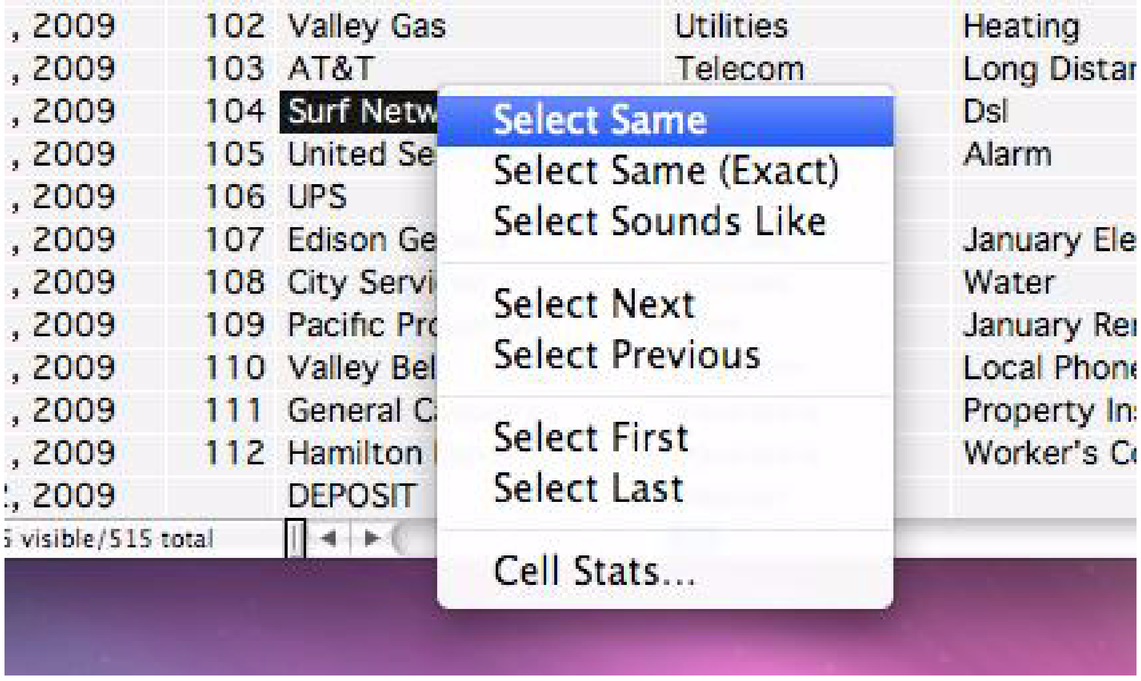
12 visible/515 total

Deciding whether to find or select is your choice. Usually find is used when you want to locate a specific item like an address or price, while select is used when you want to locate a set of information. You can also combine the two techniques—for example, first select a subset of the database, then find a specific item within that subset.

Note: Some other database programs have a “Find” command that actually does the same thing as Panorama’s Select command (for example FileMaker). These programs do not have a true find capability like Panorama.

Selecting with the Context Menu

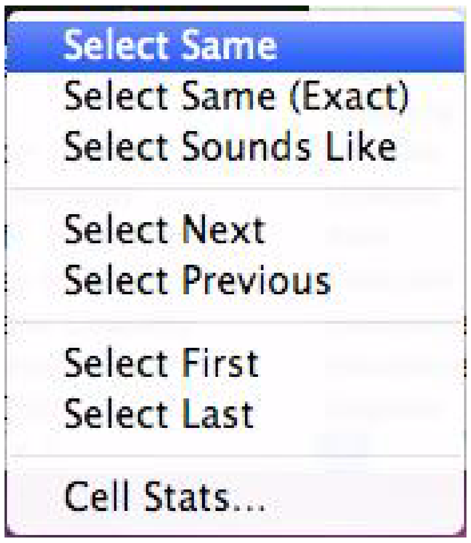
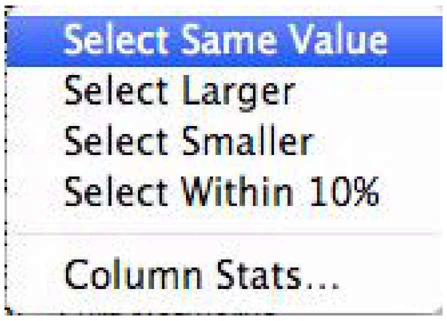
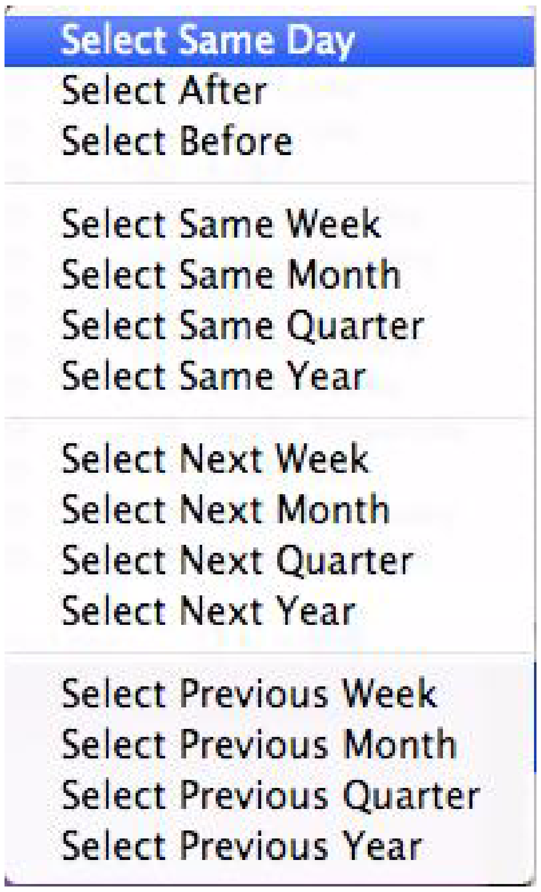
If you want to select more data that is related to data you can see on the screen, the easy way to do it is to use the context menu. To see this menu simply right click on any data cell (if you don't have a two button mouse, hold down the control key and click on the cell).



, 2009	102	Valley Gas	Utilities	Heating
, 2009	103	AT&T	Telecom	Long Distar
, 2009	104	Surf Netw		Dsl
, 2009	105	United Se		Alarm
, 2009	106	UPS		
, 2009	107	Edison Ge		January Ele
, 2009	108	City Servi		Water
, 2009	109	Pacific Pro		January Rei
, 2009	110	Valley Bel		Local Phon
, 2009	111	General C		Property In:
, 2009	112	Hamilton		Worker's C
:, 2009		DEPOSIT		

5 visible/515 total

The selection options in the menu vary depending on the type of data you click on.

Text	Numeric	Date
 Select Same Select Same (Exact) Select Sounds Like Select Next Select Previous Select First Select Last Cell Stats...	 Select Same Value Select Larger Select Smaller Select Within 10% Column Stats...	 Select Same Day Select After Select Before Select Same Week Select Same Month Select Same Quarter Select Same Year Select Next Week Select Next Month Select Next Quarter Select Next Year Select Previous Week Select Previous Month Select Previous Quarter Select Previous Year

Select Same

The **Select Same** option selects cells that contain the same value as the cell that was clicked on. For text cells, this will include cells that are the same except for capitalization (so pat, Pat and PAT would all be treated the same). If you want only cells that match in all aspects including capitalization, choose **Select Same (Exact)**. The **Select Sounds** Like option uses a phonetic option, selecting all cells that sound similar, for example Gutieriez, Guteres, Gutierrez, etc.

For date fields there are additional options for different periods — *same week, month, quarter* or *year*. For example to find all records in January, just right click on any date in January and choose **Select Same Month**.

For numeric fields you can use **Select Within 10%** to find all records that are near the clicked value. For example if you clicked on a cell that contained 2,000 this would select all records between 1,800 and 2,200.

Select Larger/Smaller

These options apply to numeric cells. For example, right click on a cell that contain $100 and choose **Select Larger** to select all records with values greater than 100.

Select Before/After

These options apply to date cells. For example, to find all records before a certain date simply right click on the date and choose **Select Before**. If you clicked on a cell that contained January 1, 2007 then Panorama would select all records from 2006 or earlier.

Select Next/Previous/First/Last

These commands allow you to "walk" through the data, one item at a time. **Select Next** is like **Select Same**, except that instead of selecting data that is the same as the current cell, it selects the next data item. For example, suppose you have a database field named Category that contains these seven categories.

Advertising
Payroll
Printing
Rent
Shipping
Utilities
Travel

If you right click on a cell that contains *Printing* and choose **Select Next**, Panorama will show you all of the records that contain *Rent*. Choosing **Select Next** again will show you *Shipping*, then *Utilities*, then finally *Travel*.

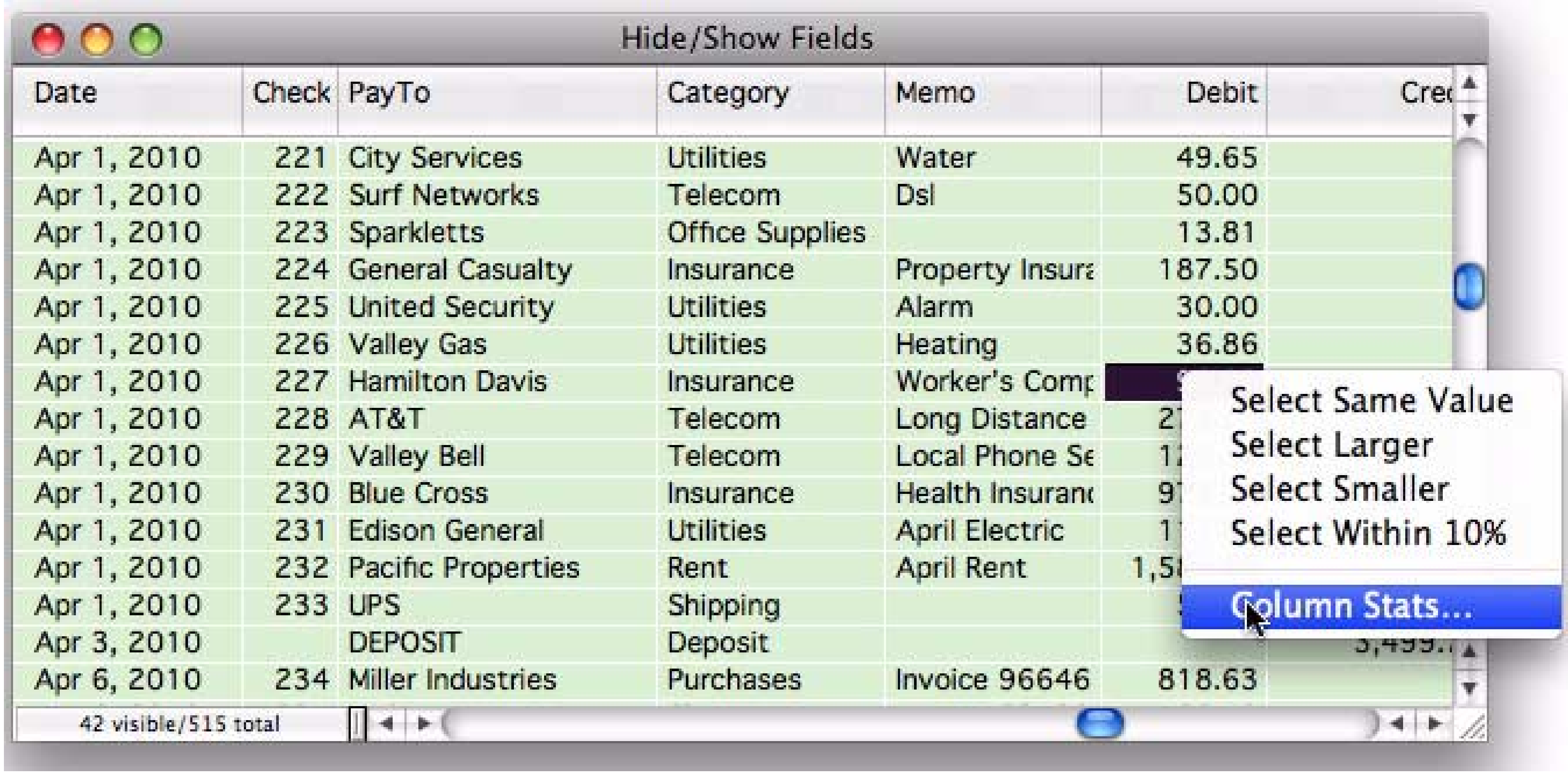
Select Previous goes in the opposite direction. If you right click on a cell that contains *Printing* and choose **Select Previous**, Panorama will show you all of the records that contain *Payroll*. Choosing **Select Next** again will show you *Advertising*.

Select First will show you the first value in the field. In this example you could right click on any cell in the *Category* field and choose **Select First** to see all of the *Advertising* records. You could then "walk" thru each of the different categories by choosing **Select Next**.

When working with date fields you can "walk" thru the data by day, week, month, quarter or year. For example, you could start by right clicking on a cell in January and choosing **Select Same Month** to see all of the records in January. Then choose **Select Next Month** to see all of the records in February, then again for March, April, May, etc.

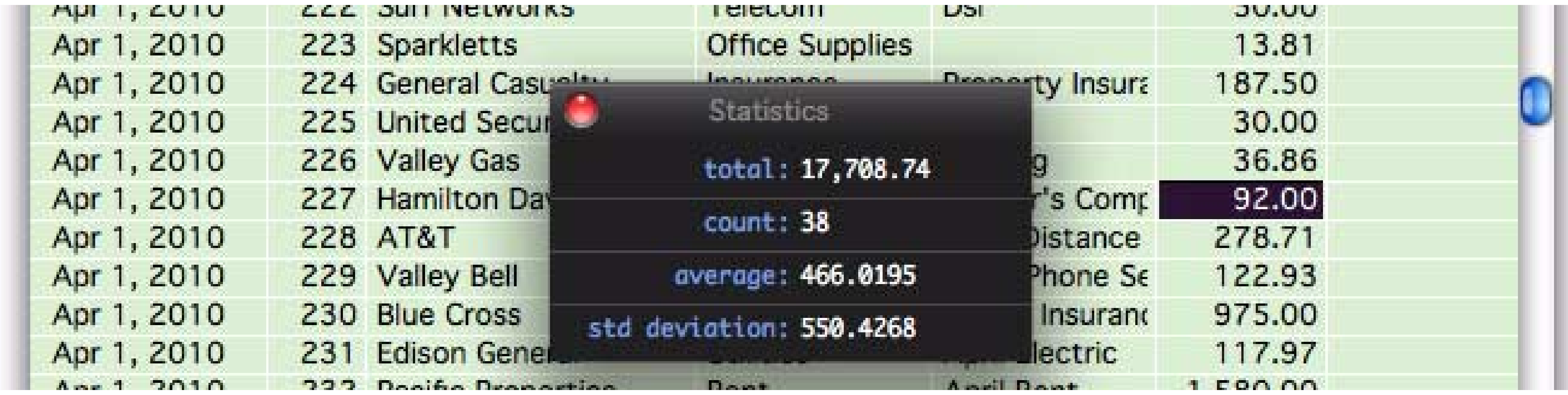
Quick Subtotals

Once you’ve made a selection you can click on a numeric field and choose **Column Stats** from the context menu to get some quick statistics about the selected records. For example, you could start by selecting all records in April, then right click and choose **Column Stats**.



Date	Check	PayTo	Category	Memo	Debit	Cre(
Apr 1, 2010	221	City Services	Utilities	Water	49.65	
Apr 1, 2010	222	Surf Networks	Telecom	Dsl	50.00	
Apr 1, 2010	223	Sparkletts	Office Supplies		13.81	
Apr 1, 2010	224	General Casualty	Insurance	Property Insur(	187.50	
Apr 1, 2010	225	United Security	Utilities	Alarm	30.00	
Apr 1, 2010	226	Valley Gas	Utilities	Heating	36.86	
Apr 1, 2010	227	Hamilton Davis	Insurance	Worker's Comp		
Apr 1, 2010	228	AT&T	Telecom	Long Distance	2(	
Apr 1, 2010	229	Valley Bell	Telecom	Local Phone Se	1(	
Apr 1, 2010	230	Blue Cross	Insurance	Health Insuran(	9(	
Apr 1, 2010	231	Edison General	Utilities	April Electric	1(	
Apr 1, 2010	232	Pacific Properties	Rent	April Rent	1,5(	
Apr 1, 2010	233	UPS	Shipping			
Apr 3, 2010		DEPOSIT	Deposit			3,499.7
Apr 6, 2010	234	Miller Industries	Purchases	Invoice 96646	818.63	

A small window appears displaying information about the debits in the currently selected records, including the total, count, average and standard deviation.



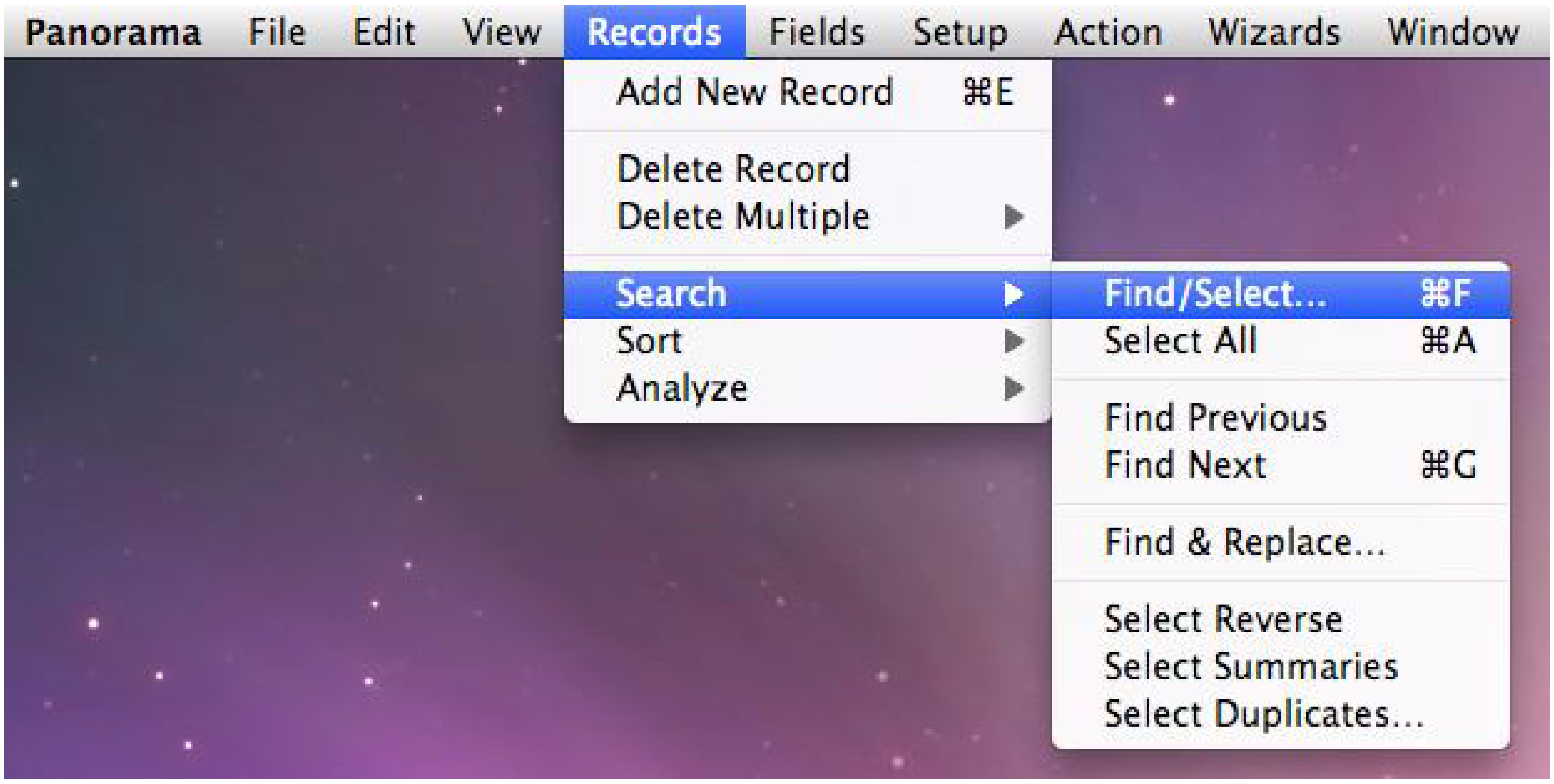
```
     total: 17,708.74
     count: 38
   average: 466.0195
std deviation: 550.4268
```

Apr 1, 2010	223	Sparkletts	Office Supplies		13.81
Apr 1, 2010	224	General Casu		Property Insur(	187.50
Apr 1, 2010	225	United Secu			30.00
Apr 1, 2010	226	Valley Gas		g	36.86
Apr 1, 2010	227	Hamilton Da		's Comp	92.00
Apr 1, 2010	228	AT&T		Distance	278.71
Apr 1, 2010	229	Valley Bell		Phone Se	122.93
Apr 1, 2010	230	Blue Cross		Insuran(	975.00
Apr 1, 2010	231	Edison Gene		lectric	117.97

Close the window when you are ready to do further processing.

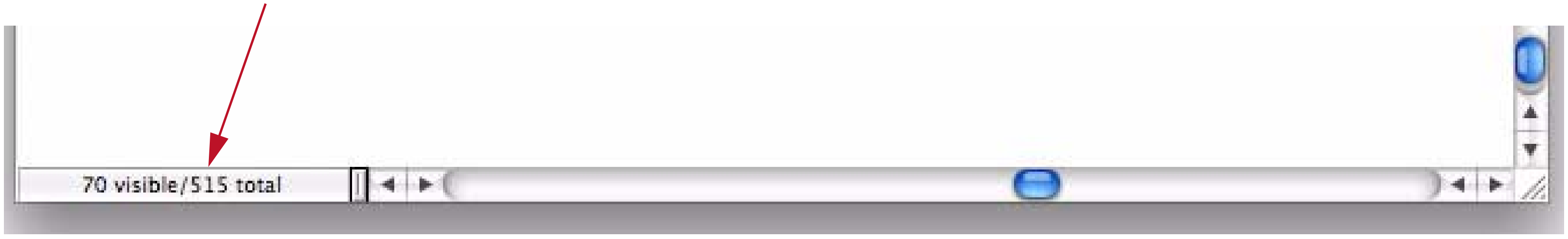
The Find/Select Dialog

Panorama locates information by scanning through the entire database looking for data that matches your criteria. The **Find/Select** dialog (Records->Search) allows you to specify the criteria for locating information— including the field (or fields) containing the data, the kind of match you want (contains, exact match, greater than, etc.) and the match value (the data you are looking for).

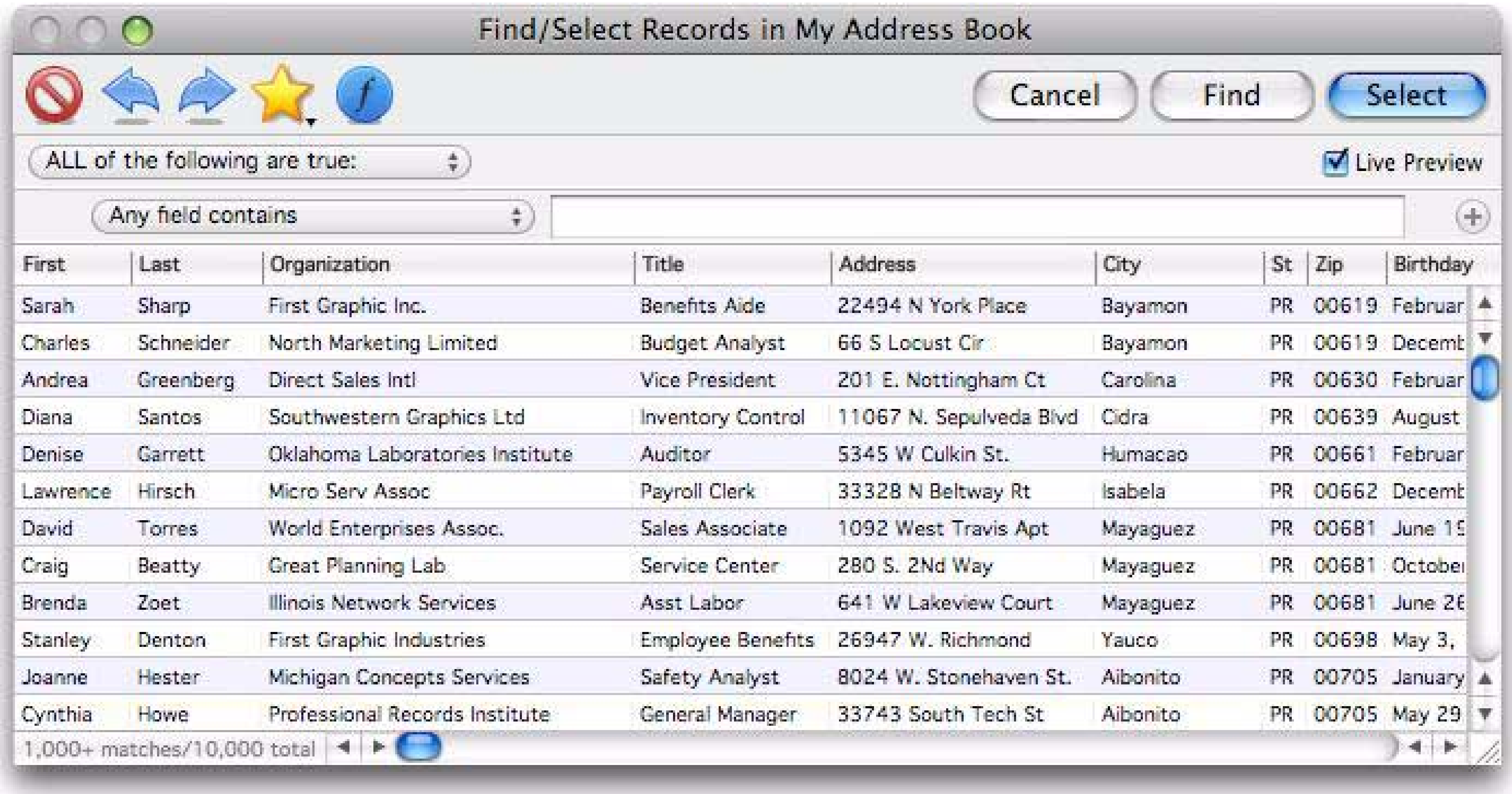


Tip: You can also open the **Find/Select** dialog by clicking on the record count displayed in the lower left hand corner of the window.

click in this box to open Find/Select dialog



Here is what the **Find/Select** dialog looks like when you first open it.



ALL of the following are true:

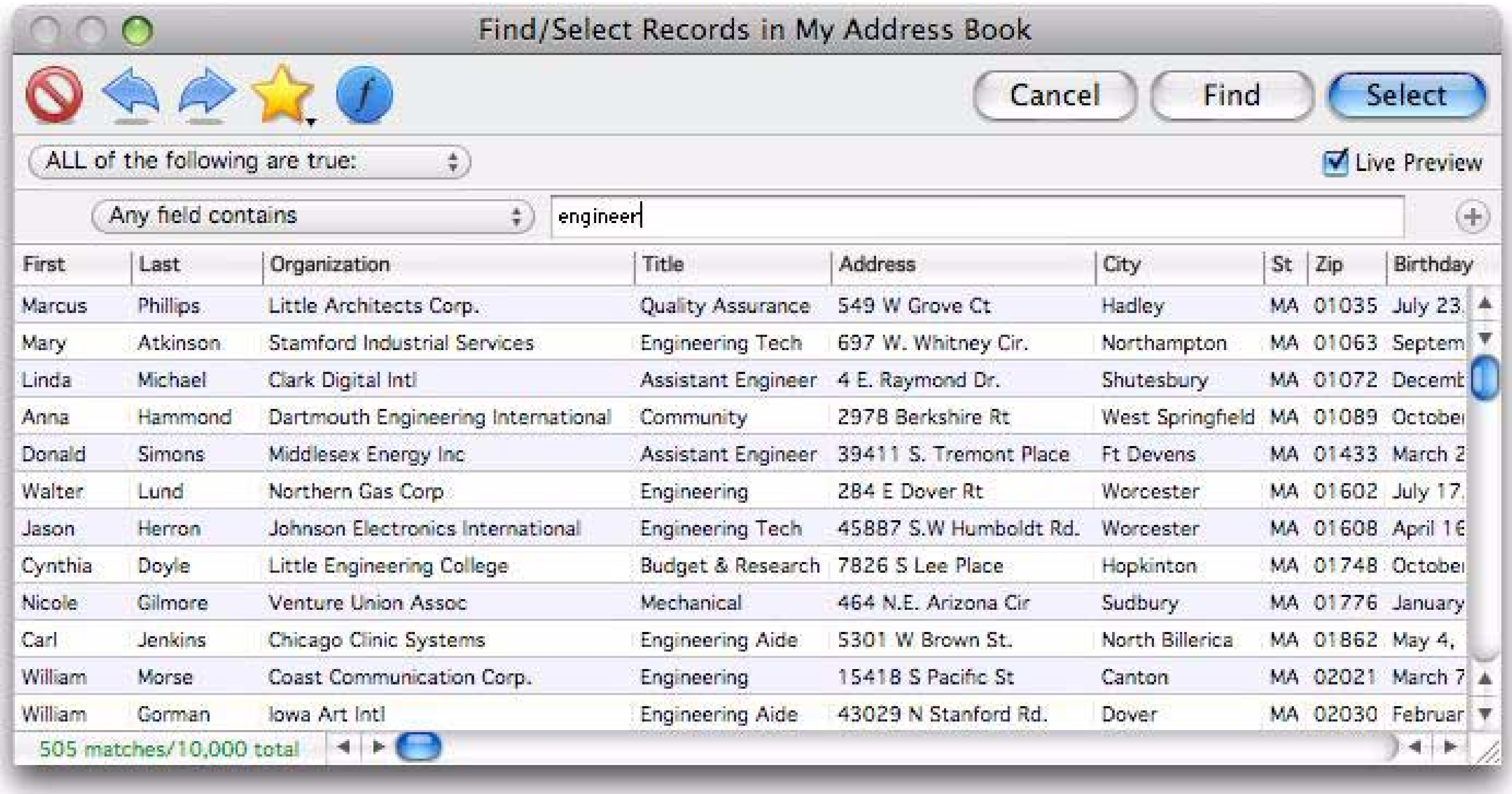
☑ Live Preview

Any field contains

First	Last	Organization	Title	Address	City	St	Zip	Birthday
Sarah	Sharp	First Graphic Inc.	Benefits Aide	22494 N York Place	Bayamon	PR	00619	Februar
Charles	Schneider	North Marketing Limited	Budget Analyst	66 S Locust Cir	Bayamon	PR	00619	Decemb
Andrea	Greenberg	Direct Sales Intl	Vice President	201 E. Nottingham Ct	Carolina	PR	00630	Februar
Diana	Santos	Southwestern Graphics Ltd	Inventory Control	11067 N. Sepulveda Blvd	Cidra	PR	00639	August
Denise	Garrett	Oklahoma Laboratories Institute	Auditor	5345 W Culkin St.	Humacao	PR	00661	Februar
Lawrence	Hirsch	Micro Serv Assoc	Payroll Clerk	33328 N Beltway Rt	Isabela	PR	00662	Decemb
David	Torres	World Enterprises Assoc.	Sales Associate	1092 West Travis Apt	Mayaguez	PR	00681	June 1
Craig	Beatty	Great Planning Lab	Service Center	280 S. 2Nd Way	Mayaguez	PR	00681	Octobe
Brenda	Zoet	Illinois Network Services	Asst Labor	641 W Lakeview Court	Mayaguez	PR	00681	June 2
Stanley	Denton	First Graphic Industries	Employee Benefits	26947 W. Richmond	Yauco	PR	00698	May 3,
Joanne	Hester	Michigan Concepts Services	Safety Analyst	8024 W. Stonehaven St.	Aibonito	PR	00705	January
Cynthia	Howe	Professional Records Institute	General Manager	33743 South Tech St	Aibonito	PR	00705	May 29

1,000+ matches/10,000 total

By default the **Find/Select** dialog searches all fields in the database. Simply type in the word, phrase or name you want to search for. If the Live Preview option is checked, a preview of the search results will appear immediately as you type. Here's an example of a search for engineer. In this example engineer has been found in both the *Organization* and *Title* fields.



ALL of the following are true:

☑ Live Preview

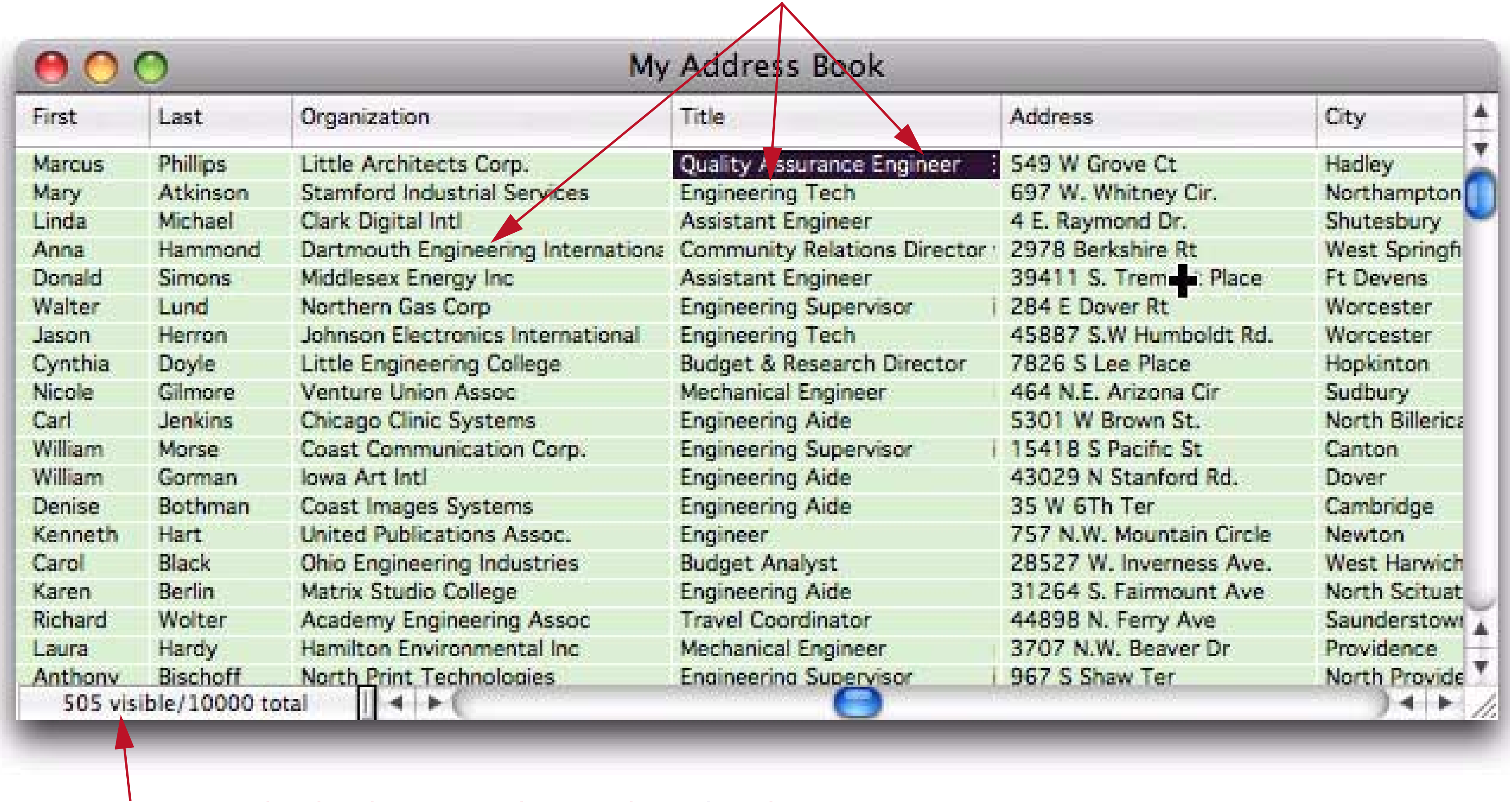
Any field contains engineer

First	Last	Organization	Title	Address	City	St	Zip	Birthday
Marcus	Phillips	Little Architects Corp.	Quality Assurance	549 W Grove Ct	Hadley	MA	01035	July 23.
Mary	Atkinson	Stamford Industrial Services	Engineering Tech	697 W. Whitney Cir.	Northampton	MA	01063	Septem
Linda	Michael	Clark Digital Intl	Assistant Engineer	4 E. Raymond Dr.	Shutesbury	MA	01072	Decemb
Anna	Hammond	Dartmouth Engineering International	Community	2978 Berkshire Rt	West Springfield	MA	01089	Octobe
Donald	Simons	Middlesex Energy Inc	Assistant Engineer	39411 S. Tremont Place	Ft Devens	MA	01433	March 2
Walter	Lund	Northern Gas Corp	Engineering	284 E Dover Rt	Worcester	MA	01602	July 17.
Jason	Herron	Johnson Electronics International	Engineering Tech	45887 S.W Humboldt Rd.	Worcester	MA	01608	April 1
Cynthia	Doyle	Little Engineering College	Budget & Research	7826 S Lee Place	Hopkinton	MA	01748	Octobe
Nicole	Gilmore	Venture Union Assoc	Mechanical	464 N.E. Arizona Cir	Sudbury	MA	01776	January
Carl	Jenkins	Chicago Clinic Systems	Engineering Aide	5301 W Brown St.	North Billerica	MA	01862	May 4,
William	Morse	Coast Communication Corp.	Engineering	15418 S Pacific St	Canton	MA	02021	March 7
William	Gorman	Iowa Art Intl	Engineering Aide	43029 N Stanford Rd.	Dover	MA	02030	Februar

505 matches/10,000 total

Selecting a Subset

To actually select a subset of the database, press the **Select** button. Panorama will scan through the entire database and select the records that match the criteria you have specified. The selected records remain visible, while the records that do not match temporarily vanish. Panorama displays the number of selected records in the lower left hand corner of the window.



My Address Book

First	Last	Organization	Title	Address	City
Marcus	Phillips	Little Architects Corp.	Quality Assurance Engineer	549 W Grove Ct	Hadley
Mary	Atkinson	Stamford Industrial Services	Engineering Tech	697 W. Whitney Cir.	Northampton
Linda	Michael	Clark Digital Intl	Assistant Engineer	4 E. Raymond Dr.	Shutesbury
Anna	Hammond	Dartmouth Engineering Internationa	Community Relations Director	2978 Berkshire Rt	West Springfi
Donald	Simons	Middlesex Energy Inc	Assistant Engineer	39411 S. Trem[illegible] Place	Ft Devens
Walter	Lund	Northern Gas Corp	Engineering Supervisor	284 E Dover Rt	Worcester
Jason	Herron	Johnson Electronics International	Engineering Tech	45887 S.W Humboldt Rd.	Worcester
Cynthia	Doyle	Little Engineering College	Budget & Research Director	7826 S Lee Place	Hopkinton
Nicole	Gilmore	Venture Union Assoc	Mechanical Engineer	464 N.E. Arizona Cir	Sudbury
Carl	Jenkins	Chicago Clinic Systems	Engineering Aide	5301 W Brown St.	North Billerica
William	Morse	Coast Communication Corp.	Engineering Supervisor	15418 S Pacific St	Canton
William	Gorman	Iowa Art Intl	Engineering Aide	43029 N Stanford Rd.	Dover
Denise	Bothman	Coast Images Systems	Engineering Aide	35 W 6Th Ter	Cambridge
Kenneth	Hart	United Publications Assoc.	Engineer	757 N.W. Mountain Circle	Newton
Carol	Black	Ohio Engineering Industries	Budget Analyst	28527 W. Inverness Ave.	West Harwich
Karen	Berlin	Matrix Studio College	Engineering Aide	31264 S. Fairmount Ave	North Scituat
Richard	Wolter	Academy Engineering Assoc	Travel Coordinator	44898 N. Ferry Ave	Saunderstowi
Laura	Hardy	Hamilton Environmental Inc	Mechanical Engineer	3707 N.W. Beaver Dr	Providence
Anthony	Bischoff	North Print Technologies	Engineering Supervisor	967 S Shaw Ter	North Provide

505 visible/10000 total

select any field contains engineer

current selection (505 records contain engineer)

To restore the invisible records, choose the **Select All** command from the Search Menu.

To make a different selection, simply use **Find/Select** again. The original selection will vanish and the new selection will become visible. (You do not need to choose **Select All** before selecting another subset.)

Note: If your database is large and you have selected only a few records, you may find that Panorama seems sluggish. Remember, Panorama may be skipping over hundreds of invisible records that are between the visible records on the screen. When you use **Select All**, Panorama's normal blazing speed will return.

Note: After you have selected a subset of the data, you may find that you cannot move the data sheet scroll bar to the very top or very bottom. This will happen if the first or last record is not one of the selected (visible) records.

Find and Find Next

Another way to locate data is to "find" it (see "Finding vs. Selecting" on page 139). There are two ways to find a record — either double click on it in the preview or press the **Find** button. Double clicking on a record in the preview closes the dialog and causes Panorama to jump to the actual record in the database. When you press the **Find** button, Panorama will go to the top of the database and start scanning. When Panorama finds a data cell that matches what you are looking for, it stops scanning and displays the information it has found.

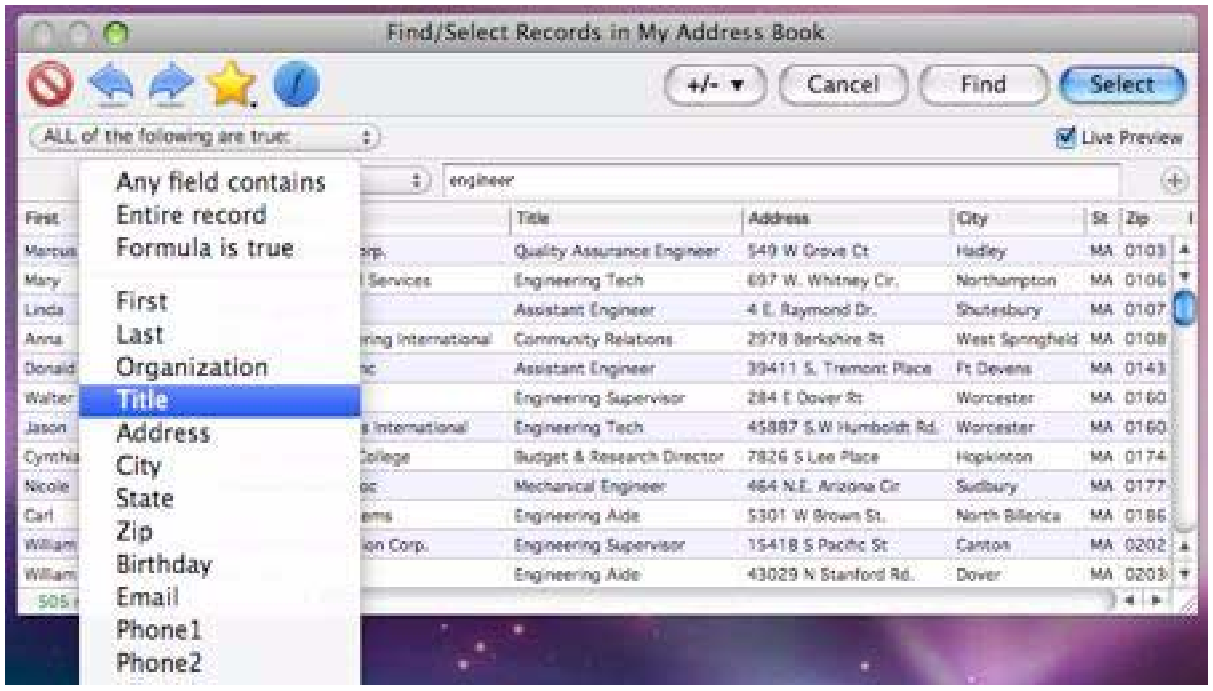
To resume scanning for additional matches, use the **Find Next** command (if there aren't any more matches, Panorama will beep). To scan backwards, use the **Find Previous** command. (You can also use Find Next and Find Previous after double clicking on a record in the preview.)

Creating Specific Search Criteria

Panorama allows you to set up detailed criteria to narrow a search down to the exact information you are looking for. You've already seen the most general search, for text contained in any field, now we'll look at how to narrow a search to more specific criteria.

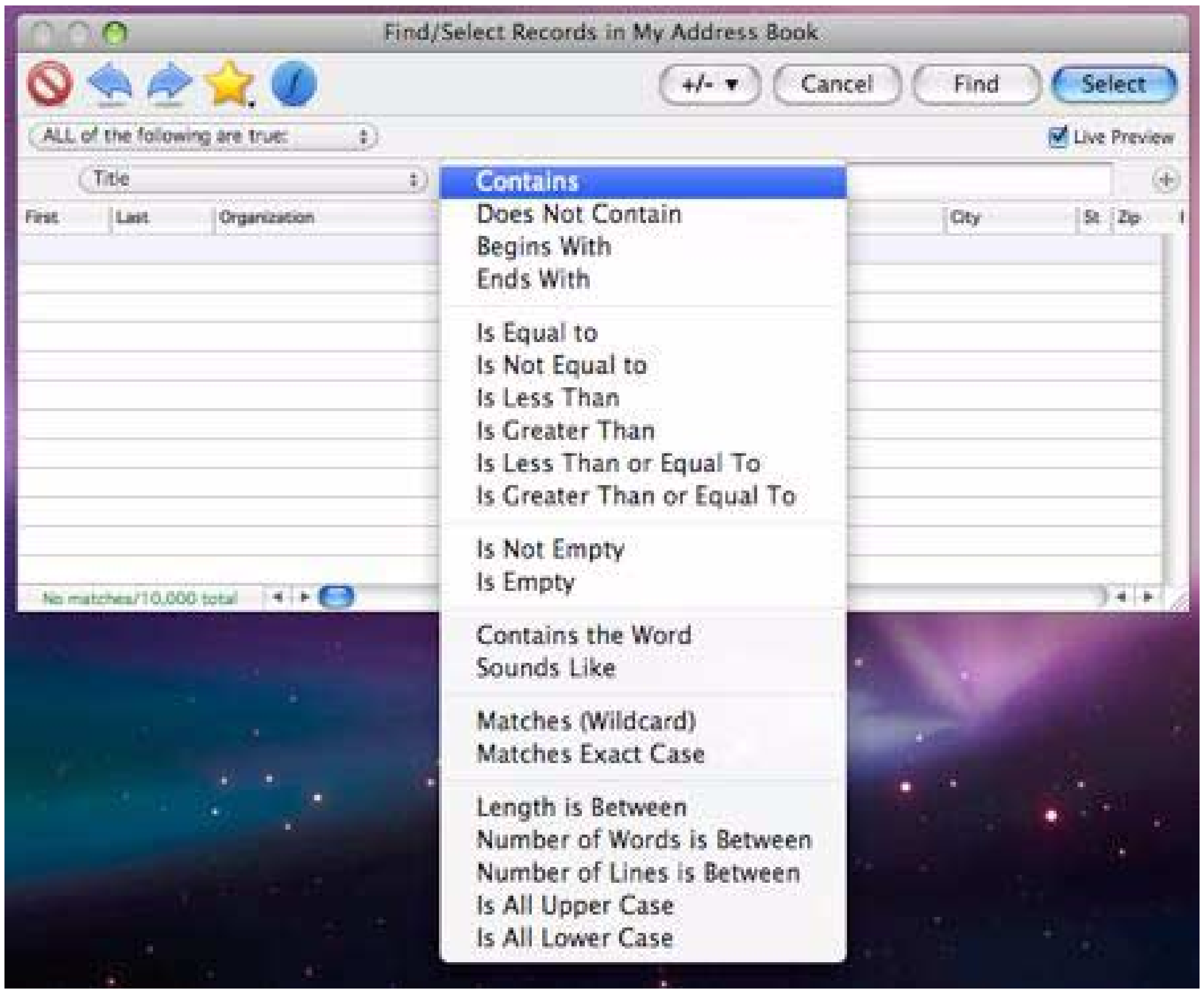
Searching a Specific Field

To search in a specific field instead of all fields, choose the field you want to search from the pop-up menu.

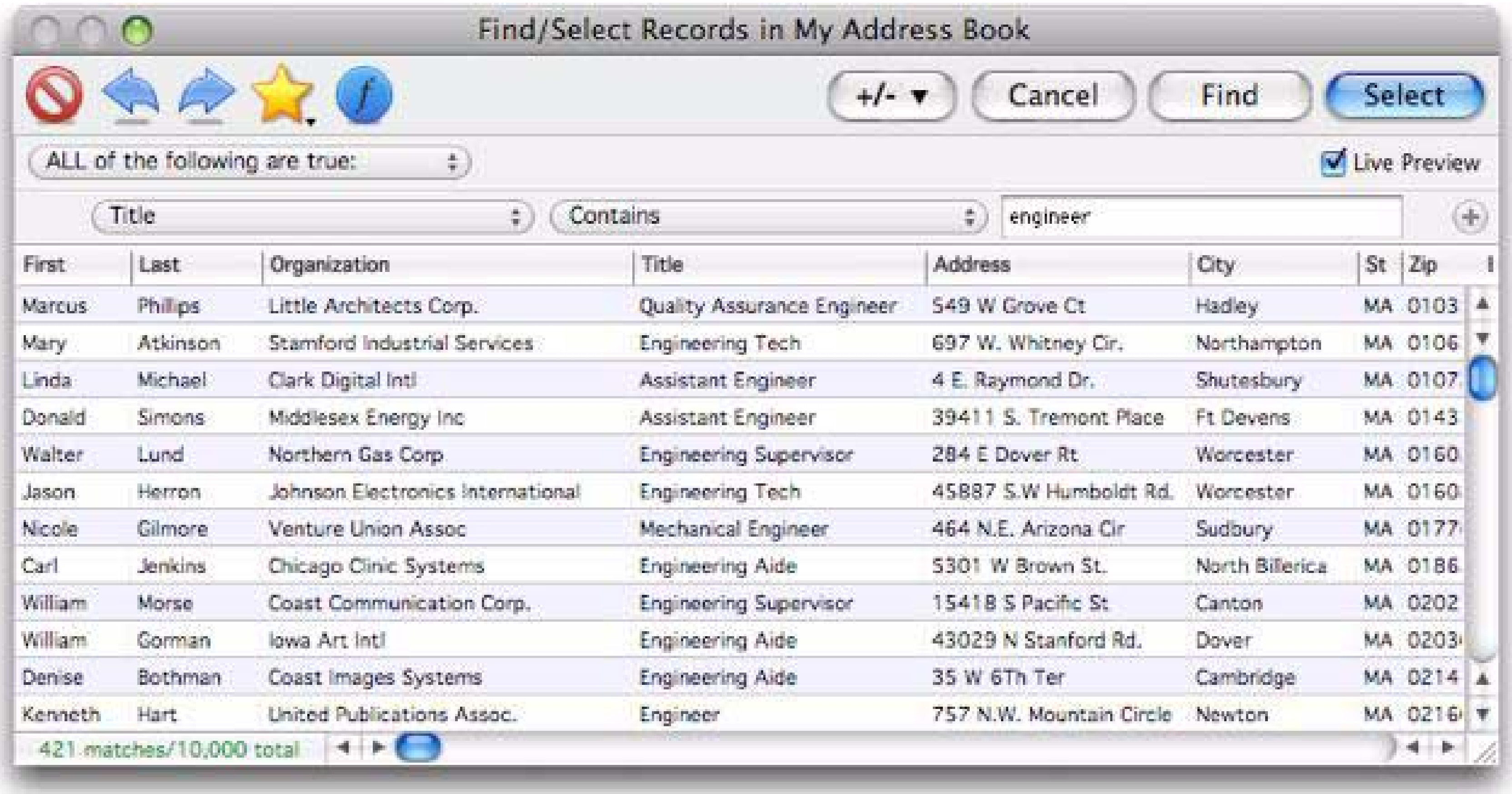


First		Title	Address	City	St	Zip
Marcus	orp.	Quality Assurance Engineer	549 W Grove Ct	Hadley	MA	0103
Mary	l Services	Engineering Tech	697 W. Whitney Cir.	Northampton	MA	0106
Linda		Assistant Engineer	4 E. Raymond Dr.	Shutesbury	MA	0107
Anna	ering International	Community Relations	2978 Berkshire St	West Springfield	MA	0108
Donald	nc	Assistant Engineer	39411 S. Tremont Place	Ft Devens	MA	0143
Walter		Engineering Supervisor	284 E Dover St	Worcester	MA	0160
Jason	s International	Engineering Tech	45887 S.W Humboldt Rd.	Worcester	MA	0160
Cynthia	College	Budget & Research Director	7826 S Lee Place	Hopkinton	MA	0174
Nicole	oc	Mechanical Engineer	464 N.E. Arizona Cir	Sudbury	MA	0177
Carl	ems	Engineering Aide	5301 W Brown St.	North Billerica	MA	0186
William	ion Corp.	Engineering Supervisor	15418 S Pacific St	Canton	MA	0202
William		Engineering Aide	43029 N Stanford Rd.	Dover	MA	0203

Once you've selected a field you also have the option of selecting a comparison method for matching the data with the field. The matching options available will change depending on the type of field you have selected (text, number or date). Matching options are covered in more detail later in this chapter.



Once you've selected the field and matching option you can type in the data you are looking for. If the Live Preview option is checked the preview will update as you press each key. In this example the search done earlier in this chapter has been narrowed to show only records where the job title contains engineer, instead of engineer being in any field.



ALL of the following are true:

☑ Live Preview

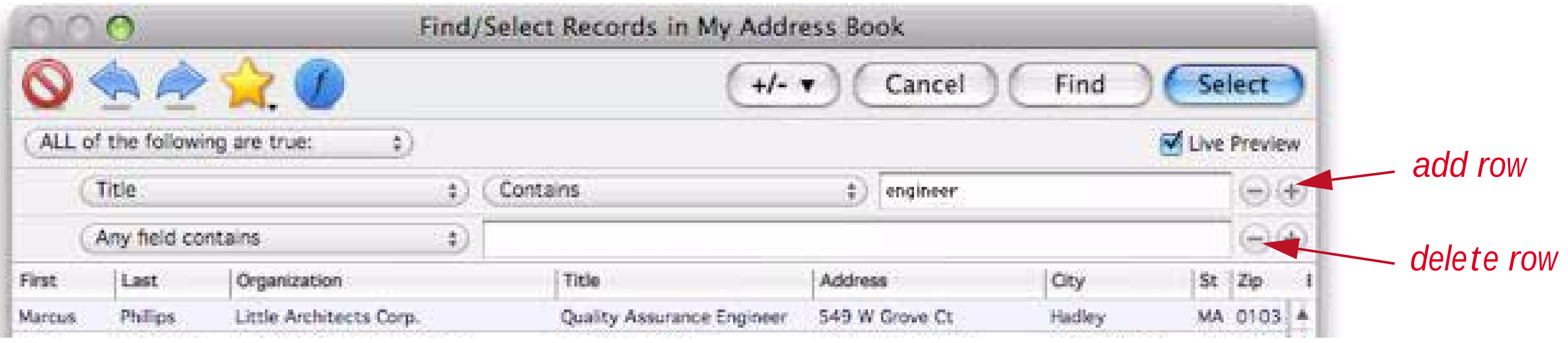
Title | Contains | engineer

First	Last	Organization	Title	Address	City	St	Zip
Marcus	Phillips	Little Architects Corp.	Quality Assurance Engineer	549 W Grove Ct	Hadley	MA	0103
Mary	Atkinson	Stamford Industrial Services	Engineering Tech	697 W. Whitney Cir.	Northampton	MA	0106
Linda	Michael	Clark Digital Intl	Assistant Engineer	4 E. Raymond Dr.	Shutesbury	MA	0107
Donald	Simons	Middlesex Energy Inc	Assistant Engineer	39411 S. Tremont Place	Ft Devens	MA	0143
Walter	Lund	Northern Gas Corp	Engineering Supervisor	284 E Dover Rt	Worcester	MA	0160
Jason	Herron	Johnson Electronics International	Engineering Tech	45887 S.W Humboldt Rd.	Worcester	MA	0160
Nicole	Gilmore	Venture Union Assoc	Mechanical Engineer	464 N.E. Arizona Cir	Sudbury	MA	0177
Carl	Jenkins	Chicago Clinic Systems	Engineering Aide	5301 W Brown St.	North Billerica	MA	0186
William	Morse	Coast Communication Corp.	Engineering Supervisor	15418 S Pacific St	Canton	MA	0202
William	Gorman	Iowa Art Intl	Engineering Aide	43029 N Stanford Rd.	Dover	MA	0203
Denise	Bothman	Coast Images Systems	Engineering Aide	35 W 6Th Ter	Cambridge	MA	0214
Kenneth	Hart	United Publications Assoc.	Engineer	757 N.W. Mountain Circle	Newton	MA	0216

421 matches/10,000 total

Compound Searches

To search for multiple terms at once, press the + button at the far right end. This adds another row to the search criteria.



ALL of the following are true:

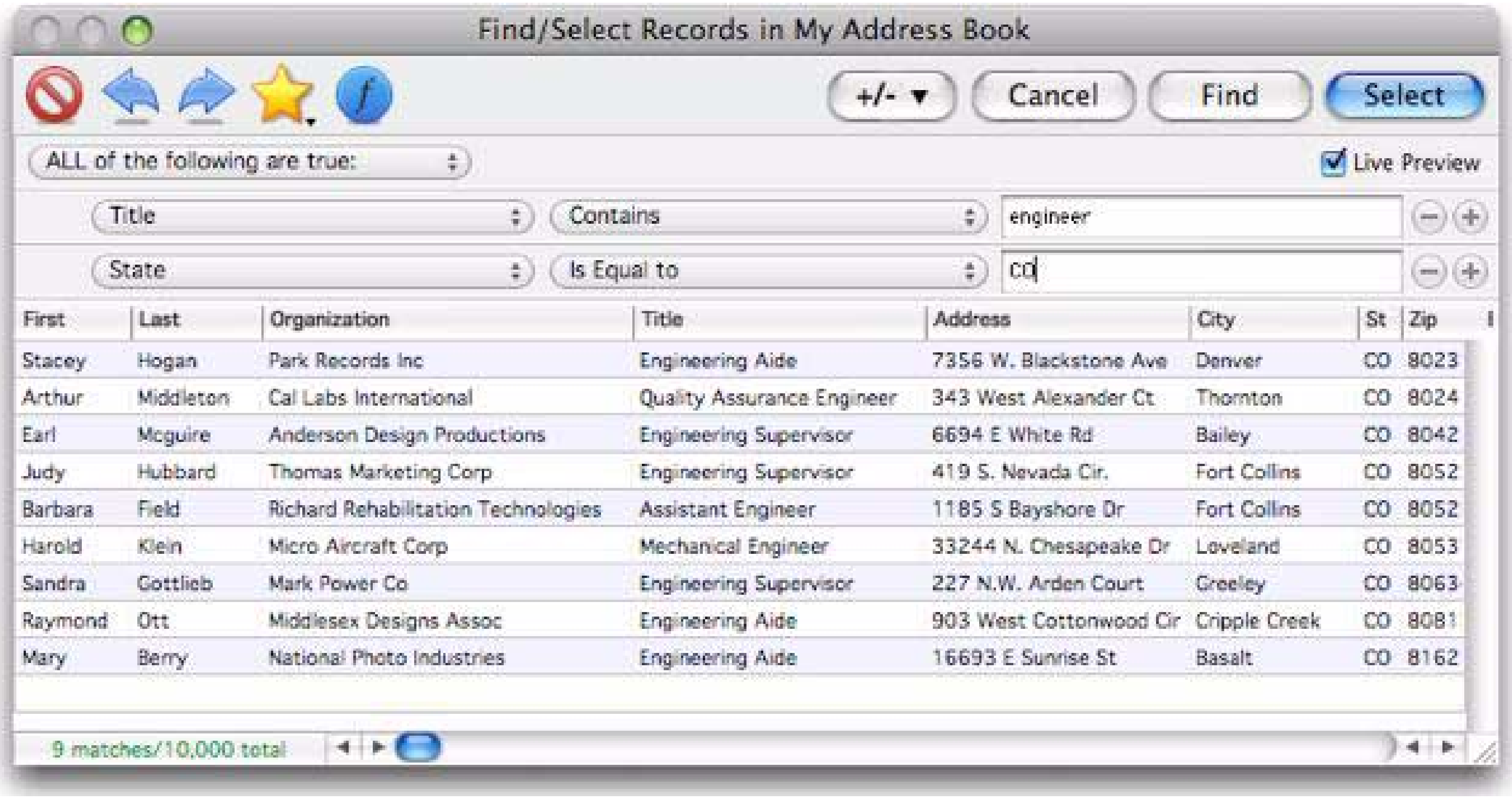
☑ Live Preview

Title | Contains | engineer

Any field contains |

First	Last	Organization	Title	Address	City	St	Zip
Marcus	Phillips	Little Architects Corp.	Quality Assurance Engineer	549 W Grove Ct	Hadley	MA	0103

In this example I've revised the search to show engineers in Colorado.



ALL of the following are true: ☑ Live Preview

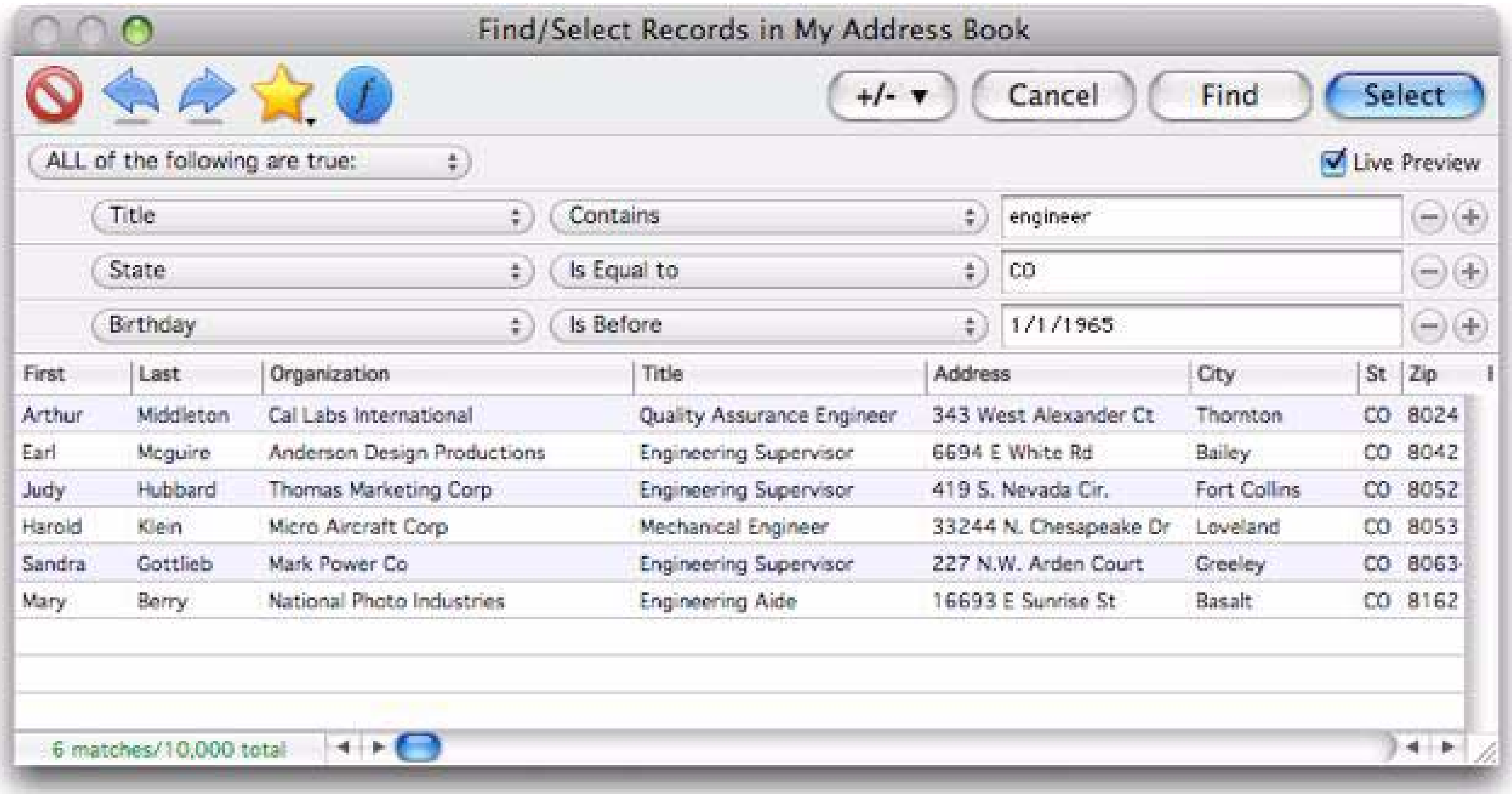
Title | Contains | engineer

State | Is Equal to | CO

First	Last	Organization	Title	Address	City	St	Zip
Stacey	Hogan	Park Records Inc	Engineering Aide	7356 W. Blackstone Ave	Denver	CO	8023
Arthur	Middleton	Cal Labs International	Quality Assurance Engineer	343 West Alexander Ct	Thornton	CO	8024
Earl	Mcguire	Anderson Design Productions	Engineering Supervisor	6694 E White Rd	Bailey	CO	8042
Judy	Hubbard	Thomas Marketing Corp	Engineering Supervisor	419 S. Nevada Cir.	Fort Collins	CO	8052
Barbara	Field	Richard Rehabilitation Technologies	Assistant Engineer	1185 S Bayshore Dr	Fort Collins	CO	8052
Harold	Klein	Micro Aircraft Corp	Mechanical Engineer	33244 N. Chesapeake Dr	Loveland	CO	8053
Sandra	Gottlieb	Mark Power Co	Engineering Supervisor	227 N.W. Arden Court	Greeley	CO	8063
Raymond	Ott	Middlesex Designs Assoc	Engineering Aide	903 West Cottonwood Cir	Cripple Creek	CO	8081
Mary	Berry	National Photo Industries	Engineering Aide	16693 E Sunrise St	Basalt	CO	8162

9 matches/10,000 total

You can continue adding multiple search rows as necessary, for example here I've narrowed the search down to engineers in Colorado born before 1965.



ALL of the following are true: ☑ Live Preview

Title | Contains | engineer

State | Is Equal to | CO

Birthday | Is Before | 1/1/1965

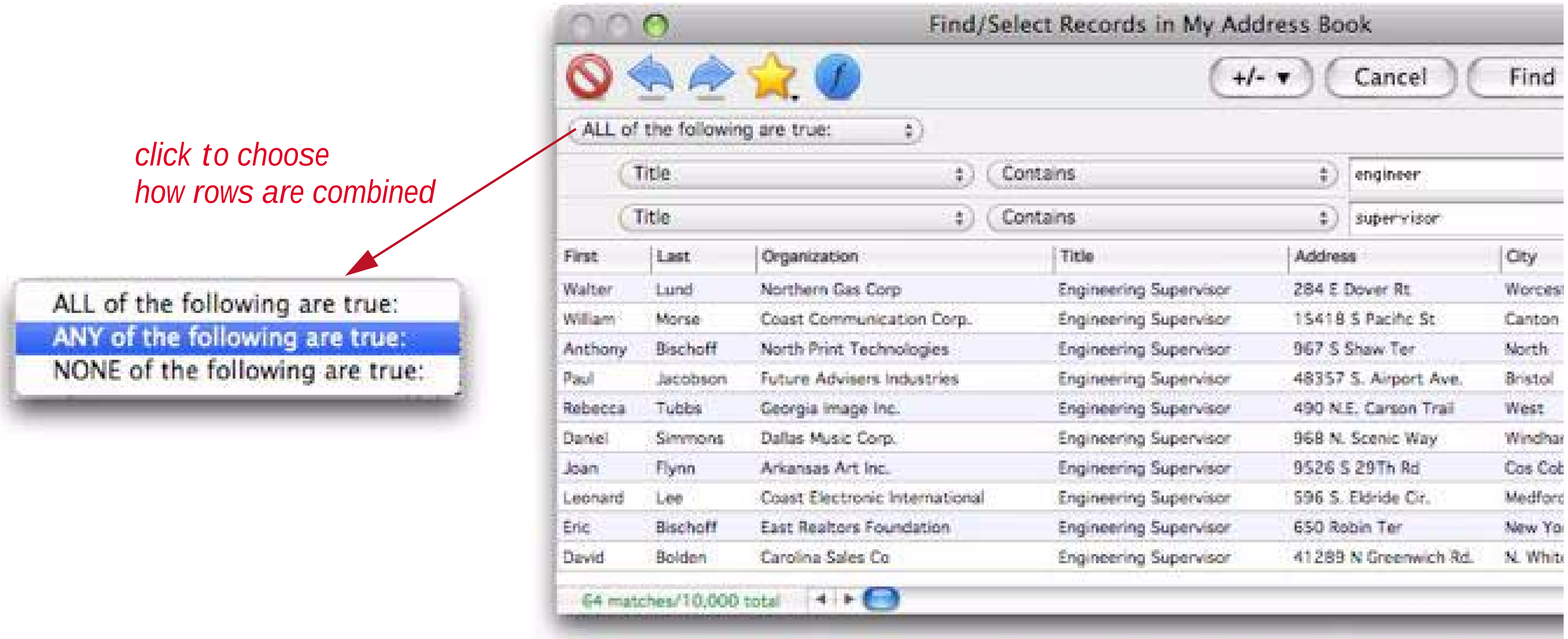
First	Last	Organization	Title	Address	City	St	Zip
Arthur	Middleton	Cal Labs International	Quality Assurance Engineer	343 West Alexander Ct	Thornton	CO	8024
Earl	Mcguire	Anderson Design Productions	Engineering Supervisor	6694 E White Rd	Bailey	CO	8042
Judy	Hubbard	Thomas Marketing Corp	Engineering Supervisor	419 S. Nevada Cir.	Fort Collins	CO	8052
Harold	Klein	Micro Aircraft Corp	Mechanical Engineer	33244 N. Chesapeake Dr	Loveland	CO	8053
Sandra	Gottlieb	Mark Power Co	Engineering Supervisor	227 N.W. Arden Court	Greeley	CO	8063
Mary	Berry	National Photo Industries	Engineering Aide	16693 E Sunrise St	Basalt	CO	8162

6 matches/10,000 total

Once you've narrowed the search down to the subset you want you can press the **Select** or **Find** buttons to apply the search to the actual database. (You can also save this search for later, see "Managing Queries" on page 160).

Compound Search with AND/OR

Normally when you specify multiple criteria they must all be true, in other words, each criteria is ANDed together. In the previous example, a record matches if the Title contains engineer ***and*** the state is CO ***and*** the birthdate is before 1965. Using the pop-up menu at the top left of the dialog you can change how multiple criteria are combined.


Find/Select Records in My Address Book
+/- ▾
Cancel
Find
ALL of the following are true:
ANY of the following are true:
NONE of the following are true:

click to choose
how rows are combined

ALL of the following are true:

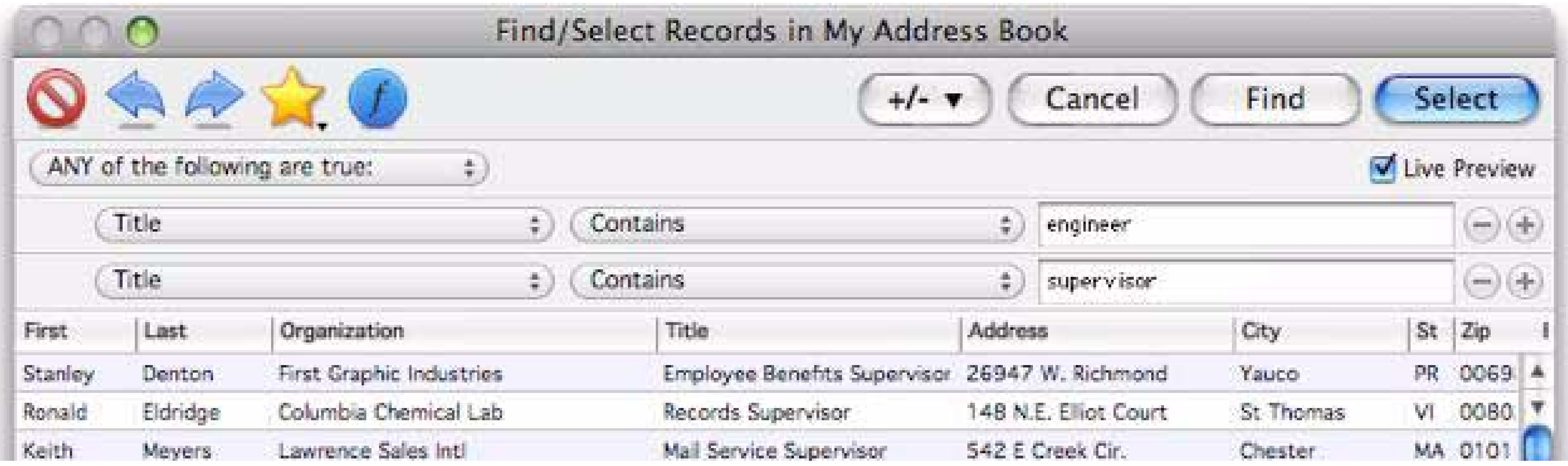
Title – Contains – engineer

Title – Contains – supervisor

First	Last	Organization	Title	Address	City
Walter	Lund	Northern Gas Corp	Engineering Supervisor	284 E Dover Rt	Worces
William	Morse	Coast Communication Corp.	Engineering Supervisor	15418 S Pacific St	Canton
Anthony	Bischoff	North Print Technologies	Engineering Supervisor	967 S Shaw Ter	North
Paul	Jacobson	Future Advisers Industries	Engineering Supervisor	48357 S. Airport Ave.	Bristol
Rebecca	Tubbs	Georgia Image Inc.	Engineering Supervisor	490 N.E. Carson Trail	West
Daniel	Simmons	Dallas Music Corp.	Engineering Supervisor	968 N. Scenic Way	Windhar
Joan	Flynn	Arkansas Art Inc.	Engineering Supervisor	9526 S 29Th Rd	Cos Cob
Leonard	Lee	Coast Electronic International	Engineering Supervisor	596 S. Eldride Cir.	Medford
Eric	Bischoff	East Realtors Foundation	Engineering Supervisor	650 Robin Ter	New Yo
David	Bolden	Carolina Sales Co	Engineering Supervisor	41289 N Greenwich Rd.	N. Whit

64 matches/10,000 total

By changing this pop-up menu I can search for anyone who is either an engineer or a supervisor.



ANY of the following are true:

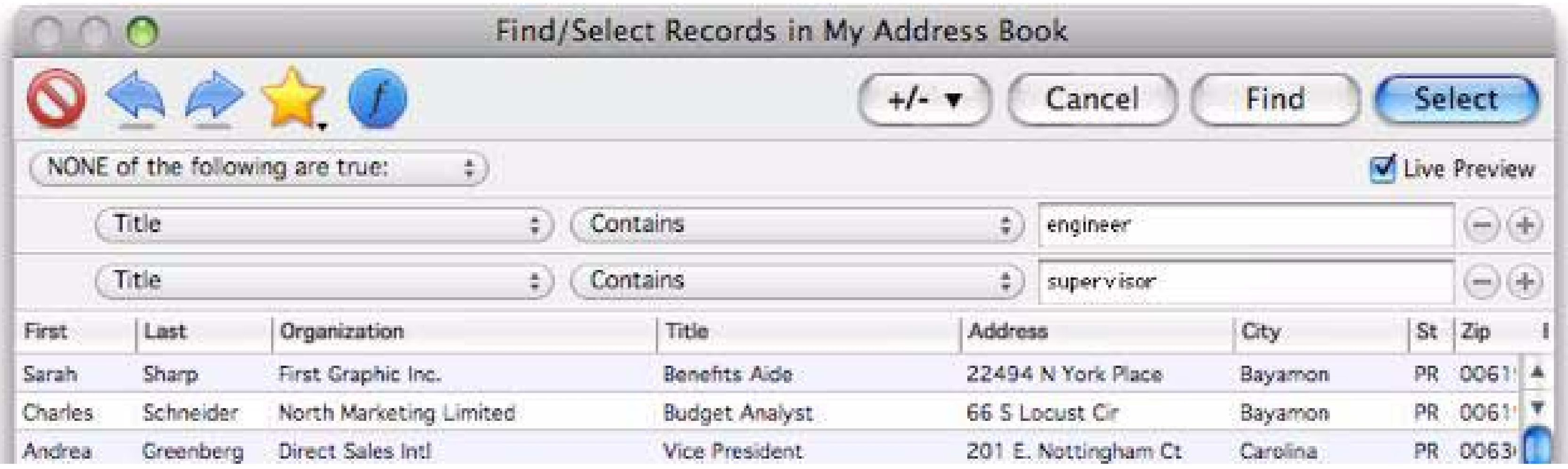
☑ Live Preview

Title – Contains – engineer

Title – Contains – supervisor

First	Last	Organization	Title	Address	City	St	Zip
Stanley	Denton	First Graphic Industries	Employee Benefits Supervisor	26947 W. Richmond	Yauco	PR	0069
Ronald	Eldridge	Columbia Chemical Lab	Records Supervisor	148 N.E. Elliot Court	St Thomas	VI	0080
Keith	Meyers	Lawrence Sales Intl	Mail Service Supervisor	542 E Creek Cir.	Chester	MA	0101

Or, I can find anyone who is neither an engineer nor a supervisor.



NONE of the following are true:

☑ Live Preview

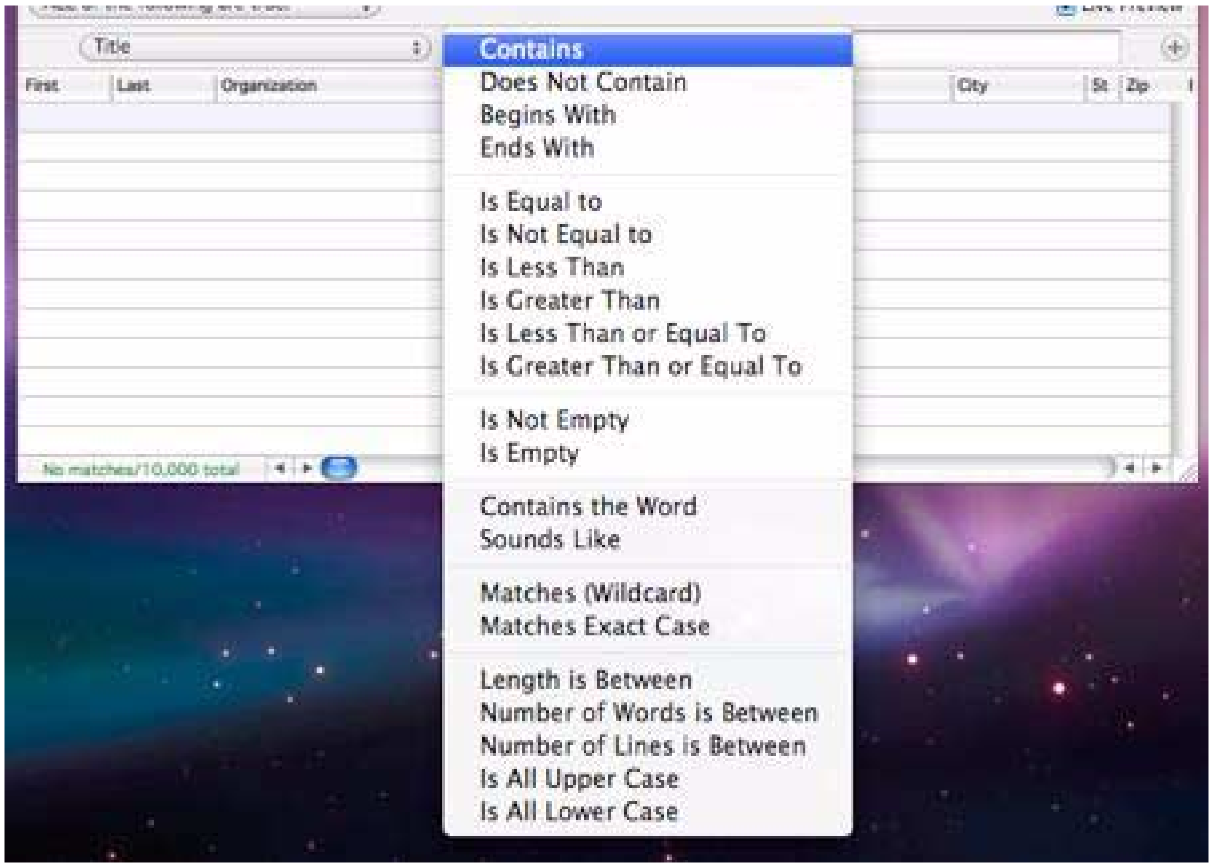
Title – Contains – engineer

Title – Contains – supervisor

First	Last	Organization	Title	Address	City	St	Zip
Sarah	Sharp	First Graphic Inc.	Benefits Aide	22494 N York Place	Bayamon	PR	0061
Charles	Schneider	North Marketing Limited	Budget Analyst	66 S Locust Cir	Bayamon	PR	0061
Andrea	Greenberg	Direct Sales Intl	Vice President	201 E. Nottingham Ct	Carolina	PR	0063

Search Options (Text)

When searching in a text field there are almost two dozen options for determining whether data is a match.



Contains — Any data cell that contains the match value will be identified as a match. For example, if you ask Panorama to locate cities containing an, it will locate cities like Anaheim, Lansing, Los Angeles, and San Jose since they all contain an. Notice that capitalization is ignored, so an, An, AN, and aN are all acceptable matches.

Does Not Contain — Any data cell that does not contain the match value will be identified as a match. For example, if you ask Panorama to locate phone numbers not containingcontaining (714) it will locate phone numbers in other area codes. Capitalization is ignored, so an, An, AN, and aN are all equivalent as far as this option is concerned.

Begins With — Any data cell that begins with the match value will be identified as a match. For example, if you ask Panorama to locate states beginning with co, it will locate states like Colorado and Connecticut. Capitalization is ignored, so co, Co, CO, and cO are all acceptable matches.

Ends With — Any data cell that ends with the match value will be identified as a match. For example, if you ask Panorama to locate baseball teams ending with sox it will locate both Red Sox and White Sox. Capitalization is ignored, so sox, Sox, SOX, and sOx are all acceptable matches.

Is Equal to (=) — Any data cell that exactly matches the match value will be identified as a match. An exact match means just that. The spelling, punctuation, and capitalization must be exactly the same—for example red will not match RED or Red.

Is Not Equal to (≠) — Any data cell that does not exactly match the match value will be identified as a match.

Is Less Than (<) — Any data cell that is less than the value in the box on the right will be identified as a match.

Is Greater Than (>) — Any data cell that is greater than the match value will be identified as a match.

Is Less Than or Equal to (≤) — Any data cell that is less than or equal to the match value will be identified as a match.

Is Greater Than or Equal to (≥) — Any data cell that is greater than or equal to the match value will be identified as a match.

Contains the Word — Any data cell that contains the specified word will be identified as a match. The word must not be part of a larger word. For example, if you specify *contains the word* engineer it will not match engineers or engineering.

Sounds Like — Any data cell that "sounds like" the match value will be identified as a match. Panorama uses a special algorithm to determine which values sound like the match value. This algorithm is not perfect, but it does work pretty well. For example, if you are looking for someone named Luboviski but you are not sure if it is spelled with an i, ie, or y, the sounds like match will save the day.

The sounds like match can be used with more than one word at a time. For example, if you are searching through a video rental database for the movie Escape from New York, the sounds like algorithm will find it even if it is misspelled Escapade from New York. If any word in the match value sounds like any word in the data cell, the data will be identified as a match.

Note: If two words do not start with the same letter, the sounds like algorithm will not think they sound alike. For example, sounds like does not think that Chris and Kris sound alike.

Matches (Wildcard) — This option allows you to create a "pattern" for comparing data. The pattern allows you to set up very flexible "wildcard" matches where some characters must match but others don't have to. The pattern must contain one or more "normal" characters (letters, numbers, punctuation, etc.) and also may contain one or more of the wildcard characters **?** (question mark) and ***** (asterisk). The ? wildcard character will match any character in this position. The ***** wildcard character will match any number of characters in this position.

A few examples should help to make the operation of the wildcard characters within the pattern clear. Suppose you want to find all records where the first three digits of the zip code are 926, and you don't care what the last three digits are. The pattern will be **926??**. This pattern will match any five digit zip code that begins with 926. It will not match if there are less than or more than 5 characters in the zip code.

If the pattern is changed to **926***, Panorama will match with any zip code that begins with 926, no matter what the length is. It could be three digits long or thirty — Panorama doesn't care and will say that it matches as long as it starts with 926.

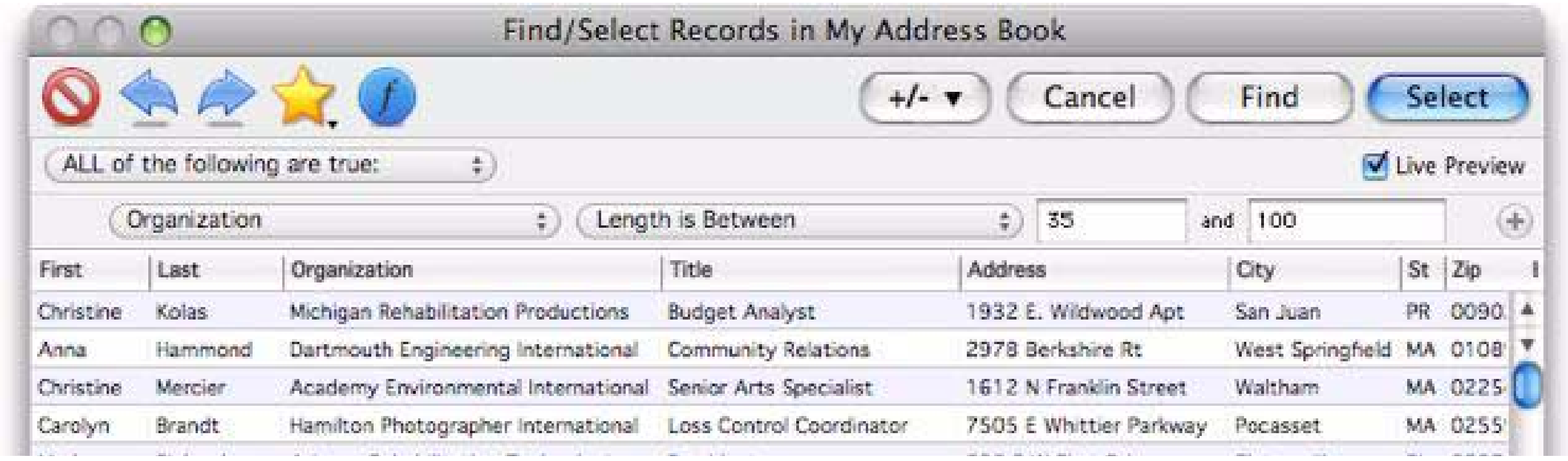
By changing the pattern to **926??*** we tell Panorama to match any zip code that starts with 926 and is at least five characters long. The zip code could be 5, 6, 7, or 70 characters long, but will not match if it is only 3 or 4 characters long.

If you wanted to select only 9 digit zip codes we could use the pattern **?????-????**. This will match any 10 character long string with a - (dash) in the sixth position.

Suppose that you wanted to find everyone in your database with the last name Johnson and the first initial J. Assuming that the first and last names are stored in a single field, you could use the pattern **j*johnson** to locate the person (or persons) you are looking for. The match option doesn't care about upper or lower case, so this pattern would match Jerry Johnson, jim johnson, or JOHN JOHNSON. (It will also match weird data like j346ujohnson or j@#opcjohnson, so take care to watch for unexpected matches.) If you want upper and lower case treated as different characters use the matches exact case option (see below).

Matches Exact Case — This option is the same as the matches (wildcard) option (see above), except that any letters in the data must exactly match the pattern, including upper vs. lower case. For example, if the pattern is **J*Johnson**, names like Jerry Johnson will match, but JERRY JOHNSON will not match.

Length is Between — When this option is selected there are two match values, the minimum and maximum length (in characters). In this example this option is being used to search for organizations with unusually long names (more than 35 characters).



Find/Select Records in My Address Book

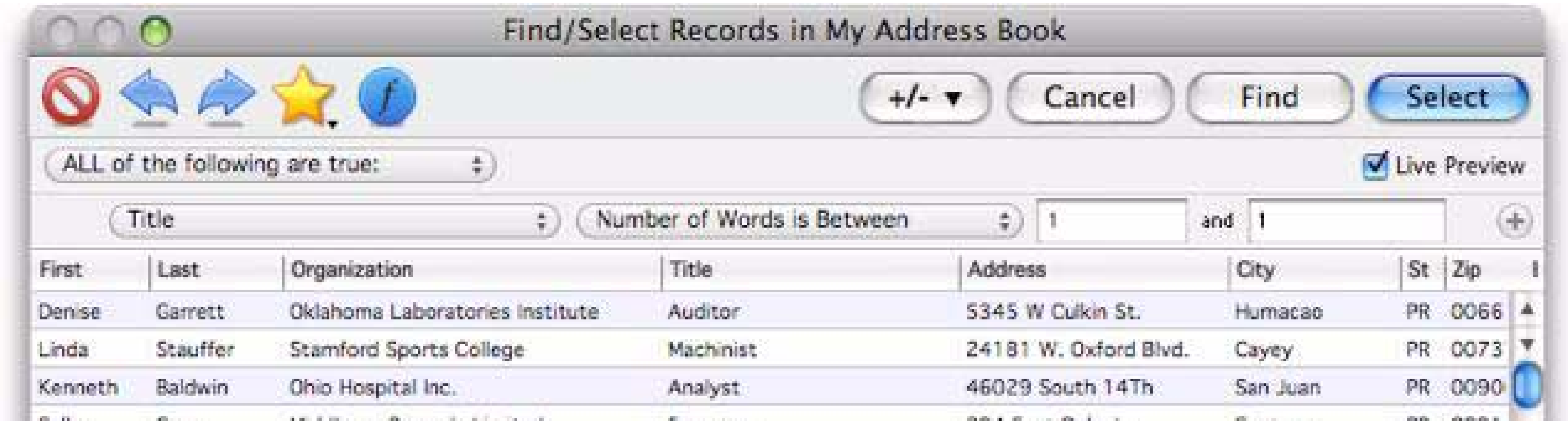
ALL of the following are true:

☑ Live Preview

Organization | Length is Between | 35 and 100

First	Last	Organization	Title	Address	City	St	Zip
Christine	Kolas	Michigan Rehabilitation Productions	Budget Analyst	1932 E. Wildwood Apt	San Juan	PR	0090
Anna	Hammond	Dartmouth Engineering International	Community Relations	2978 Berkshire Rt	West Springfield	MA	0108
Christine	Mercier	Academy Environmental International	Senior Arts Specialist	1612 N Franklin Street	Waltham	MA	0225
Carolyn	Brandt	Hamilton Photographer International	Loss Control Coordinator	7505 E Whittier Parkway	Pocasset	MA	0255

Number of Words is Between — When this option is selected there are two match values, the minimum and maximum number of words. In this example this option is being used to search for job titles with only one word in them (excluding compound titles like vice president or security analyst).



Find/Select Records in My Address Book

ALL of the following are true:

☑ Live Preview

Title | Number of Words is Between | 1 and 1

First	Last	Organization	Title	Address	City	St	Zip
Denise	Garrett	Oklahoma Laboratories Institute	Auditor	5345 W Culkin St.	Humacao	PR	0066
Linda	Stauffer	Stamford Sports College	Machinist	24181 W. Oxford Blvd.	Cayey	PR	0073
Kenneth	Baldwin	Ohio Hospital Inc.	Analyst	46029 South 14Th	San Juan	PR	0090

Number of Lines is Between — When this option is selected there are two match values, the minimum and maximum number of lines. For example, you could use this to find all records where a cell contained more than one line by using 2 for the minimum number of lines and 9999 for the maximum.

Is All Upper Case — Any data cell that contains all upper case characters (for example AZ) will be identified as a match.

Is All Lower Case — Any data cell that contains all lower case characters (for example west) will be identified as a match.

Is All Word Caps — Any data cell that contains words with the first character captialized (for example San Diego) will be identified as a match.

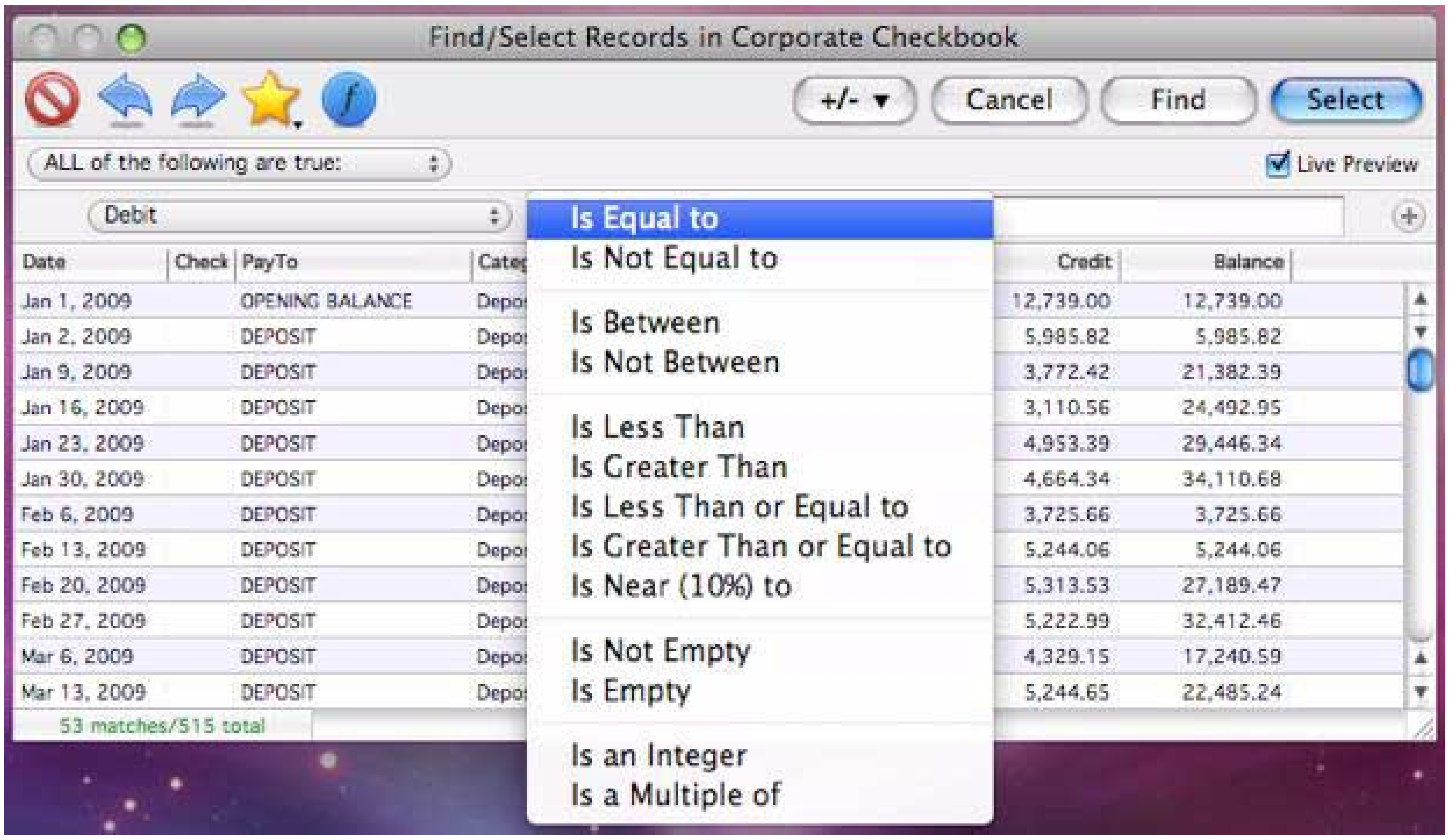
Is Not All Upper Case — Any data cell that contains any lower case characters (for example az) will be identified as a match. This is useful for double checking that a column is all upper case (for example a column of state abbreviations).

Is Not All Lower Case — Any data cell that contains any upper case characters (for example West) will be identified as a match.

Is Not All Word Caps — Any data cell that contains words with the first character lower case, or any other character upper case (for example hOusTon, CHICAGO or philadelphia) will be identified as a match. This is useful for double checking the capitalization of fields containing proper names.

Search Options (Numbers)

When searching in a numeric field there are over a dozen options for determining whether data is a match.



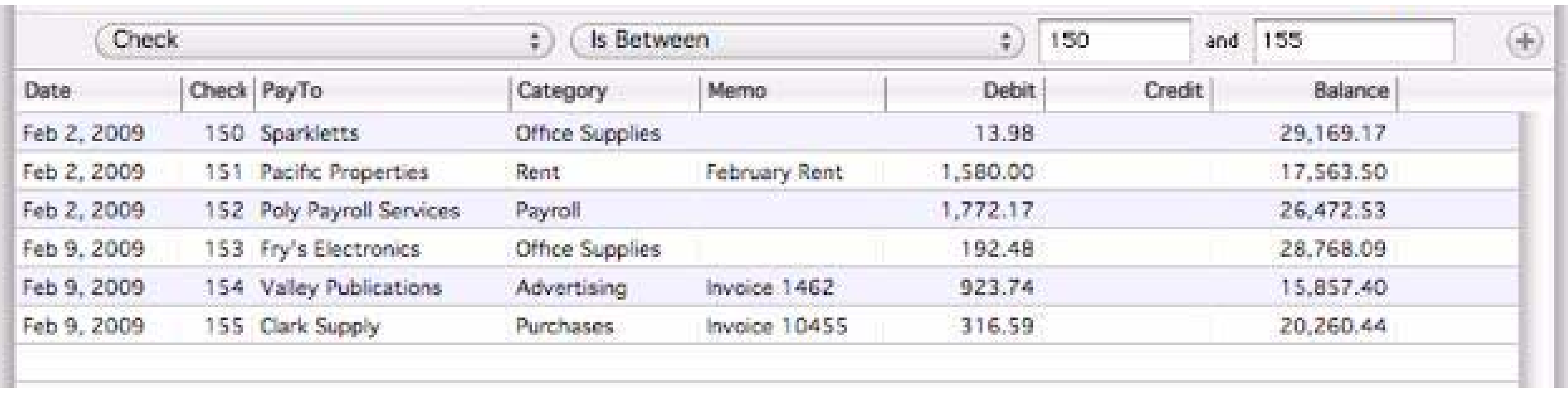
Date	Check	PayTo	Categ	Credit	Balance
Jan 1, 2009		OPENING BALANCE	Depo	12,739.00	12,739.00
Jan 2, 2009		DEPOSIT	Depo	5,985.82	5,985.82
Jan 9, 2009		DEPOSIT	Depo	3,772.42	21,382.39
Jan 16, 2009		DEPOSIT	Depo	3,110.56	24,492.95
Jan 23, 2009		DEPOSIT	Depo	4,953.39	29,446.34
Jan 30, 2009		DEPOSIT	Depo	4,664.34	34,110.68
Feb 6, 2009		DEPOSIT	Depo	3,725.66	3,725.66
Feb 13, 2009		DEPOSIT	Depo	5,244.06	5,244.06
Feb 20, 2009		DEPOSIT	Depo	5,313.53	27,189.47
Feb 27, 2009		DEPOSIT	Depo	5,222.99	32,412.46
Mar 6, 2009		DEPOSIT	Depo	4,329.15	17,240.59
Mar 13, 2009		DEPOSIT	Depo	5,244.65	22,485.24

53 matches/515 total

Is Equal to (=) — Any data cell that exactly matches the match value will be identified as a match.

Is Not Equal to (≠) — Any data cell that does not exactly match the match value will be identified as a match.

Is Between — Any data cell that contains a value between the two specified match values will be identified as a match.



Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
Feb 2, 2009	150	Sparkletts	Office Supplies		13.98		29,169.17
Feb 2, 2009	151	Pacific Properties	Rent	February Rent	1,580.00		17,563.50
Feb 2, 2009	152	Poly Payroll Services	Payroll		1,772.17		26,472.53
Feb 9, 2009	153	Fry's Electronics	Office Supplies		192.48		28,768.09
Feb 9, 2009	154	Valley Publications	Advertising	Invoice 1462	923.74		15,857.40
Feb 9, 2009	155	Clark Supply	Purchases	Invoice 10455	316.59		20,260.44

Is Not Between — Any data cell that contains a value outside the two specified match values will be identified as a match.

Is Less Than (<) — Any data cell that is less than the value in the box on the right will be identified as a match.

Is Greater Than (>) — Any data cell that is greater than the match value will be identified as a match.

Is Less Than or Equal to (≤) — Any data cell that is less than or equal to the match value will be identified as a match.

Is Greater Than or Equal to (≥) — Any data cell that is greater than or equal to the match value will be identified as a match.

Is Near (10%) to — Any data cell that is within plus or minus 10% of the specified will be identified as a match.

Is Not Empty — Any data cell that contains a value (even zero) will be identified as a match.

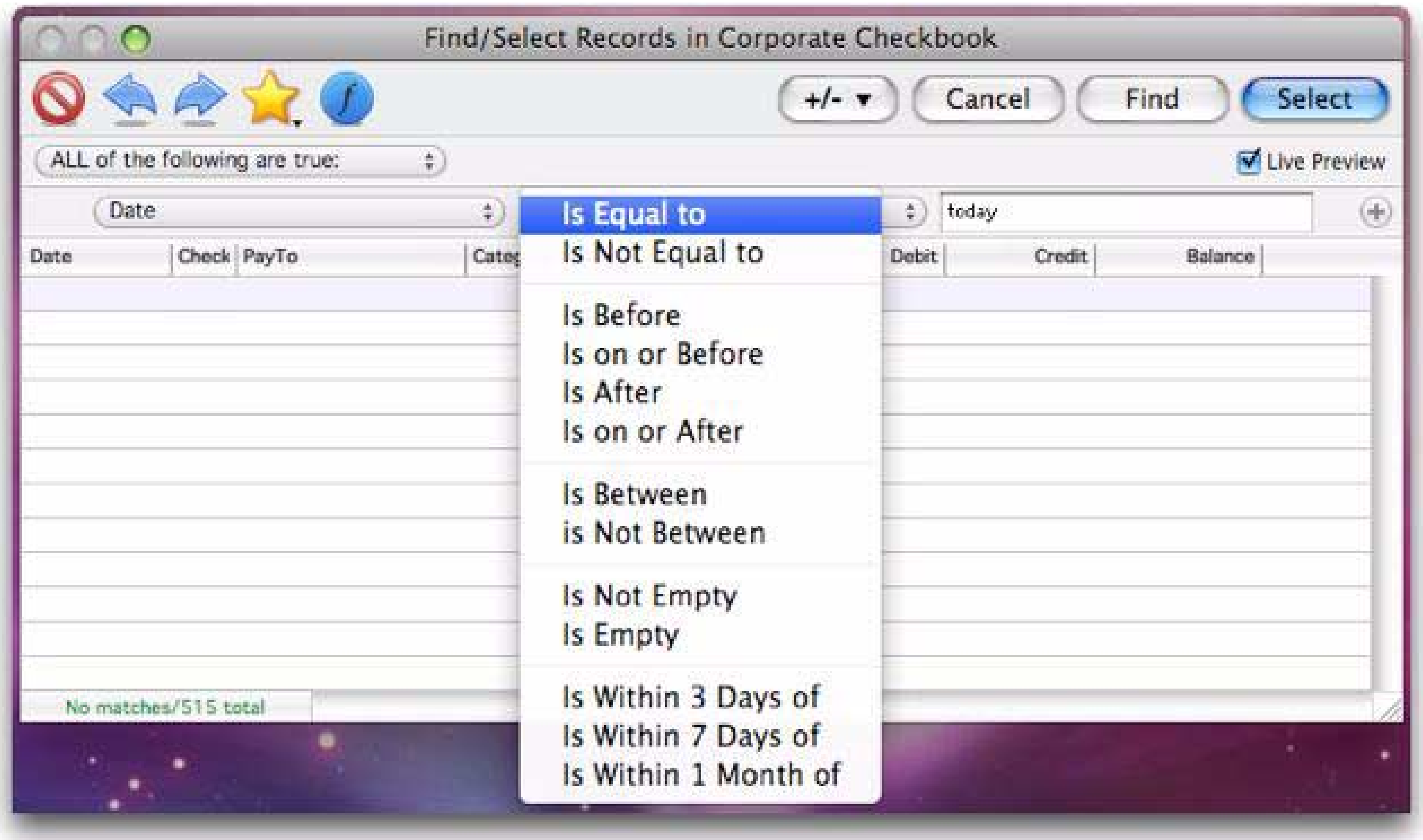
Is Empty — Any data cell that does not contain a value will be identified as a match. In other words, this option locates completely blank fields.

Is an Integer — Any data cell that contains an integer value will be identified as a match. For example, 1, 2, 45 and 5,687 would match but 1.27, 9.87 and 764.12 would not.

Is a Multiple of — Any data cell that is a multiple of the specified value will be identified as a match. For example if you specify 2 then 2, 4, 6, 8, etc. would match, while any other numbers would not.

Search Options (Dates)

When searching in a date field there are over a dozen options for determining whether data is a match. When specifying a date you can use **Smart Dates** (see “Entering Dates” on page 200), so you can use dates like *March 12*, *yesterday*, or *last tuesday.*



Is Equal to (=) — Any data cell that exactly matches the match value will be identified as a match.

Is Not Equal to (≠) — Any data cell that does not exactly match the match value will be identified as a match.

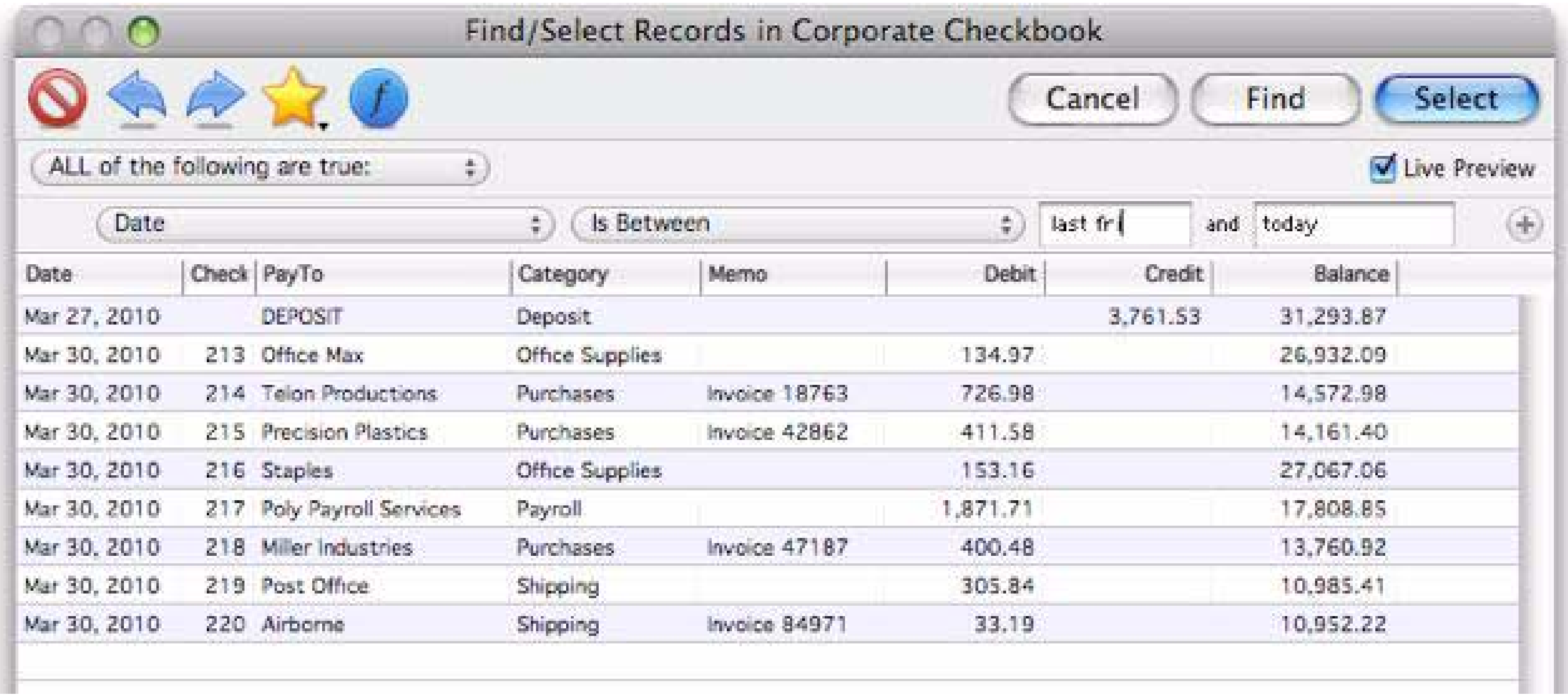
Is Before — Any data cell that contains a date before the date you type into the box on the right will be identified as a match.

Is on or Before — Any data cell that contains a date before or on the date you type into the box on the right will be identified as a match.

Is After — Any data cell that contains a date after the date you type into the box on the right will be identified as a match.

Is on or After — Any data cell that contains a date after or on the date you type into the box on the right will be identified as a match.

Is Between — Any data cell that contains a date between the two specified dates will be identified as a match. In this example all checks between last friday and today are selected (the example was taken on March 30, 2010).



ALL of the following are true:

☑ Live Preview

Date | Is Between | last fri | and | today

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
Mar 27, 2010		DEPOSIT	Deposit			3,761.53	31,293.87
Mar 30, 2010	213	Office Max	Office Supplies		134.97		26,932.09
Mar 30, 2010	214	Telon Productions	Purchases	Invoice 18763	726.98		14,572.98
Mar 30, 2010	215	Precision Plastics	Purchases	Invoice 42862	411.58		14,161.40
Mar 30, 2010	216	Staples	Office Supplies		153.16		27,067.06
Mar 30, 2010	217	Poly Payroll Services	Payroll		1,871.71		17,808.85
Mar 30, 2010	218	Miller Industries	Purchases	Invoice 47187	400.48		13,760.92
Mar 30, 2010	219	Post Office	Shipping		305.84		10,985.41
Mar 30, 2010	220	Airborne	Shipping	Invoice 84971	33.19		10,952.22

Is Not Between — Any data cell that contains a value outside the two specified dates will be identified as a match.

Is Not Empty — Any data cell that contains a any date will be identified as a match. Blank cells will not be selected.

Is Empty — Any data cell that does not contain a value will be identified as a match. In other words, this option locates completely blank fields.

Is Today — Any data cell with today's date is identified as a match.

Is This Week — Any data cell in the current week is identified as a match.

Is This Month — Any data cell in the current month is identified as a match.

Is This Quarter — Any data cell in the current quarter (3 months) is identified as a match.

Is This Year — Any data cell in the current year is identified as a match.

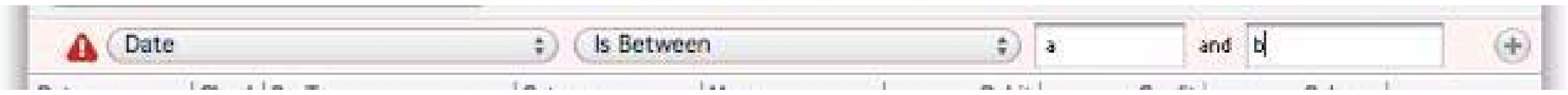
Is WIthin 3 Days of — Any data cell that contains a date within 3 days of the specified date will be identified as a match.

Is WIthin 7 Days of — Any data cell that contains a date within a week of the specified date will be identified as a match.

Is WIthin 1 Month of — Any data cell that contains a date within a month of the specified date will be identified as a match.

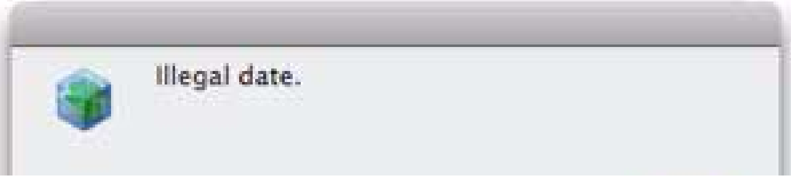
Query Errors

It's possible to create a query that doesn't make sense -- for example asking Panorama to match all records with dates between a and b. When this happens Panorama will display a pink background behind the query line that doesn't make sense, along with a red alert triangle.



Date | Is Between | a | and | b

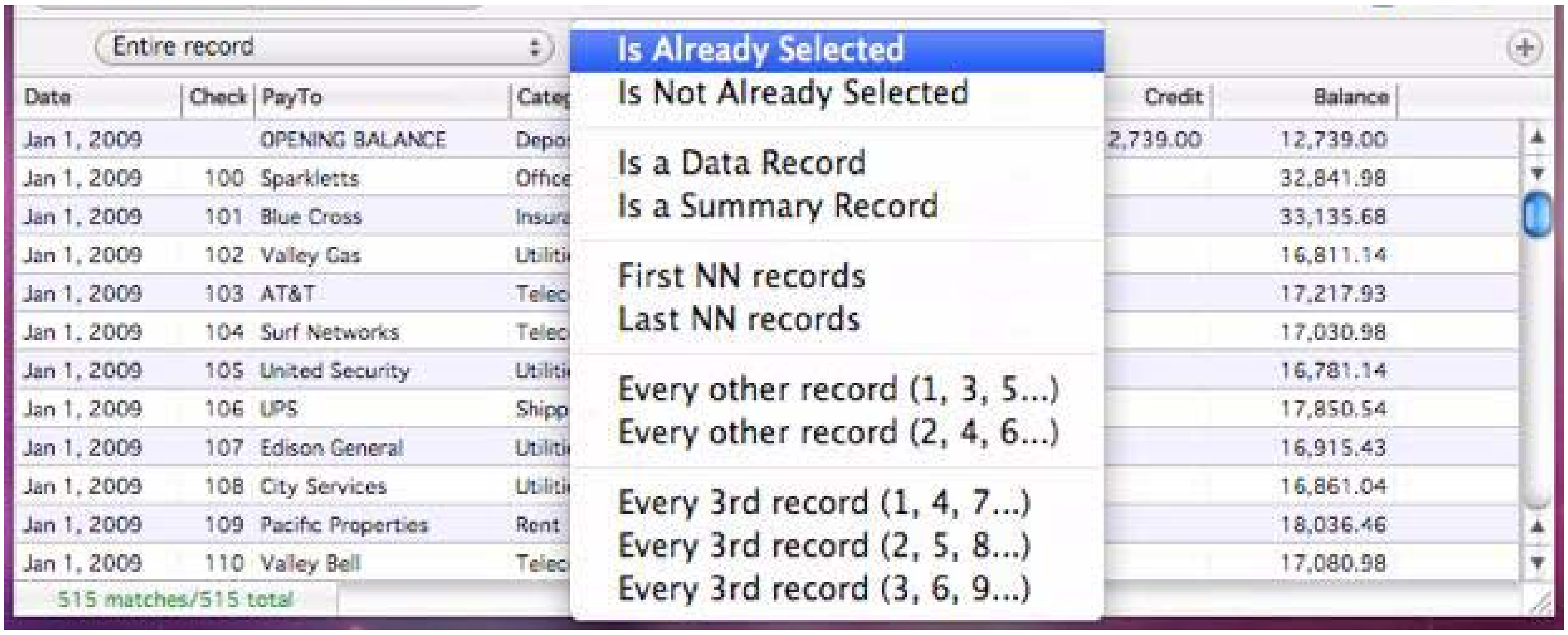
Click the red alert triangle to see the exact problem (in this case *Illegal Date*).



Illegal date.

Search Options (Entire Records)

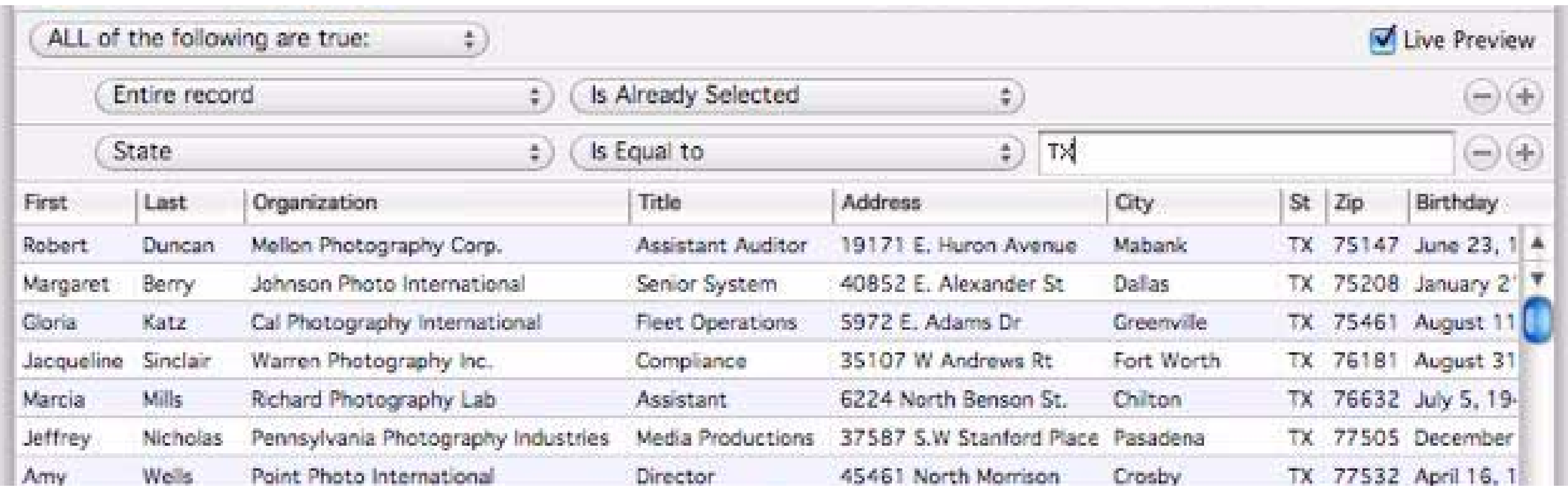
Most searches are based on specific fields, but there are also about a dozen criteria that apply to entire records. (Keep in mind that these criteria can be used in any combination with other search criteria.)


Entire record
Is Already Selected
Is Not Already Selected
Is a Data Record
Is a Summary Record
First NN records
Last NN records
Every other record (1, 3, 5...)
Every other record (2, 4, 6...)
Every 3rd record (1, 4, 7...)
Every 3rd record (2, 5, 8...)
Every 3rd record (3, 6, 9...)

Date	Check	PayTo	Categ	Credit	Balance
Jan 1, 2009		OPENING BALANCE	Depo	2,739.00	12,739.00
Jan 1, 2009	100	Sparkletts	Office		32,841.98
Jan 1, 2009	101	Blue Cross	Insura		33,135.68
Jan 1, 2009	102	Valley Gas	Utiliti		16,811.14
Jan 1, 2009	103	AT&T	Telec		17,217.93
Jan 1, 2009	104	Surf Networks	Telec		17,030.98
Jan 1, 2009	105	United Security	Utiliti		16,781.14
Jan 1, 2009	106	UPS	Shipp		17,850.54
Jan 1, 2009	107	Edison General	Utiliti		16,915.43
Jan 1, 2009	108	City Services	Utiliti		16,861.04
Jan 1, 2009	109	Pacific Properties	Rent		18,036.46
Jan 1, 2009	110	Valley Bell	Telec		17,080.98

515 matches/515 total

Is Already Selected — This option allows new selections to be partially based on the results of previous selections. If this option is chosen, only records that were already matched in a previous selection will be identified as a match. In the example below, a previous selection located all organizations with Photo in the name. Now that selection is being revised to include only photo related organizations in Texas. (To learn about another way to revise an existing selection see "Revising a Previous Selection" on page 163.)



ALL of the following are true: ☑ Live Preview

Entire record | Is Already Selected

State | Is Equal to | TX

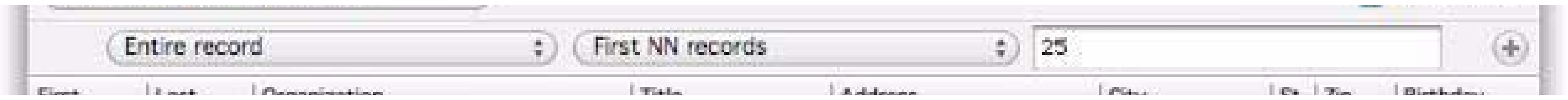
First	Last	Organization	Title	Address	City	St	Zip	Birthday
Robert	Duncan	Mellon Photography Corp.	Assistant Auditor	19171 E. Huron Avenue	Mabank	TX	75147	June 23, 1
Margaret	Berry	Johnson Photo International	Senior System	40852 E. Alexander St	Dallas	TX	75208	January 2'
Gloria	Katz	Cal Photography International	Fleet Operations	5972 E. Adams Dr	Greenville	TX	75461	August 11
Jacqueline	Sinclair	Warren Photography Inc.	Compliance	35107 W Andrews Rt	Fort Worth	TX	76181	August 31
Marcia	Mills	Richard Photography Lab	Assistant	6224 North Benson St.	Chilton	TX	76632	July 5, 19
Jeffrey	Nicholas	Pennsylvania Photography Industries	Media Productions	37587 S.W Stanford Place	Pasadena	TX	77505	December
Amy	Wells	Point Photo International	Director	45461 North Morrison	Crosby	TX	77532	April 16, 1

Is Not Already Selected — This option allows new selections to be partially based on the results of previous selections. If this option is chosen, only records that were *not* matched in the previous selection will be identified as a match in this selection.

Is a Data Record — Any raw data record (not a summary record) will be identified as a match.

Is a Summary Record — Any summary record will be identified as a match. (This option duplicates the **Select Summaries** command that was available in previous versions of Panorama.)

First NN records — This option allows you to select the first few records in the database. In this example the first 25 records in the database will be selected.



Entire record ⇕ First NN records ⇕ 25

Last NN records — This option allows you to select the last few records in the database.

Every other record (1, 3, 5…) — This option allows you to select half of the records in the database. Every other record is selected, starting with the first record.

Every other record (2, 4, 6…) — This option allows you to select half of the records in the database. Every other record is selected, starting with the second record.

Every 3rd record (1, 4, 7…) — This option allows you to select one third of the records in the database. Every third record is selected, starting with the first record.

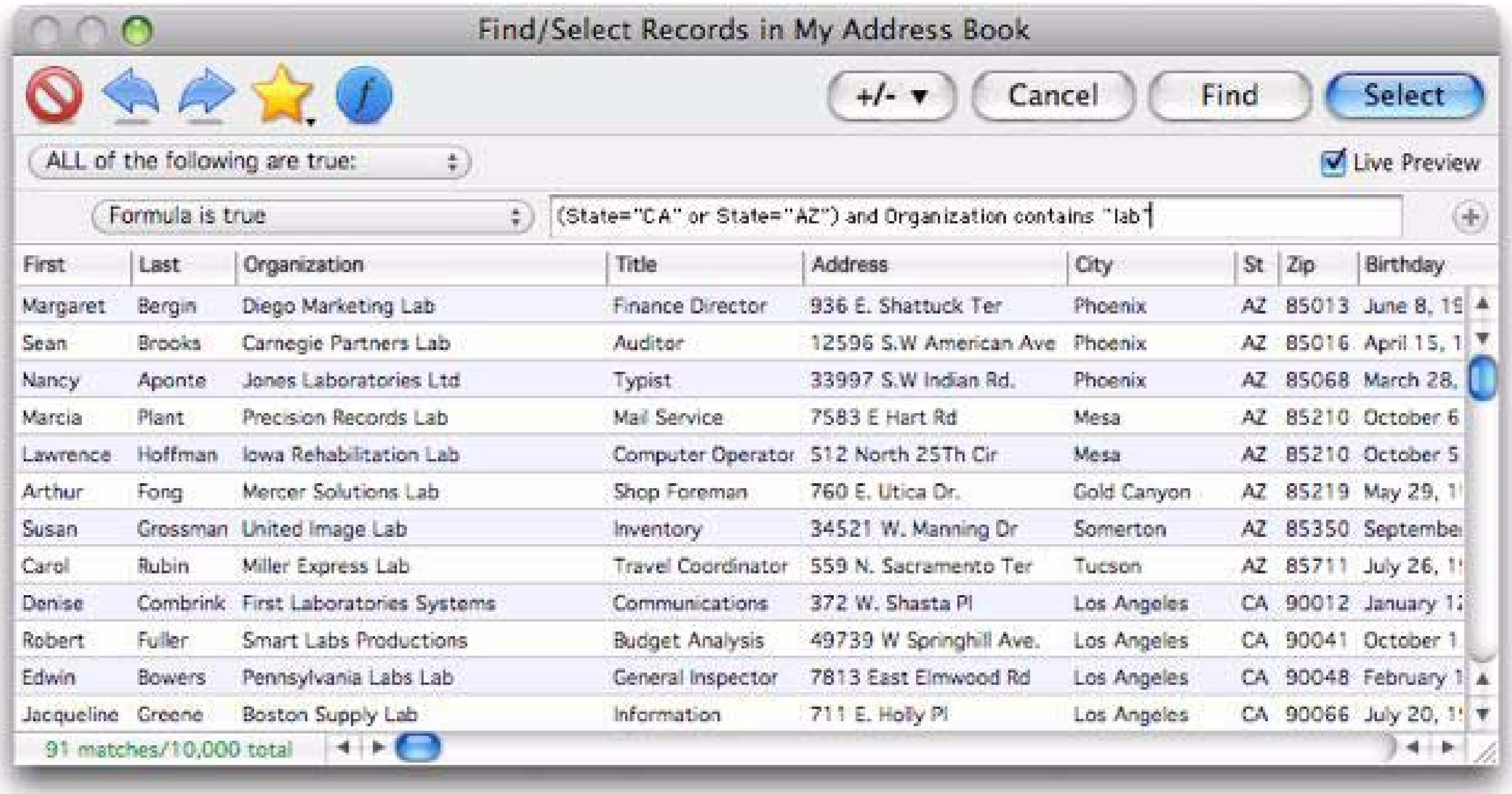
Every 3rd record (2, 5, 8…) — This option allows you to select one third of the records in the database. Every third record is selected, starting with the second record.

Every 3rd record (3, 6, 9…) — This option allows you to select one third of the records in the database. Every third record is selected, starting with the third record.

Search Options (Formula)

The standard matching options can be combined in many ways to easily perform most searches, but Panorama has an even more powerful option — searching with a boolean formula. This option is a bit “geeky”, but allows you to locate virtually anything that can be described by Panorama’s powerful formulas.

The **formula is true** option relies on the ability of a formula to make comparisons and true-false decisions. See “True / False Formulas” on page 315 for a detailed explanation of **true-false logic**. Here is an example that shows how a formula can be used to combine both ***and*** and ***or*** operators into a single query.



ALL of the following are true:

☑ Live Preview

Formula is true

```
(State="CA" or State="AZ") and Organization contains "lab"
```

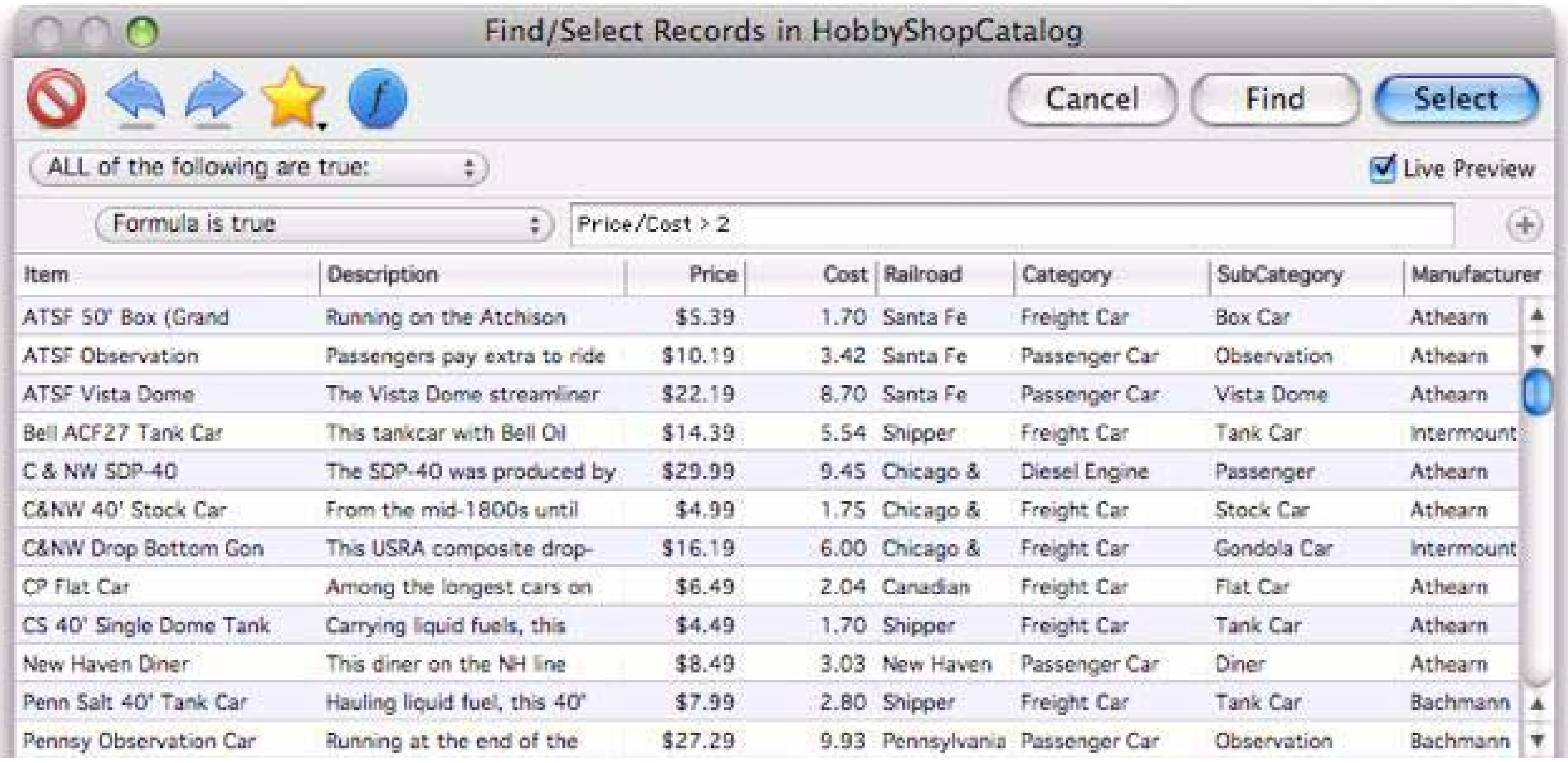
First	Last	Organization	Title	Address	City	St	Zip	Birthday
Margaret	Bergin	Diego Marketing Lab	Finance Director	936 E. Shattuck Ter	Phoenix	AZ	85013	June 8, 19
Sean	Brooks	Carnegie Partners Lab	Auditor	12596 S.W American Ave	Phoenix	AZ	85016	April 15, 1
Nancy	Aponte	Jones Laboratories Ltd	Typist	33997 S.W Indian Rd.	Phoenix	AZ	85068	March 28,
Marcia	Plant	Precision Records Lab	Mail Service	7583 E Hart Rd	Mesa	AZ	85210	October 6
Lawrence	Hoffman	Iowa Rehabilitation Lab	Computer Operator	512 North 25Th Cir	Mesa	AZ	85210	October 5
Arthur	Fong	Mercer Solutions Lab	Shop Foreman	760 E. Utica Dr.	Gold Canyon	AZ	85219	May 29, 1
Susan	Grossman	United Image Lab	Inventory	34521 W. Manning Dr	Somerton	AZ	85350	Septembe
Carol	Rubin	Miller Express Lab	Travel Coordinator	559 N. Sacramento Ter	Tucson	AZ	85711	July 26, 1
Denise	Combrink	First Laboratories Systems	Communications	372 W. Shasta Pl	Los Angeles	CA	90012	January 1
Robert	Fuller	Smart Labs Productions	Budget Analysis	49739 W Springhill Ave.	Los Angeles	CA	90041	October 1
Edwin	Bowers	Pennsylvania Labs Lab	General Inspector	7813 East Elmwood Rd	Los Angeles	CA	90048	February 1
Jacqueline	Greene	Boston Supply Lab	Information	711 E. Holly Pl	Los Angeles	CA	90066	July 20, 1

91 matches/10,000 total

The **formula is true** option allows you to select data based on calculations or comparisons between two fields. For example, the formula

```
Price/Cost > 2
```

allows you to quickly locate items with high profit margins, like this.



ALL of the following are true:

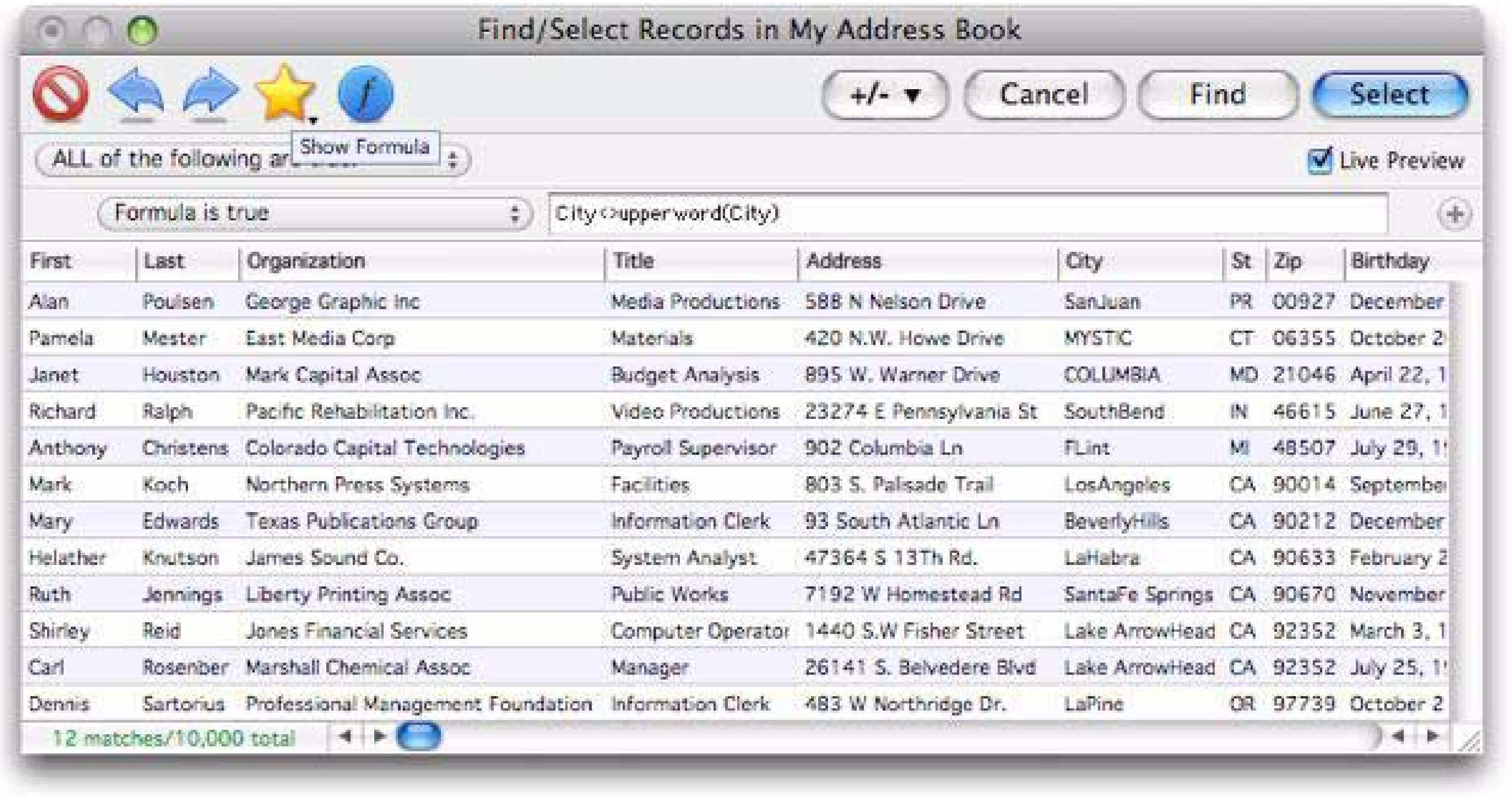
☑ Live Preview

Formula is true

```
Price/Cost > 2
```

Item	Description	Price	Cost	Railroad	Category	SubCategory	Manufacturer
ATSF 50' Box (Grand	Running on the Atchison	$5.39	1.70	Santa Fe	Freight Car	Box Car	Athearn
ATSF Observation	Passengers pay extra to ride	$10.19	3.42	Santa Fe	Passenger Car	Observation	Athearn
ATSF Vista Dome	The Vista Dome streamliner	$22.19	8.70	Santa Fe	Passenger Car	Vista Dome	Athearn
Bell ACF27 Tank Car	This tankcar with Bell Oil	$14.39	5.54	Shipper	Freight Car	Tank Car	Intermount
C & NW SDP-40	The SDP-40 was produced by	$29.99	9.45	Chicago &	Diesel Engine	Passenger	Athearn
C&NW 40' Stock Car	From the mid-1800s until	$4.99	1.75	Chicago &	Freight Car	Stock Car	Athearn
C&NW Drop Bottom Gon	This USRA composite drop-	$16.19	6.00	Chicago &	Freight Car	Gondola Car	Intermount
CP Flat Car	Among the longest cars on	$6.49	2.04	Canadian	Freight Car	Flat Car	Athearn
CS 40' Single Dome Tank	Carrying liquid fuels, this	$4.49	1.70	Shipper	Freight Car	Tank Car	Athearn
New Haven Diner	This diner on the NH line	$8.49	3.03	New Haven	Passenger Car	Diner	Athearn
Penn Salt 40' Tank Car	Hauling liquid fuel, this 40'	$7.99	2.80	Shipper	Freight Car	Tank Car	Bachmann
Pennsy Observation Car	Running at the end of the	$27.29	9.93	Pennsylvania	Passenger Car	Observation	Bachmann

Panorama has hundreds of different functions that can be used in a formula to perform very specific selections. In the example below the **upperword(** function has been used to locate cities where a character other than the first character in a word has been capitalized (in most cases a space is missing). The formula has instantly located the 12 records (out of ten thousand) in this database where the city name has been incorrectly capitalized. With any other database program the only way to find these mistakes would be to search the entire database by hand.



Find/Select Records in My Address Book

ALL of the following are true

☑ Live Preview

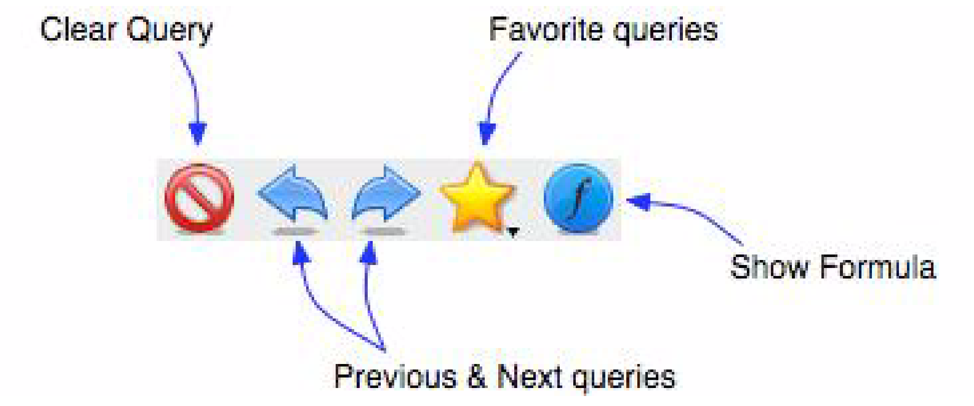
Formula is true — City<>upperword(City)

First	Last	Organization	Title	Address	City	St	Zip	Birthday
Alan	Poulsen	George Graphic Inc	Media Productions	588 N Nelson Drive	SanJuan	PR	00927	December
Pamela	Mester	East Media Corp	Materials	420 N.W. Howe Drive	MYSTIC	CT	06355	October 2
Janet	Houston	Mark Capital Assoc	Budget Analysis	895 W. Warner Drive	COLUMBIA	MD	21046	April 22, 1
Richard	Ralph	Pacific Rehabilitation Inc.	Video Productions	23274 E Pennsylvania St	SouthBend	IN	46615	June 27, 1
Anthony	Christens	Colorado Capital Technologies	Payroll Supervisor	902 Columbia Ln	FLint	MI	48507	July 29, 1
Mark	Koch	Northern Press Systems	Facilities	803 S. Palisade Trail	LosAngeles	CA	90014	September
Mary	Edwards	Texas Publications Group	Information Clerk	93 South Atlantic Ln	BeverlyHills	CA	90212	December
Helather	Knutson	James Sound Co.	System Analyst	47364 S 13Th Rd.	LaHabra	CA	90633	February 2
Ruth	Jennings	Liberty Printing Assoc	Public Works	7192 W Homestead Rd	SantaFe Springs	CA	90670	November
Shirley	Reid	Jones Financial Services	Computer Operator	1440 S.W Fisher Street	Lake ArrowHead	CA	92352	March 3, 1
Carl	Rosenber	Marshall Chemical Assoc	Manager	26141 S. Belvedere Blvd	Lake ArrowHead	CA	92352	July 25, 1
Dennis	Sartorius	Professional Management Foundation	Information Clerk	483 W Northridge Dr.	LaPine	OR	97739	October 2

12 matches/10,000 total

Managing Queries

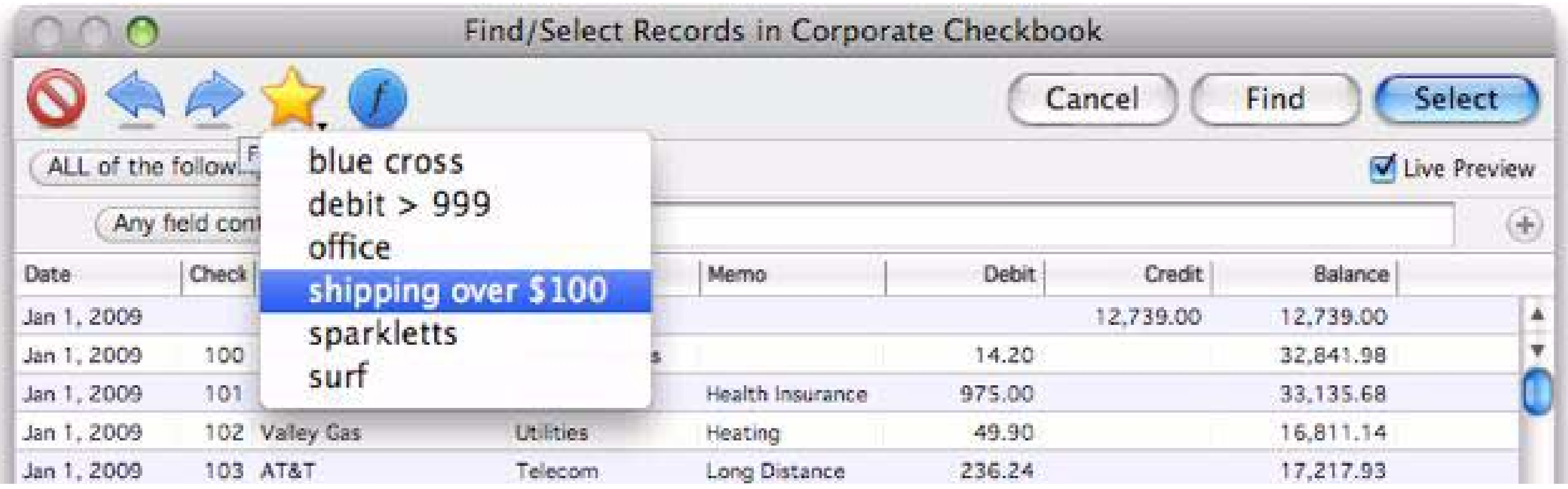
The tools in the upper left corner of the **Find/Select** dialog allow you to manage and easily re-use previous queries.



Clear Query — This button clears the current query. It resets the dialog to a simple query of searching all fields for a word or phrase. (If you press **Clear Query** by mistake you you can press **Previous Query** to go back.)

Previous Query, **Next Query** — This pair of buttons allows you to go back to previously used queries. (Note: Only queries that you actually "finalized" by pressing the **Find** or **Select** buttons are included in the list of previously used queries.)

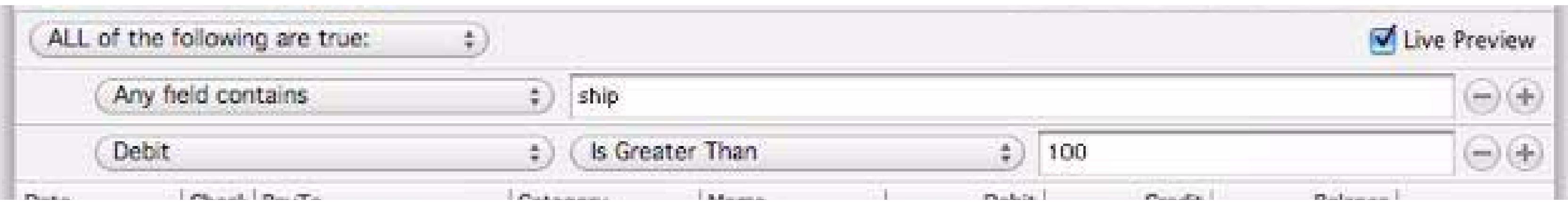
Favorites — This button displays a pop-up menu of favorite queries, along with options for adding and removing favorites. To select a favorite you've saved previously, just click on the star and choose the favorite from the menu.



☑ Live Preview

Date	Check			Memo	Debit	Credit	Balance
Jan 1, 2009						12,739.00	12,739.00
Jan 1, 2009	100		s		14.20		32,841.98
Jan 1, 2009	101			Health Insurance	975.00		33,135.68
Jan 1, 2009	102	Valley Gas	Utilities	Heating	49.90		16,811.14
Jan 1, 2009	103	AT&T	Telecom	Long Distance	236.24		17,217.93

The query is restored just as it was saved. You can use it as is by pressing **Select** or **Find**, or you can modify it first.

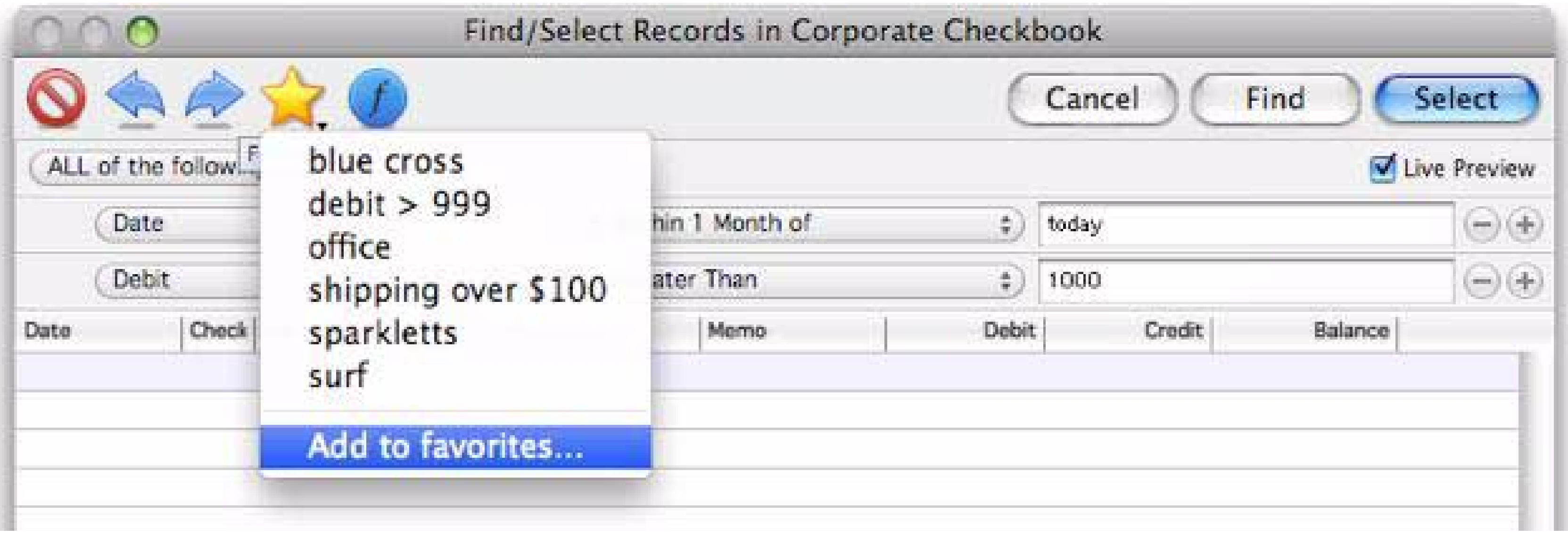


ALL of the following are true: ☑ Live Preview

Any field contains: ship

Debit | Is Greater Than | 100

To save a new favorite, first set up the query specification, then click on the star and choose **Add to favorites...**

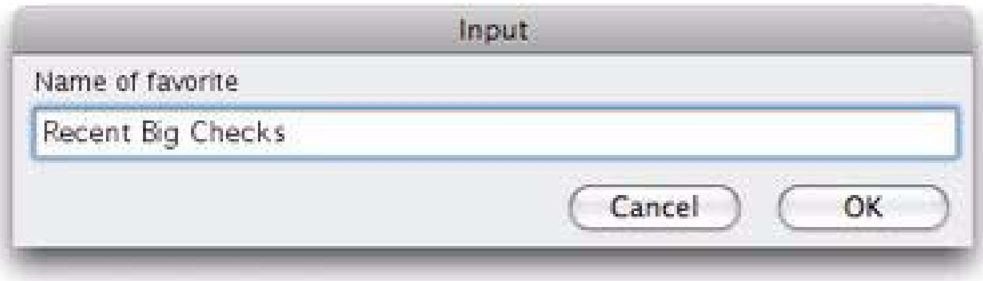


☑ Live Preview

Date | ...hin 1 Month of | today

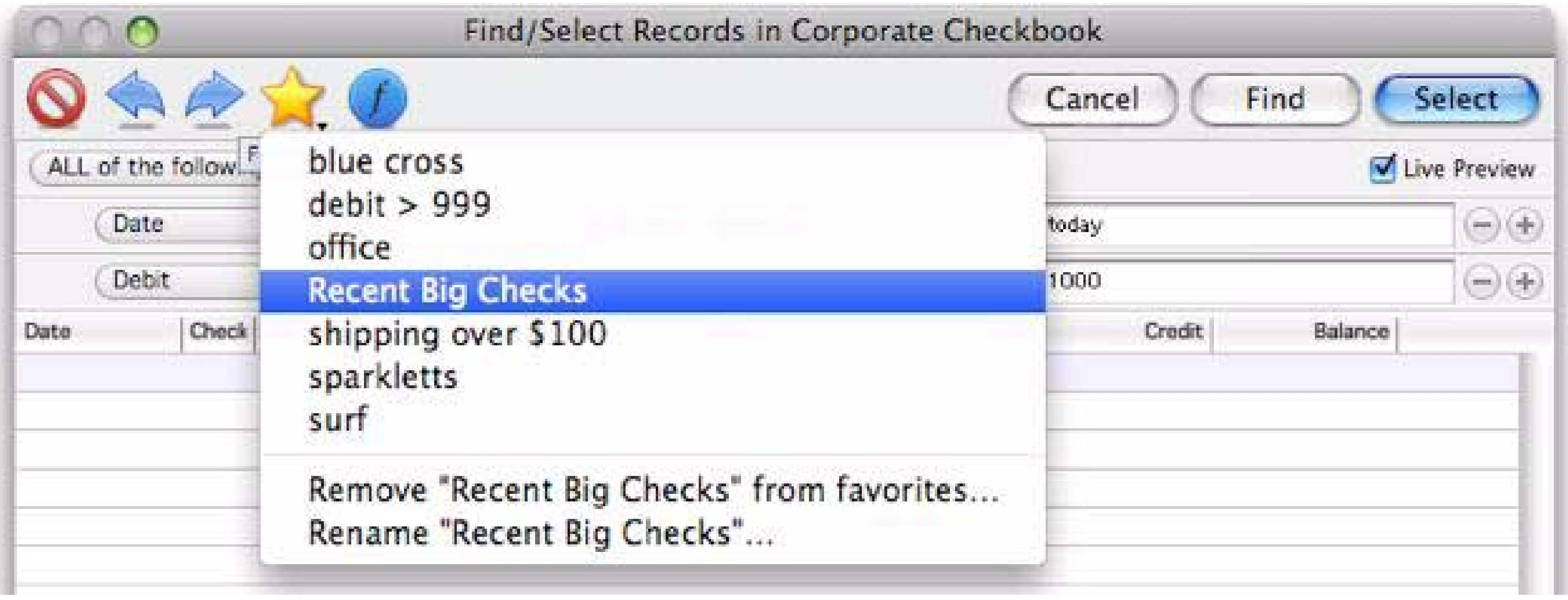
Debit | ...ater Than | 1000

Enter a name for the new favorite.



Name of favorite: Recent Big Checks

Your new favorite now appears in the pop-up menu.

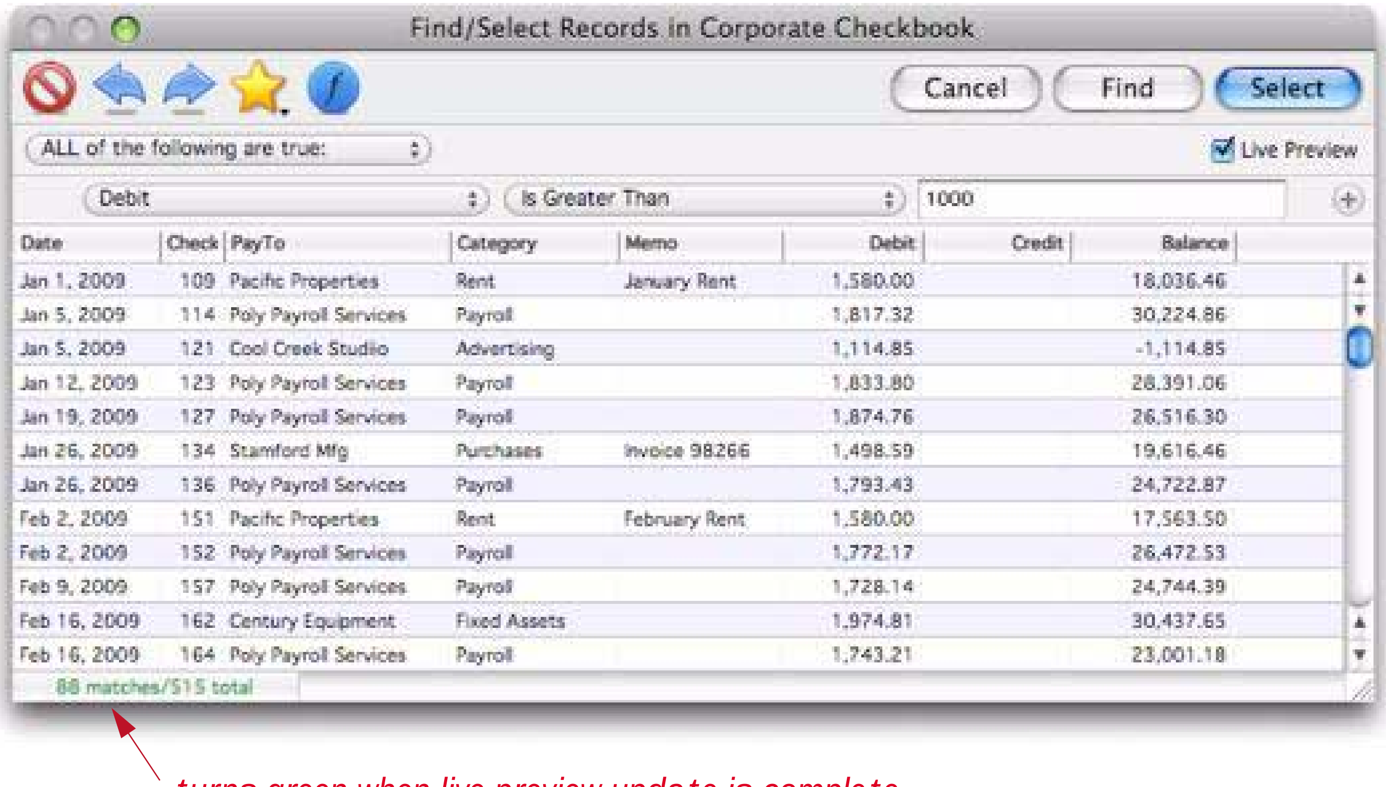


To delete or rename a favorite, first select the favorite from the pop-up menu. Then choose **Remove** or **Rename**, as shown above.

Show Formula — This button opens a small window that shows the internal formula associated with the current query. Normally you would never need to use this, but it can be handy if you want to copy the formula for use in a procedure.

Live Preview

The Live Preview area of the dialog displays a preview of the search you are about to perform. For small to medium sized databases the live preview area will update instantaneously as you change the search. If your database contains tens of thousands of records, or if you are using an older computer, updating the preview may take a second or two. While the preview is updating the number of records will display in gray in the lower left hand corner of the dialog. When the preview is complete the number will turn green.


Find/Select Records in Corporate Checkbook
Cancel
Find
Select
ALL of the following are true:
☑ Live Preview
Debit
Is Greater Than
1000

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
Jan 1, 2009	109	Pacific Properties	Rent	January Rent	1,580.00		18,036.46
Jan 5, 2009	114	Poly Payroll Services	Payroll		1,817.32		30,224.86
Jan 5, 2009	121	Cool Creek Studio	Advertising		1,114.85		-1,114.85
Jan 12, 2009	123	Poly Payroll Services	Payroll		1,833.80		28,391.06
Jan 19, 2009	127	Poly Payroll Services	Payroll		1,874.76		26,516.30
Jan 26, 2009	134	Stamford Mfg	Purchases	Invoice 98266	1,498.59		19,616.46
Jan 26, 2009	136	Poly Payroll Services	Payroll		1,793.43		24,722.87
Feb 2, 2009	151	Pacific Properties	Rent	February Rent	1,580.00		17,563.50
Feb 2, 2009	152	Poly Payroll Services	Payroll		1,772.17		26,472.53
Feb 9, 2009	157	Poly Payroll Services	Payroll		1,728.14		24,744.39
Feb 16, 2009	162	Century Equipment	Fixed Assets		1,974.81		30,437.65
Feb 16, 2009	164	Poly Payroll Services	Payroll		1,743.21		23,001.18

88 matches/515 total

turns green when live preview update is complete

Note: The Live Preview area will only show up to about 1,000 records. If there are more than 1,000 matches the number of records displayed will not be accurate (a + is added to the number to indicate that there are additional matches not counted). To see the exact number of matches use the **Select** button.

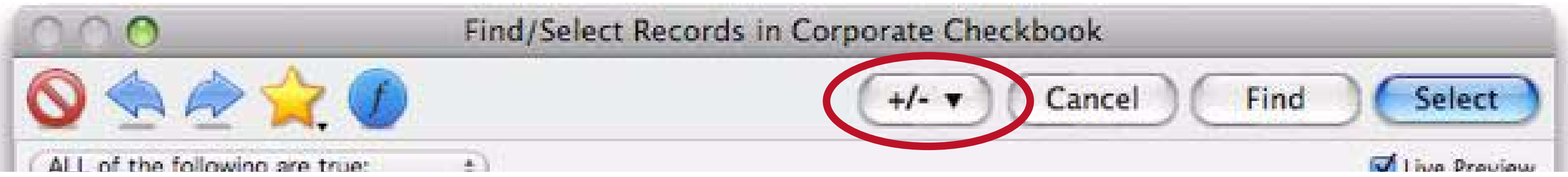
If your database is large or your computer is slow, you may want to temporarily turn off Live Preview updating while you set up the query. Simply uncheck the Live Preview checkbox in the upper right corner. To resume the live preview simply re-check the checkbox.

If you want to leave the Live Preview option off by default, open **Preferences** from the Panorama menu, then open the *General Preferences* panel, then uncheck Enable Live Preview in the *Search Options* area.

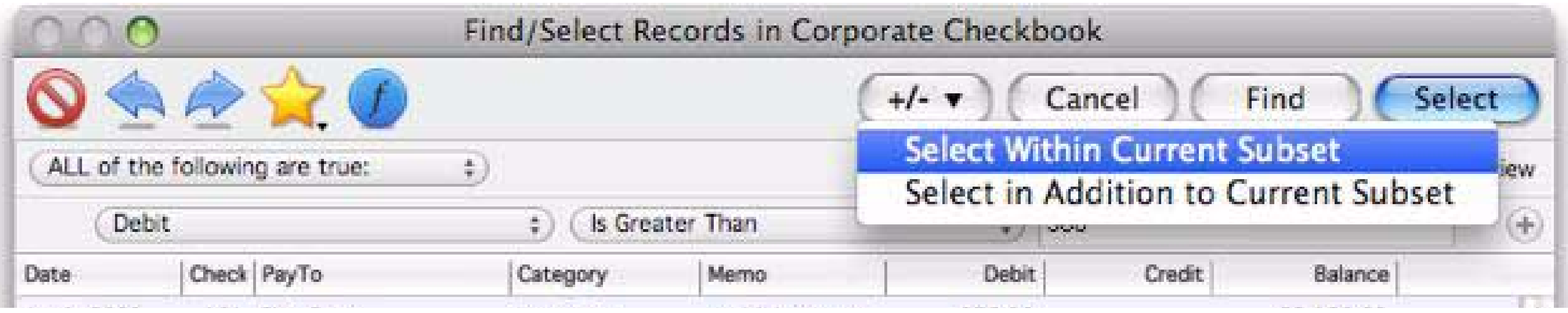
Revising a Previous Selection

As you have seen, the **Find/Select** dialog makes it easy to make selections based on multiple criteria at once. Sometimes, however, you don't know in advance exactly what you are working for. Panorama has two options that let you build a selection incrementally — **Select Within** and **Select Additional**. The **Select Within** option allows you to whittle your data down gradually until you've extracted just the nugget of information you really need. The **Select Additional** button lets you assemble the pieces of information you need piece by piece.

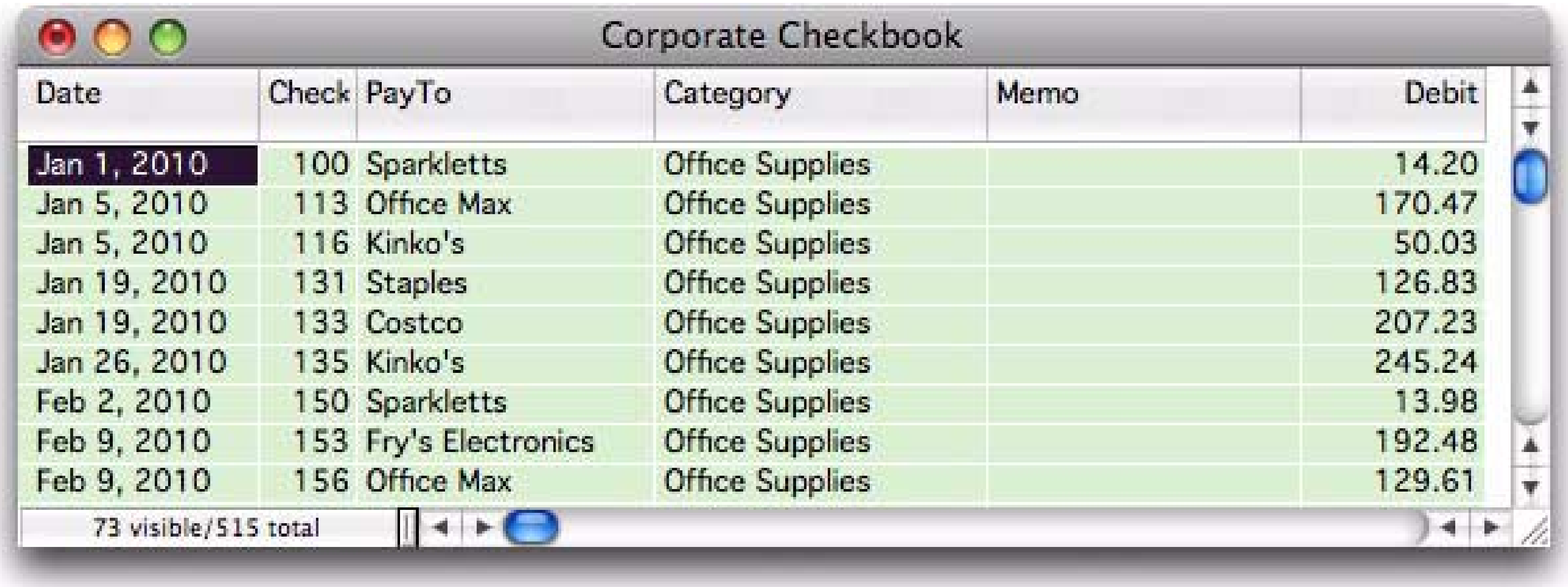
To use these options, first make a regular selection, then open the **Find/Select** dialog again. When there is already a previous selection you'll see an additional **+/-** button at the top of the dialog.


Find/Select Records in Corporate Checkbook
+/- ▾
Cancel
Find
Select
ALL of the following are true:
☑ Live Preview

Set up the revised selection criteria and then click on the **+/-** button to choose either **Select Within** or **Select Additional** from the pop-up menu.


Find/Select Records in Corporate Checkbook
+/- ▾
Cancel
Find
Select
Select Within Current Subset
Select in Addition to Current Subset
ALL of the following are true:
Debit
Is Greater Than
Date
Check
PayTo
Category
Memo
Debit
Credit
Balance

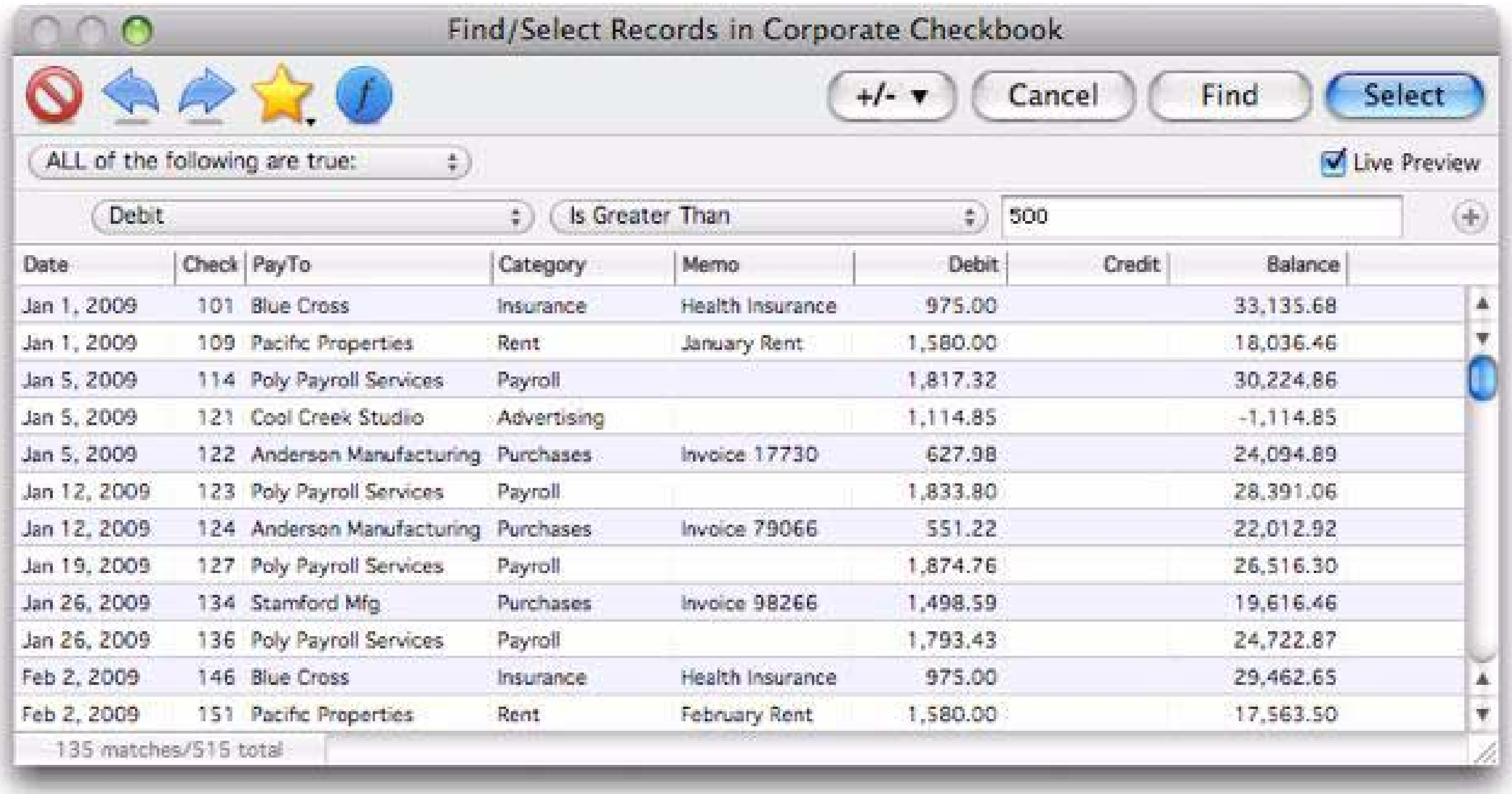
To demonstrate this, I'll start by selecting Office Supplies in this checkbook database.


Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit
Jan 1, 2010	100	Sparkletts	Office Supplies		14.20
Jan 5, 2010	113	Office Max	Office Supplies		170.47
Jan 5, 2010	116	Kinko's	Office Supplies		50.03
Jan 19, 2010	131	Staples	Office Supplies		126.83
Jan 19, 2010	133	Costco	Office Supplies		207.23
Jan 26, 2010	135	Kinko's	Office Supplies		245.24
Feb 2, 2010	150	Sparkletts	Office Supplies		13.98
Feb 9, 2010	153	Fry's Electronics	Office Supplies		192.48
Feb 9, 2010	156	Office Max	Office Supplies		129.61

73 visible/515 total

Now I want to revise this selection to show only office supply purchases greater than $500. To do that, I open the Find / Select dialog and set up the selection for checks (Debit) greater than 500. Notice that the preview shows *all* checks greater than 500, not just office supplies. When you revise selections this way, the preview does not show you what the revised selection will look like.



ALL of the following are true:

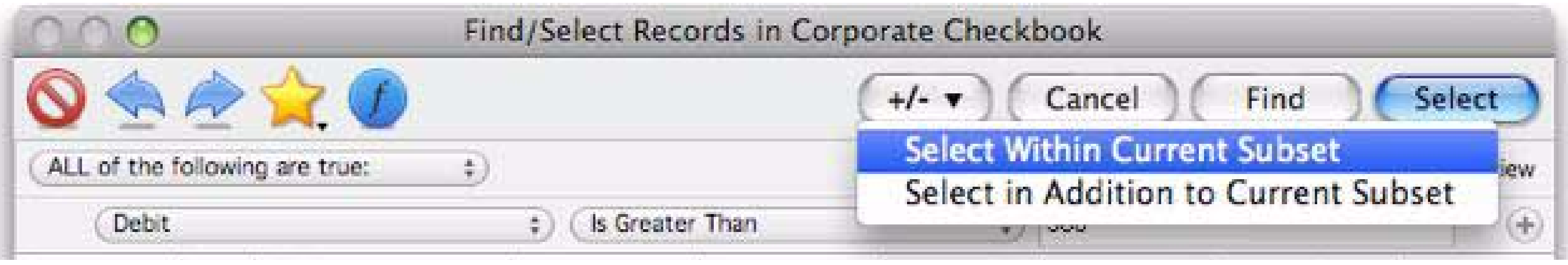
☑ Live Preview

Debit | Is Greater Than | 500

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
Jan 1, 2009	101	Blue Cross	Insurance	Health Insurance	975.00		33,135.68
Jan 1, 2009	109	Pacific Properties	Rent	January Rent	1,580.00		18,036.46
Jan 5, 2009	114	Poly Payroll Services	Payroll		1,817.32		30,224.86
Jan 5, 2009	121	Cool Creek Studio	Advertising		1,114.85		-1,114.85
Jan 5, 2009	122	Anderson Manufacturing	Purchases	Invoice 17730	627.98		24,094.89
Jan 12, 2009	123	Poly Payroll Services	Payroll		1,833.80		28,391.06
Jan 12, 2009	124	Anderson Manufacturing	Purchases	Invoice 79066	551.22		22,012.92
Jan 19, 2009	127	Poly Payroll Services	Payroll		1,874.76		26,516.30
Jan 26, 2009	134	Stamford Mfg	Purchases	Invoice 98266	1,498.59		19,616.46
Jan 26, 2009	136	Poly Payroll Services	Payroll		1,793.43		24,722.87
Feb 2, 2009	146	Blue Cross	Insurance	Health Insurance	975.00		29,462.65
Feb 2, 2009	151	Pacific Properties	Rent	February Rent	1,580.00		17,563.50

135 matches/515 total

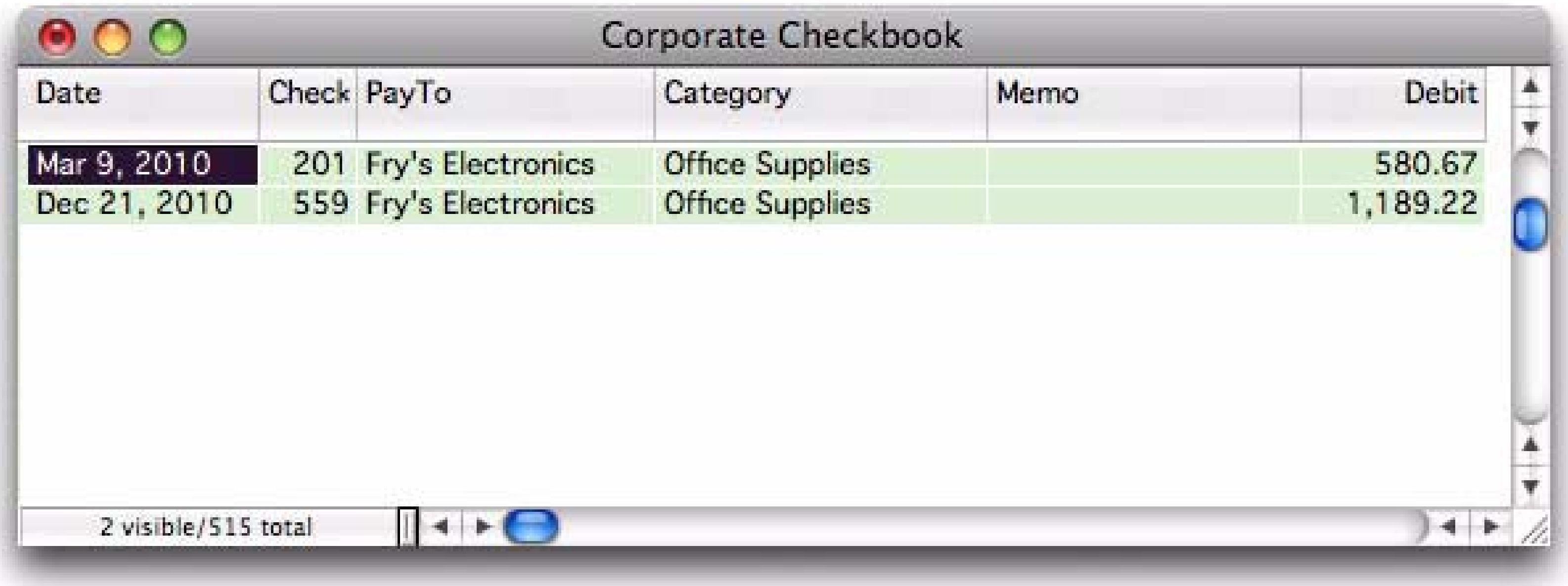
To actually revise the selection, click on the +/- button and choose **Select Within Current Subset** from the pop-up menu.


Find/Select Records in Corporate Checkbook
+/- ▾
Cancel
Find
Select
Select Within Current Subset
Select in Addition to Current Subset
iew

ALL of the following are true:

Debit | Is Greater Than

Now the revised selection appears -- there are only two checks for office supplies greater than $500.



Date	Check	PayTo	Category	Memo	Debit
Mar 9, 2010	201	Fry's Electronics	Office Supplies		580.67
Dec 21, 2010	559	Fry's Electronics	Office Supplies		1,189.22

2 visible/515 total

Of course, you could obtain the same effect by combining multiple criteria in the first place. But you don't always know in advance exactly what you are looking for. The **Select Within** option allows you to whittle your data down gradually until you've extracted just the nugget of information you really need.

The **Select Additional** option is similar, but allows you to select a superset of the currently selected records. For example, if you have already selected names in Ohio, you could use **Select Additional** to also select names in Illinois. The result would be the subset containing all names in either Ohio or Illinois. The **Select Additional** option lets you assemble the pieces of information you need piece by piece.

Select Reverse

The **Select Reverse** command (in the Records->Search menu) reverses selected and deselected records. For instance, if you have selected all transactions greater than $600, the **Select Reverse** command will select all transactions less than or equal to $600.

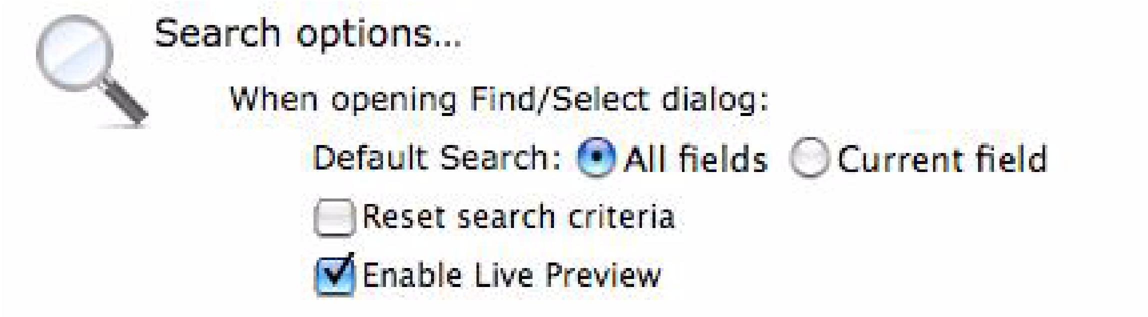
Undo Select

The **Undo** command can reverse the effects of the last 16 select operations, including **Select**, **Select Within**, **Select Additional**, and **Select Reverse**. As long as you do not use any other commands or tools, you can use the **Undo** command up to 16 times in a row.

The quickest way to select the entire database is the **Select All** command (Command-A).

Customizing the Find/Select Dialog

The **Find/Select** dialog has several options that can be customized. To access these options, open the **Preferences** dialog, then click on the **General Preferences** button. This opens a window with many types of preferences, but at the moment we're only interested in the Search options.



Search options...

When opening Find/Select dialog:

Default Search: ● All fields ○ Current field

□ Reset search criteria

☑ Enable Live Preview

The first option is Default Search. If the All Fields option is checked, the dialog will initially default to searching all fields when it is first opened. If the Current Field option is checked, the dialog will default to searching just the currently selected field (this is similar to previous versions of Panorama).

The Reset search criteria option controls whether the **Find/Select** dialog starts fresh each time it opens. If this option is checked, the dialog will always start empty when it opens, ready for a new search (you can recall the previous search by pressing the **Previous Query** icon, see "Managing Queries" on page 160). If this option is *not* checked, the dialog will start out with the previous search. You can then modify the search, or you can start over by pressing the **Clear Query** icon (see "Managing Queries" on page 160).

The Enable Live Preview option controls whether Live Preview is enabled when you first open the dialog. This is normally on, but if you have a slower computer or use extremely large databases you may want to turn Live Preview off to make the dialog more responsive. See "Live Preview" on page 162.

Permanently Removing Unselected Data

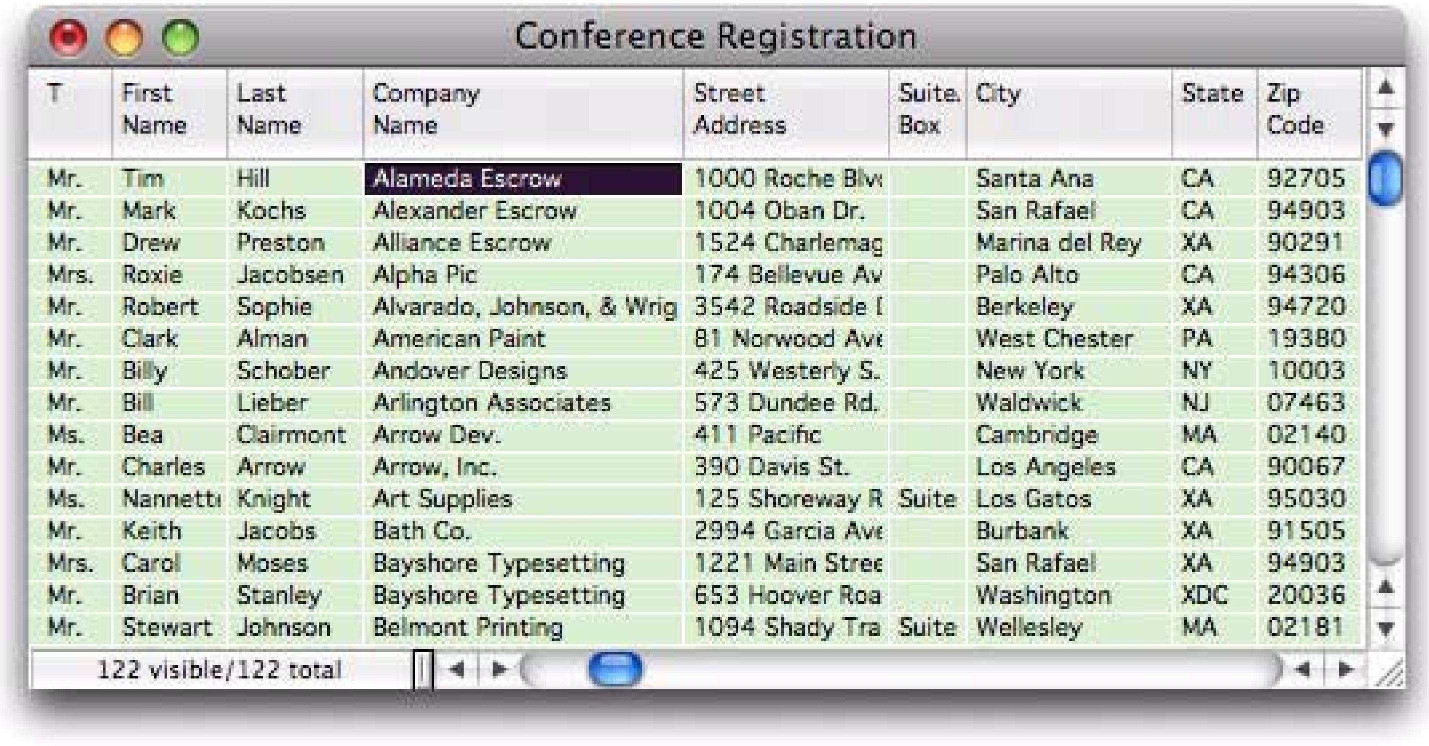
Unselected data is hidden, but it is still part of the database. You can restore the invisible data with the **Select All** command. Sometimes, however, you may wish to free the memory occupied by the hidden records. The **Remove Selected** and **Remove Unselected** command in the **Records->Search** Menu allow you to permanently remove records from the database based on a selection.

If you have saved a copy of the data on disk prior to using **Remove Selected** or **Remove Unselected**, you can still recover the data with the **Revert to Saved** command (until you save again). Even after you have saved the database, you can still recover the previous data with Panorama's *Time Lapse* feature (see "Time Lapse" on page 354).

Select Duplicates

The **Records>Search>Select Duplicates** command provides a fast and easy way to locate duplicate information in a database. The **Select Duplicates** command does not remove the duplicates, it simply selects them so you can examine them. You can then decide what to do about each duplicate on a case-by-case basis. *Panorama Sheets* can select duplicates based on a single field (for example, all duplicate company names). (*Panorama Pro* can select duplicates based on multiple fields (for example, all records with duplicate address, city, and state), or on a formula that may combine fields or use partial fields (for example, all records containing duplicate area codes).)

To select duplicates in a field, click in any cell in that field and choose **Records>Search>Select Duplicates**. For example, here is a conference registration database that may contain duplicate company information.

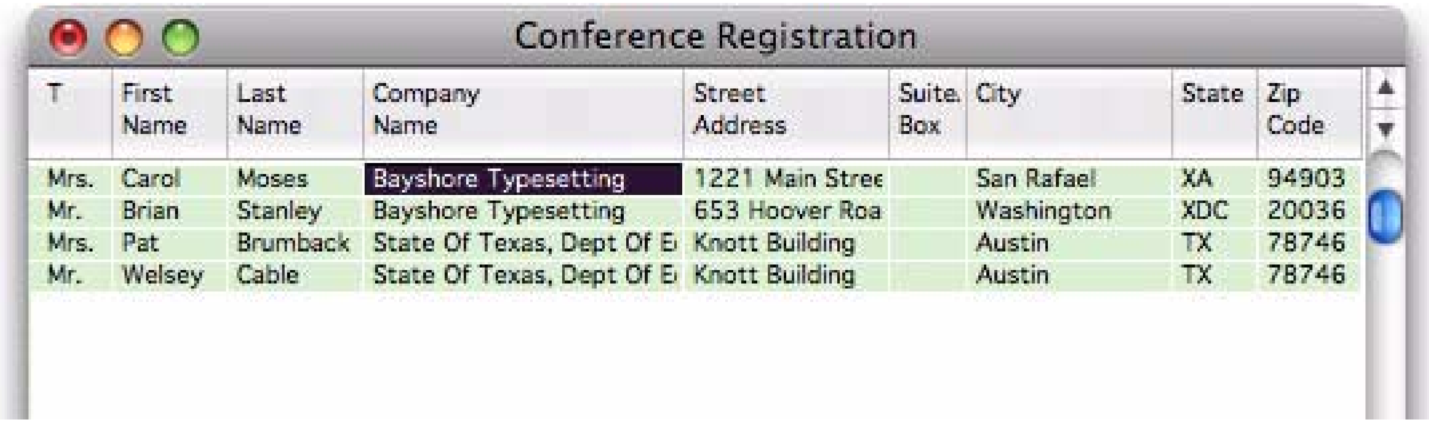


Conference Registration

T	First Name	Last Name	Company Name	Street Address	Suite, Box	City	State	Zip Code
Mr.	Tim	Hill	Alameda Escrow	1000 Roche Blv		Santa Ana	CA	92705
Mr.	Mark	Kochs	Alexander Escrow	1004 Oban Dr.		San Rafael	CA	94903
Mr.	Drew	Preston	Alliance Escrow	1524 Charlemag		Marina del Rey	XA	90291
Mrs.	Roxie	Jacobsen	Alpha Pic	174 Bellevue Av		Palo Alto	CA	94306
Mr.	Robert	Sophie	Alvarado, Johnson, & Wrig	3542 Roadside I		Berkeley	XA	94720
Mr.	Clark	Alman	American Paint	81 Norwood Ave		West Chester	PA	19380
Mr.	Billy	Schober	Andover Designs	425 Westerly S.		New York	NY	10003
Mr.	Bill	Lieber	Arlington Associates	573 Dundee Rd.		Waldwick	NJ	07463
Ms.	Bea	Clairmont	Arrow Dev.	411 Pacific		Cambridge	MA	02140
Mr.	Charles	Arrow	Arrow, Inc.	390 Davis St.		Los Angeles	CA	90067
Ms.	Nannett	Knight	Art Supplies	125 Shoreway R	Suite	Los Gatos	XA	95030
Mr.	Keith	Jacobs	Bath Co.	2994 Garcia Ave		Burbank	XA	91505
Mrs.	Carol	Moses	Bayshore Typesetting	1221 Main Stree		San Rafael	XA	94903
Mr.	Brian	Stanley	Bayshore Typesetting	653 Hoover Roa		Washington	XDC	20036
Mr.	Stewart	Johnson	Belmont Printing	1094 Shady Tra	Suite	Wellesley	MA	02181

122 visible/122 total

Here is the same database after **Records>Search>Select Duplicates** has been used. The duplicate records are selected, while all other records are invisible.



Conference Registration

T	First Name	Last Name	Company Name	Street Address	Suite, Box	City	State	Zip Code
Mrs.	Carol	Moses	Bayshore Typesetting	1221 Main Stree		San Rafael	XA	94903
Mr.	Brian	Stanley	Bayshore Typesetting	653 Hoover Roa		Washington	XDC	20036
Mrs.	Pat	Brumback	State Of Texas, Dept Of E	Knott Building		Austin	TX	78746
Mr.	Welsey	Cable	State Of Texas, Dept Of E	Knott Building		Austin	TX	78746

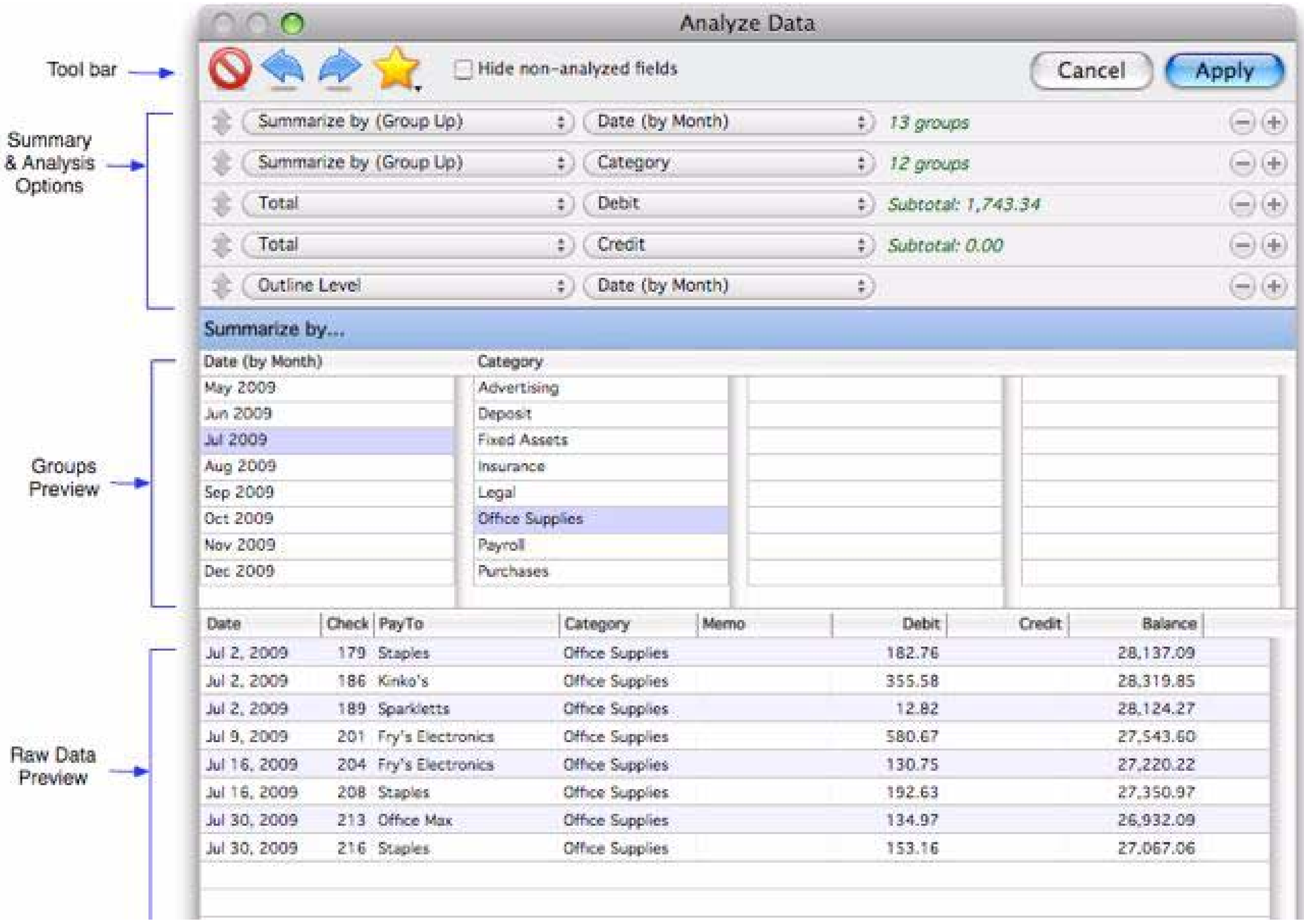
As you can see, there are two duplicate copmanies in this database, *BayShore Typesetting* and *State of Texas, Dept Of Education*.

Chapter 5: Data Analysis

It is very difficult to look at a database containing thousands of records and make much sense of it. There's simply too much information to cope with. To make the information more understandable, it needs to be summarized. Panorama can rapidly summarize a database according to the criteria you specify.

The Summarize & Analyze Dialog

Panorama's primary tool for creating a summary outline is the **Summarize & Analyze** dialog. This dialog allows you to use pop-up menus to control how the database is divided into groups and how totals are calculated. The dialog also allows you to preview the analysis before you actually apply it to the database.



☐ Hide non-analyzed fields

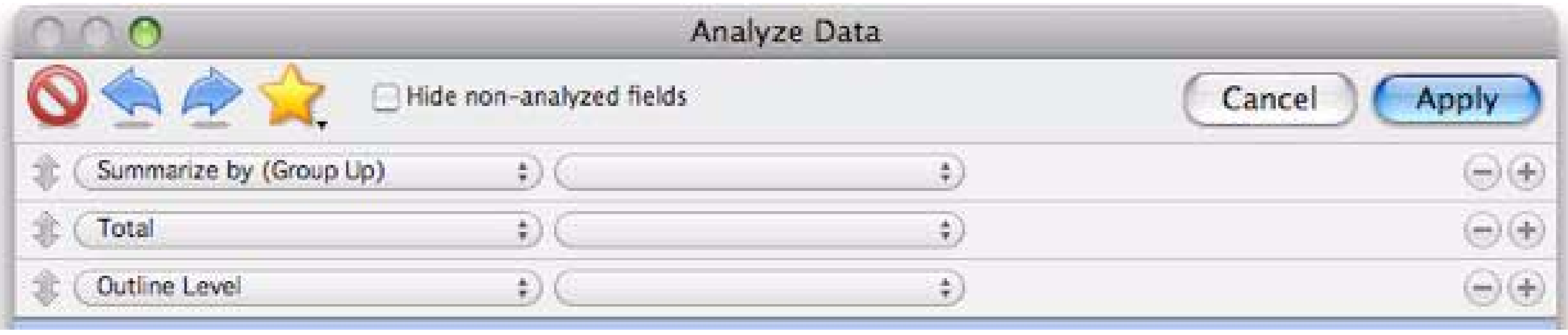
Summarize by (Group Up)	Date (by Month)	13 groups
Summarize by (Group Up)	Category	12 groups
Total	Debit	Subtotal: 1,743.34
Total	Credit	Subtotal: 0.00
Outline Level	Date (by Month)	

Summarize by...

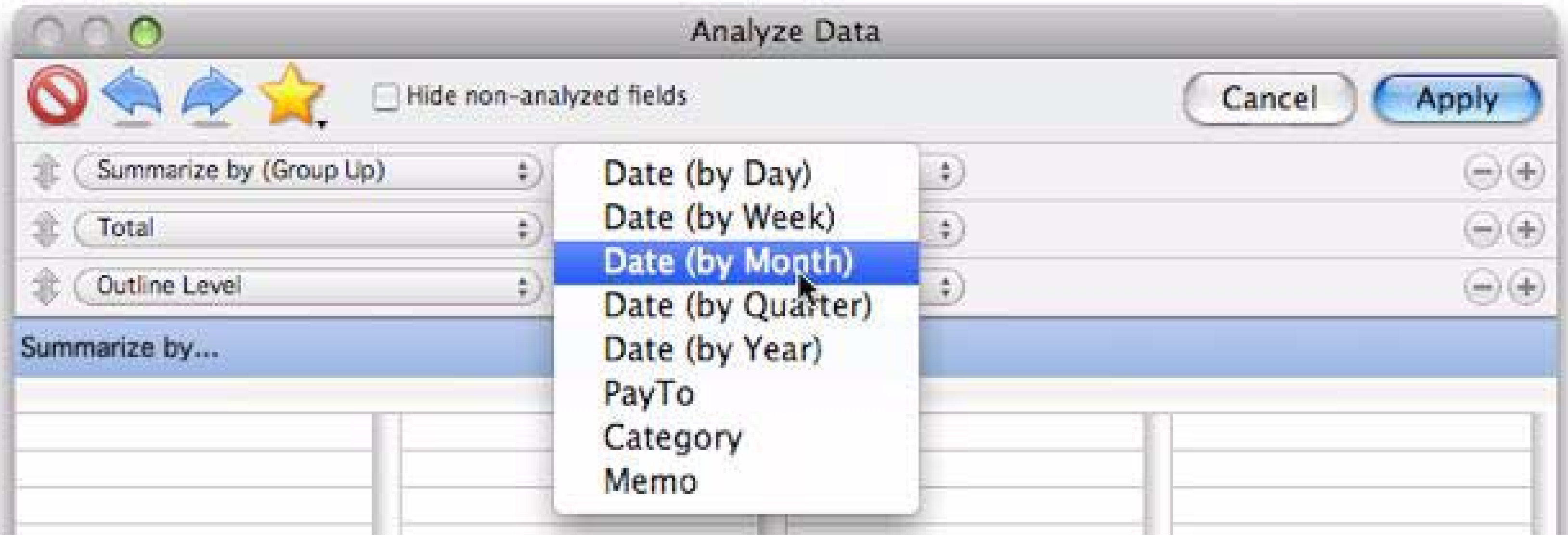
Date (by Month)	Category
May 2009	Advertising
Jun 2009	Deposit
Jul 2009	Fixed Assets
Aug 2009	Insurance
Sep 2009	Legal
Oct 2009	Office Supplies
Nov 2009	Payroll
Dec 2009	Purchases

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
Jul 2, 2009	179	Staples	Office Supplies		182.76		28,137.09
Jul 2, 2009	186	Kinko's	Office Supplies		355.58		28,319.85
Jul 2, 2009	189	Sparkletts	Office Supplies		12.82		28,124.27
Jul 9, 2009	201	Fry's Electronics	Office Supplies		580.67		27,543.60
Jul 16, 2009	204	Fry's Electronics	Office Supplies		130.75		27,220.22
Jul 16, 2009	208	Staples	Office Supplies		192.63		27,350.97
Jul 30, 2009	213	Office Max	Office Supplies		134.97		26,932.09
Jul 30, 2009	216	Staples	Office Supplies		153.16		27,067.06

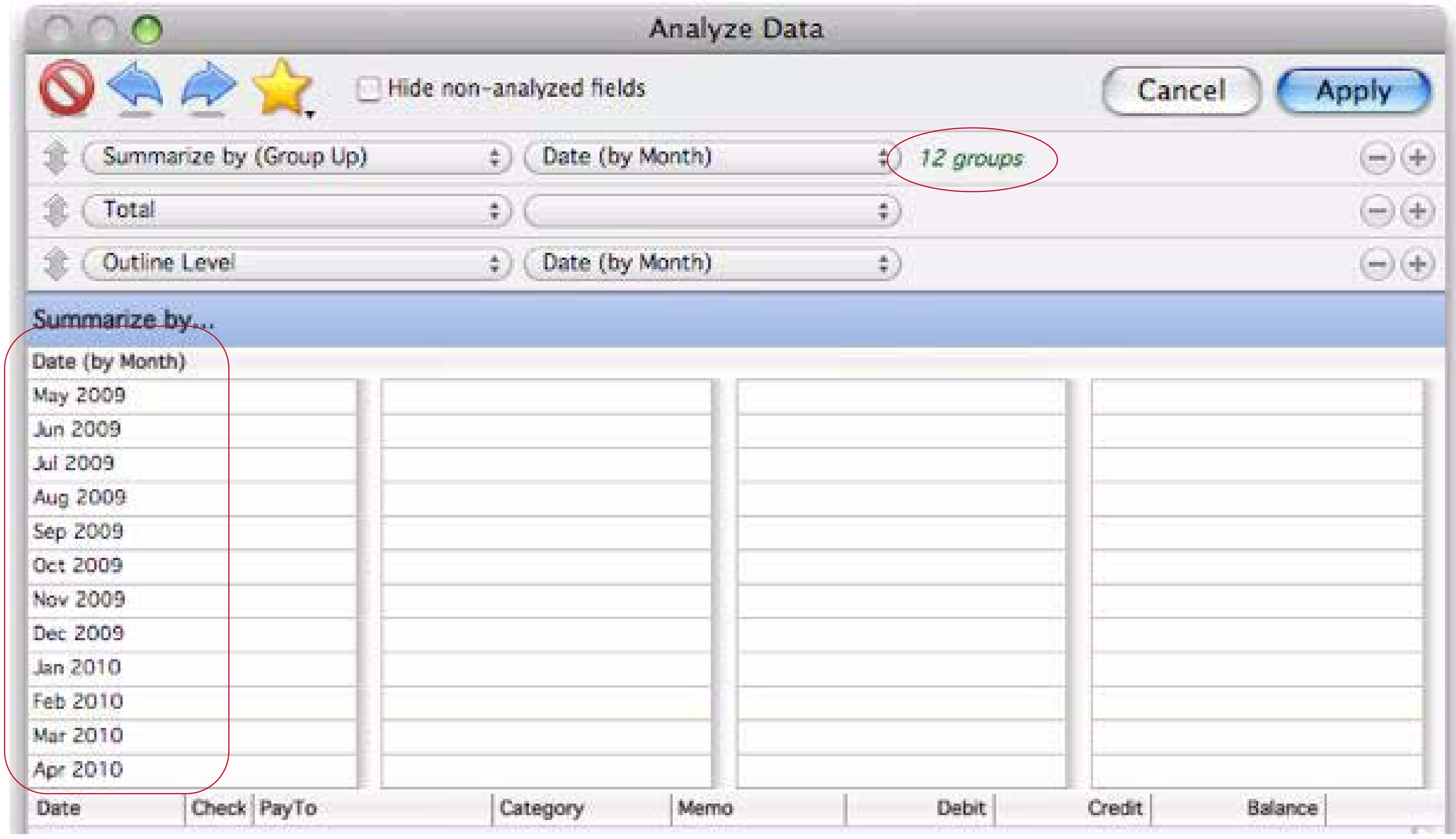
The top section of the dialog, *Summary & Analysis Options*, is where the analysis is set up. When you first open the dialog this section contains three rows that are preset for summary (group), total (calculate) and outline level:



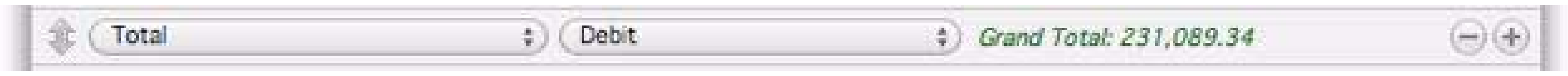
Start by choosing the field you want to summarize by. For date columns you will also have a choice of periods (day, month, year, etc.)



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.

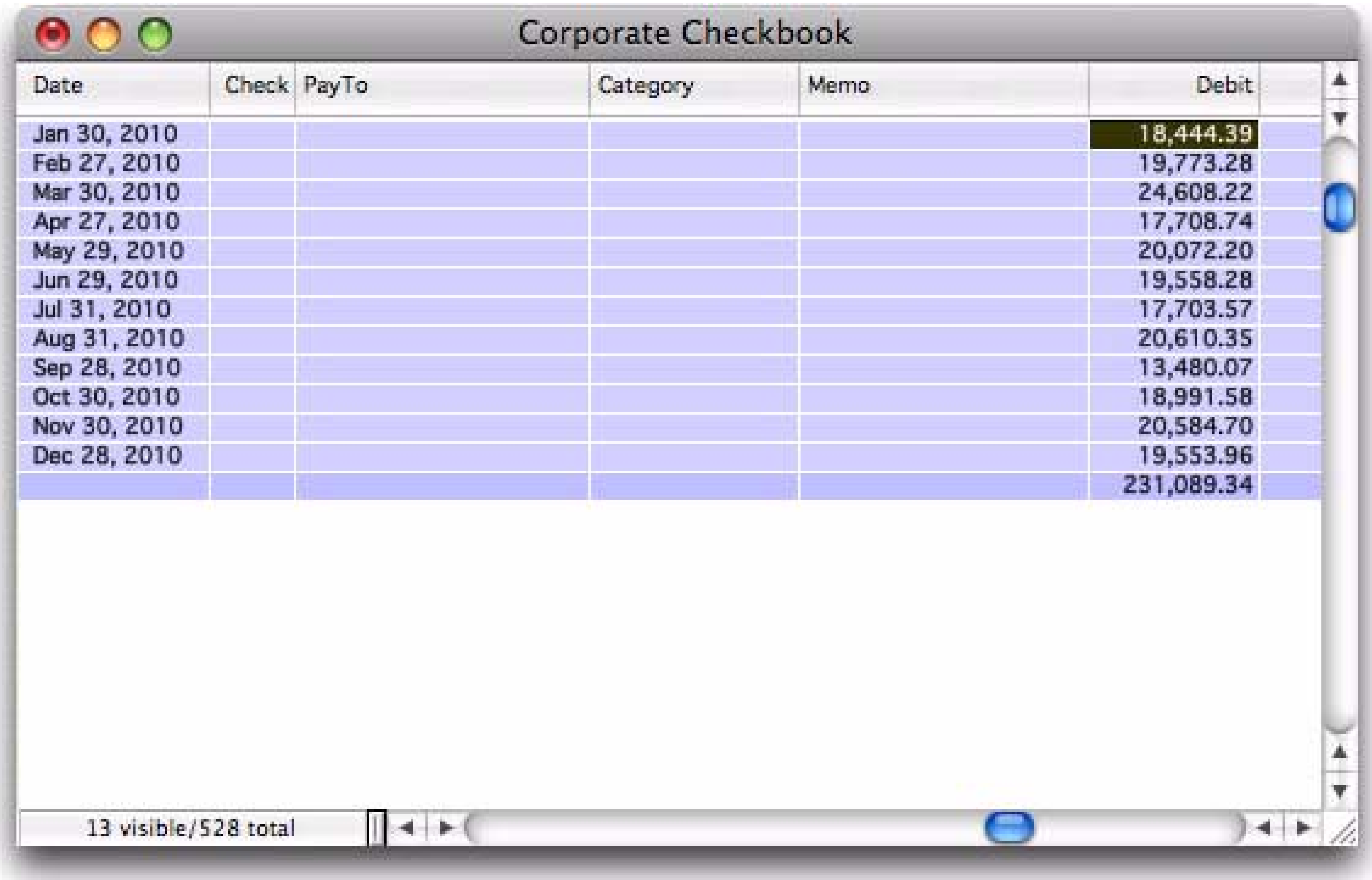


Next, use the pop-up menu in the second row to choose a column you want to perform calculations on. (In addition to totals, you can also calculate counts, averages, minimums and maximums.) Once you've chosen a column the dialog will show you the grand total for this column.


Total
Debit
Grand Total: 231,089.34

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.


Corporate Checkbook

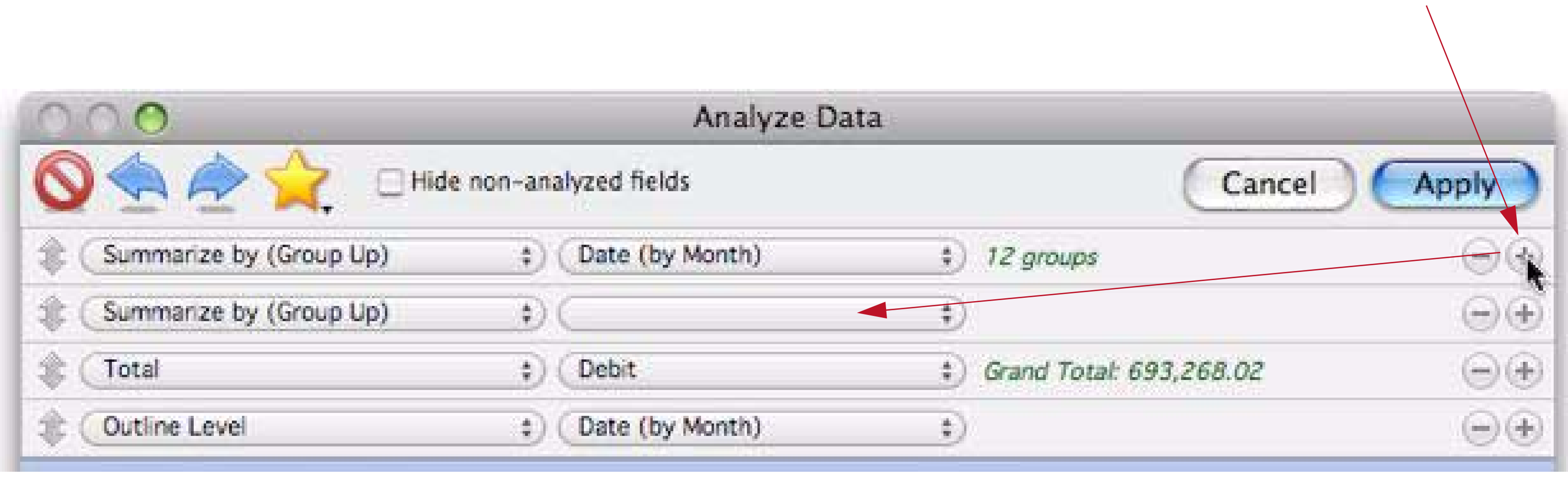
Date	Check	PayTo	Category	Memo	Debit
Jan 30, 2010					18,444.39
Feb 27, 2010					19,773.28
Mar 30, 2010					24,608.22
Apr 27, 2010					17,708.74
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
Jul 31, 2010					17,703.57
Aug 31, 2010					20,610.35
Sep 28, 2010					13,480.07
Oct 30, 2010					18,991.58
Nov 30, 2010					20,584.70
Dec 28, 2010					19,553.96
					231,089.34

13 visible/528 total

Multi-Level Summaries

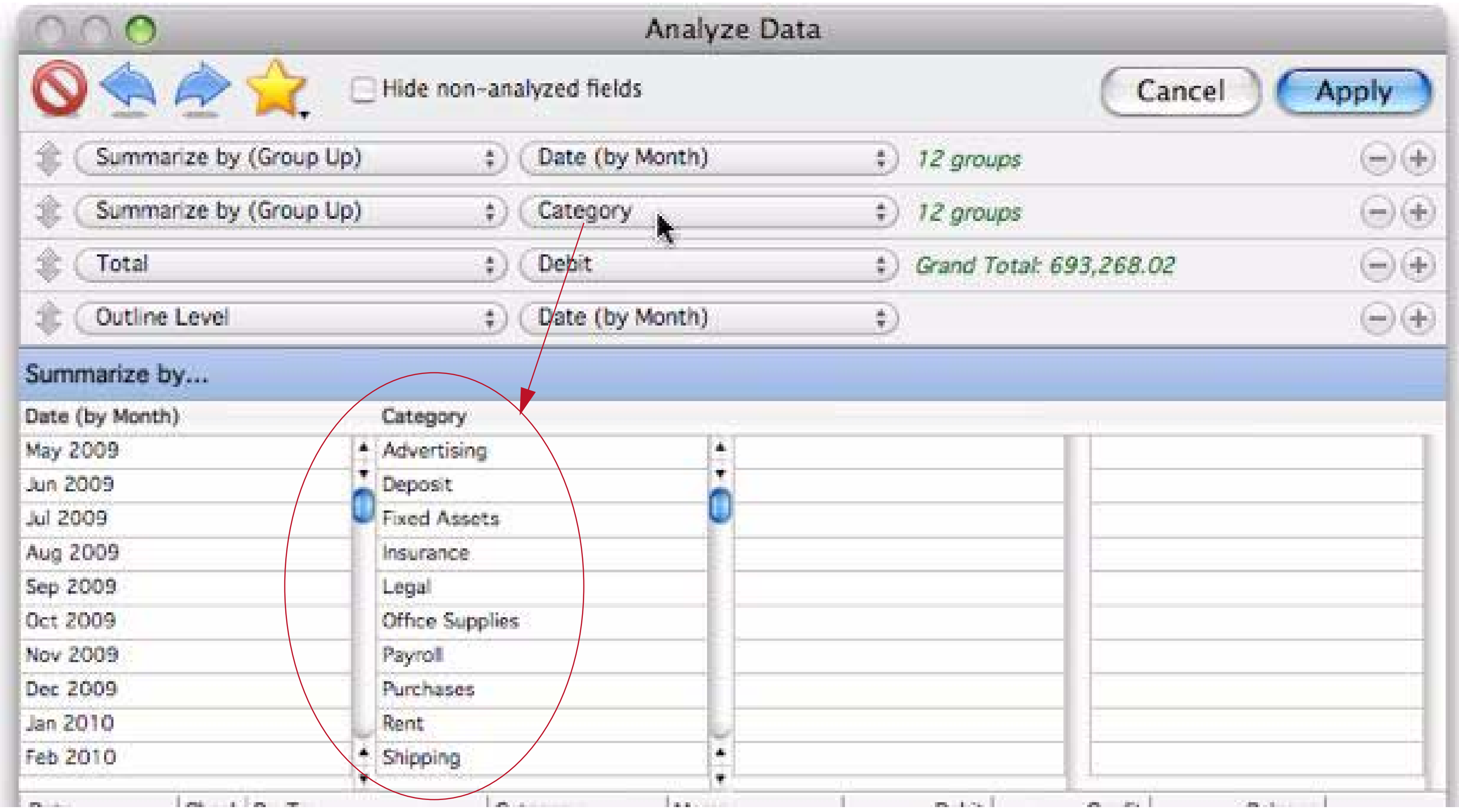
The previous example create one summary level. Panorama can create up to seven nested summary levels, for example Categories within Months, or Cities within States within Months within Years. To add an additional summary level, re-open the **Summarize & Analyze** dialog, then press the + button on the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

click + to add another summary level



Summarize by (Group Up)	Date (by Month)	12 groups
Summarize by (Group Up)		
Total	Debit	Grand Total: 693,268.02
Outline Level	Date (by Month)	

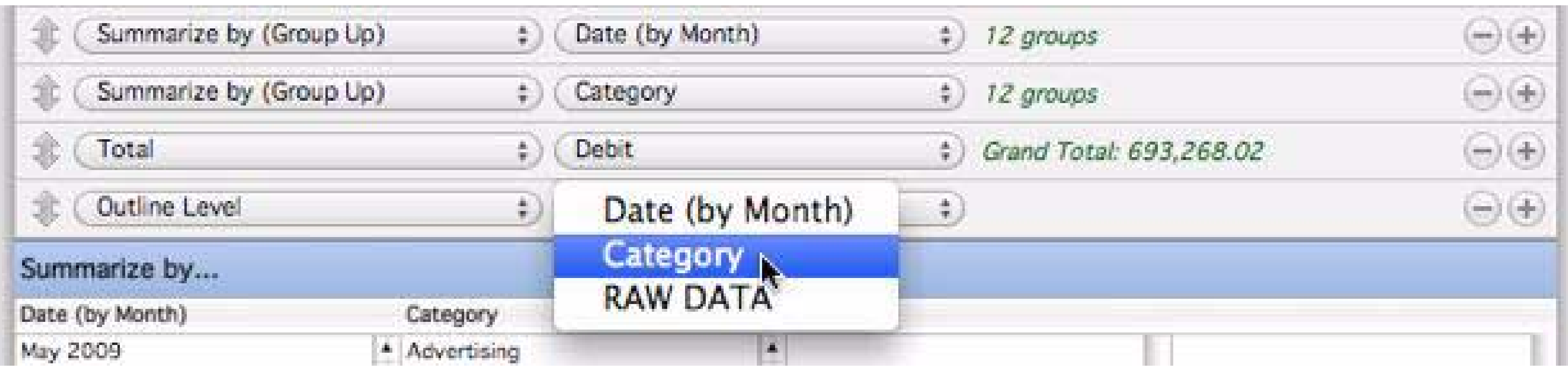
Now use the pop-up menu to select the field to be summarized. The summary preview will show the groups that will appear at this summary level.



Summarize by (Group Up)	Date (by Month)	12 groups
Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 693,268.02
Outline Level	Date (by Month)	

Date (by Month)	Category
May 2009	Advertising
Jun 2009	Deposit
Jul 2009	Fixed Assets
Aug 2009	Insurance
Sep 2009	Legal
Oct 2009	Office Supplies
Nov 2009	Payroll
Dec 2009	Purchases
Jan 2010	Rent
Feb 2010	Shipping

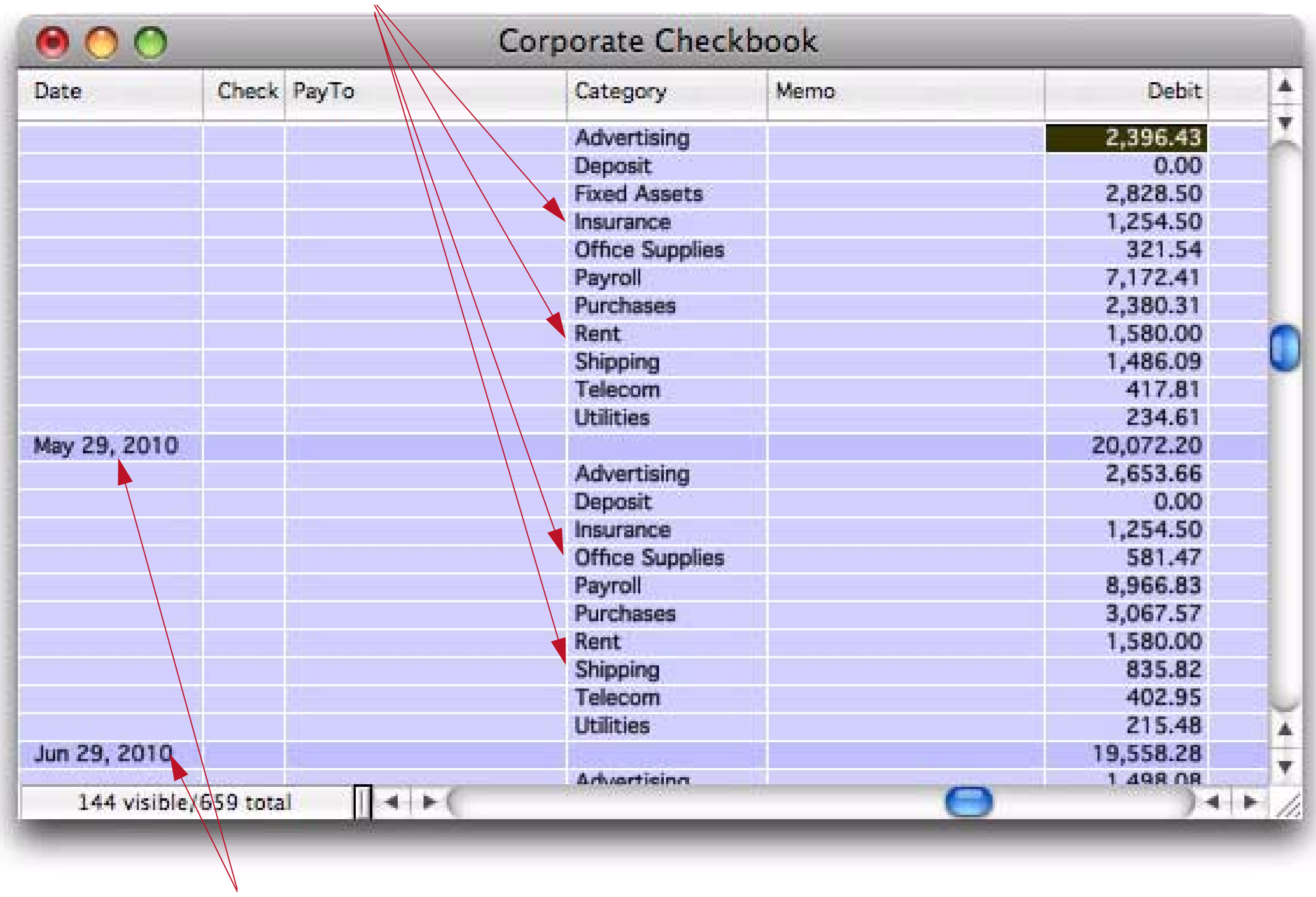
The outline level pop-up menu now gives you the choice of either summary level or raw data. All levels at and above the selected level will be display.



Summarize by (Group Up)	Date (by Month)	*12 groups*
Summarize by (Group Up)	Category	*12 groups*
Total	Debit	*Grand Total: 693,268.02*
Outline Level	Category	

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

sub summaries by category (within month)



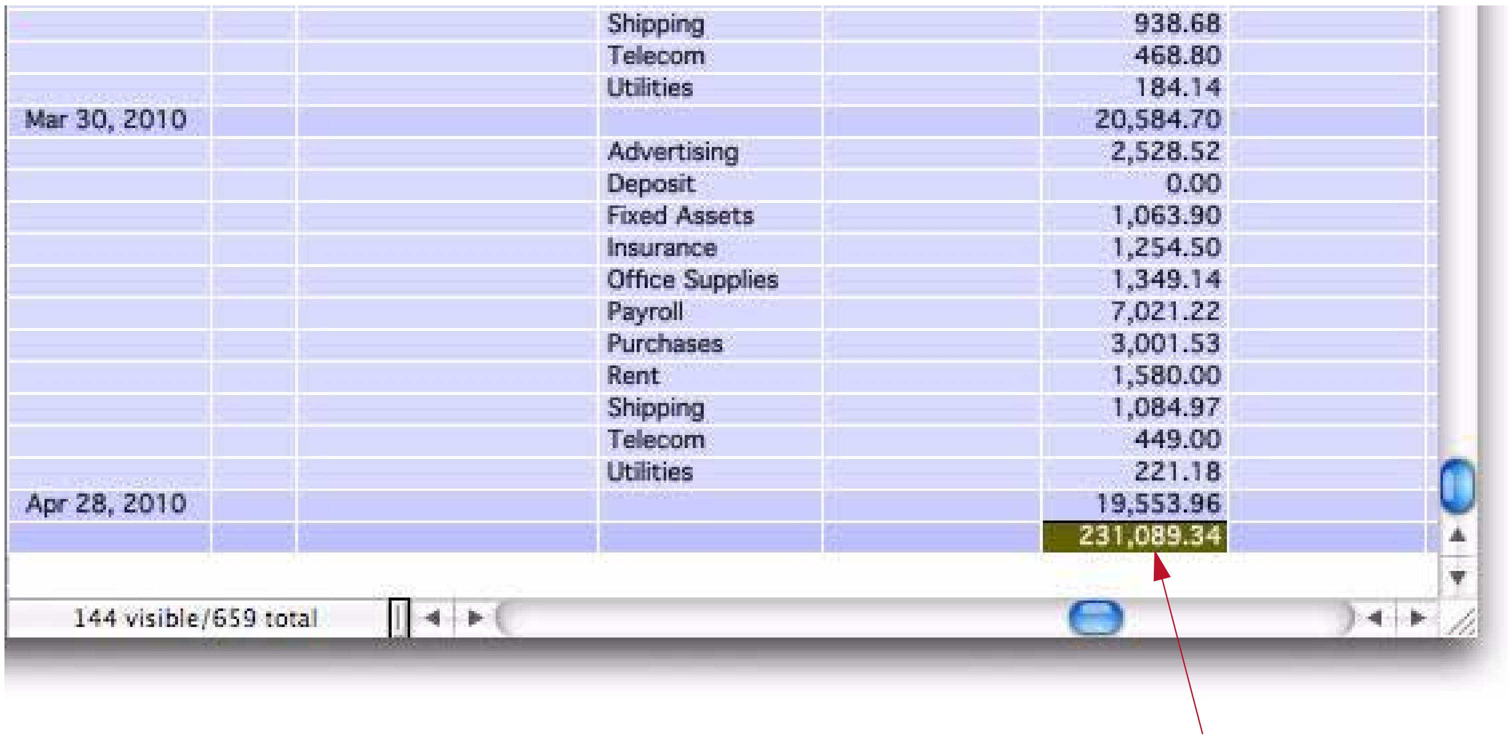
Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit
			Advertising		2,396.43
			Deposit		0.00
			Fixed Assets		2,828.50
			Insurance		1,254.50
			Office Supplies		321.54
			Payroll		7,172.41
			Purchases		2,380.31
			Rent		1,580.00
			Shipping		1,486.09
			Telecom		417.81
			Utilities		234.61
May 29, 2010					20,072.20
			Advertising		2,653.66
			Deposit		0.00
			Insurance		1,254.50
			Office Supplies		581.47
			Payroll		8,966.83
			Purchases		3,067.57
			Rent		1,580.00
			Shipping		835.82
			Telecom		402.95
			Utilities		215.48
Jun 29, 2010					19,558.28
			Advertising		1,498.08

144 visible/659 total

summaries by month

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



	Shipping	938.68
	Telecom	468.80
	Utilities	184.14
Mar 30, 2010		20,584.70
	Advertising	2,528.52
	Deposit	0.00
	Fixed Assets	1,063.90
	Insurance	1,254.50
	Office Supplies	1,349.14
	Payroll	7,021.22
	Purchases	3,001.53
	Rent	1,580.00
	Shipping	1,084.97
	Telecom	449.00
	Utilities	221.18
Apr 28, 2010		19,553.96
		231,089.34

144 visible/659 total

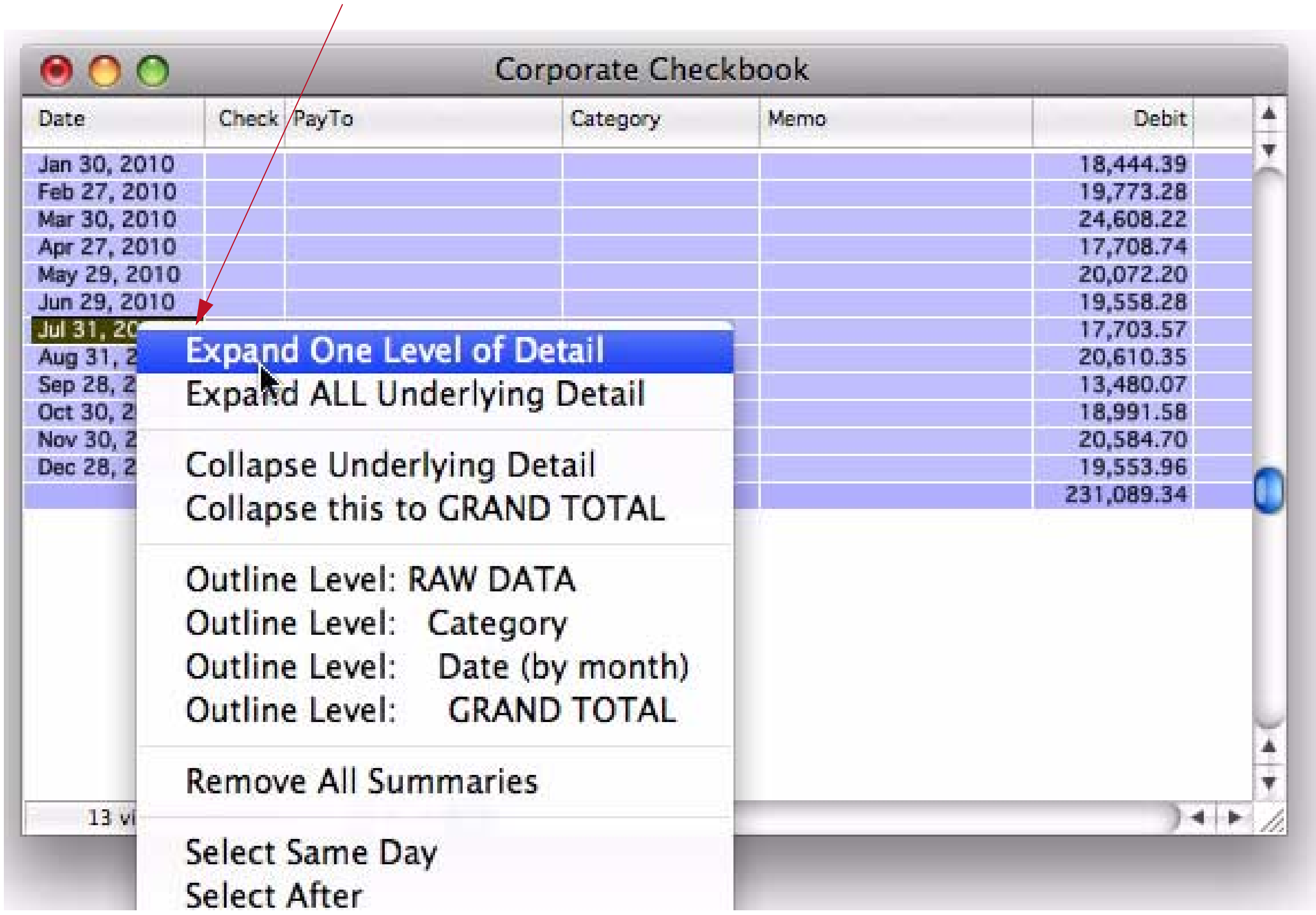
grand total

Using the same technique you can add up to seven nested summary levels.

Expanding and Collapsing the Summary Outline

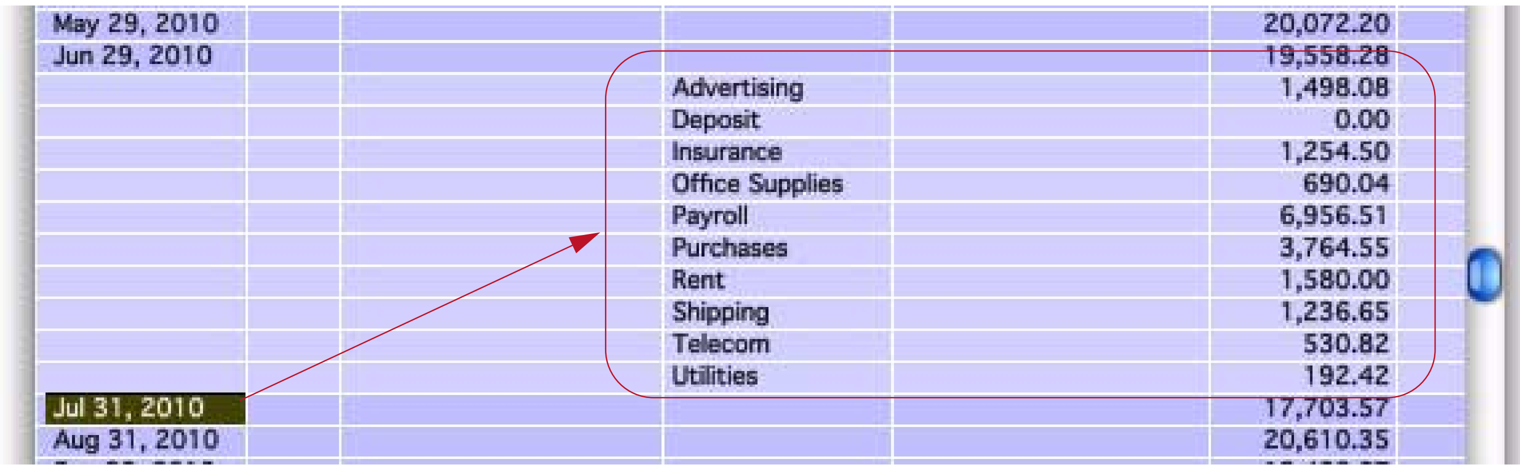
A unique feature of Panorama is that summaries aren't just static on a report, they can be dynamically expanded or collapse to show more or less detail. You can "zoom out" to look for major trends, then "zoom in" to examine specific details. We call this collapsing (zoom out) and expanding (zoom in). To expand a particular summary 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, or if you have a one button mouse, press the **Control** key while you click).

right click and choose *Expand One Level of Detail*


Corporate Checkbook
Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to GRAND TOTAL
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)
Outline Level: GRAND TOTAL
Remove All Summaries
Select Same Day
Select After
13 vi

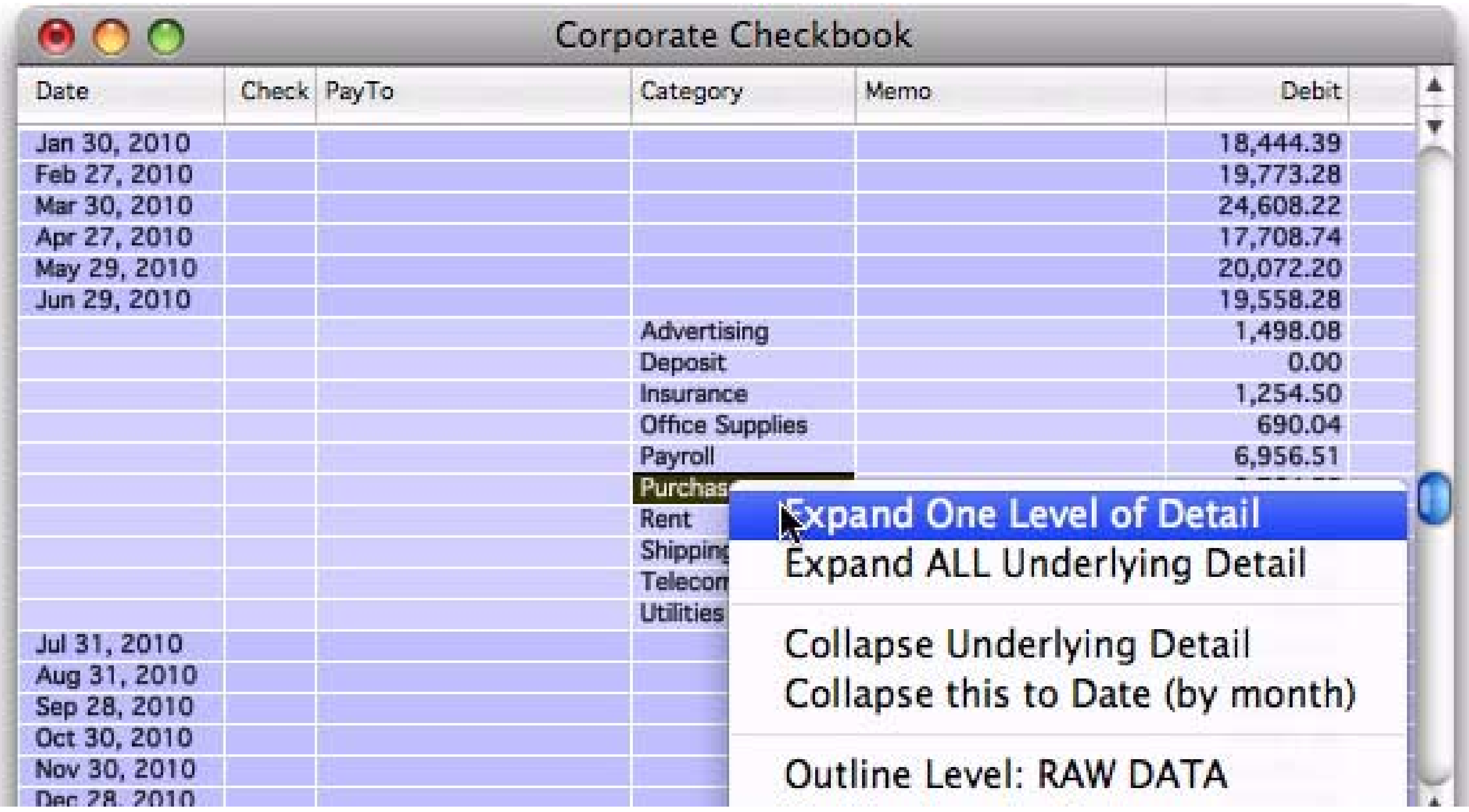
Date	Check	PayTo	Category	Memo	Debit
Jan 30, 2010					18,444.39
Feb 27, 2010					19,773.28
Mar 30, 2010					24,608.22
Apr 27, 2010					17,708.74
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
Jul 31, 20					17,703.57
Aug 31, 2					20,610.35
Sep 28, 2					13,480.07
Oct 30, 2					18,991.58
Nov 30, 2					20,584.70
Dec 28, 2					19,553.96
					231,089.34

Panorama makes the next level of detail visible.



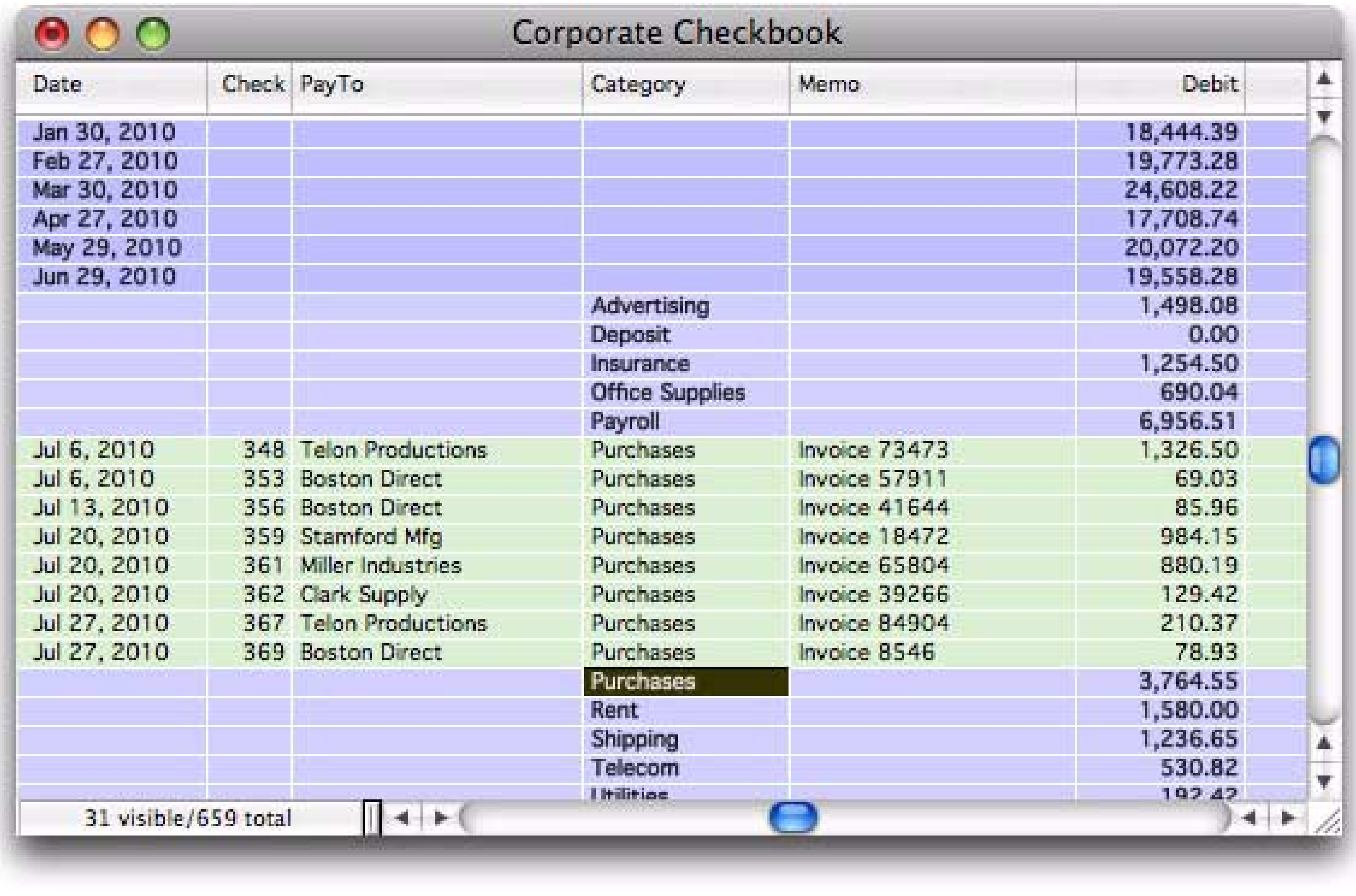
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
			Advertising		1,498.08
			Deposit		0.00
			Insurance		1,254.50
			Office Supplies		690.04
			Payroll		6,956.51
			Purchases		3,764.55
			Rent		1,580.00
			Shipping		1,236.65
			Telecom		530.82
			Utilities		192.42
Jul 31, 2010					17,703.57
Aug 31, 2010					20,610.35

If the database has more than one summary level you can repeat the process all the way down to the raw data.


Corporate Checkbook
Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA

Date	Check	PayTo	Category	Memo	Debit
Jan 30, 2010					18,444.39
Feb 27, 2010					19,773.28
Mar 30, 2010					24,608.22
Apr 27, 2010					17,708.74
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
			Advertising		1,498.08
			Deposit		0.00
			Insurance		1,254.50
			Office Supplies		690.04
			Payroll		6,956.51
			Purchas		
			Rent		
			Shippin		
			Telecom		
			Utilities		
Jul 31, 2010					
Aug 31, 2010					
Sep 28, 2010					
Oct 30, 2010					
Nov 30, 2010					
Dec 28, 2010					

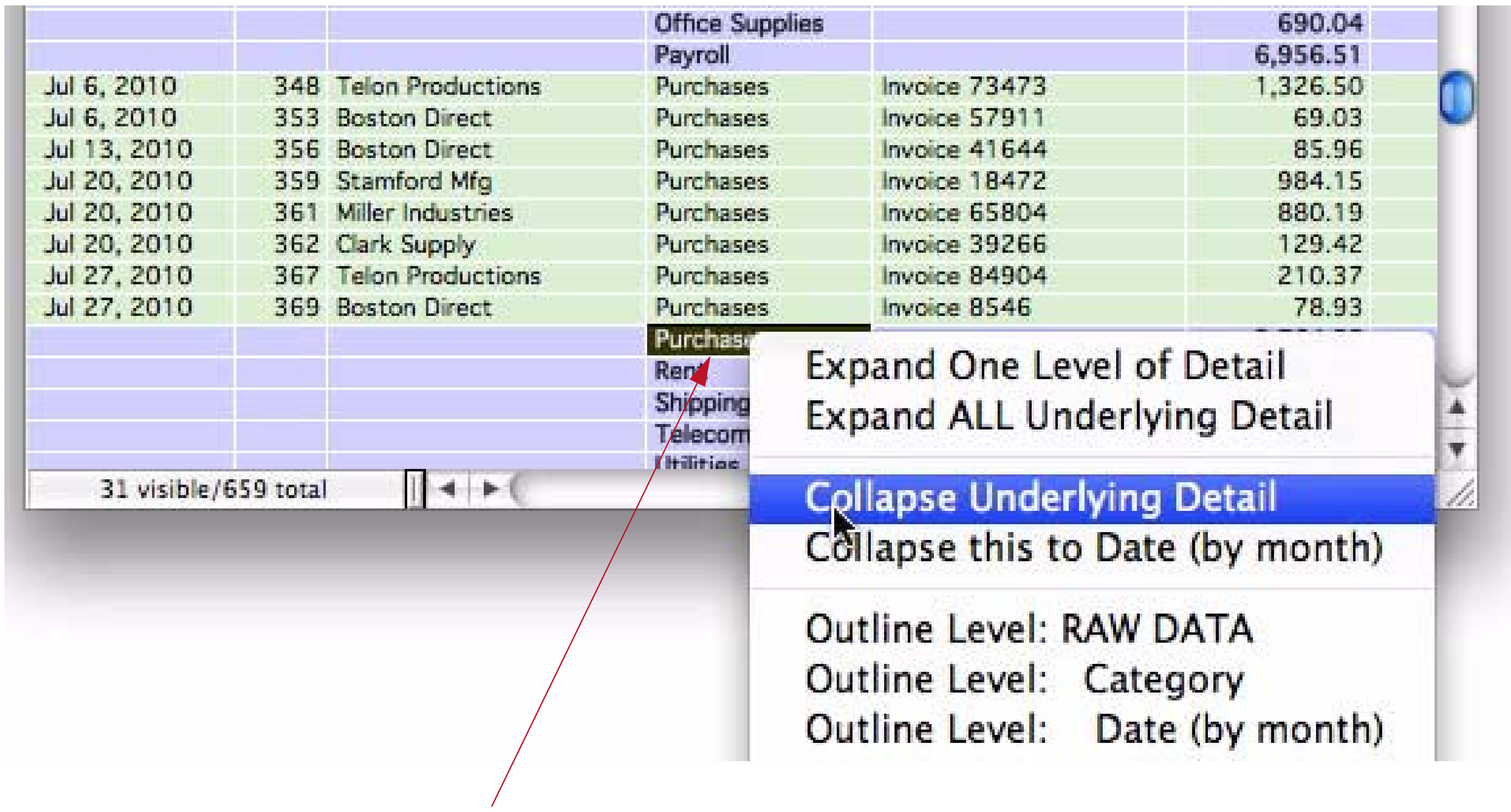
In this example we are now down to the raw data for purchases in October 2009.



Date	Check	PayTo	Category	Memo	Debit
Jan 30, 2010					18,444.39
Feb 27, 2010					19,773.28
Mar 30, 2010					24,608.22
Apr 27, 2010					17,708.74
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
			Advertising		1,498.08
			Deposit		0.00
			Insurance		1,254.50
			Office Supplies		690.04
			Payroll		6,956.51
Jul 6, 2010	348	Telon Productions	Purchases	Invoice 73473	1,326.50
Jul 6, 2010	353	Boston Direct	Purchases	Invoice 57911	69.03
Jul 13, 2010	356	Boston Direct	Purchases	Invoice 41644	85.96
Jul 20, 2010	359	Stamford Mfg	Purchases	Invoice 18472	984.15
Jul 20, 2010	361	Miller Industries	Purchases	Invoice 65804	880.19
Jul 20, 2010	362	Clark Supply	Purchases	Invoice 39266	129.42
Jul 27, 2010	367	Telon Productions	Purchases	Invoice 84904	210.37
Jul 27, 2010	369	Boston Direct	Purchases	Invoice 8546	78.93
			Purchases		3,764.55
			Rent		1,580.00
			Shipping		1,236.65
			Telecom		530.82
			Utilities		192.42

31 visible/659 total

To collapse a summary, right click on it (anywhere in the line) and choose **Collapse Underlying Detail**. (If you have a one button mouse, hold down the **Control** key while you click.)



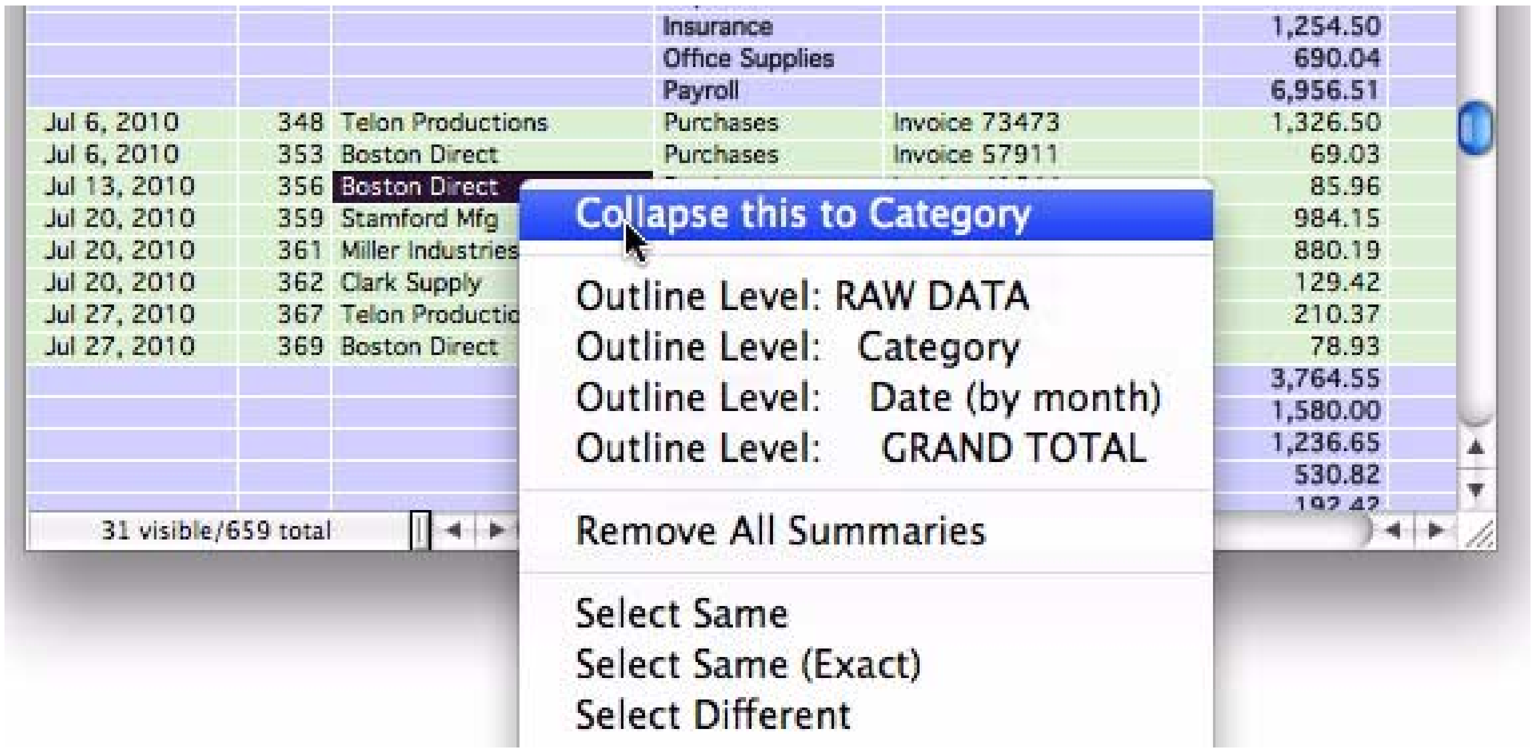
			Office Supplies		690.04
			Payroll		6,956.51
Jul 6, 2010	348	Telon Productions	Purchases	Invoice 73473	1,326.50
Jul 6, 2010	353	Boston Direct	Purchases	Invoice 57911	69.03
Jul 13, 2010	356	Boston Direct	Purchases	Invoice 41644	85.96
Jul 20, 2010	359	Stamford Mfg	Purchases	Invoice 18472	984.15
Jul 20, 2010	361	Miller Industries	Purchases	Invoice 65804	880.19
Jul 20, 2010	362	Clark Supply	Purchases	Invoice 39266	129.42
Jul 27, 2010	367	Telon Productions	Purchases	Invoice 84904	210.37
Jul 27, 2010	369	Boston Direct	Purchases	Invoice 8546	78.93
			Purchase		
			Rent		
			Shipping		
			Telecom		
			Utilities		

31 visible/659 total

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)

or right click and choose Collapse Underlying Detail

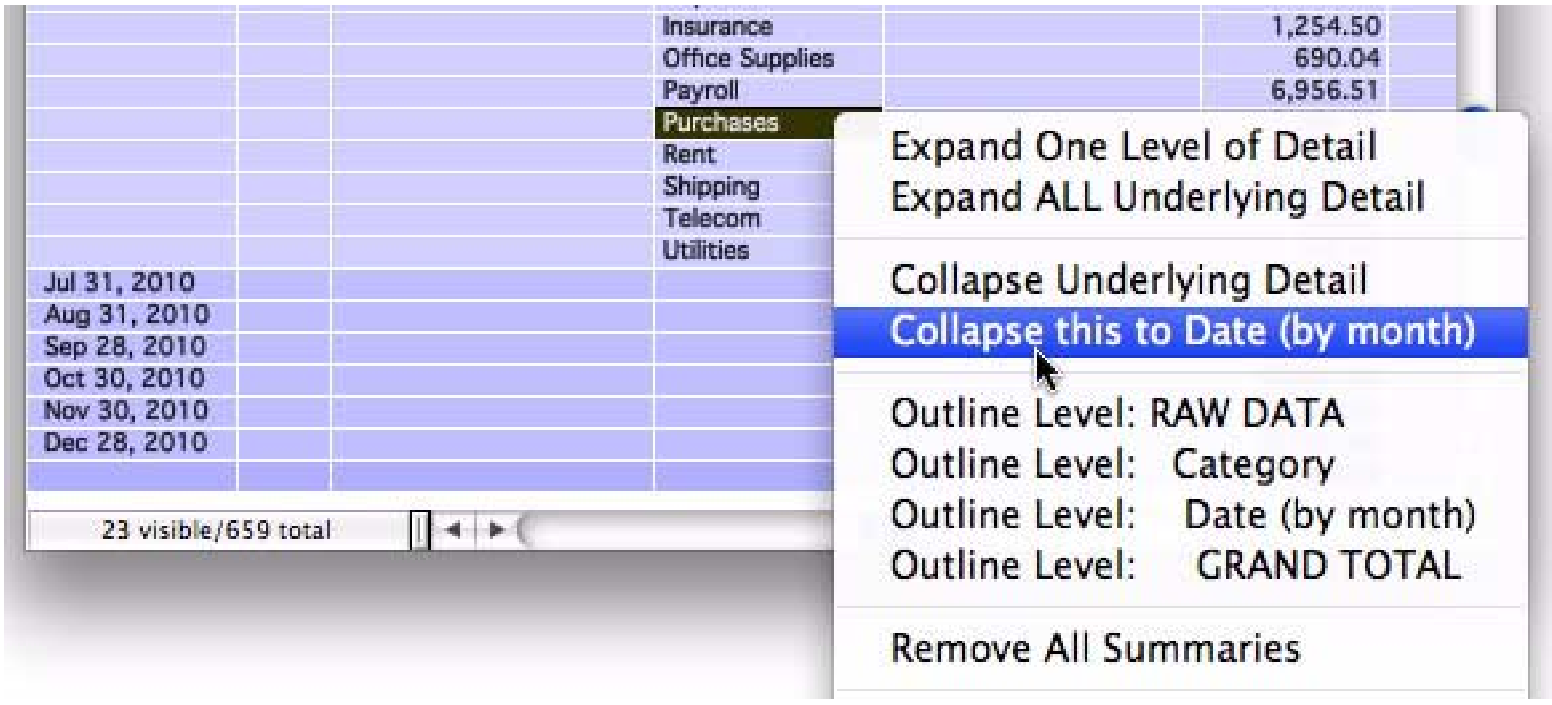
Another way to collapse is to right-click on a detail record, then choose **Collapse this to**. This is especially handy if the summary record you want to collapse isn't currently visible in the window.



			Insurance		1,254.50
			Office Supplies		690.04
			Payroll		6,956.51
Jul 6, 2010	348	Telon Productions	Purchases	Invoice 73473	1,326.50
Jul 6, 2010	353	Boston Direct	Purchases	Invoice 57911	69.03
Jul 13, 2010	356	Boston Direct			85.96
Jul 20, 2010	359	Stamford Mfg			984.15
Jul 20, 2010	361	Miller Industries			880.19
Jul 20, 2010	362	Clark Supply			129.42
Jul 27, 2010	367	Telon Productio			210.37
Jul 27, 2010	369	Boston Direct			78.93
					3,764.55
					1,580.00
					1,236.65
					530.82
					192.42

31 visible/659 total

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.



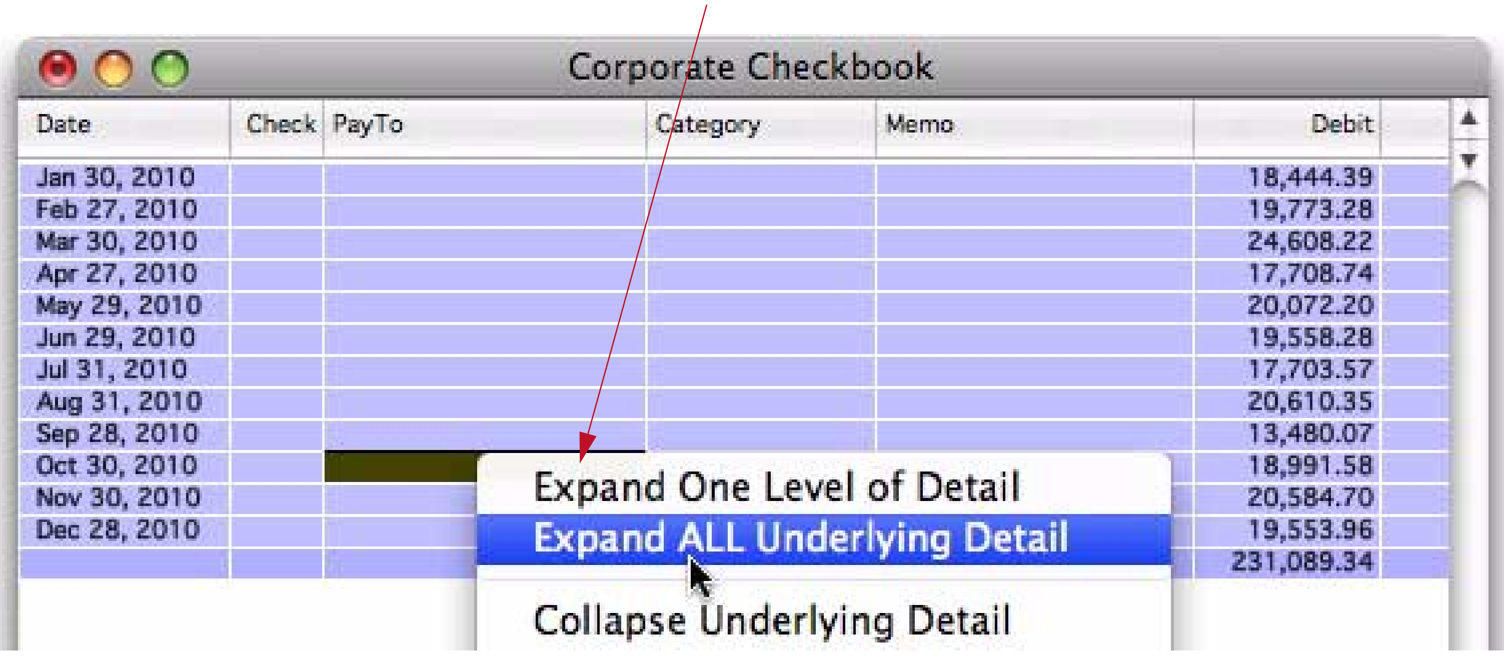
	Insurance	1,254.50
	Office Supplies	690.04
	Payroll	6,956.51
	Purchases	
	Rent	
	Shipping	
	Telecom	
	Utilities	
Jul 31, 2010		
Aug 31, 2010		
Sep 28, 2010		
Oct 30, 2010		
Nov 30, 2010		
Dec 28, 2010		

23 visible/659 total

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Date (by month)
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)
Outline Level: GRAND TOTAL
Remove All Summaries

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, right click on the summary and choose **Expand ALL Underlying Detail** (if you have a one button mouse hold down the **Control** key).

right click and choose *Expand ALL Underlying Detail*

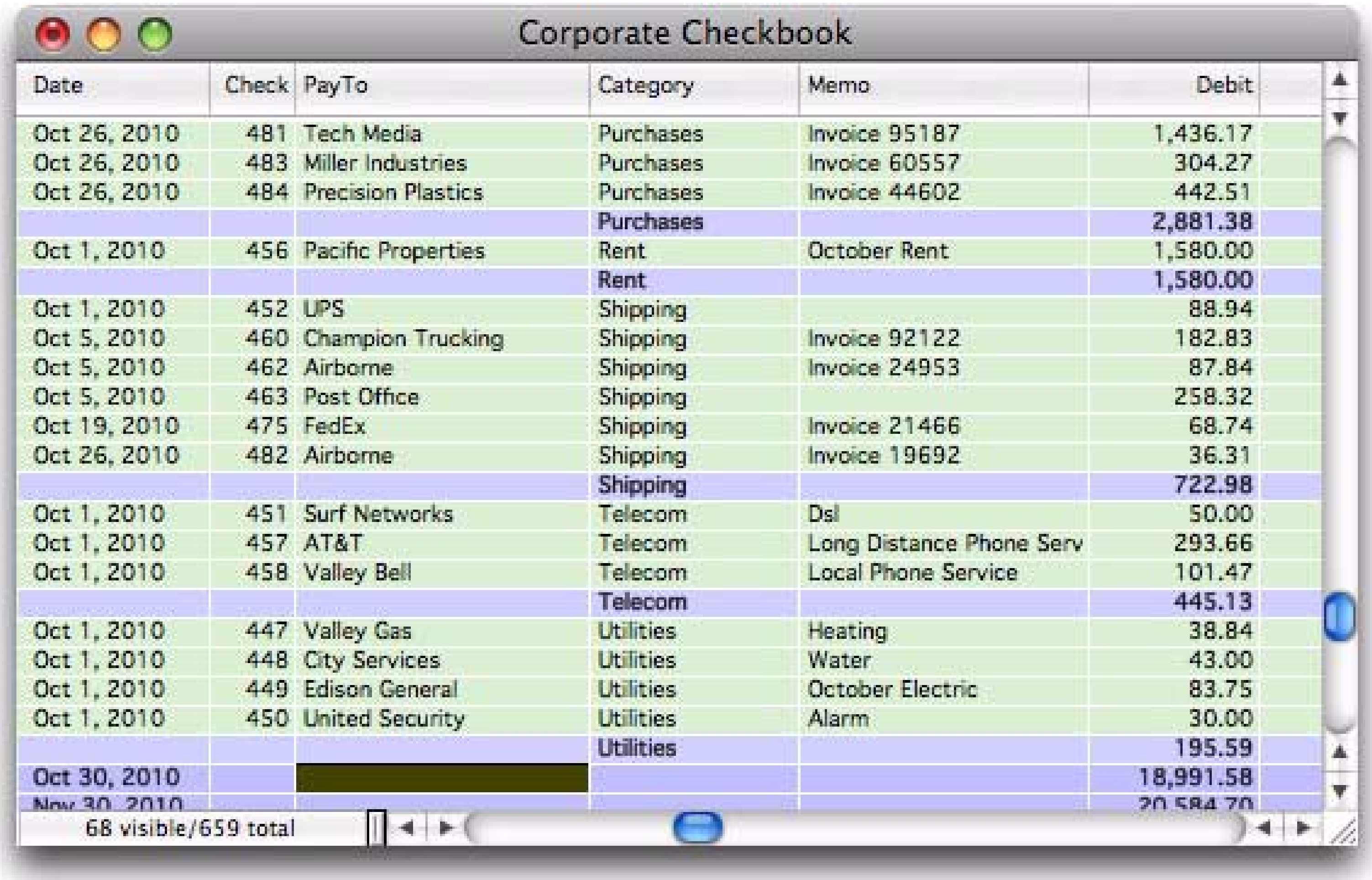


Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit
Jan 30, 2010					18,444.39
Feb 27, 2010					19,773.28
Mar 30, 2010					24,608.22
Apr 27, 2010					17,708.74
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
Jul 31, 2010					17,703.57
Aug 31, 2010					20,610.35
Sep 28, 2010					13,480.07
Oct 30, 2010					18,991.58
Nov 30, 2010					20,584.70
Dec 28, 2010					19,553.96
					231,089.34

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse 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 October 2010.



Corporate Checkbook

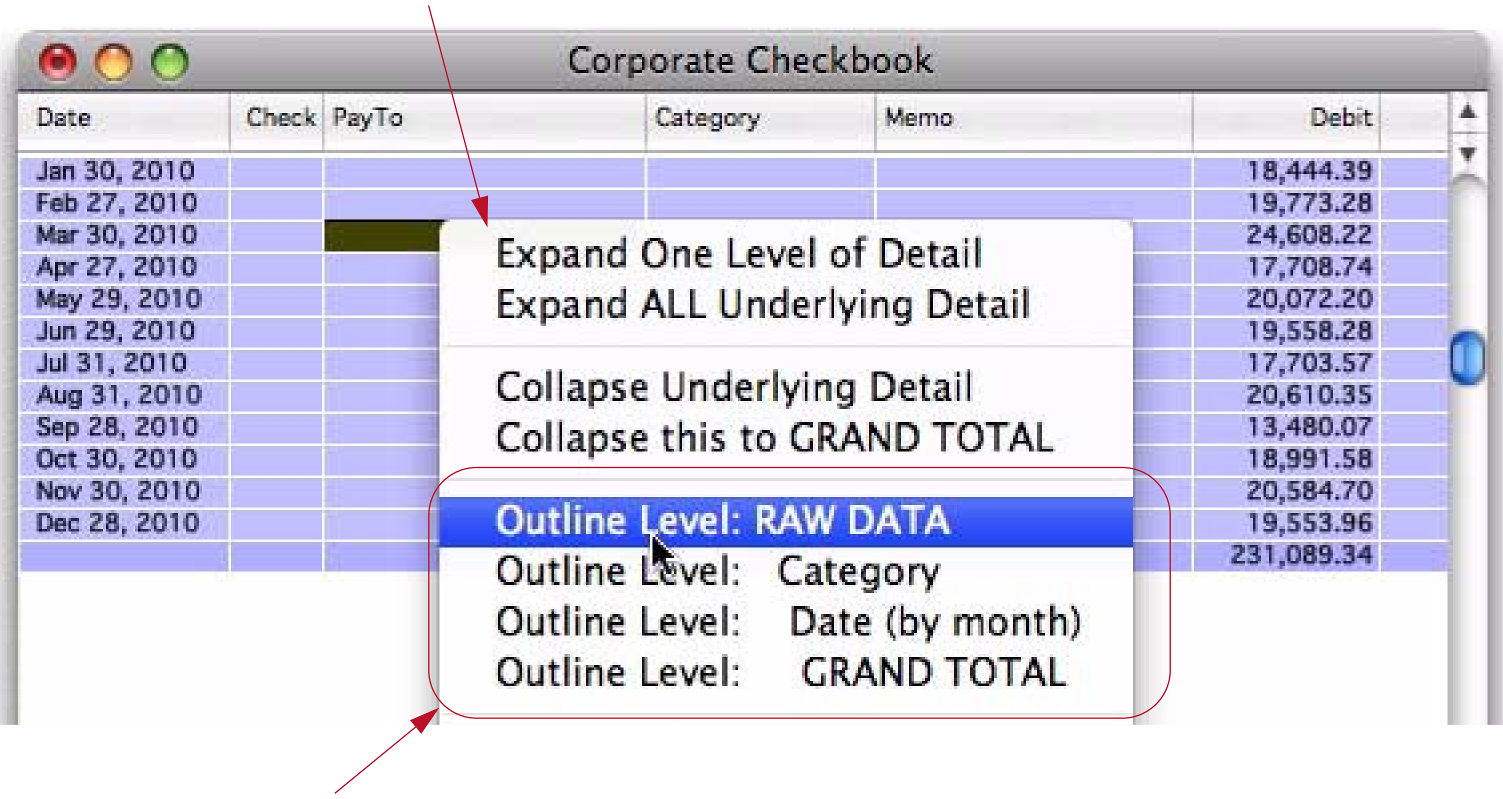
Date	Check	PayTo	Category	Memo	Debit
Oct 26, 2010	481	Tech Media	Purchases	Invoice 95187	1,436.17
Oct 26, 2010	483	Miller Industries	Purchases	Invoice 60557	304.27
Oct 26, 2010	484	Precision Plastics	Purchases	Invoice 44602	442.51
			Purchases		2,881.38
Oct 1, 2010	456	Pacific Properties	Rent	October Rent	1,580.00
			Rent		1,580.00
Oct 1, 2010	452	UPS	Shipping		88.94
Oct 5, 2010	460	Champion Trucking	Shipping	Invoice 92122	182.83
Oct 5, 2010	462	Airborne	Shipping	Invoice 24953	87.84
Oct 5, 2010	463	Post Office	Shipping		258.32
Oct 19, 2010	475	FedEx	Shipping	Invoice 21466	68.74
Oct 26, 2010	482	Airborne	Shipping	Invoice 19692	36.31
			Shipping		722.98
Oct 1, 2010	451	Surf Networks	Telecom	Dsl	50.00
Oct 1, 2010	457	AT&T	Telecom	Long Distance Phone Serv	293.66
Oct 1, 2010	458	Valley Bell	Telecom	Local Phone Service	101.47
			Telecom		445.13
Oct 1, 2010	447	Valley Gas	Utilities	Heating	38.84
Oct 1, 2010	448	City Services	Utilities	Water	43.00
Oct 1, 2010	449	Edison General	Utilities	October Electric	83.75
Oct 1, 2010	450	United Security	Utilities	Alarm	30.00
			Utilities		195.59
Oct 30, 2010					18,991.58
Nov 30, 2010					20,584.70

68 visible/659 total

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.

right click anywhere in data sheet



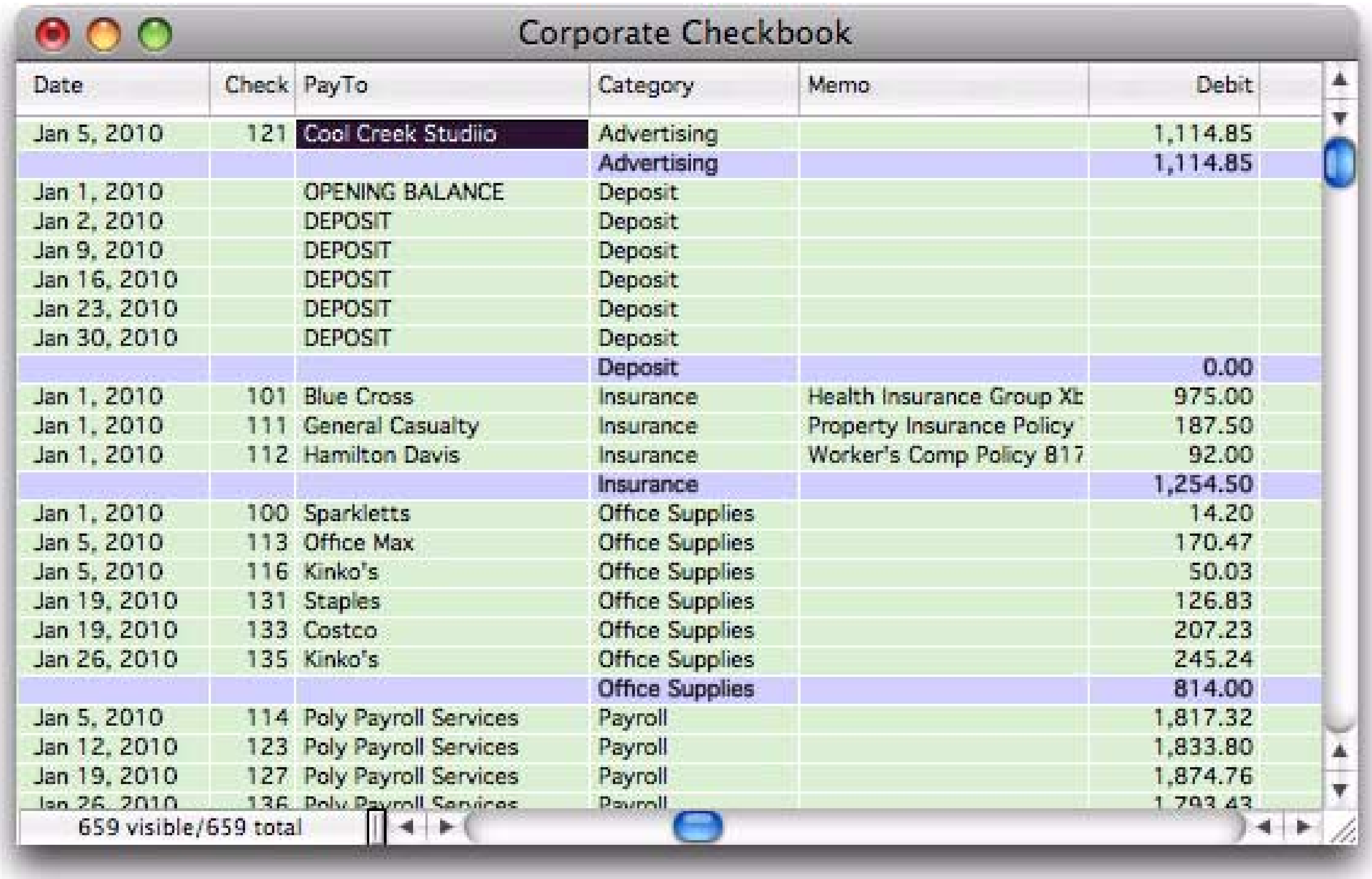
Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit
Jan 30, 2010					18,444.39
Feb 27, 2010					19,773.28
Mar 30, 2010					24,608.22
Apr 27, 2010					17,708.74
May 29, 2010					20,072.20
Jun 29, 2010					19,558.28
Jul 31, 2010					17,703.57
Aug 31, 2010					20,610.35
Sep 28, 2010					13,480.07
Oct 30, 2010					18,991.58
Nov 30, 2010					20,584.70
Dec 28, 2010					19,553.96
					231,089.34

Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to GRAND TOTAL
Outline Level: RAW DATA
Outline Level: Category
Outline Level: Date (by month)
Outline Level: GRAND TOTAL

then choose the level you want to see

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



Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit
Jan 5, 2010	121	Cool Creek Studiio	Advertising		1,114.85
			Advertising		1,114.85
Jan 1, 2010		OPENING BALANCE	Deposit		
Jan 2, 2010		DEPOSIT	Deposit		
Jan 9, 2010		DEPOSIT	Deposit		
Jan 16, 2010		DEPOSIT	Deposit		
Jan 23, 2010		DEPOSIT	Deposit		
Jan 30, 2010		DEPOSIT	Deposit		
			Deposit		0.00
Jan 1, 2010	101	Blue Cross	Insurance	Health Insurance Group Xt	975.00
Jan 1, 2010	111	General Casualty	Insurance	Property Insurance Policy	187.50
Jan 1, 2010	112	Hamilton Davis	Insurance	Worker's Comp Policy 817	92.00
			Insurance		1,254.50
Jan 1, 2010	100	Sparkletts	Office Supplies		14.20
Jan 5, 2010	113	Office Max	Office Supplies		170.47
Jan 5, 2010	116	Kinko's	Office Supplies		50.03
Jan 19, 2010	131	Staples	Office Supplies		126.83
Jan 19, 2010	133	Costco	Office Supplies		207.23
Jan 26, 2010	135	Kinko's	Office Supplies		245.24
			Office Supplies		814.00
Jan 5, 2010	114	Poly Payroll Services	Payroll		1,817.32
Jan 12, 2010	123	Poly Payroll Services	Payroll		1,833.80
Jan 19, 2010	127	Poly Payroll Services	Payroll		1,874.76
Jan 26, 2010	136	Poly Payroll Services	Payroll		1,793.43

659 visible/659 total

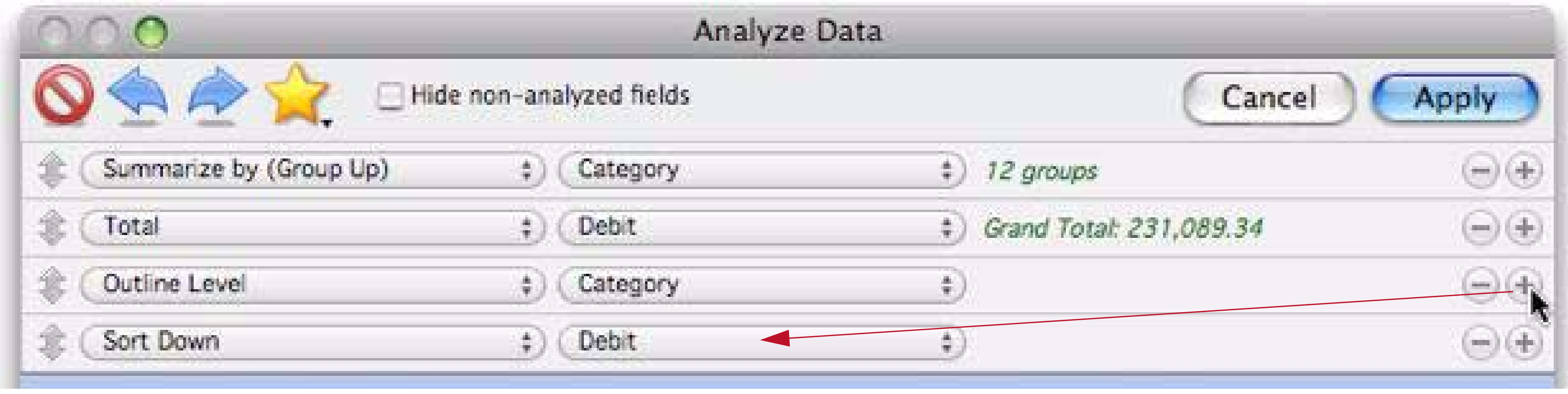
If you choose GRAND TOTAL then only one record will be visible — the grand total summary record. The choices in between will display varying levels of summary detail.

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

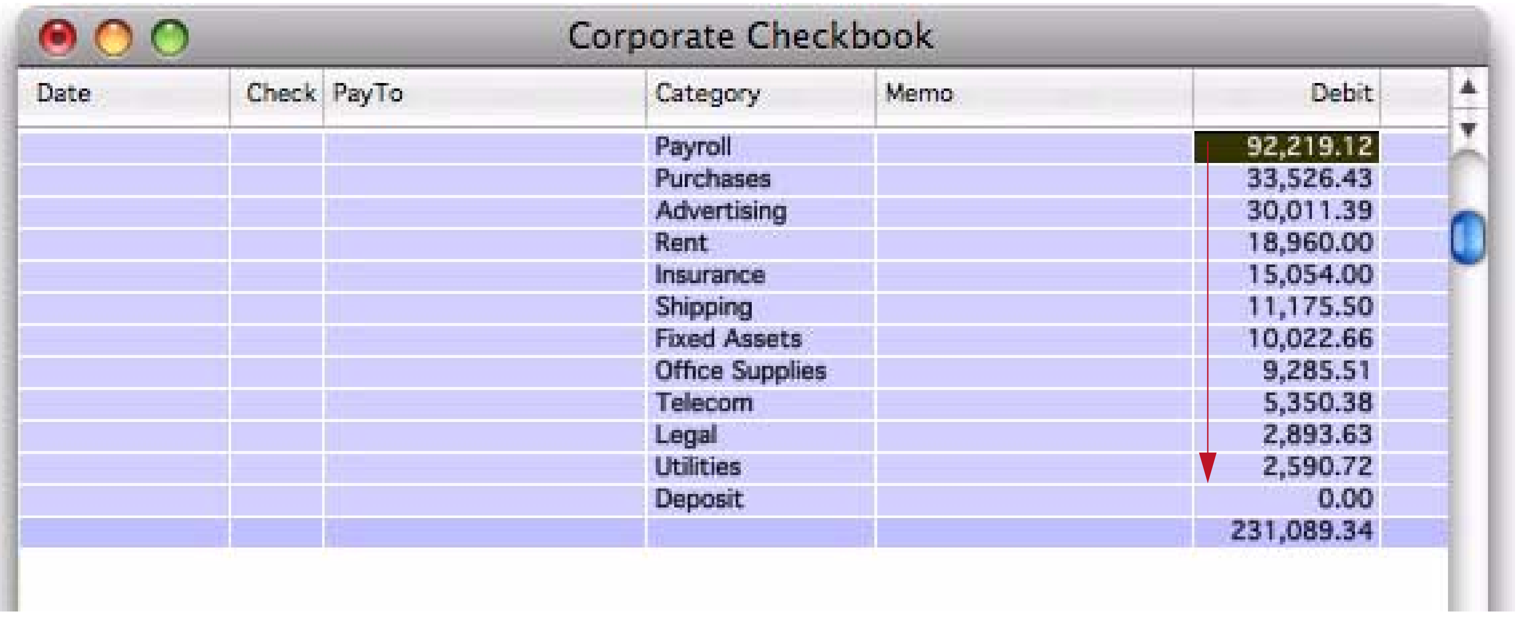
Panorama normally generates summaries in alphabetical order. By adding an extra rule to the **Summarize & Analyze** dialog you can tell Panorama to rank the summaries by value. For example, if you are summarizing by month they could be ranked to show the month with the highest sales (or spending, etc.)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



Analyze Data

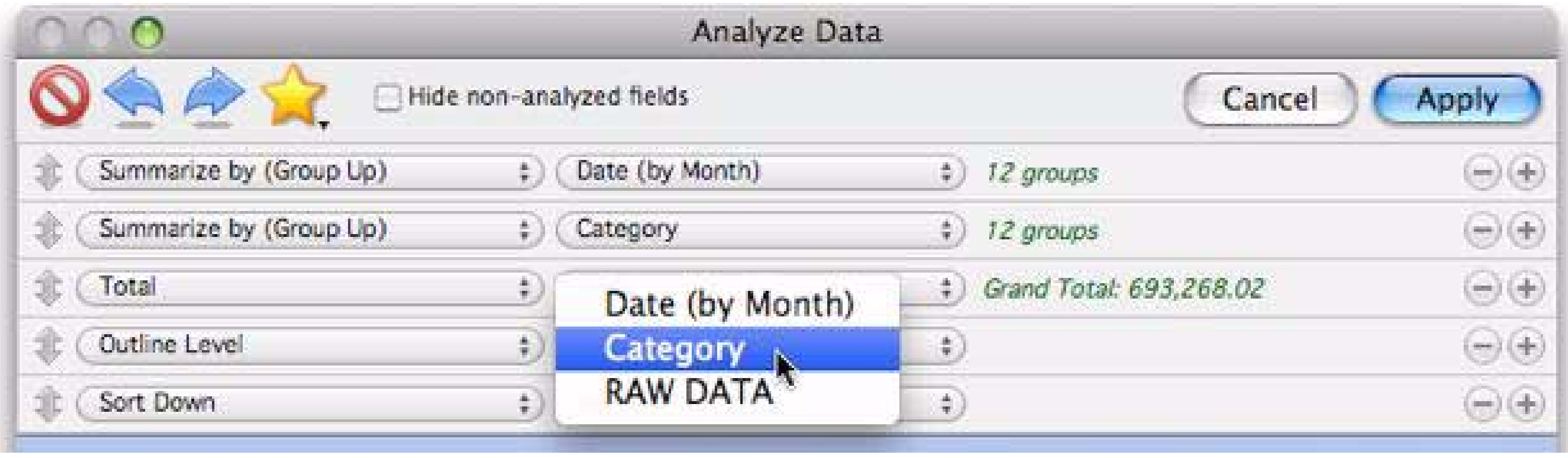
Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 231,089.34
Outline Level	Category	
Sort Down	Debit	

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.



Date	Check	PayTo	Category	Memo	Debit
			Payroll		92,219.12
			Purchases		33,526.43
			Advertising		30,011.39
			Rent		18,960.00
			Insurance		15,054.00
			Shipping		11,175.50
			Fixed Assets		10,022.66
			Office Supplies		9,285.51
			Telecom		5,350.38
			Legal		2,893.63
			Utilities		2,590.72
			Deposit		0.00
					231,089.34

For multi-level nested summaries you can use the outline level pop-up menu to pick which level is ranked.



□ Hide non-analyzed fields

Summarize by (Group Up) | Date (by Month) | 12 groups

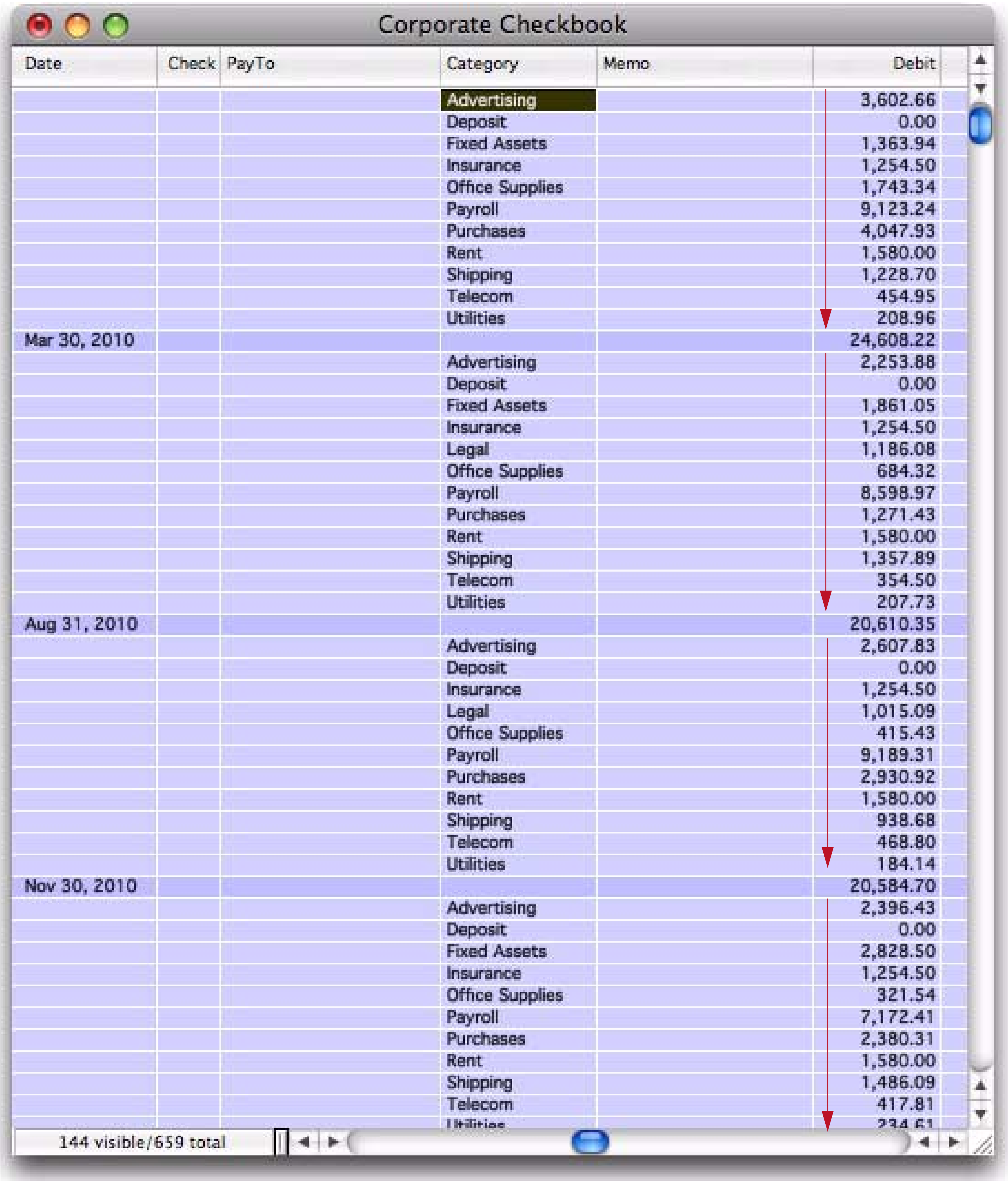
Summarize by (Group Up) | Category | 12 groups

Total | Grand Total: 693,268.02

Outline Level

Sort Down

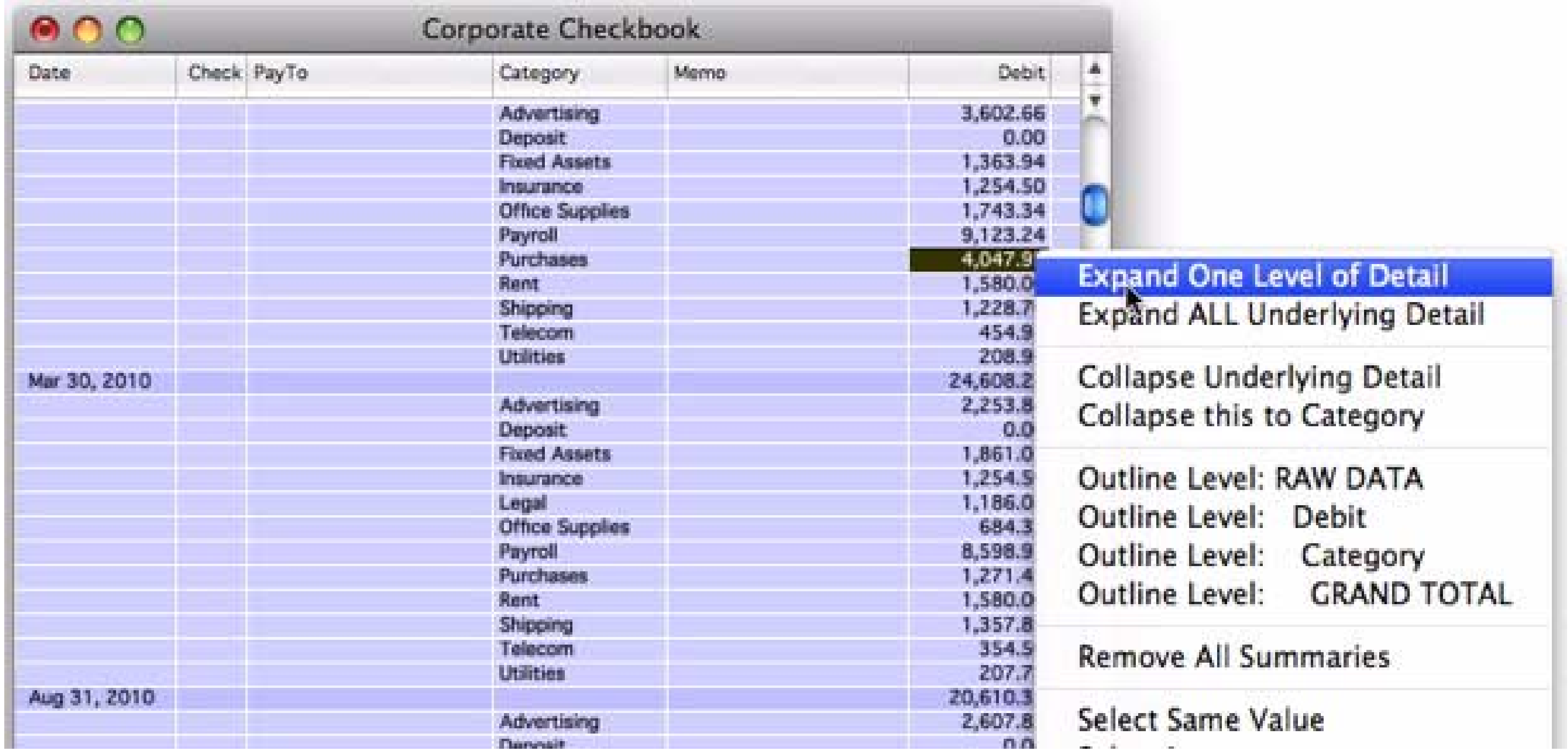
Whatever level you specified will be ranked. In this example, the category summaries are ranked within each month.



Date	Check	PayTo	Category	Memo	Debit
			Advertising		3,602.66
			Deposit		0.00
			Fixed Assets		1,363.94
			Insurance		1,254.50
			Office Supplies		1,743.34
			Payroll		9,123.24
			Purchases		4,047.93
			Rent		1,580.00
			Shipping		1,228.70
			Telecom		454.95
			Utilities		208.96
Mar 30, 2010					24,608.22
			Advertising		2,253.88
			Deposit		0.00
			Fixed Assets		1,861.05
			Insurance		1,254.50
			Legal		1,186.08
			Office Supplies		684.32
			Payroll		8,598.97
			Purchases		1,271.43
			Rent		1,580.00
			Shipping		1,357.89
			Telecom		354.50
			Utilities		207.73
Aug 31, 2010					20,610.35
			Advertising		2,607.83
			Deposit		0.00
			Insurance		1,254.50
			Legal		1,015.09
			Office Supplies		415.43
			Payroll		9,189.31
			Purchases		2,930.92
			Rent		1,580.00
			Shipping		938.68
			Telecom		468.80
			Utilities		184.14
Nov 30, 2010					20,584.70
			Advertising		2,396.43
			Deposit		0.00
			Fixed Assets		2,828.50
			Insurance		1,254.50
			Office Supplies		321.54
			Payroll		7,172.41
			Purchases		2,380.31
			Rent		1,580.00
			Shipping		1,486.09
			Telecom		417.81
			Utilities		234.61

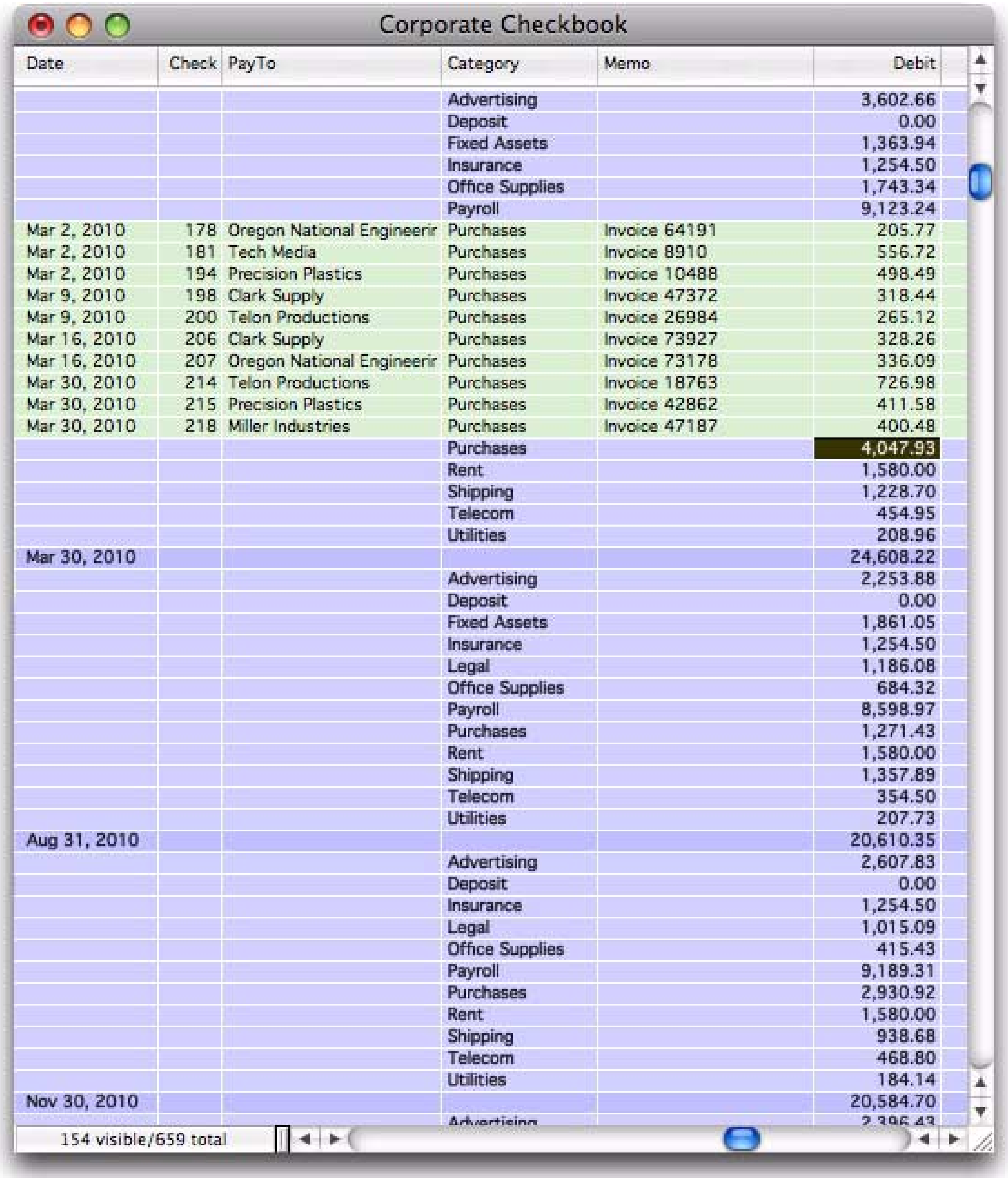
144 visible/659 total

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).


Corporate Checkbook
Expand One Level of Detail
Expand ALL Underlying Detail
Collapse Underlying Detail
Collapse this to Category
Outline Level: RAW DATA
Outline Level: Debit
Outline Level: Category
Outline Level: GRAND TOTAL
Remove All Summaries
Select Same Value

Date	Check	PayTo	Category	Memo	Debit
			Advertising		3,602.66
			Deposit		0.00
			Fixed Assets		1,363.94
			Insurance		1,254.50
			Office Supplies		1,743.34
			Payroll		9,123.24
			Purchases		4,047.9
			Rent		1,580.0
			Shipping		1,228.7
			Telecom		454.9
			Utilities		208.9
Mar 30, 2010					24,608.2
			Advertising		2,253.8
			Deposit		0.0
			Fixed Assets		1,861.0
			Insurance		1,254.5
			Legal		1,186.0
			Office Supplies		684.3
			Payroll		8,598.9
			Purchases		1,271.4
			Rent		1,580.0
			Shipping		1,357.8
			Telecom		354.5
			Utilities		207.7
Aug 31, 2010					20,610.3
			Advertising		2,607.8
			Deposit		0.0

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



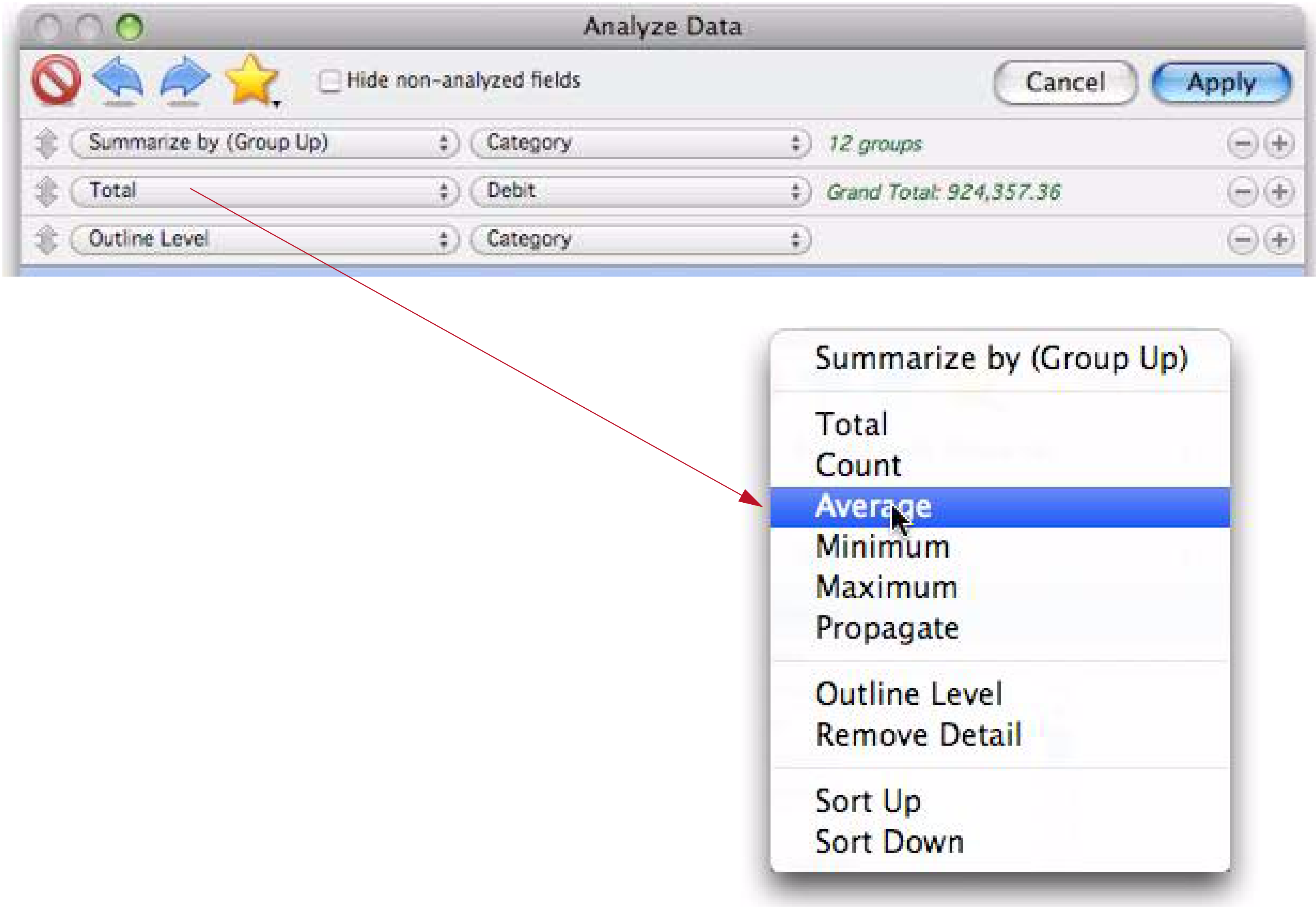
Date	Check	PayTo	Category	Memo	Debit
			Advertising		3,602.66
			Deposit		0.00
			Fixed Assets		1,363.94
			Insurance		1,254.50
			Office Supplies		1,743.34
			Payroll		9,123.24
Mar 2, 2010	178	Oregon National Engineerir	Purchases	Invoice 64191	205.77
Mar 2, 2010	181	Tech Media	Purchases	Invoice 8910	556.72
Mar 2, 2010	194	Precision Plastics	Purchases	Invoice 10488	498.49
Mar 9, 2010	198	Clark Supply	Purchases	Invoice 47372	318.44
Mar 9, 2010	200	Telon Productions	Purchases	Invoice 26984	265.12
Mar 16, 2010	206	Clark Supply	Purchases	Invoice 73927	328.26
Mar 16, 2010	207	Oregon National Engineerir	Purchases	Invoice 73178	336.09
Mar 30, 2010	214	Telon Productions	Purchases	Invoice 18763	726.98
Mar 30, 2010	215	Precision Plastics	Purchases	Invoice 42862	411.58
Mar 30, 2010	218	Miller Industries	Purchases	Invoice 47187	400.48
			Purchases		4,047.93
			Rent		1,580.00
			Shipping		1,228.70
			Telecom		454.95
			Utilities		208.96
Mar 30, 2010					24,608.22
			Advertising		2,253.88
			Deposit		0.00
			Fixed Assets		1,861.05
			Insurance		1,254.50
			Legal		1,186.08
			Office Supplies		684.32
			Payroll		8,598.97
			Purchases		1,271.43
			Rent		1,580.00
			Shipping		1,357.89
			Telecom		354.50
			Utilities		207.73
Aug 31, 2010					20,610.35
			Advertising		2,607.83
			Deposit		0.00
			Insurance		1,254.50
			Legal		1,015.09
			Office Supplies		415.43
			Payroll		9,189.31
			Purchases		2,930.92
			Rent		1,580.00
			Shipping		938.68
			Telecom		468.80
			Utilities		184.14
Nov 30, 2010					20,584.70
			Advertising		2,396.43

154 visible/659 total

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

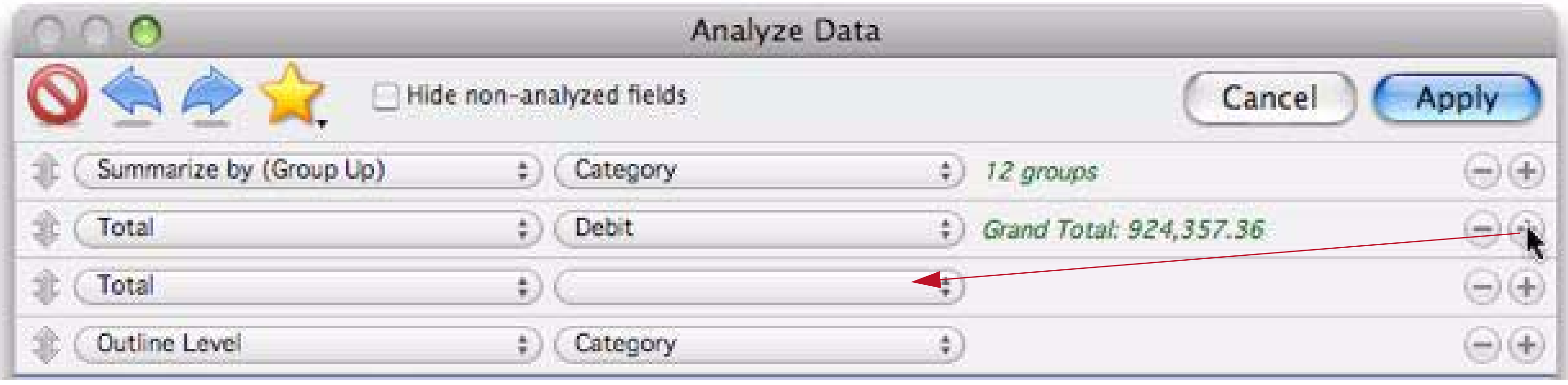
Additional Calculation Options

The summaries shown so far have totalled a single field. However you can also perform counts, averages, etc. and you can also perform calculations on multiple fields. To change the type of calculation, choose from the pop-up menu.



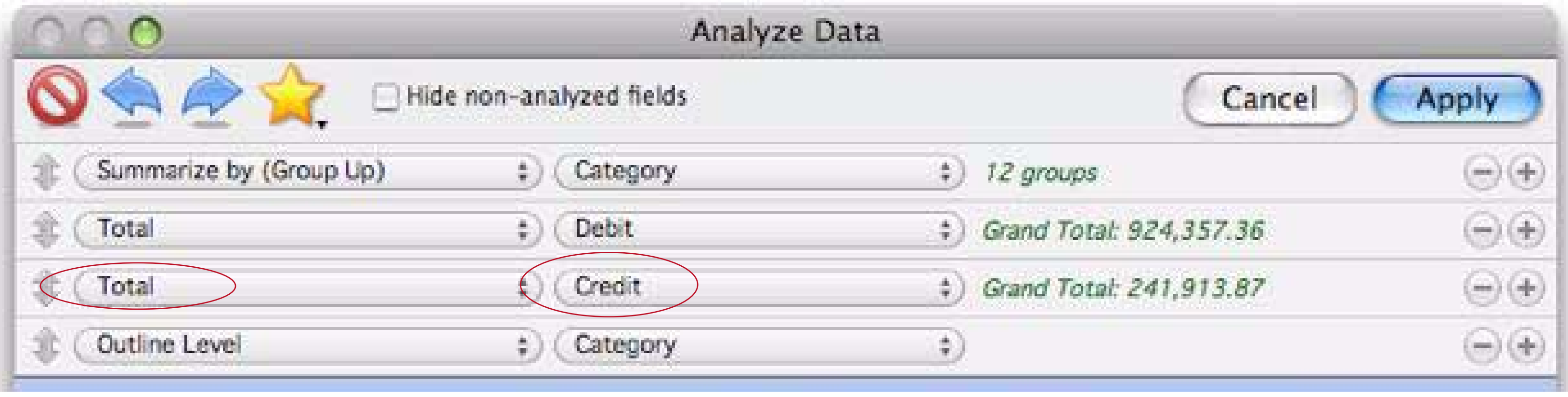
Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 924,357.36
Outline Level	Category	

To perform additional calculations, click the + button on the right.



Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 924,357.36
Total		
Outline Level	Category	

Then use the pop-up menus to choose the type of calculation (Total, Average, etc.) and the field to perform the calculations on.

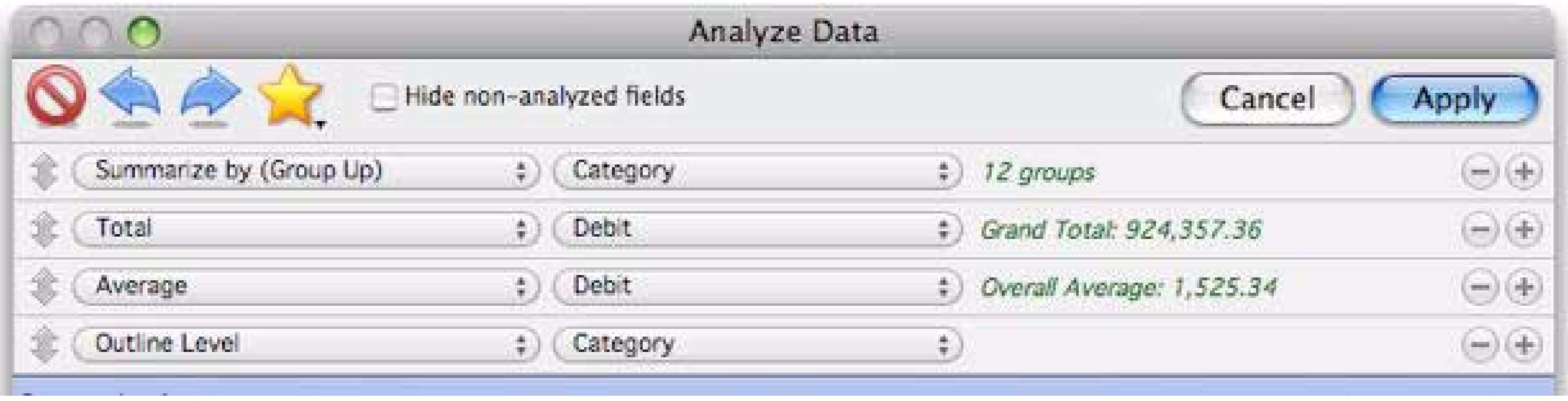


Analyze Data

□ Hide non-analyzed fields

Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 924,357.36
Total	Credit	Grand Total: 241,913.87
Outline Level	Category	

It's possible to perform multiple calculations on the same field, for example both the total and the average, as shown below.



Analyze Data

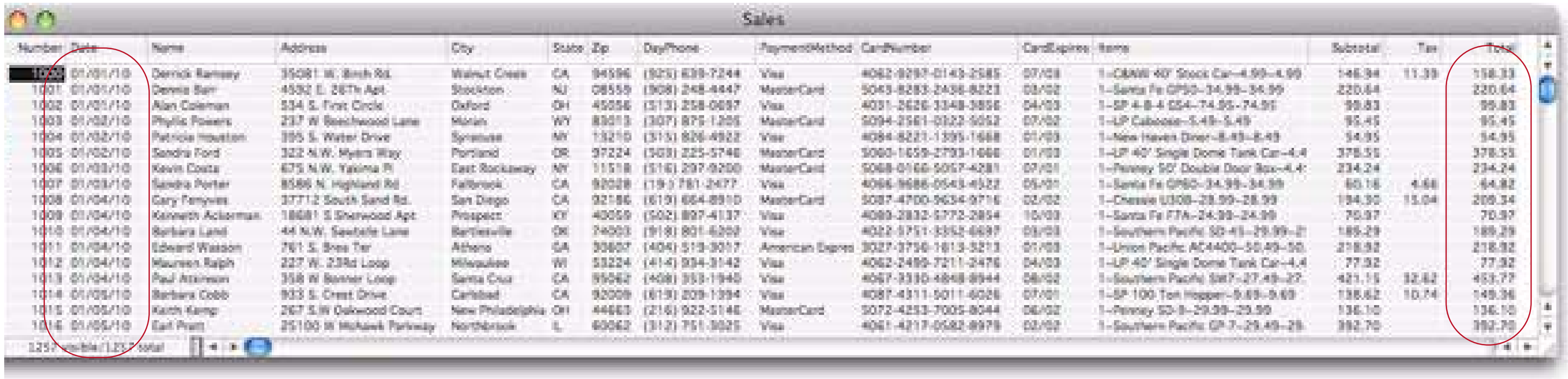
□ Hide non-analyzed fields

Summarize by (Group Up)	Category	12 groups
Total	Debit	Grand Total: 924,357.36
Average	Debit	Overall Average: 1,525.34
Outline Level	Category	

Both calculations will be displayed in the preview (as shown above). However, when you press **Apply** only the last calculation will appear in the database itself (in other words in the actual database only one calculation can be performed per field).

Hiding Non-Analyzed Fields

Sometimes a database will contain many fields but only a few are of interest for summaries or analysis. For example this database has over a dozen fields but a typical analysis might include only two fields, Date and Total.

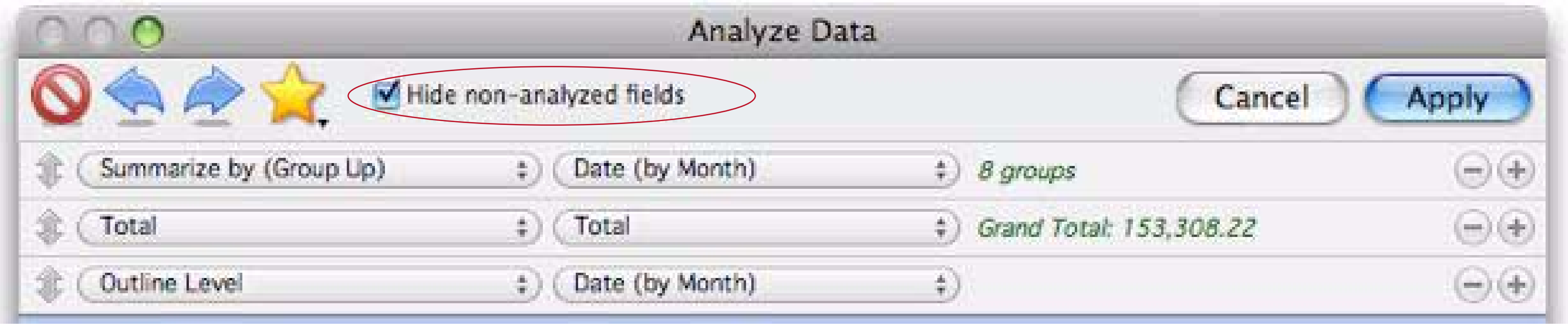


Sales

Number	Date	Name	Address	City	State	Zip	DayPhone	PaymentMethod	CardNumber	CardExpires	Items	Subtotal	Tax	Total
1000	01/01/10	Derrick Ramsey	35081 W. Birch Rd.	Walnut Creek	CA	94596	(925) 639-7244	Visa	4062-9297-0143-2585	07/03	1—C&NW 40' Stock Car—4.99—4.99	146.94	11.39	158.33
1001	01/01/10	Dennis Barr	4532 E. 28Th Apt.	Stockton	NJ	08559	(908) 248-4447	MasterCard	5043-8283-2436-8223	03/02	1—Santa Fe GP50—34.99—34.99	220.64		220.64
1002	01/01/10	Alan Coleman	534 S. First Circle	Oxford	OH	45056	(513) 258-0697	Visa	4031-2626-3348-3856	04/03	1—SP 4-8-4 GS4—74.95—74.95	99.83		99.83
1003	01/02/10	Phyllis Powers	237 W Beechwood Lane	Moran	WY	83013	(307) 875-1205	MasterCard	5094-2561-0322-5052	07/02	1—UP Caboose—5.49—5.49	95.45		95.45
1004	01/02/10	Patricia Houston	395 S. Water Drive	Syracuse	NY	13210	(315) 826-4922	Visa	4084-8221-1395-1668	01/03	1—New Haven Diner—8.49—8.49	34.95		34.95
1005	01/02/10	Sandra Ford	322 N.W. Myers Way	Portland	OR	97224	(503) 225-5746	MasterCard	5060-1659-2793-1666	01/03	1—UP 40' Single Dome Tank Car—4.4	378.55		378.55
1006	01/03/10	Kevin Costa	675 N.W. Yakima Pl	East Rockaway	NY	11518	(516) 297-9200	MasterCard	5068-0166-5057-4281	07/01	1—Penney 50' Double Door Box—4.4'	234.24		234.24
1007	01/03/10	Sandra Porter	8586 N. Highland Rd	Fallbrook	CA	92028	(19) 781-2477	Visa	4066-9686-0543-4522	05/01	1—Santa Fe GP60—34.99—34.99	60.16	4.66	64.82
1008	01/04/10	Gary Fenyves	37712 South Sand Rd.	San Diego	CA	92186	(619) 664-8910	MasterCard	5087-4700-9634-9716	02/02	1—Chessie U30B—28.99—28.99	194.30	15.04	209.34
1009	01/04/10	Kenneth Ackerman	18681 S Sherwood Apt	Prospect	KY	40059	(502) 897-4137	Visa	4089-2832-5772-2854	10/03	1—Santa Fe F7A—24.99—24.99	70.97		70.97
1010	01/04/10	Barbara Land	44 N.W. Sawtelle Lane	Bartlesville	OK	74003	(918) 801-6202	Visa	4022-5751-3352-6697	03/03	1—Southern Pacific SD-45—29.99—2!	189.29		189.29
1011	01/04/10	Edward Wasson	761 S. Brea Ter	Athens	GA	30607	(404) 513-3017	American Expres	3027-3756-1813-3213	01/03	1—Union Pacific AC4400—50.49—50.	218.92		218.92
1012	01/04/10	Maureen Ralph	227 W. 23Rd Loop	Milwaukee	WI	53224	(414) 934-3142	Visa	4062-2499-7211-2476	04/03	1—UP 40' Single Dome Tank Car—4.4	77.32		77.32
1013	01/04/10	Paul Atkinson	358 W Bonner Loop	Santa Cruz	CA	95062	(408) 353-1940	Visa	4067-3330-4848-8944	08/02	1—Southern Pacific SW7—27.49—27.	421.15	32.62	453.77
1014	01/05/10	Barbara Cobb	933 S. Crest Drive	Carlsbad	CA	92009	(619) 209-1394	Visa	4087-4311-5011-6026	07/01	1—SP 100 Ton Hopper—9.69—9.69	138.62	10.74	149.36
1015	01/05/10	Keith Kemp	267 S.W Oakwood Court	New Philadelphia	OH	44663	(216) 922-5146	MasterCard	5072-4253-7005-8044	06/02	1—Penney SD-9—29.99—29.99	136.10		136.10
1016	01/05/10	Earl Pratt	25100 W Mohawk Parkway	Northbrook	IL	60062	(312) 751-3025	Visa	4061-4217-0582-8979	02/02	1—Southern Pacific GP-7—29.49—29.	392.70		392.70

1257 visible/1257 total

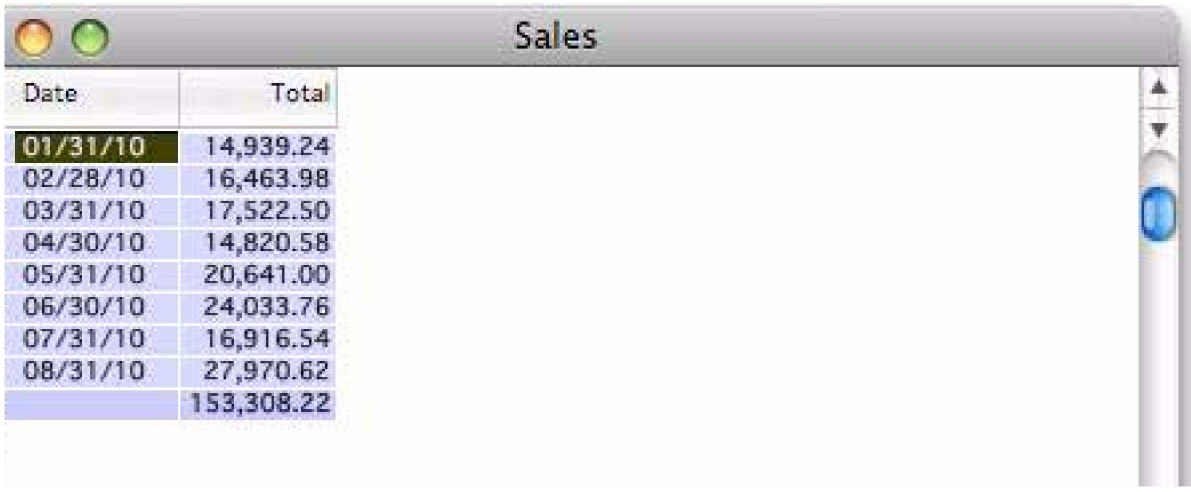
In this situation, simply check the Hide non-analyzed fields option.



☑ Hide non-analyzed fields

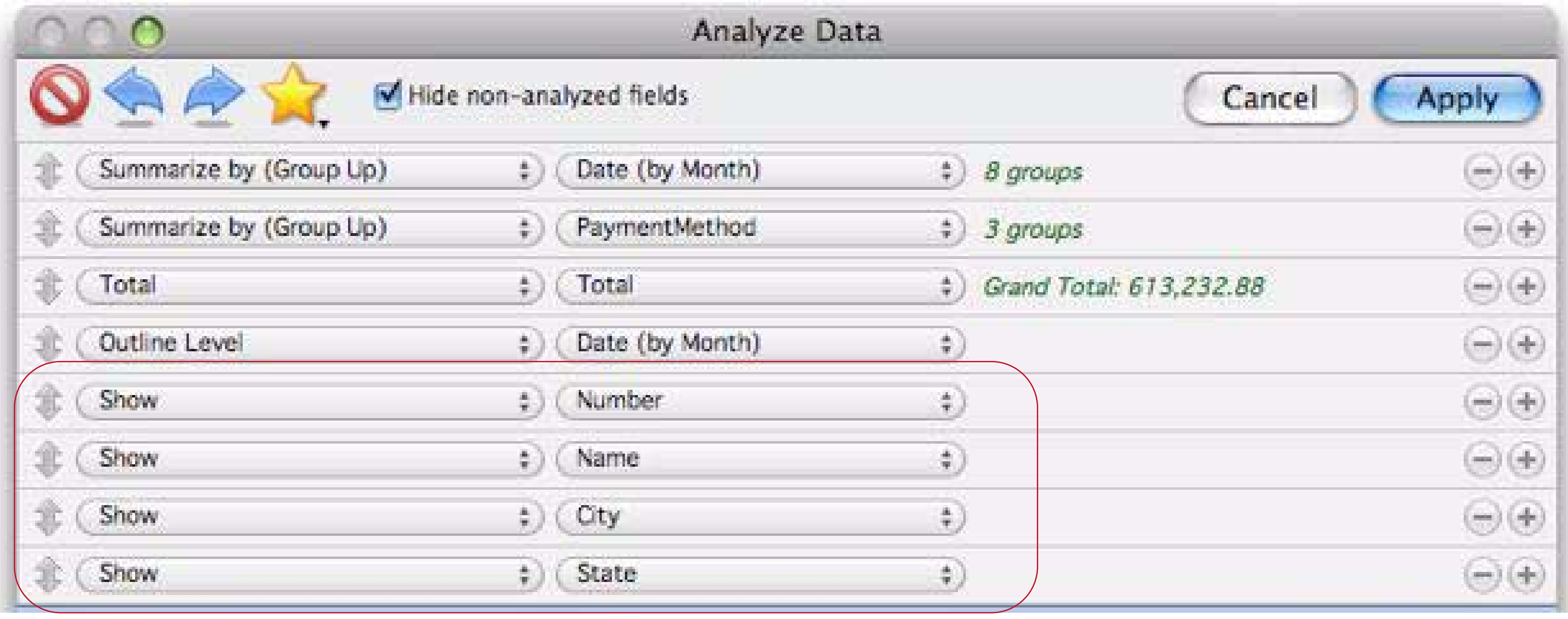
Summarize by (Group Up)	Date (by Month)	8 groups
Total	Total	Grand Total: 153,308.22
Outline Level	Date (by Month)	

When you press the **Apply** button, Panorama will automatically hide all of the fields that aren't involved in the summary or calculation. This makes it much easier to examine the summary information.



Date	Total
01/31/10	14,939.24
02/28/10	16,463.98
03/31/10	17,522.50
04/30/10	14,820.58
05/31/10	20,641.00
06/30/10	24,033.76
07/31/10	16,916.54
08/31/10	27,970.62
	153,308.22

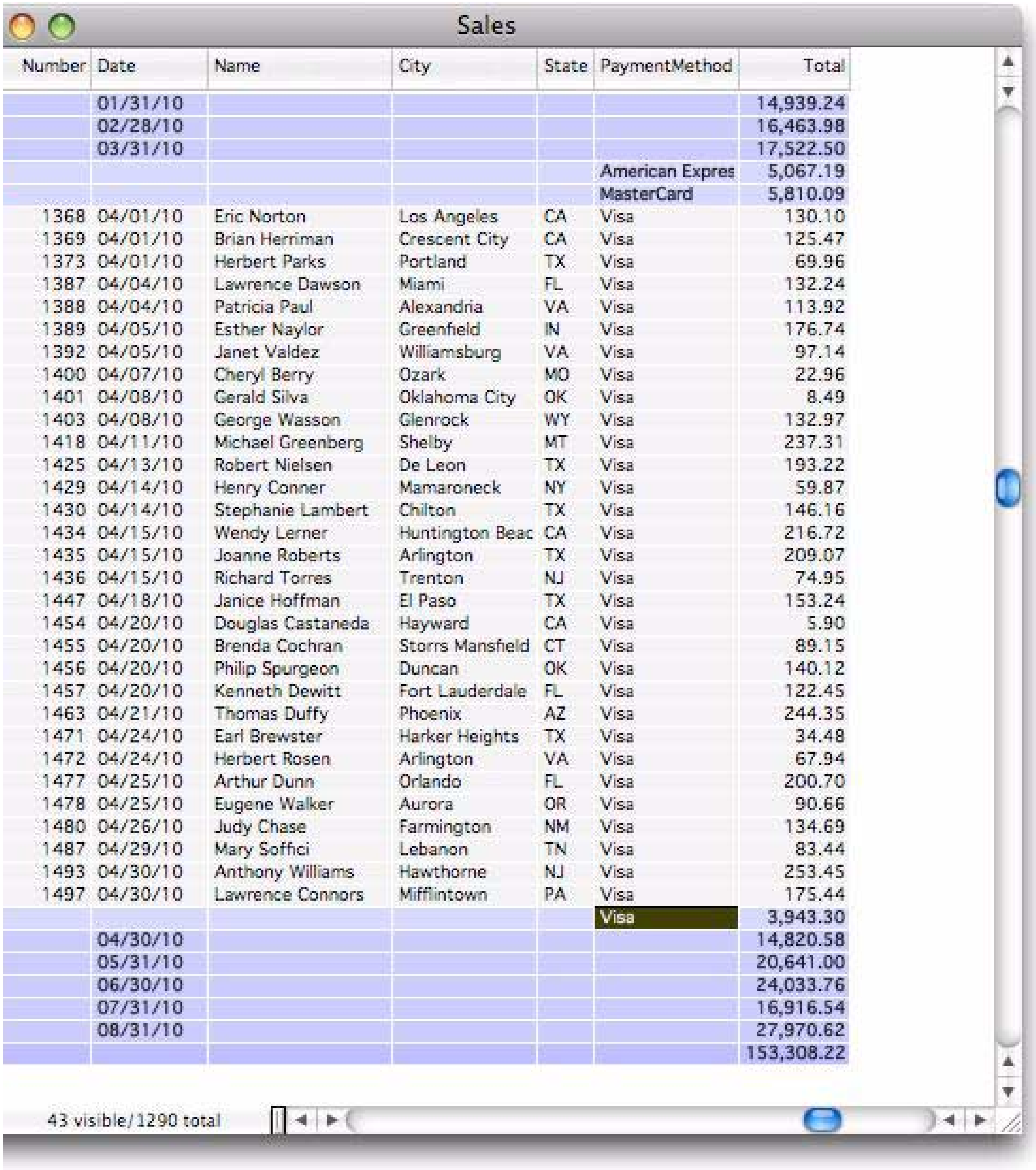
Sometimes you might want to leave one or more fields visible even if they aren't part of the summary or calculations. To do this, add extra rows to the analysis and specify **Show** for these fields, as shown below.



☑ Hide non-analyzed fields

Summarize by (Group Up)	Date (by Month)	8 groups
Summarize by (Group Up)	PaymentMethod	3 groups
Total	Total	Grand Total: 613,232.88
Outline Level	Date (by Month)	
Show	Number	
Show	Name	
Show	City	
Show	State	

The primary reason why you might want to show these additional fields is so that the raw data in the fields is visible when you expand details of the summary, like this:



Sales

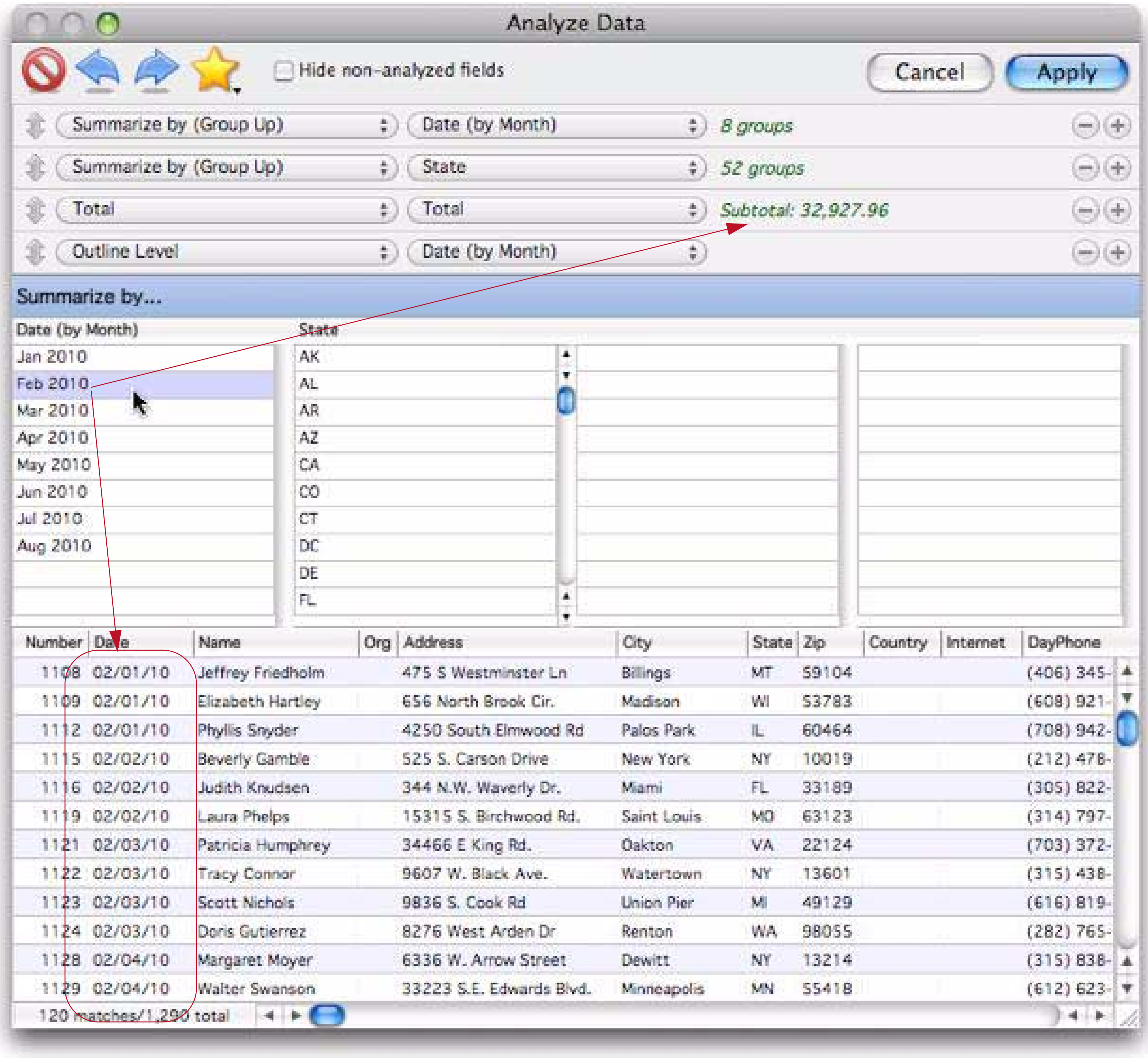
Number	Date	Name	City	State	PaymentMethod	Total
	01/31/10					14,939.24
	02/28/10					16,463.98
	03/31/10					17,522.50
					American Expres	5,067.19
					MasterCard	5,810.09
1368	04/01/10	Eric Norton	Los Angeles	CA	Visa	130.10
1369	04/01/10	Brian Herriman	Crescent City	CA	Visa	125.47
1373	04/01/10	Herbert Parks	Portland	TX	Visa	69.96
1387	04/04/10	Lawrence Dawson	Miami	FL	Visa	132.24
1388	04/04/10	Patricia Paul	Alexandria	VA	Visa	113.92
1389	04/05/10	Esther Naylor	Greenfield	IN	Visa	176.74
1392	04/05/10	Janet Valdez	Williamsburg	VA	Visa	97.14
1400	04/07/10	Cheryl Berry	Ozark	MO	Visa	22.96
1401	04/08/10	Gerald Silva	Oklahoma City	OK	Visa	8.49
1403	04/08/10	George Wasson	Glenrock	WY	Visa	132.97
1418	04/11/10	Michael Greenberg	Shelby	MT	Visa	237.31
1425	04/13/10	Robert Nielsen	De Leon	TX	Visa	193.22
1429	04/14/10	Henry Conner	Mamaroneck	NY	Visa	59.87
1430	04/14/10	Stephanie Lambert	Chilton	TX	Visa	146.16
1434	04/15/10	Wendy Lerner	Huntington Beac	CA	Visa	216.72
1435	04/15/10	Joanne Roberts	Arlington	TX	Visa	209.07
1436	04/15/10	Richard Torres	Trenton	NJ	Visa	74.95
1447	04/18/10	Janice Hoffman	El Paso	TX	Visa	153.24
1454	04/20/10	Douglas Castaneda	Hayward	CA	Visa	5.90
1455	04/20/10	Brenda Cochran	Storrs Mansfield	CT	Visa	89.15
1456	04/20/10	Philip Spurgeon	Duncan	OK	Visa	140.12
1457	04/20/10	Kenneth Dewitt	Fort Lauderdale	FL	Visa	122.45
1463	04/21/10	Thomas Duffy	Phoenix	AZ	Visa	244.35
1471	04/24/10	Earl Brewster	Harker Heights	TX	Visa	34.48
1472	04/24/10	Herbert Rosen	Arlington	VA	Visa	67.94
1477	04/25/10	Arthur Dunn	Orlando	FL	Visa	200.70
1478	04/25/10	Eugene Walker	Aurora	OR	Visa	90.66
1480	04/26/10	Judy Chase	Farmington	NM	Visa	134.69
1487	04/29/10	Mary Soffici	Lebanon	TN	Visa	83.44
1493	04/30/10	Anthony Williams	Hawthorne	NJ	Visa	253.45
1497	04/30/10	Lawrence Connors	Mifflintown	PA	Visa	175.44
					Visa	3,943.30
	04/30/10					14,820.58
	05/31/10					20,641.00
	06/30/10					24,033.76
	07/31/10					16,916.54
	08/31/10					27,970.62
						153,308.22

43 visible/1290 total

Of course you can customize which fields are visible at any time, see “Temporarily Hiding One or More Fields” on page 130.

Previewing Subtotals

The Summarize & Analyze dialog allows you to preview summary results right in the dialog. When you click on a summary, the subtotal and preview areas update to reflect the item you clicked on. In the database shown below, there were 120 orders placed in February 2010, for a total of $32,927.96.



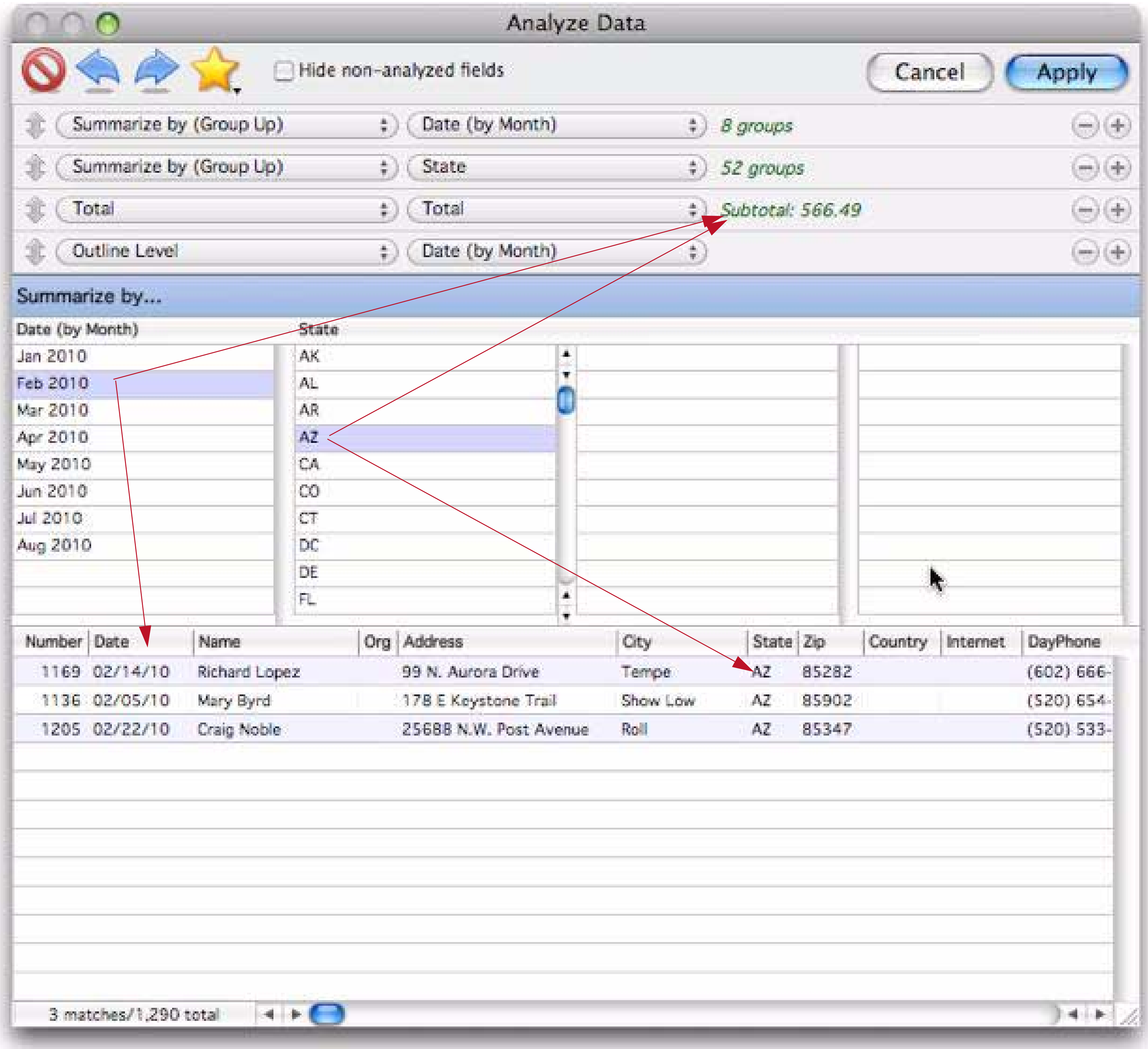
Summarize by (Group Up)	Date (by Month)	8 groups
Summarize by (Group Up)	State	52 groups
Total	Total	Subtotal: 32,927.96
Outline Level	Date (by Month)	

Date (by Month)	State
Jan 2010	AK
Feb 2010	AL
Mar 2010	AR
Apr 2010	AZ
May 2010	CA
Jun 2010	CO
Jul 2010	CT
Aug 2010	DC
	DE
	FL

Number	Date	Name	Org	Address	City	State	Zip	Country	Internet	DayPhone
1108	02/01/10	Jeffrey Friedholm		475 S Westminster Ln	Billings	MT	59104			(406) 345-
1109	02/01/10	Elizabeth Hartley		656 North Brook Cir.	Madison	WI	53783			(608) 921-
1112	02/01/10	Phyllis Snyder		4250 South Elmwood Rd	Palos Park	IL	60464			(708) 942-
1115	02/02/10	Beverly Gamble		525 S. Carson Drive	New York	NY	10019			(212) 478-
1116	02/02/10	Judith Knudsen		344 N.W. Waverly Dr.	Miami	FL	33189			(305) 822-
1119	02/02/10	Laura Phelps		15315 S. Birchwood Rd.	Saint Louis	MO	63123			(314) 797-
1121	02/03/10	Patricia Humphrey		34466 E King Rd.	Oakton	VA	22124			(703) 372-
1122	02/03/10	Tracy Connor		9607 W. Black Ave.	Watertown	NY	13601			(315) 438-
1123	02/03/10	Scott Nichols		9836 S. Cook Rd	Union Pier	MI	49129			(616) 819-
1124	02/03/10	Doris Gutierrez		8276 West Arden Dr	Renton	WA	98055			(282) 765-
1128	02/04/10	Margaret Moyer		6336 W. Arrow Street	Dewitt	NY	13214			(315) 838-
1129	02/04/10	Walter Swanson		33223 S.E. Edwards Blvd.	Minneapolis	MN	55418			(612) 623-

120 matches/1,290 total

If you've grouped by multiple columns, you can click on multiple summary items to preview them. The illustration below shows that there were 3 orders placed from Arizona in February 2010, and you can see exactly who these orders were from. You can click around to preview any summary you like. If you click a selected summary, it will become unselected (for example if you want to see the grand total again.)



Summarize by (Group Up)	Date (by Month)	8 groups
Summarize by (Group Up)	State	52 groups
Total	Total	Subtotal: 566.49
Outline Level	Date (by Month)	

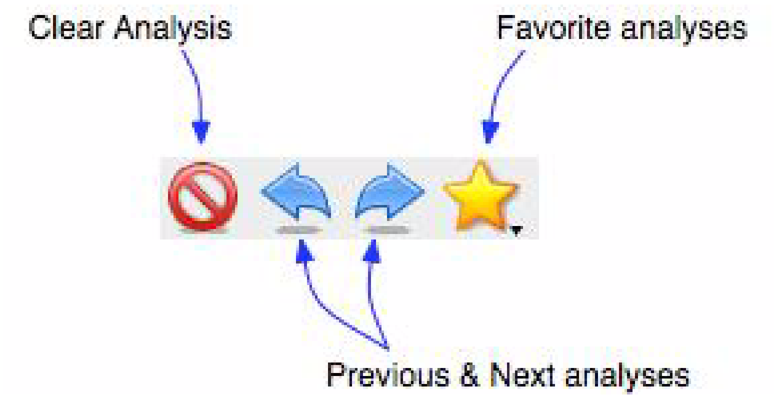
Number	Date	Name	Org	Address	City	State	Zip	Country	Internet	DayPhone
1169	02/14/10	Richard Lopez		99 N. Aurora Drive	Tempe	AZ	85282			(602) 666-
1136	02/05/10	Mary Byrd		178 E Keystone Trail	Show Low	AZ	85902			(520) 654-
1205	02/22/10	Craig Noble		25688 N.W. Post Avenue	Roll	AZ	85347			(520) 533-

3 matches/1,290 total

Using this technique you'll sometimes be able to get the answers you need right from the dialog, without even pressing the **Apply** button.

Managing Analyses

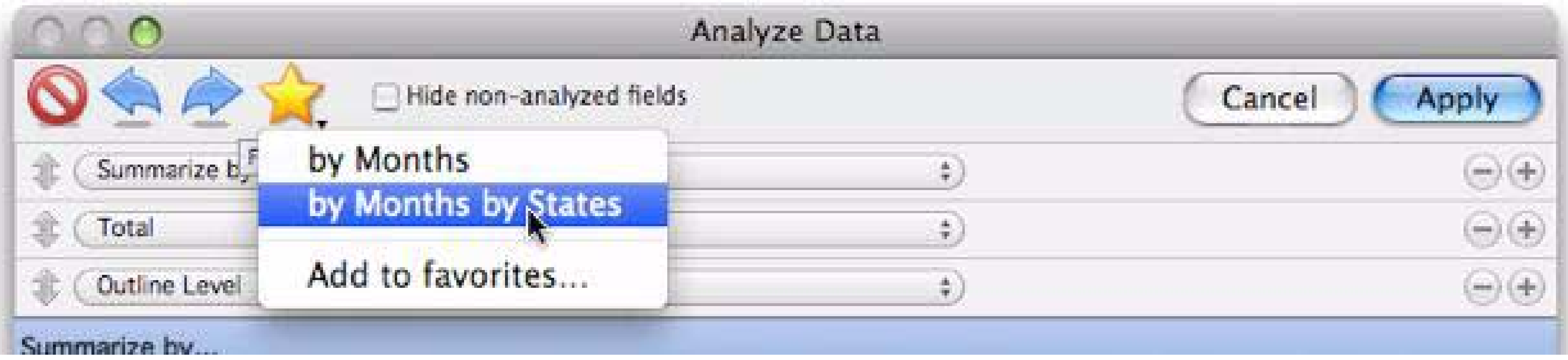
The tools in the upper left corner of the **Summarize & Analyze** dialog allow you to manage and easily re-use previous analyses.



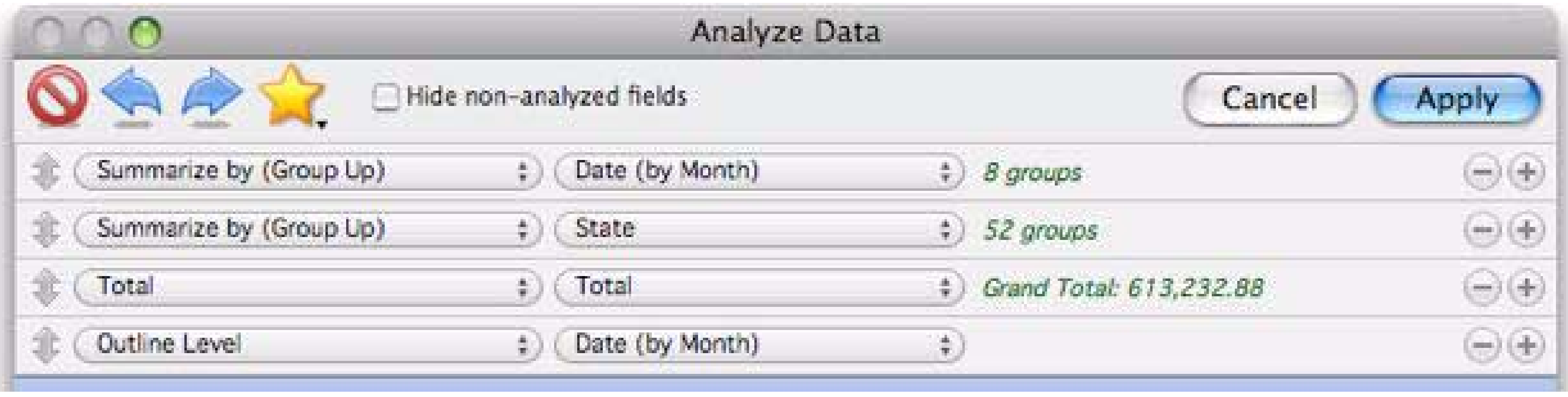
Clear Analysis — This button clears the current analysis, reseting the dialog. (If you press **Clear Analysis** by mistake you you can press **Previous Analysis** to go back.)

Previous Analysis, **Next Analysis** — This pair of buttons allows you to go back to previously used analyses. (Note: Only analyses that you actually "finalized" by pressing the **Apply** button are included in the list of previously used analyses.)

Favorites — This button displays a pop-up menu of favorite analyses, along with options for adding and removing favorites. To select a favorite you've saved previously, just click on the star and choose the favorite from the menu.

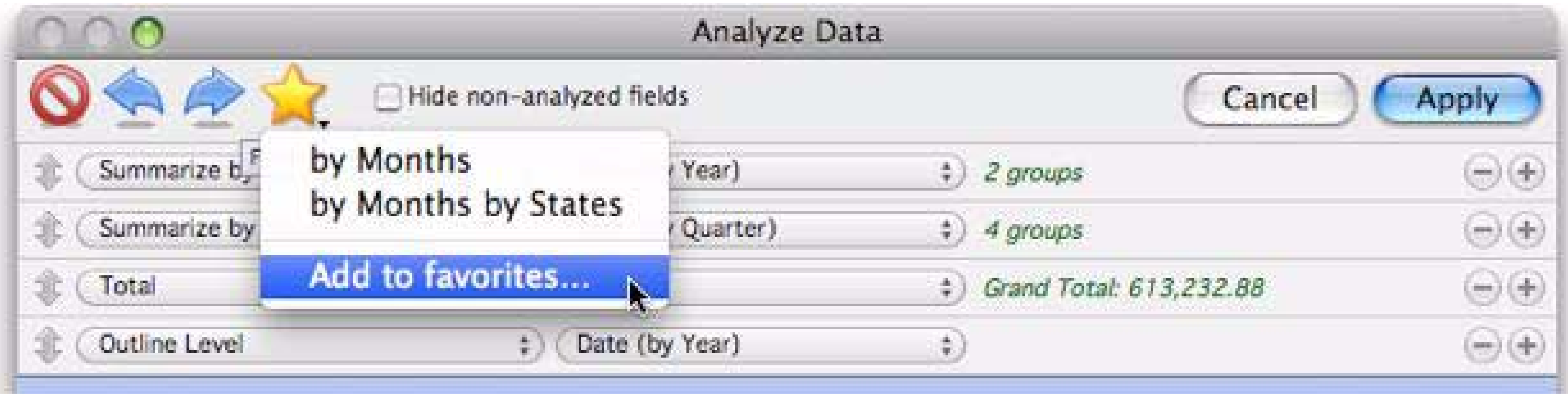


The analysis is restored just as it was saved. You can use it as is by pressing **Apply**, or you can modify it first.

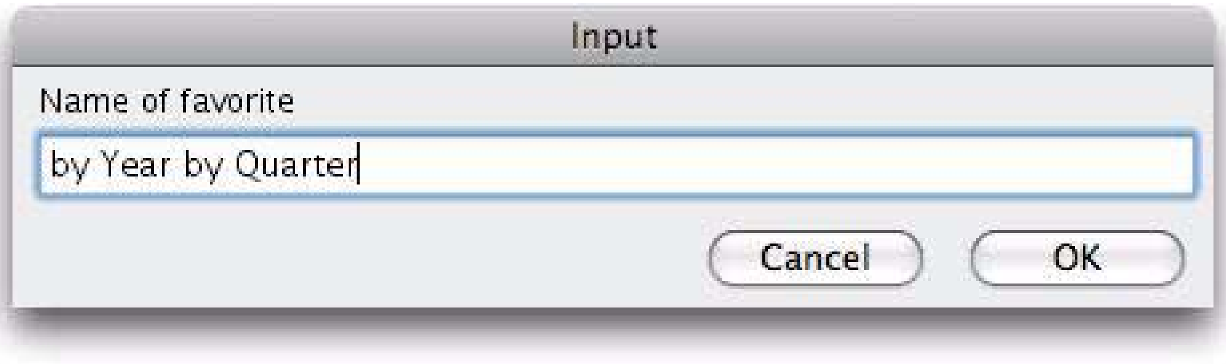


Summarize by (Group Up) | Date (by Month) | 8 groups
Summarize by (Group Up) | State | 52 groups
Total | Total | Grand Total: 613,232.88
Outline Level | Date (by Month)

To save a new favorite, first set up the query specification, then click on the star and choose **Add to favorites…**

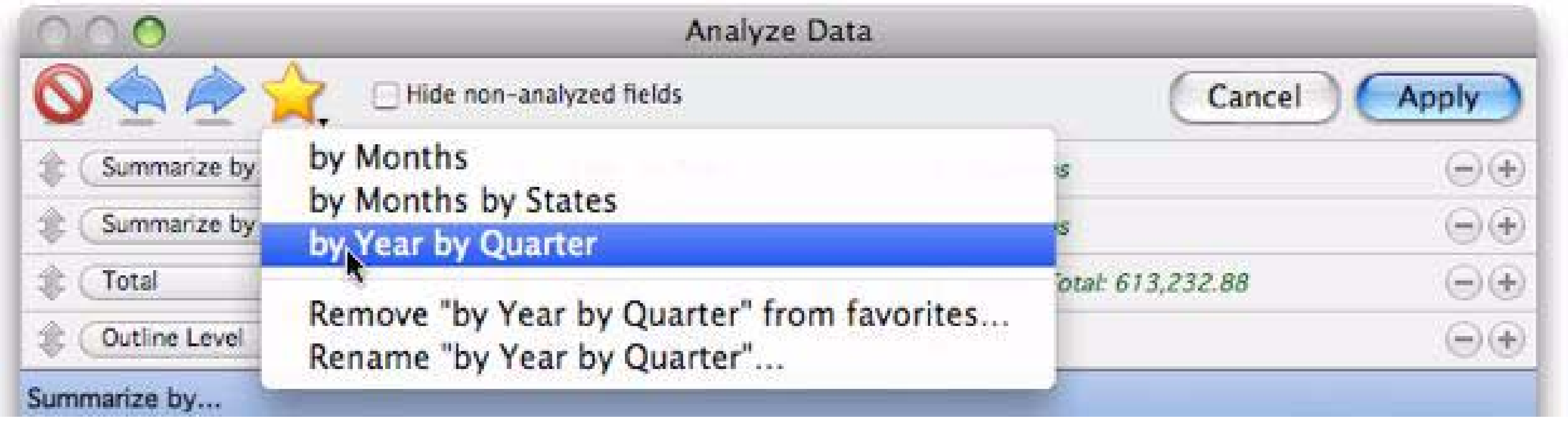


Enter a name for the new favorite.



Name of favorite
by Year by Quarter

Your new favorite now appears in the pop-up menu.



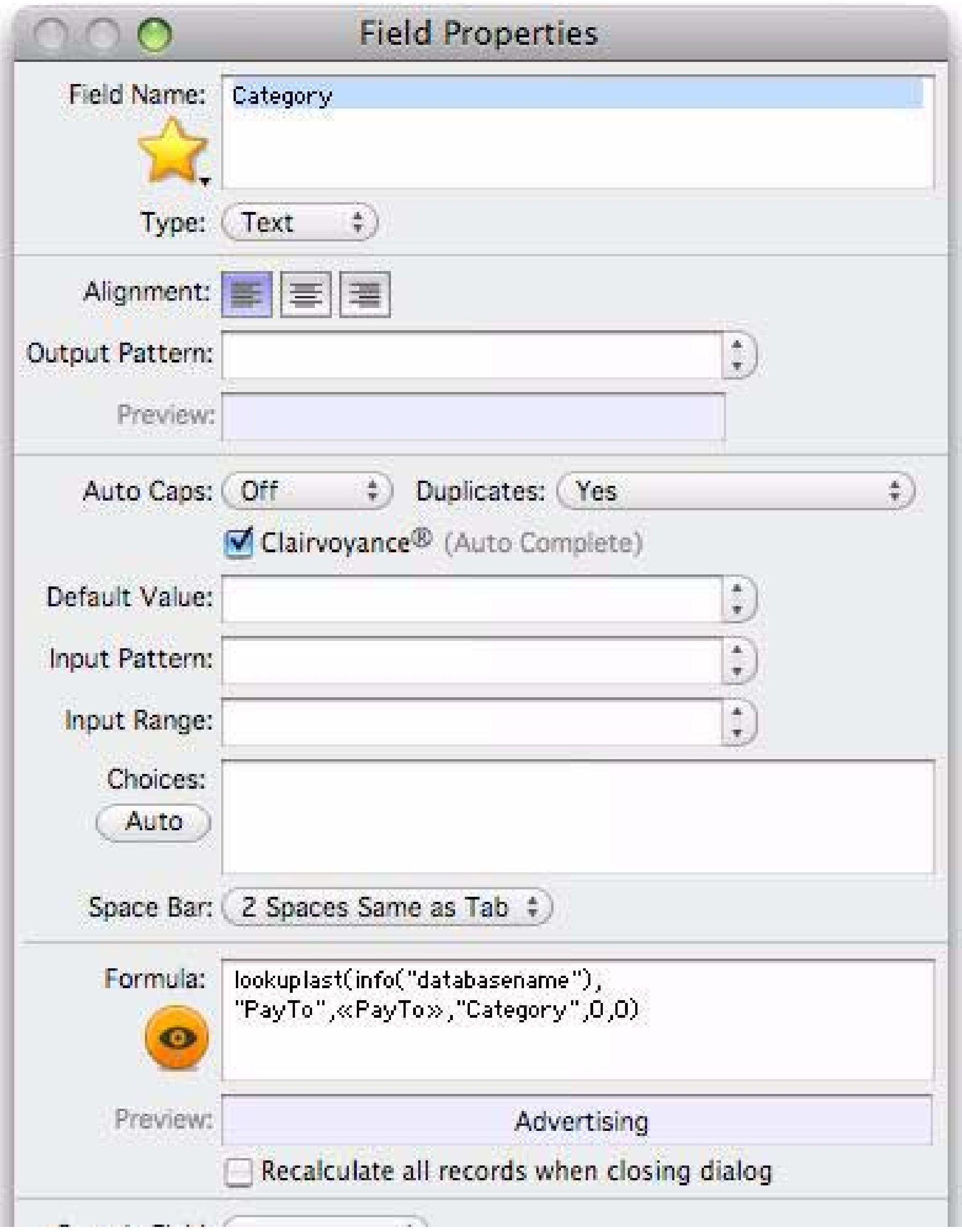
To delete or rename a favorite, first select the favorite from the pop-up menu. Then choose Remove or Rename, as shown above.

Chapter 6: Advanced Field Properties

Earlier in this book the concept of field properties was introduced, and basic field properties were discussed. This chapter covers the subject of field properties in detail. Learning about the properties described in this chapter is optional, but they can help you make your databases faster, easier to use, and more error free.

Modifying the Properties of an Existing Field

To modify a field's properties, choose **Field Properties** from the **Fields** menu, or simply double click on the name of the field at the top of the data sheet. There are nearly two dozen properties that you can customize.



Field Properties

Field Name: Category

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Off Duplicates: Yes

☑ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

Choices:

Space Bar: 2 Spaces Same as Tab

Formula:

```
lookuplast(info("databasename"),
"PayTo",«PayTo»,"Category",0,0)
```

Preview: Advertising

☐ Recalculate all records when closing dialog

Field Name

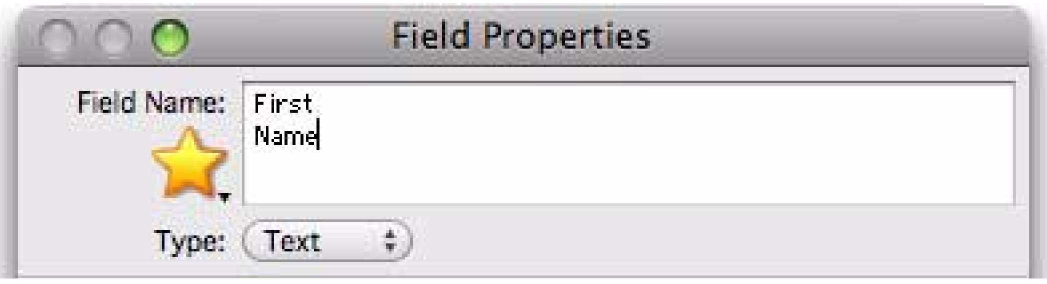
Each field in a Panorama database is identified by a field name. Field names serve several purposes: they remind you what the field is for (i.e. the Dates field probably contains dates, the Name field probably contains names, etc.), they appear at the top of each column in the data sheet, and they are used to identify fields in formulas (for example **Amount=Qty*Price**).

There are no absolute restrictions on the field names you choose. Field names may be as long as you want, and they may contain any character that can be typed from the keyboard. Field names may be split over two or more lines. You can even have two or more fields with the same name (but we recommend that you avoid this, see the next paragraph).

However, if you are planning to use a field in a formula, you may want to avoid some of these unusual possibilities. If you have two or more fields with the same name, only the first field will be accessible to a formula. Field names containing blanks or punctuation (for instance P/E Ratio) are more difficult to use in a formula. To use such a field in a formula, you must surround the field name with « and » (for example **«P/E Ratio»**. See "Fields" on page 286). (If you left out the «», Panorama would think you were trying to divide **P** by **E**, with **Ratio** left over.) You may want to avoid field names like Date, Seconds, And, Or, and Sum. These names can be confusing when used in a formula because Panorama has functions with the same names.

Multi-Line Field Names

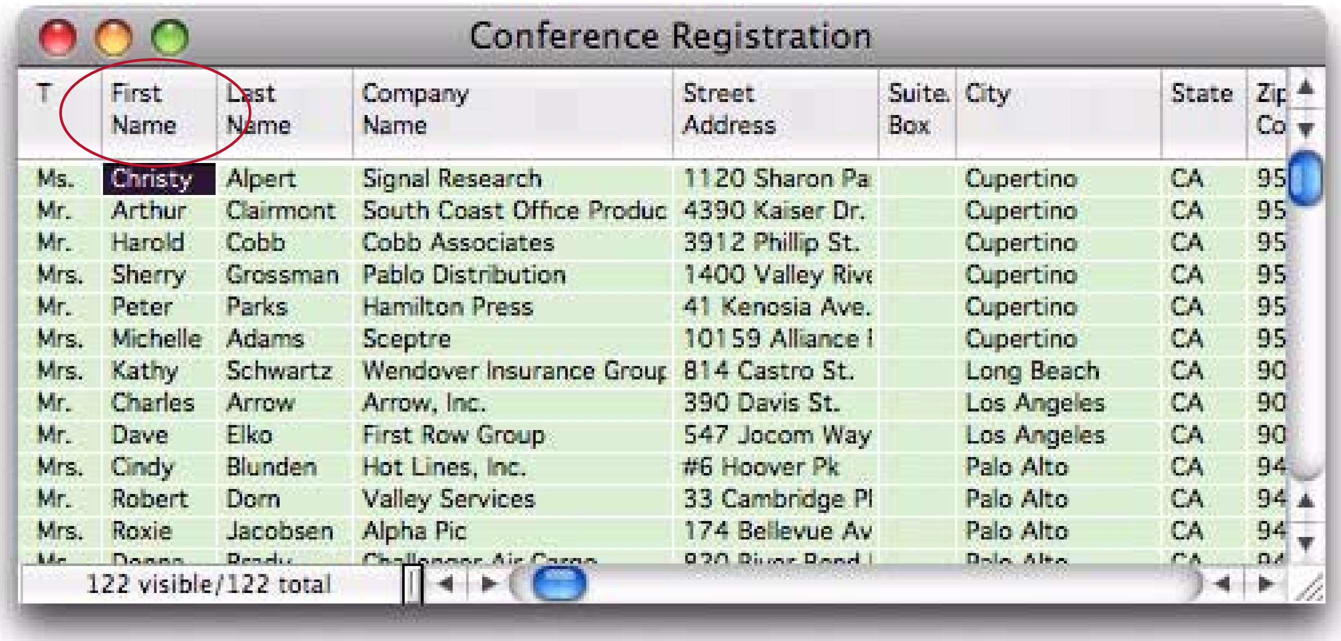
A field name can be split across one or more lines, like this:



Field Name: First
Name

Type: Text

In the data sheet, the title of this field will also be split over multiple lines. As you can see in the example below, you can mix field names that have one, two, three or more lines.



T	First Name	Last Name	Company Name	Street Address	Suite Box	City	State	Zip Co
Ms.	Christy	Alpert	Signal Research	1120 Sharon Pa		Cupertino	CA	95
Mr.	Arthur	Clairmont	South Coast Office Produc	4390 Kaiser Dr.		Cupertino	CA	95
Mr.	Harold	Cobb	Cobb Associates	3912 Phillip St.		Cupertino	CA	95
Mrs.	Sherry	Grossman	Pablo Distribution	1400 Valley Rive		Cupertino	CA	95
Mr.	Peter	Parks	Hamilton Press	41 Kenosia Ave.		Cupertino	CA	95
Mrs.	Michelle	Adams	Sceptre	10159 Alliance I		Cupertino	CA	95
Mrs.	Kathy	Schwartz	Wendover Insurance Grour	814 Castro St.		Long Beach	CA	90
Mr.	Charles	Arrow	Arrow, Inc.	390 Davis St.		Los Angeles	CA	90
Mr.	Dave	Elko	First Row Group	547 Jocom Way		Los Angeles	CA	90
Mrs.	Cindy	Blunden	Hot Lines, Inc.	#6 Hoover Pk		Palo Alto	CA	94
Mr.	Robert	Dorn	Valley Services	33 Cambridge Pl		Palo Alto	CA	94
Mrs.	Roxie	Jacobsen	Alpha Pic	174 Bellevue Av		Palo Alto	CA	94
Mr.	Donna	Brady	Challenger Air Cargo	920 River Bend I		Palo Alto	CA	94

122 visible/122 total

In a formula, any carriage returns in the field name are represented by spaces. For example, the fields in the database above would be represented in a formula by **T**, **«First Name»**, **«Last Name»**, **«Company Name»**, etc. The **«** and **»** characters are necessary because of the space in the field name.

Field Data Type

In Panorama Sheets, all data is not the same. Just as Eskimos distinguish between 16 types of snow, Panorama distinguishes between four types of data—**text**, **numeric**, **date**, and **choices**. To get the most out of a database, Panorama needs to know what type of data you intend to store in each field. This lets Panorama store the data efficiently and check for data entry errors. It also tells Panorama how to compare different values (numbers, text, and dates are all compared differently) which is important for sorting and selecting data. The data type also tells Panorama how to format some kinds of data (numbers and dates).

As mentioned above, Panorama databases can contain five different types of data. When you create the database, you specify what type of data will be stored in each field.

Data Type	Uses	Examples
Text	Names, Addresses, Descriptions, etc.	John, 234 Peach Avenue
Numeric	Prices, Quantities, etc.	4, 78.23, 4.9e-2
Date	Dates.	9 / 18 / 2002
Choices	Multiple Choice Options	Yes / No, Gold / Silver / Bronze

The **text** data type is used for storing ordinary text—names, addresses, descriptions, etc. Panorama cannot perform mathematical calculations (add, subtract, etc.) on data that is stored as text.

The **numeric** data type is used for storing numbers—prices, quantities, etc. Use the numeric data type for any field you want to use in a calculation. The numeric data type has several variations that are discussed later in this chapter.

It's not always necessary to store numbers in numeric fields. For example, zip codes and phone numbers are usually stored in text fields, not numeric fields. This allows the use of nine digit zip codes (for example 92867-3482) and foreign postal codes and phone numbers. In general, use a numeric field if you want to perform numeric calculations (addition, multiplication, etc.) and / or if you want to select or sort the information in numeric order (1, 2, 3, … 10, 20, 30, … etc.)

The **date** data type is self explanatory—it is used for storing dates (for instance March 1, 2009). Panorama understands the properties of dates—it knows that May 1st follows April 30th and that there are six days between May 28th and June 3rd. Panorama can handle dates from 100 A.D. to well past the year 20,000 A.D.

The **choices** data type is used for storing data that has only a few possible values—for instance yes / no, gold / silver / bronze, or coach / first class. The choices data type saves space by storing a special code instead of the entire text. When Panorama was introduced in 1988 these memory savings were important, but now this option is rarely used.

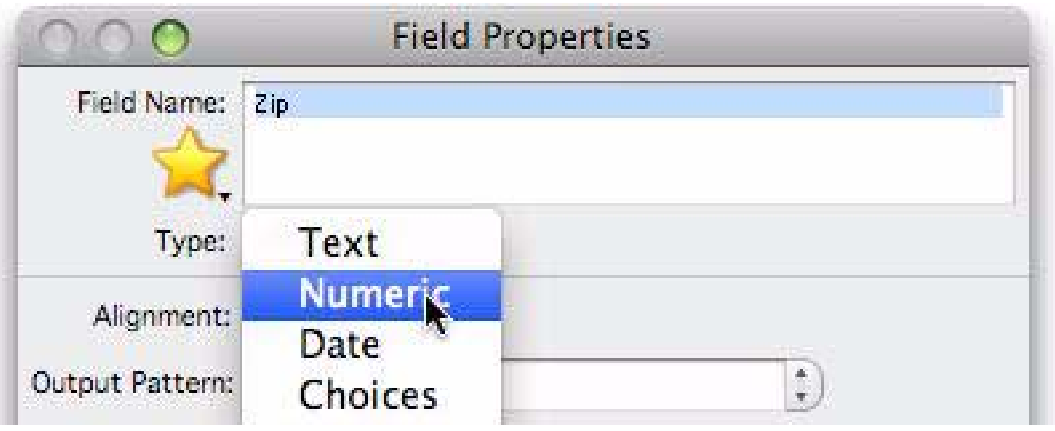
Data Types and Memory Usage

When we started writing Panorama in 1986, a typical personal computer had about 1 megabyte of memory. Because Panorama loads the entire database into RAM, it was critical to store the data as efficiently as possible. To do this we created a variety of data types, allowing you to pick the data type that was most efficient for each field (for example, there are 6 different numeric data types).

Nowadays a typical computer has several hundred megabytes or even gigabytes of RAM. For most applications it is no longer necessary to be hypervigilant about choosing the most efficient data type. For example, for numbers, it's usually fine to simply use the most flexible **floating point** option, even though this consumes a little bit more memory. It's also rarely necessary to use the **choice** data type—you can simply use the **text** data type instead. Throughout the rest of this chapter you'll find a lot of discussion about picking the most efficient data type for each field. If you are working with small to moderate size databases (from 10 to 20,000 records) you probably don't need to worry about picking the most efficient data types. You can simply stick with three basic data types—text, floating point numbers, and dates. That being said, you can probably skip over most of the material in the rest of this chapter!

Modifying a Field's Data Type

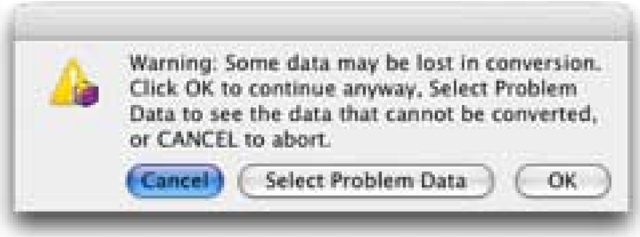
The data type of a field can be specified using the **Field Properties** command in the Field menu. The **Field Properties** dialog box contains a pop-up menu for selecting the data type. Tip: You can also open the Field Properties dialog box by double clicking on the name of the field on the data sheet.



Field Name: Zip

Data Type Conversion Problems

When you change the data type of an existing field it is possible that you may lose some of the data in that field. For example, if you convert a field from text to numeric, any letters or punctuation will be lost in the conversion. Panorama will warn you if this situation occurs.



Warning: Some data may be lost in conversion. Click OK to continue anyway, Select Problem Data to see the data that cannot be converted, or CANCEL to abort.

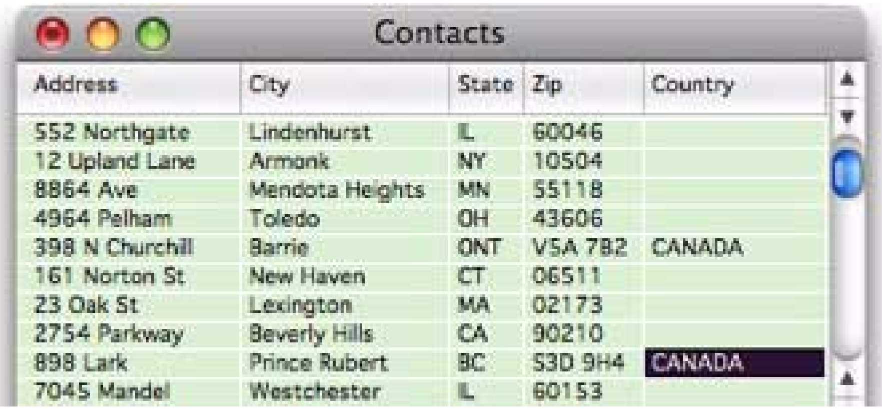
The alert gives you three options:

OK — Pressing this button tells Panorama to complete the conversion. Any data that cannot be converted will be removed. For example, if you are converting a field from text to numeric any non-numeric data will be lost in the conversion.

Cancel — Pressing this button cancels the conversion

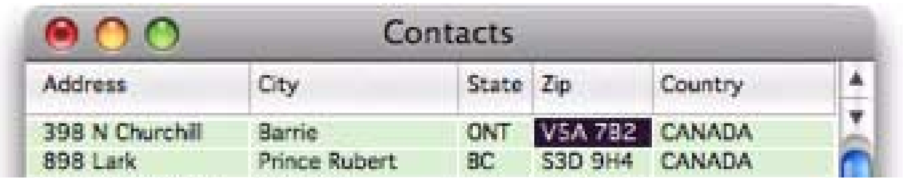
Select Problem Data Pressing this button tells Panorama to cancel the conversion and show you the data that is causing the problem. This option lets you look at the data that is causing the problem and decide what to do next. If necessary, you can make manual adjustments to the data, or you may decide that you don't want to change the data type after all.

For example, suppose you wanted to change the Zip code field in the database below to numeric.



Address	City	State	Zip	Country
552 Northgate	Lindenhurst	IL	60046	
12 Upland Lane	Armonk	NY	10504	
8864 Ave	Mendota Heights	MN	55118	
4964 Pelham	Toledo	OH	43606	
398 N Churchill	Barrie	ONT	V5A 7B2	CANADA
161 Norton St	New Haven	CT	06511	
23 Oak St	Lexington	MA	02173	
2754 Parkway	Beverly Hills	CA	90210	
898 Lark	Prince Rubert	BC	S3D 9H4	CANADA
7045 Mandel	Westchester	IL	60153	

When you attempted to make the conversion, Panorama would display the conversion warning alert. Press **Select Problem Data** to see what is causing the problem.

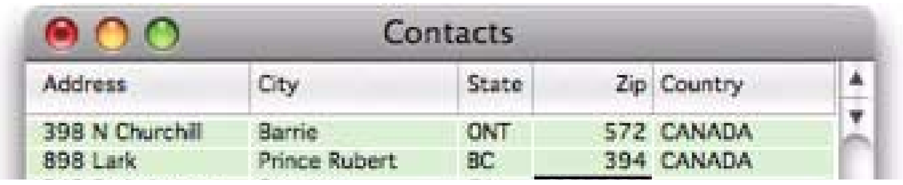


Contacts

Address	City	State	Zip	Country
398 N Churchill	Barrie	ONT	V5A 7B2	CANADA
898 Lark	Prince Rubert	BC	S3D 9H4	CANADA

Aha! The problem is the Canadian postal codes, which have letters instead of numbers. At this point you would probably want to rethink the idea of converting the Zip field to numeric.

If you did decide to go ahead with the conversion, Panorama would strip the letters from the Canadian postal codes.



Contacts

Address	City	State	Zip	Country
398 N Churchill	Barrie	ONT	572	CANADA
898 Lark	Prince Rubert	BC	394	CANADA

When you are done looking at the problem data, choose the **Select All** command (Search Menu) to make all the data visible again.

Numeric Data

Numeric data can be stored in either **fixed point** or **floating point** format. If you choose fixed point you have a choice of 0, 1, 2, 3, or 4 digits after the decimal point.

Number of Digits After Decimal Point	Example	Largest Value	Smallest Value	Typical Uses
0	93842	2,100,000,000	1	Quantities, Part Numbers
1	73.1	210,000,000	0.1	Rarely Used
2	253.22	21,000,000	0.01	Money (Dollars, Pounds, etc.)
3	0.447	2,100,000	0.001	Rarely Used
4	929.1123	210,000	0.0001	Rarely Used
Float	1.46e-12	$1.7 \bullet 10^{308}$	$2.3 \bullet 10^{-308}$	Scientific Data

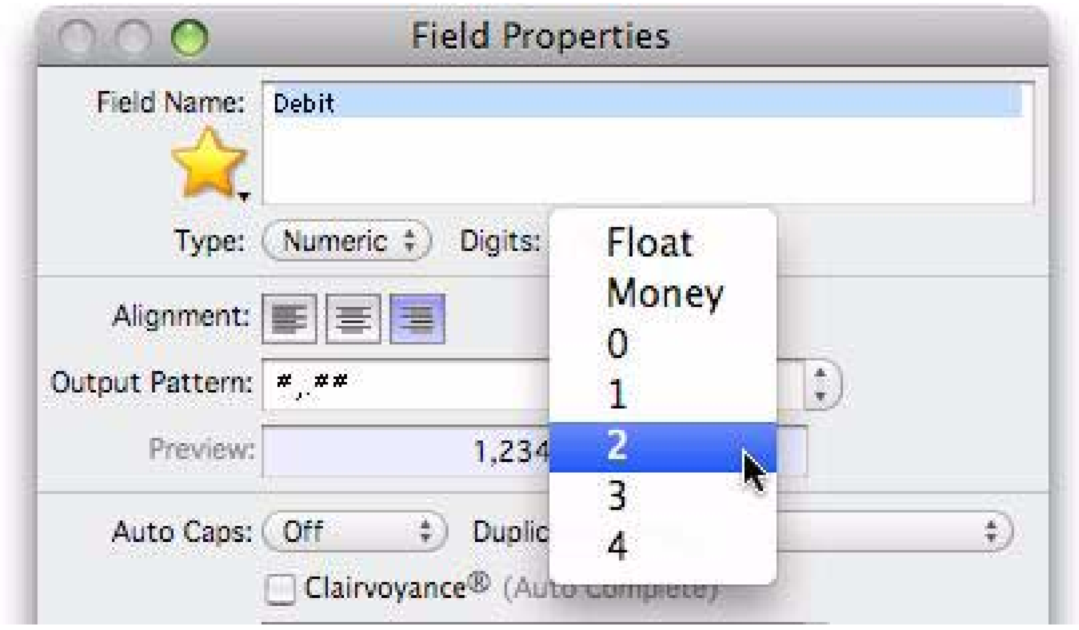
You may wonder why there are so many choices for storing numeric data. After all, a number is a number—right? Not quite. By choosing different numeric storage formats you are making a trade-off between space, speed, accuracy, and range.

Storing numbers using floating point gives you the most accuracy and numeric range. Floating point allows you to store extremely large or small values with up to 16 digits of accuracy. If you are in doubt, go ahead and pick floating point format.

Fixed point storage is more limited. The accuracy is only about 9 digits. The largest number that can be stored is about 2 billion ($2 \bullet 10^{9}$) while the smallest fixed point number is 0.0001 (10^{-4}). Trying to store larger or smaller values using fixed point storage will result in errors.

On the other hand the space required for fixed point storage is up to 8 times smaller than floating point for the same number, and Panorama can perform fixed point arithmetic much faster than floating point. You should use fixed point numeric storage whenever possible. Check the table above to see if the numbers you will be using fit in one of the fixed point numeric ranges.

You can set the number of digits via a pop-up menu in the **Field Properties** dialog box.



Field Properties

Field Name: Debit

Type: Numeric

Output Pattern: #,.##

Preview: 1,234

Auto Caps: Off

□ Clairvoyance® (Auto complete)

Money

Usually the best way to store monetary values is using either 2-digit fixed point or Panorama's special Money format. The money format is the same as 2-digit fixed point but automatically enters the decimal point for you during data entry. This table below shows how Panorama interprets data you enter into a money field.

When you enter…	it becomes
87204	872.04
3267	32.67
14	0.14
2	0.02
42.	42.00
15.4	15.40
156.78	156.78

Both the 2-digit and money formats allow you to store monetary values up to 21 million dollars, pounds, francs, etc. (If your business deals with values greater than 21 million you should use floating point numeric storage.)

Numeric Output Patterns

Output patterns allow you to control the way a number is displayed. In the **Fields>Field Properties** dialog, output patterns can be used to control how numbers are displayed in the data sheet. Output patterns can also be used in a formula.

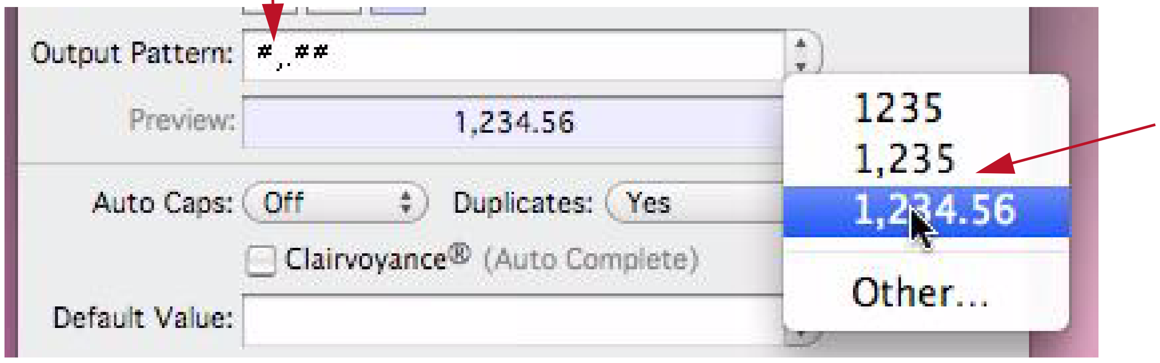
Below are some ways the same number may be displayed using different output patterns. Remember, the way a number is displayed does not change its internal value. All the numbers listed below have the value 2654.

```
2654
2,654
$2,654.00
002654
2.654e+3
26-54
Two thousand six hundred fifty four
```

Numeric output patterns consist of a string of characters containing one or more # symbols. The # symbol tells Panorama how and where to print the number.

The overall output pattern for a field can be set using the **Output Pattern** section of the **Field Properties** dialog box.

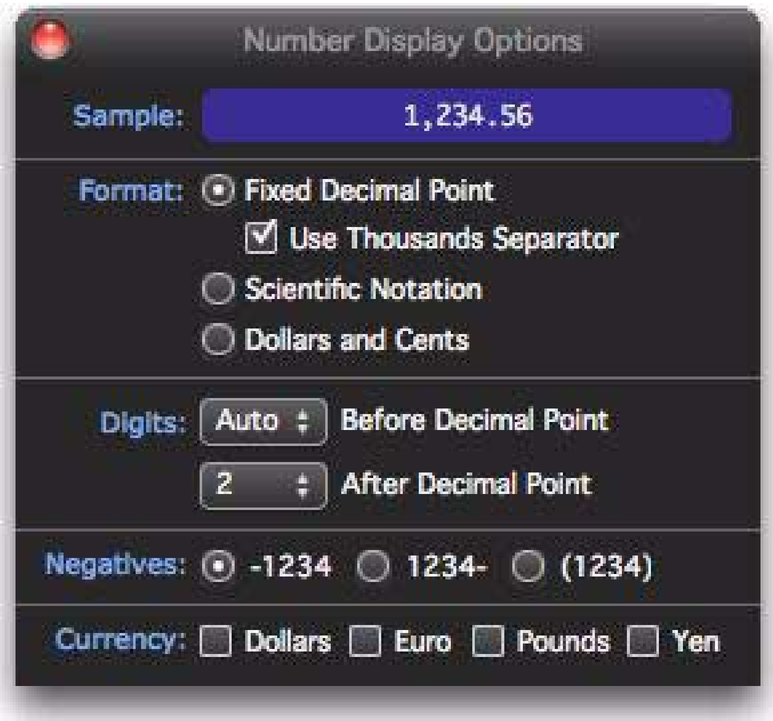
type pattern here, or…



choose from pop-up

Output Pattern: #,.##
Preview: 1,234.56
Auto Caps: Off Duplicates: Yes
□ Clairvoyance® (Auto Complete)
Default Value:

If you choose **Other** from the pop-up menu a secondary dialog appears:



Number Display Options

Sample: 1,234.56

Format: ● Fixed Decimal Point
☑ Use Thousands Separator
○ Scientific Notation
○ Dollars and Cents

Digits: Auto Before Decimal Point
2 After Decimal Point

Negatives: ● -1234 ○ 1234- ○ (1234)

Currency: □ Dollars □ Euro □ Pounds □ Yen

Simply choose the options you want using the checkboxes and pop-up menus. Close the window when you are done.

Fixed Decimal Point Patterns. The table below shows how the output pattern can be used to display numbers with a specified number of digits after the decimal point. These output patterns force a fixed point display even if you are displaying floating point numbers. They also allow you to override the natural display of fixed point numbers. For example, a money field can be set up to display only dollars, while still keeping track of cents for calculation purposes.

Number	Pattern	Display
1234.56		1234.56
1234.56	#	1235
1234.56	#.#	1234.6
1234.56	#.##	1234.56
1234.56	#.####	1234.5600

Notice that if the number of # symbols after the decimal point is less than the number of digits in the number, Panorama will round the number rather than truncating it.

Numbers with Commas, Punctuation, and Measurement Units. If a comma is added to the pattern, the number will be printed with a comma every third digit. Other characters can also be added to the beginning or end and will be displayed unchanged. For example, you can add a currency symbol or measurement unit to the pattern, as shown below:

Number	Pattern	Display
1234.56	#,.##	1,234.56
1234.56	$#,.##	$1,234.56
1234.56	#,.## kg	1,234.56 kg

Scientific Notation. If an **E** or **e** is added at the end of the output pattern, the number will be displayed using scientific notation. Any number may be displayed in scientific notation, including fixed point numbers.

Number	Pattern	Display
1234.56	#e	1e+3
1234.56	#.#E	1.2e+3
1234.56	#.##e	1.23e+3
1234.56	#.###E	1.235e+3
1234.56	#.####E	1.2346e+3
1234.56	#.#####E	1.23456e+3
1234.56	#.######E	1.234560e+3
1234.56	#.#E kg	1.2e+3 kg

Special Patterns for Negative Numbers. Negative numbers are usually displayed with a minus sign in the front of the number. This can be changed to a trailing minus sign or to enclosing parentheses.

Number	Pattern	Display
-1234.56	#.##	-1234.56
1234.56	#.##	1234.56
-1234.56	#.##-	1234.56-
1234.56	#.##-	1234.56
-1234.56	(#.##)	(1234.56)
1234.56	(#.##)	1234.56

Leading Zeros. You can use an output pattern to force Panorama to display leading zeros. To do this, put several # symbols in a row without a decimal point.

Number	Pattern	Display
123	#####	00123
1234	#####	01234
12345	#####	12345

Tip: If you are storing US Zip codes in a numeric field, use ##### as the output pattern. This pattern makes sure that all 5 zip code digits are displayed, even if the first digit is zero.

If your database also contains Canadian postal codes, the zip codes must be stored in a text field. In that case no output pattern is necessary.

Plural Suffixes. If a pattern contains measurement units you may want to properly pluralize the units depending on the value being displayed. Use the ~ symbol to do this.

Number	Pattern	Display
1	# mile~	1 mile
5	# mile~	5 miles

Displaying Numbers as Words. If you wish, numbers can be displayed as words instead of digits. To do this, use the § symbol instead of the # symbol. Only one § symbol should be used. To make the § symbol on a Macintosh, press **Option-6**. On the PC, press **Alt-0167**. Only the integer part of the number will be displayed—any fractional part will be ignored.

If you are displaying money, you'll probably want to display the fractional part (cents) as well as the integer part. You can do this with the ¢ (cents) symbol. On the Macintosh, press **Option-4** to create the ¢ symbol. On the PC, press **Alt-0162**. Use one ¢ for each digit you want display (usually 2).

Number	Pattern	Display
312	§	Three hundred twelve
42.29	§ dollar~ and ¢¢/100	Forty two dollars and 29/100

Dates

Panorama has a special data type for storing dates. When you use the date type to store your dates, Panorama can sort your dates in the correct order, check your dates for validity as they are entered, and calculate the number of days between two dates. Dates are quite compact; almost any date in the 20th or 21st century will take only two bytes of storage.

Entering 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 **tomorrow**. 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**.

When a date is edited, Panorama normally displays the date in the format **mm/dd/yy**. However, if you have set up an output pattern that Panorama understands for data entry, it will use that pattern instead. Patterns that can be used for data entry include **Month dd, yyyy**, **Mon dd yy**, and **mm/dd/yyyy**.

If you are using an international system and you enter the date as numbers you must use the format **dd/mm/yy**. Panorama does not understand the format 7-Aug-1998. (However you may use any delimiter character you want, for example 7/8/98 or 7-8-98 or even 7.8.98.)

Default Year and Century. When you enter a date, you can leave the year off and let Panorama figure it out for you. Panorama will automatically round the date to the nearest year. For instance, if today’s date is 3/9/02 and you enter the date **4/1** then Panorama will assume you mean 4/1/02. But if you enter **12/1** (or **December 1**) Panorama will assume you mean 12/1/01, not 12/1/02, because 12/1/01 is closer to 3/9/02 than 12/1/02 is.

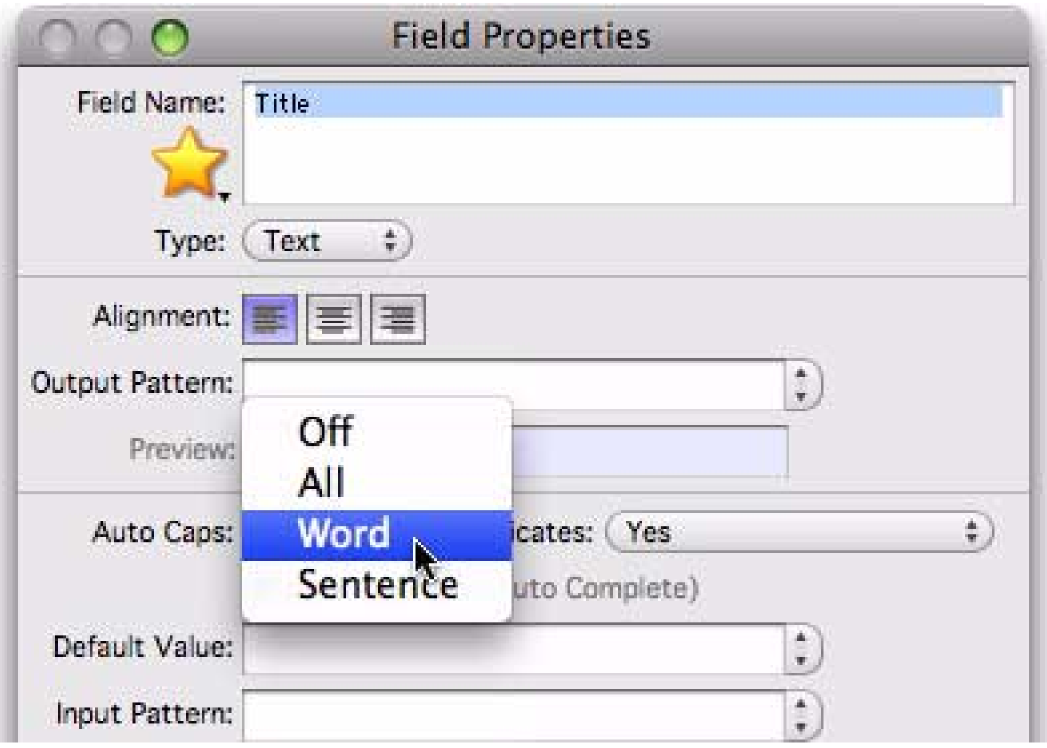
Panorama also rounds dates to the current century. If the current year is 2002 (or even 1992) and you enter the date **7/2/23** Panorama will assume you mean 7/2/2023. If you want to enter a date more than 50 years from the current date you must enter the full date, for example **7/2/1923**

Date Output Patterns

Output patterns allow you to control the format Panorama uses to display dates. A date output pattern consists of a number of individual components (month, day, year, etc.) that are strung together. For example, the pattern **mm/dd/yy** contains three components and will display in the format 3/11/04.

Automatic Capitalization

Panorama has four options for automatic capitalization: off, all, word, and sentence. You can set up automatic capitalization with the **Field Properties** dialog.



Field Name: Title

Type: Text

Auto Caps: Word

icates: Yes

The **All** option tells Panorama to capitalize every letter entered into the field. Use this option for fields containing abbreviations—CA, NY, etc.

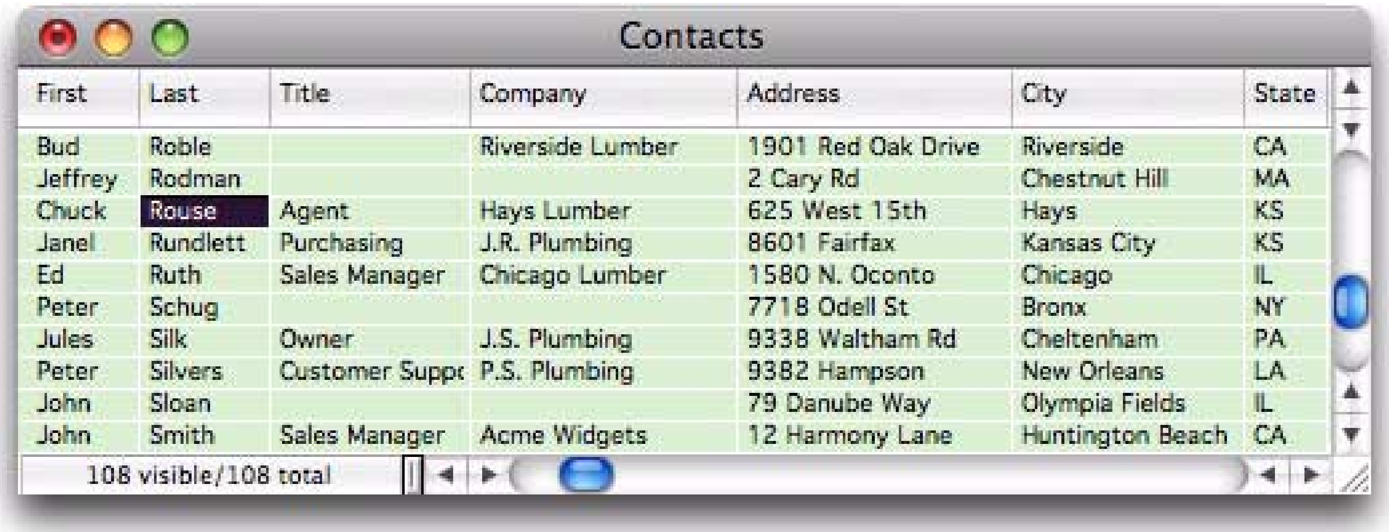
The **Word** option tells Panorama to capitalize the first letter of each word. Use this option for fields containing names, addresses, etc.

Sometimes you may need to override Panorama's automatic word capitalization. If you need an extra capital letter simply press the **Shift** key (for instance **`McDonald`**). If you want the first letter of a word to be lower case type the letter twice (**`Bank Oof America`**), then delete the upper case letter (**`Bank of America`**).

The **Sentence** option tells Panorama to capitalize the first letter of each sentence. Use this option for fields containing paragraphs of text—for instance catalog descriptions or correspondence.

Changing Capitalization of Existing Data

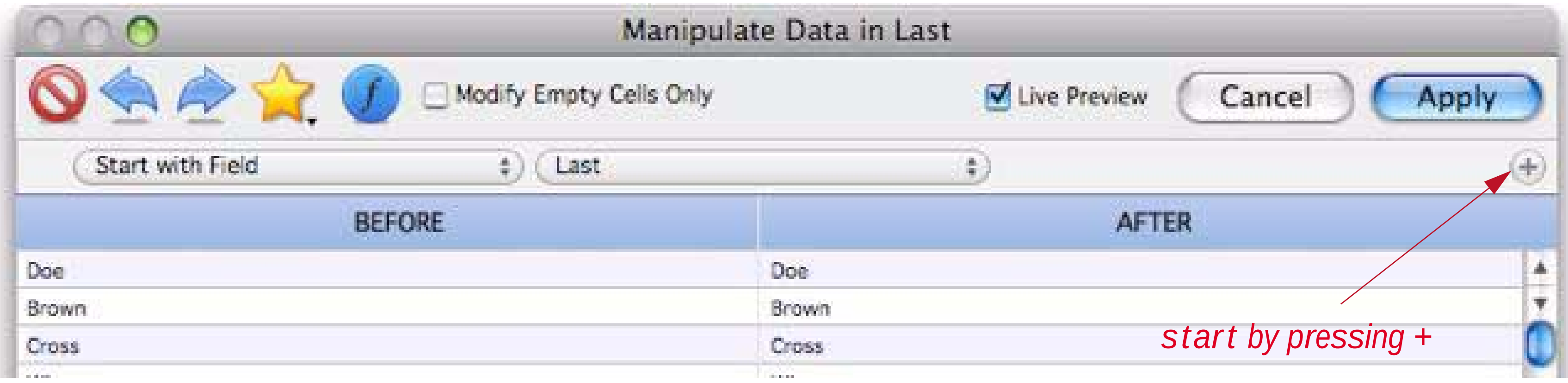
Automatic capitalization only applies to new data as it is typed into the database. It does not change data that has already been entered. It also does not automatically capitalize imported data or data pasted into the database. If you want to change the capitalization of existing data, you must use the **Manipulate Data** dialog. This is best explained with an example. Suppose you wanted to convert the last names in the database below to all upper case. Start by clicking anywhere in the Last column.



First	Last	Title	Company	Address	City	State
Bud	Roble		Riverside Lumber	1901 Red Oak Drive	Riverside	CA
Jeffrey	Rodman			2 Cary Rd	Chestnut Hill	MA
Chuck	Rouse	Agent	Hays Lumber	625 West 15th	Hays	KS
Janel	Rundlett	Purchasing	J.R. Plumbing	8601 Fairfax	Kansas City	KS
Ed	Ruth	Sales Manager	Chicago Lumber	1580 N. Oconto	Chicago	IL
Peter	Schug			7718 Odell St	Bronx	NY
Jules	Silk	Owner	J.S. Plumbing	9338 Waltham Rd	Cheltenham	PA
Peter	Silvers	Customer Suppc	P.S. Plumbing	9382 Hampson	New Orleans	LA
John	Sloan			79 Danube Way	Olympia Fields	IL
John	Smith	Sales Manager	Acme Widgets	12 Harmony Lane	Huntington Beach	CA

108 visible/108 total

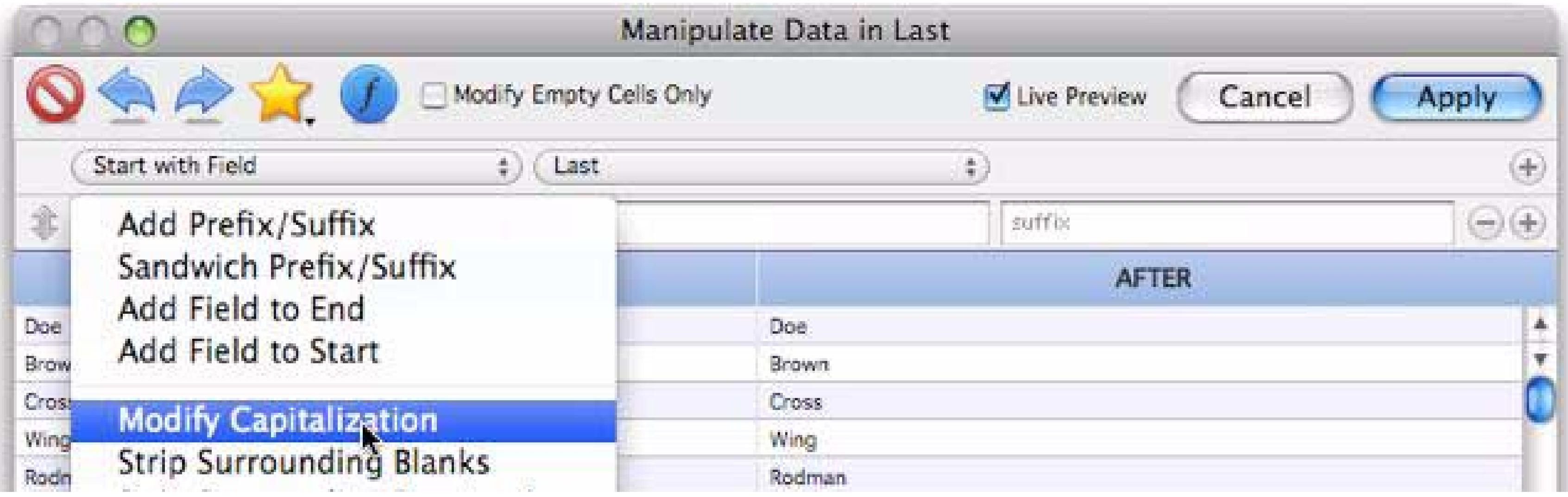
Now choose **Manipulate Data in Field** from the Fields Menu.



BEFORE	AFTER
Doe	Doe
Brown	Brown
Cross	Cross

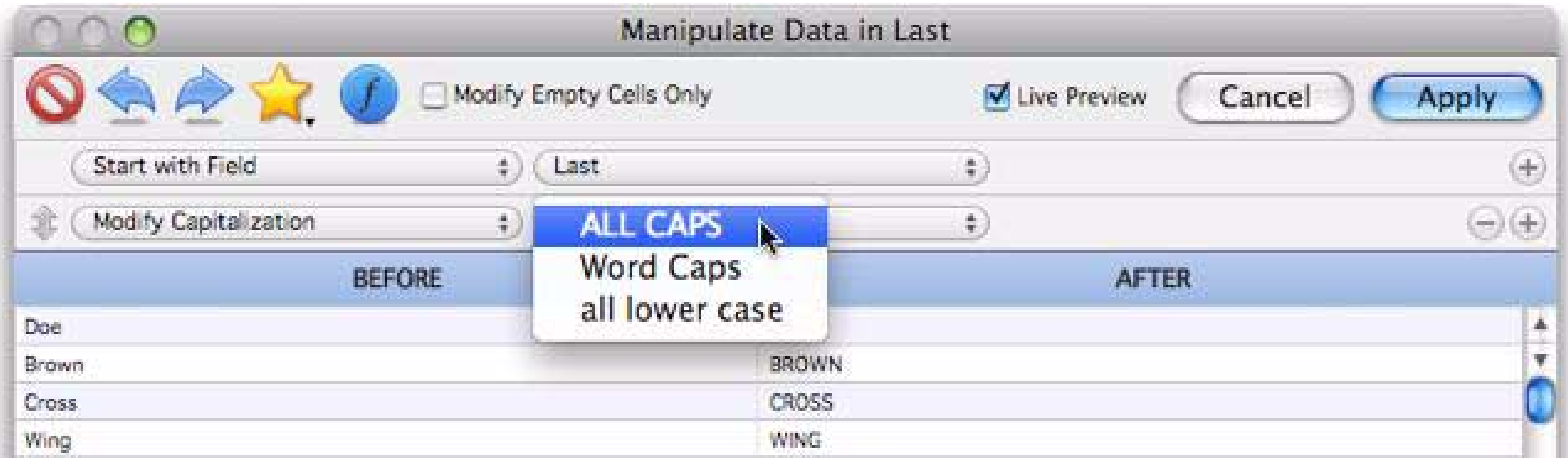
start by pressing +

Click the + button (on the right) to add another row to the dialog, then choose **Modify Capitalization** from the pop-up menu.



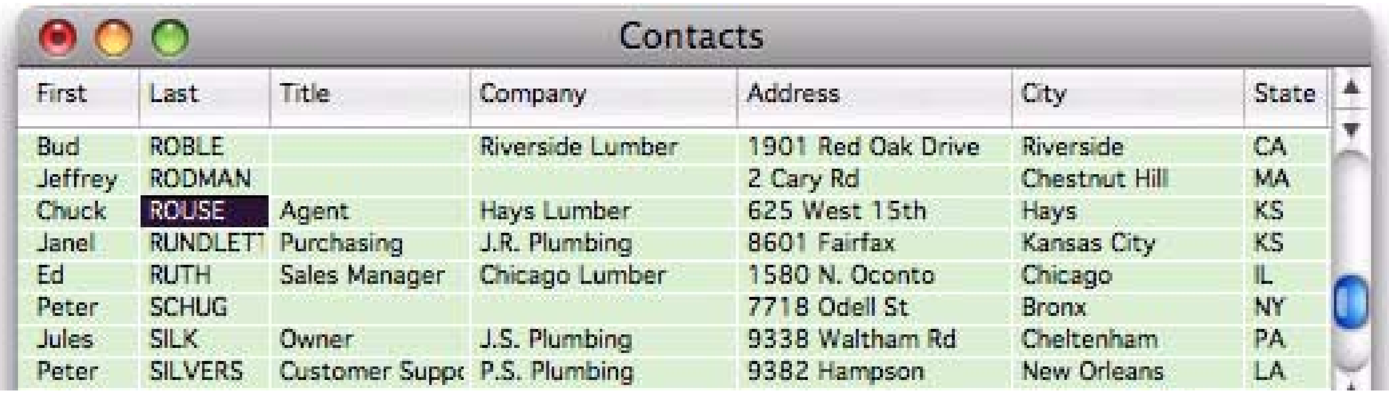
	AFTER
Doe	Doe
Brow	Brown
Cros	Cross
Wing	Wing
Rodn	Rodman

Now choose the type of capitalization you want.



BEFORE	AFTER
Doe	
Brown	BROWN
Cross	CROSS
Wing	WING

When you press the **Apply** button, the field will be converted to all upper case.



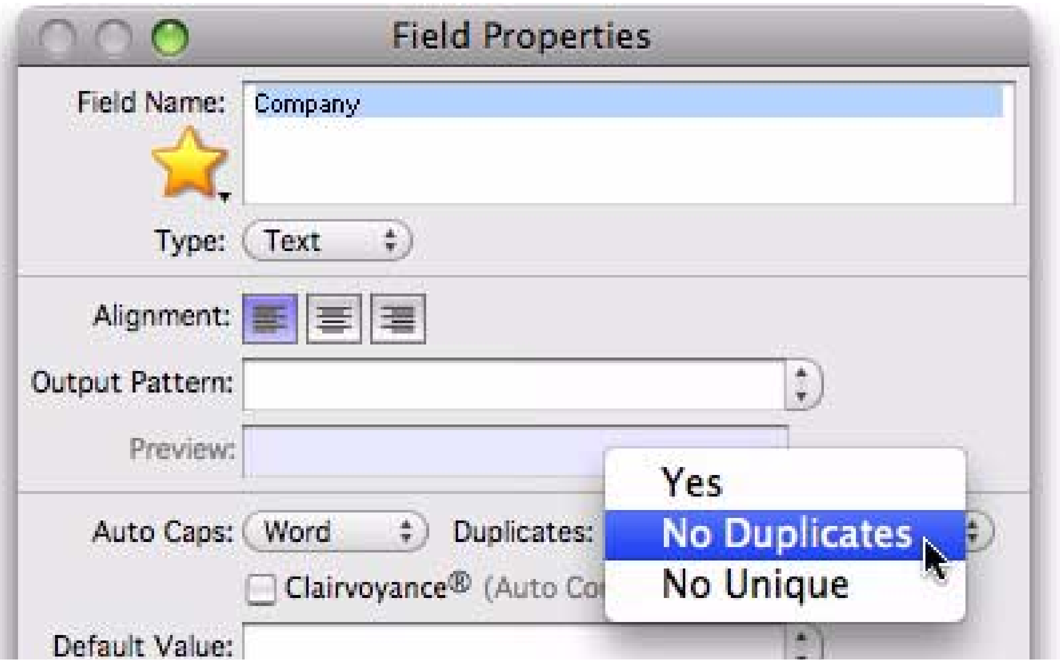
First	Last	Title	Company	Address	City	State
Bud	ROBLE		Riverside Lumber	1901 Red Oak Drive	Riverside	CA
Jeffrey	RODMAN			2 Cary Rd	Chestnut Hill	MA
Chuck	ROUSE	Agent	Hays Lumber	625 West 15th	Hays	KS
Janel	RUNDLETT	Purchasing	J.R. Plumbing	8601 Fairfax	Kansas City	KS
Ed	RUTH	Sales Manager	Chicago Lumber	1580 N. Oconto	Chicago	IL
Peter	SCHUG			7718 Odell St	Bronx	NY
Jules	SILK	Owner	J.S. Plumbing	9338 Waltham Rd	Cheltenham	PA
Peter	SILVERS	Customer Suppc	P.S. Plumbing	9382 Hampson	New Orleans	LA

See "The Manipulate Data Dialog" on page 230 for further details about this dialog.

Checking for Duplicate Data

Panorama usually does not care if you enter duplicate information into a database. However, if you wish you can ask Panorama to check for duplicate data every time you enter or edit a data cell in a given field.

Panorama has three options for checking duplicate data—Yes, No Duplicates and No Unique. You can set up duplicate checking with the **Field Properties** dialog.


Field Properties

Field Name: Company

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Word

Duplicates: No Duplicates

□ Clairvoyance® (Auto Co

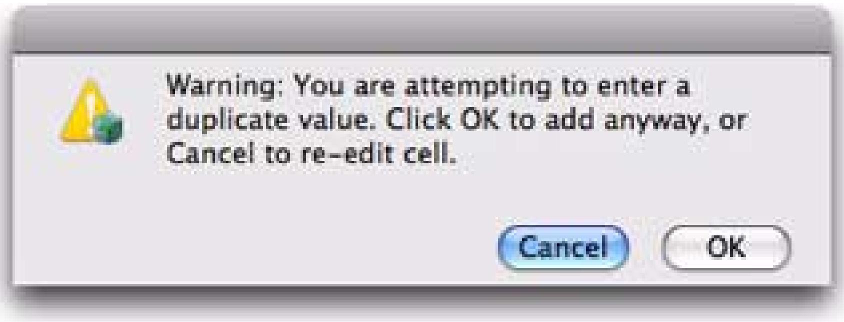
Default Value:

The **Yes** option simply tells Panorama to allow duplicates. This is the default.

Use the **No Duplicates** option to make sure that a value is not entered more than once. For instance, a checkbook database should never have duplicate check numbers.

The **No Unique** option tells Panorama to warn you if you attempt to enter a value that is not already in the database. For instance if a field contains only Yes / No values, this option would warn you if you attempted to enter True or False.

When Panorama encounters a duplicate or unique value (depending on the option), it warns you. However, it does not prevent you from entering the value. You are given the option of entering the data even though it conflicts with the existing data—it's up to you.


Warning: You are attempting to enter a duplicate value. Click OK to add anyway, or Cancel to re-edit cell.

Checking for Duplicates in Existing Data

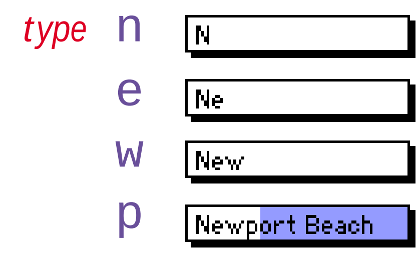
Checking for duplicates only happens when new data is typed into the database. Panorama does not check data that has already been entered, and it does not check data that is imported or pasted into the database. There are, however, several techniques for checking for duplicates in existing data. See "Select Duplicates" on page 166 to learn how to use the **Select Duplicates** command. Another method is to sort the data and then use the **UnPropagate** command to identify the duplicates (by searching for blank cells). See "Using UnPropagate to Eliminate Duplicates" on page 266 for details.

Clairvoyance®

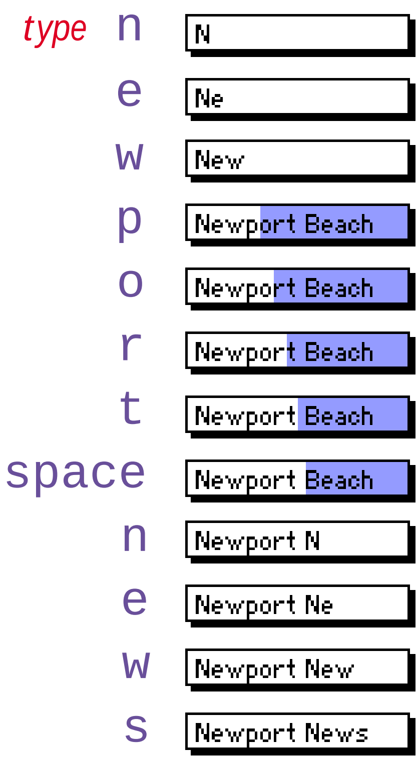
Many databases contain fields where the same information is repeated over and over. For instance, a checkbook will contain the same bills month after month—rent, phone, utilities, charge cards. Another example is an inventory database that contains many items from each vendor, with the vendor name repeated over and over. Panorama's Clairvoyance feature anticipates when you are about to enter data that has been entered before, and completes the entry for you. This can save you a lot of typing, and helps improve consistency as well.

How Clairvoyance® Works

How can Panorama anticipate what you are about to type? The secret lies in Panorama's ability to scan the database in a fraction of a second. When you are using Clairvoyance, Panorama scans the entire database each time you enter a character. As it scans the database, it checks the characters you have typed against the data already in the database. When there is only one possible match, Clairvoyance guesses that you are about to repeat yourself and completes the word or phrase for you.

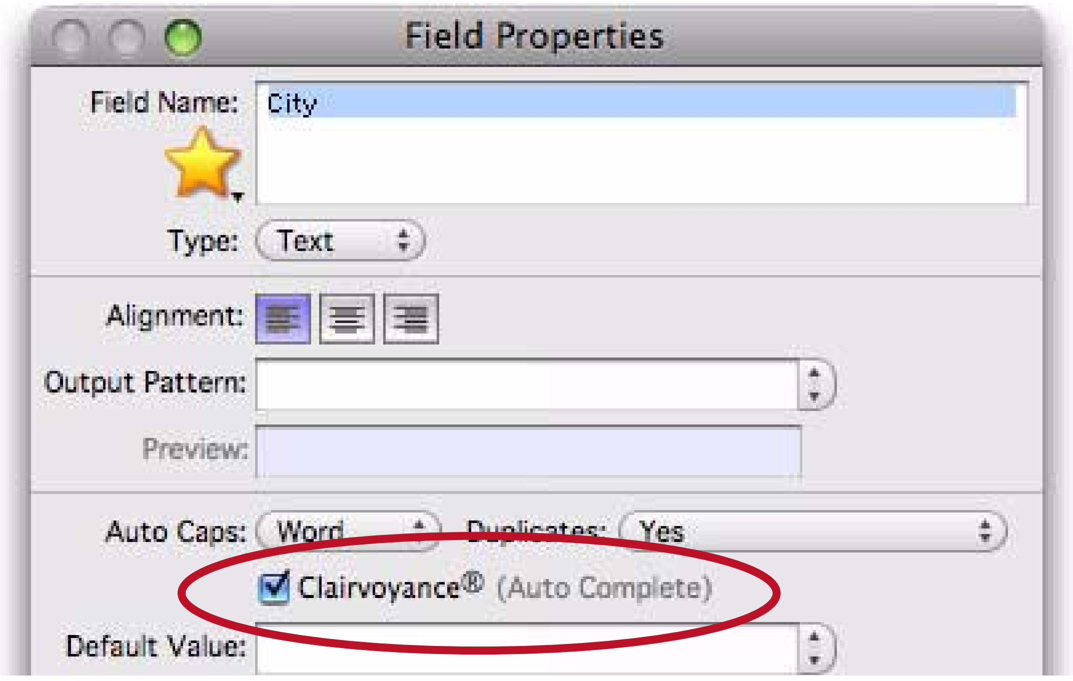


Of course, Clairvoyance can only be helpful when you are repeating a word or phrase that is already in the database. If you are entering a new word or phrase, Clairvoyance cannot help you—but it won't get in your way, either. As you type in a new word or phrase Clairvoyance may guess that you are entering an old word or phrase. Just keep typing, and Clairvoyance will automatically erase its guess when it no longer matches what you have typed.



Turning Clairvoyance® On or Off

Clairvoyance can be turned on or off with the **Field Properties** dialog box.



Field Properties

Field Name: City

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Word Duplicates: Yes

☑ Clairvoyance® (Auto Complete)

Default Value:

Clairvoyance® Helps Insure Data Consistency

One problem when building large databases is making sure that information always gets entered the same way, especially when more than one person is keying in the data. For example, a single company could be entered in your inventory database many ways—

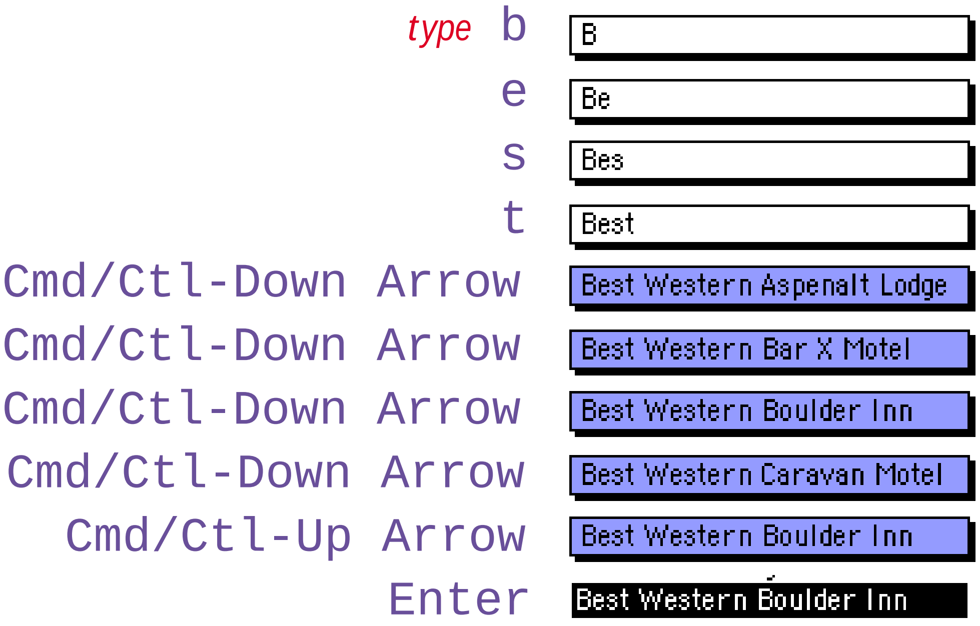
```
Fuji
Fuji, Inc
Fuji USA
Fuji Photo, Inc
Fuji Photo Film USA
Fuji USA, Inc.
```

Clairvoyance helps solve this problem by accurately repeating the information time after time. You may find that Clairvoyance's ability to insure data consistency is more important than the keystroke savings.

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. For example, suppose that you are looking through a travel database for a particular Best Western Hotel. Start by typing **Best**, then press **Command/Control-Down Arrow**. The first hotel with a name beginning with Best will appear. Each time you press **Command/Control-Down Arrow** the name of next hotel (alphabetically) will appear—for example Best Western Aspenalt Lodge, Best Western Bar X Motel, Best Western Boulder Inn, etc. Press **Command/Control-Up Arrow** to move backwards through the hotel names. Continue until the hotel you are looking for appears, then press **Enter**.



type b	B
e	Be
s	Bes
t	Best
Cmd/Ctl-Down Arrow	Best Western Aspenalt Lodge
Cmd/Ctl-Down Arrow	Best Western Bar X Motel
Cmd/Ctl-Down Arrow	Best Western Boulder Inn
Cmd/Ctl-Down Arrow	Best Western Caravan Motel
Cmd/Ctl-Up Arrow	Best Western Boulder Inn
Enter	Best Western Boulder Inn

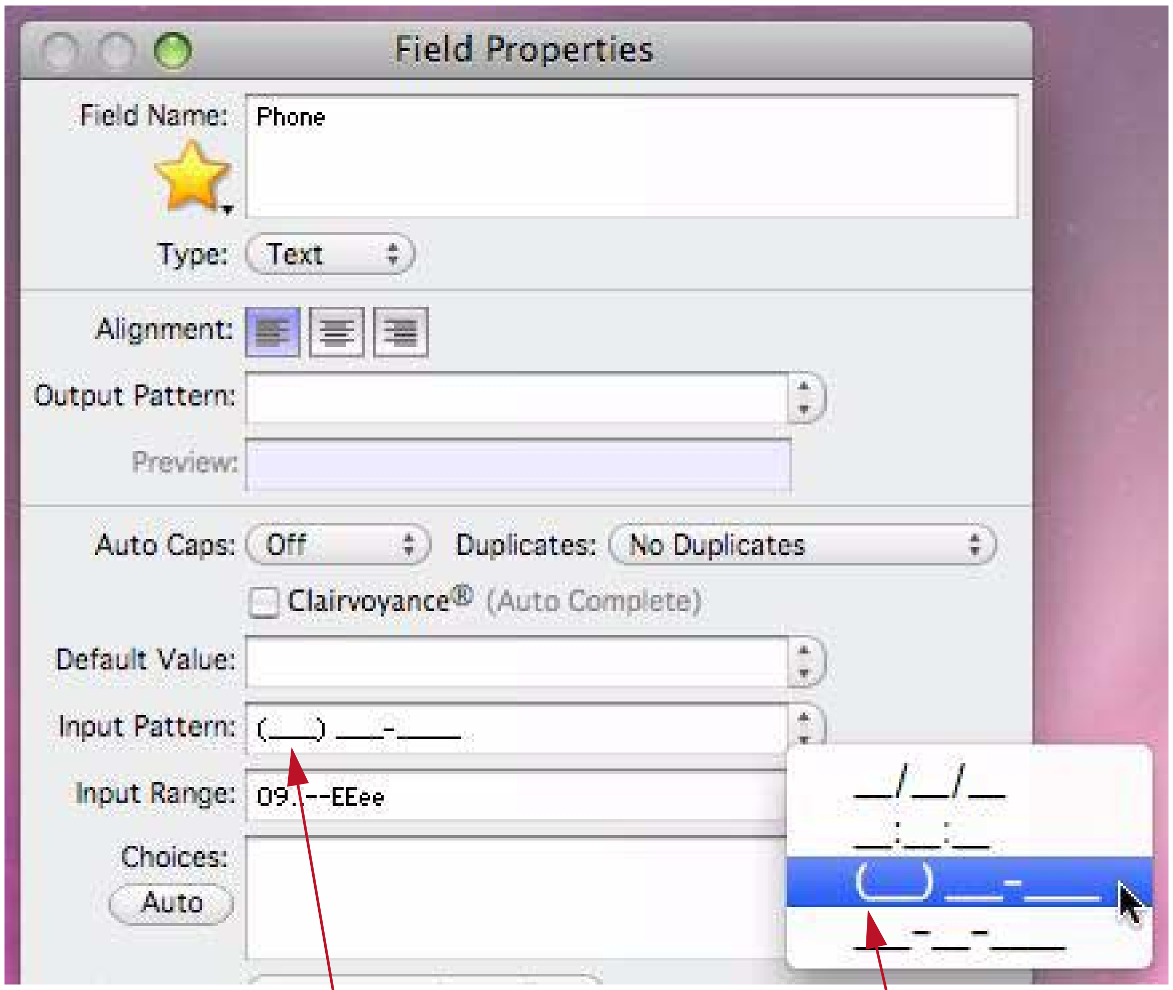
Input Patterns

Sometimes you may wish to force the data being entered into a specific pattern. For instance in the United States and Canada long distance phone numbers almost always use the pattern (999) 999-9999. Panorama's **Input Pattern** can take care of entering the pattern for you. Once the pattern is set up, you only type the actual data (in this case the digits of the phone number). Panorama combines the data you enter with the pattern to produce the actual data. For example, combining the input pattern **(_ _ _) _ _ _-_ _ _ _** with **3124562468** produces the data (312) 456-2468.

An input pattern consists of a string of characters with an underscore in each spot where actual data will be entered. The input pattern is just like fill in the blanks, but instead of filling in the blanks you fill in the underscores. (Press Shift-Dash to enter the underscore character. The dash key is in the top row of the keyboard, just to the right of the 0 key.) The table below lists some common input patterns.

Type of Data	Input Pattern	Example
Phone Number	(_ _ _) _ _ _-_ _ _	(312) 456-2469
Social Security Number	_ _ _ - _ _ - _ _ _ _	234-54-5476
License Plate	_ _ _ _ _ _	AGB 287
Date	_ _ / _ _ / _ _	03/24/05
Time	_ _ : _ _ : _ _ _ _	11:24:36 PM

You can set up the input pattern with the Field Properties dialog.



Field Properties

Field Name: Phone

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Off Duplicates: No Duplicates

□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern: (___) ___-____

Input Range: 09.--EEee

Choices:

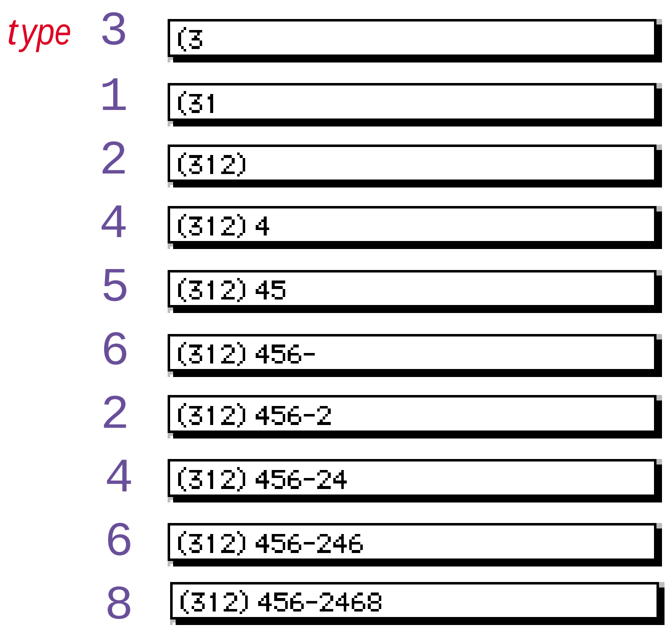
Choose from a pop-up menu of common input patterns, or…

type the input pattern into the box

Tip: Input patterns should not be used with numeric fields. If you want to add a pattern to a numeric value, you should use an output pattern (see "Numeric Output Patterns" on page 196 and "Date Output Patterns" on page 200).

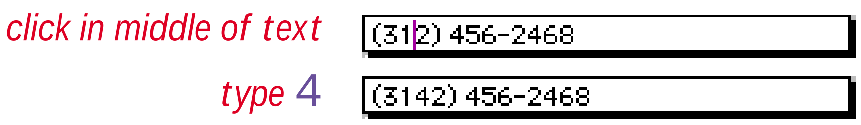
Entering Data with an Input Pattern

This illustration shows an example of entering a phone number with an input pattern.



type 3	(3
1	(31
2	(312)
4	(312) 4
5	(312) 45
6	(312) 456-
2	(312) 456-2
4	(312) 456-24
6	(312) 456-246
8	(312) 456-2468

The input pattern is only active when you are adding new characters at the end of the text. It does not adjust the data when you are inserting text in the middle of the cell. For example, it does not prevent you from creating a four digit area code, like this:



click in middle of text	(31|2) 456-2468
type 4	(3142) 456-2468

Using Input Patterns with Dates

The purpose of input patterns is to save keystrokes in data entry by inserting constantly occurring dashes, colons, parentheses, or other punctuation. When it comes to date fields, you must decide how you like to enter dates. Using the input pattern _ _ /_ _ /_ _ removes the need to type /'s (or some other separator) between the month, day and year. However, using the pattern requires that you type leading zeros in front of single digit months and days. For instance, to enter January 1st you must type **0101**. Without the pattern you can enter a single digit, for example **1/1**. (Keep in mind that Panorama allows any non-numeric character as the separator, so you could also type **1.1** on a numeric keypad—very fast.) It's up to you which method you prefer.

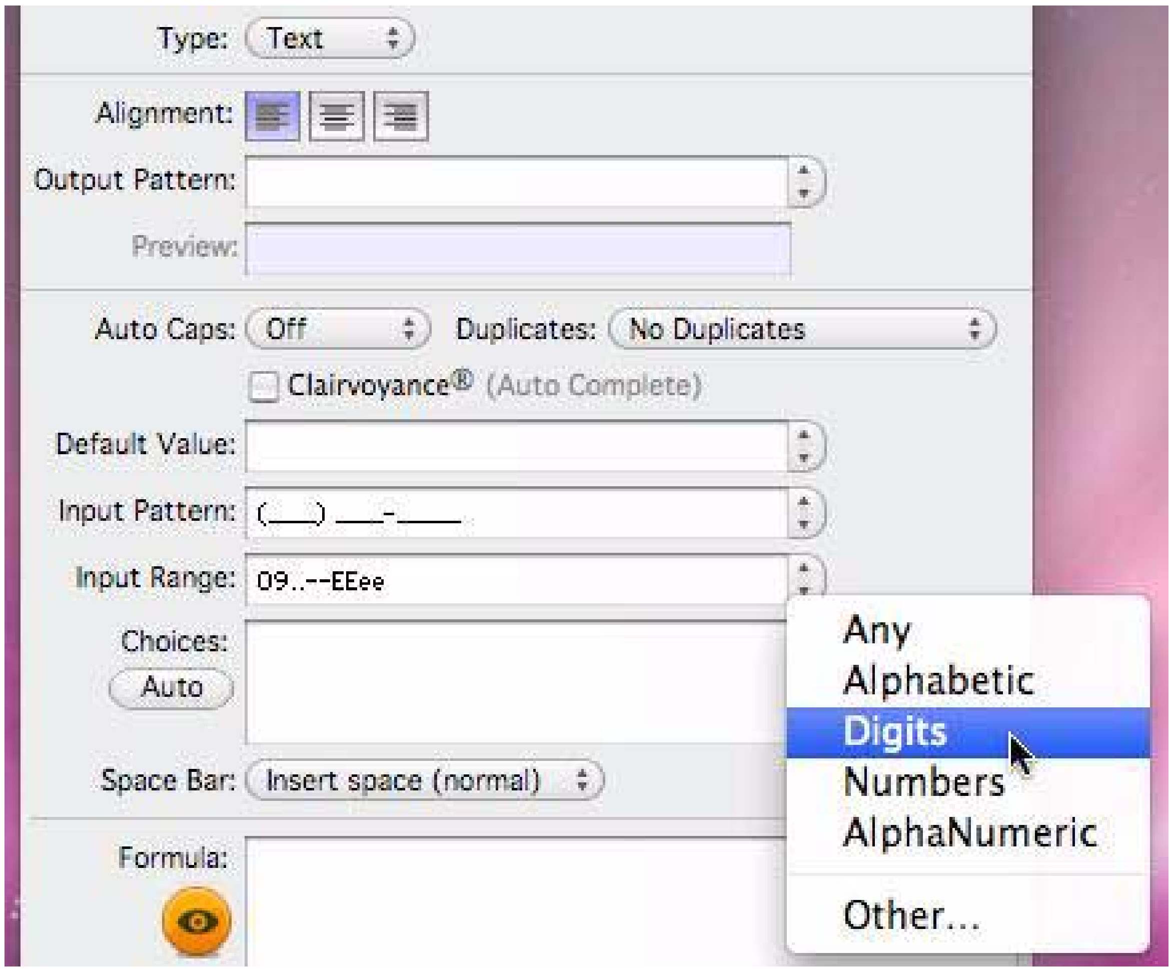
One other point to keep in mind—the input pattern can interfere with Panorama's Smart Date feature (see "Entering Dates" on page 200). For example, with a pattern if you attempt to enter **yesterday** you will get ye/st/erday, and if you enter **tuesday** you will get tu/es/day. You can go back and edit out the /'s, but if you are going to use Smart Dates frequently you might want to forego the input pattern.

An input pattern can be used to override Panorama's century rounding feature. If you want to enter all dates in the 20th century you can use the pattern _ _ /_ _ /19_ _ . If you are using this pattern then Panorama will treat **030423** as 3/4/1923, not 3/4/2023. (Remember, Panorama normally rounds the year to the nearest century (within 50 years) if you do not specify all four digits of the year.)

Restricting Character Types

Panorama normally allows you to enter any character that can be typed from the keyboard. If necessary you can restrict the kinds of characters that can be entered into each field. Panorama has five different character restriction levels—Any, Alphabetic, Numeric, AlphaNumeric, and Custom.

You can choose basic character entry restrictions with the pop-up menu in Field Properties dialog.



Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Off Duplicates: No Duplicates

☐ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern: (___) ___-____

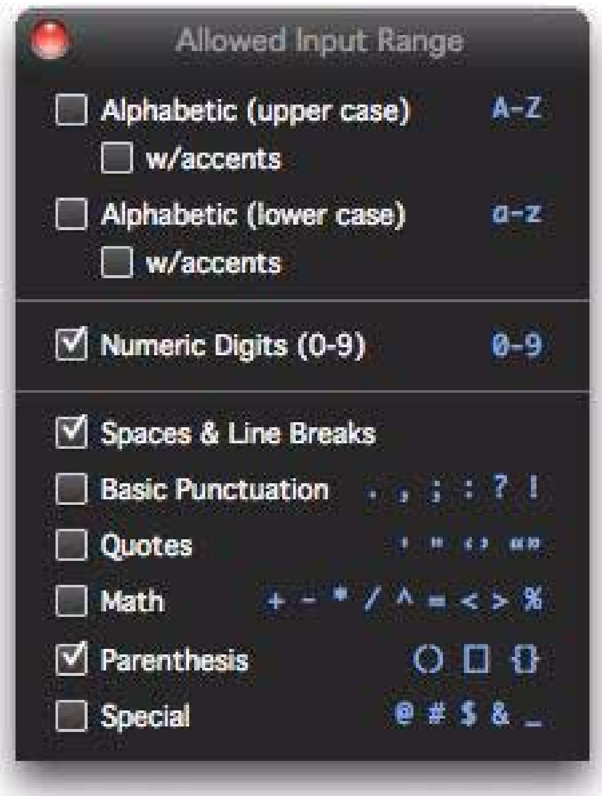
Input Range: 09..--EEee

Choices:

Space Bar: Insert space (normal)

Formula:

If you choose the **Other...** option an advanced dialog opens. Simply check the all of the character sets you want to allow, then close the window.



Allowed Input Range

☐ Alphabetic (upper case) A-Z
☐ w/accents
☐ Alphabetic (lower case) a-z
☐ w/accents

☑ Numeric Digits (0-9) 0-9

☑ Spaces & Line Breaks
☐ Basic Punctuation . , ; : ? !
☐ Quotes ' " ‹› «»
☐ Math + - * / ^ = < > %
☑ Parenthesis () [] {}
☐ Special @ # $ & _

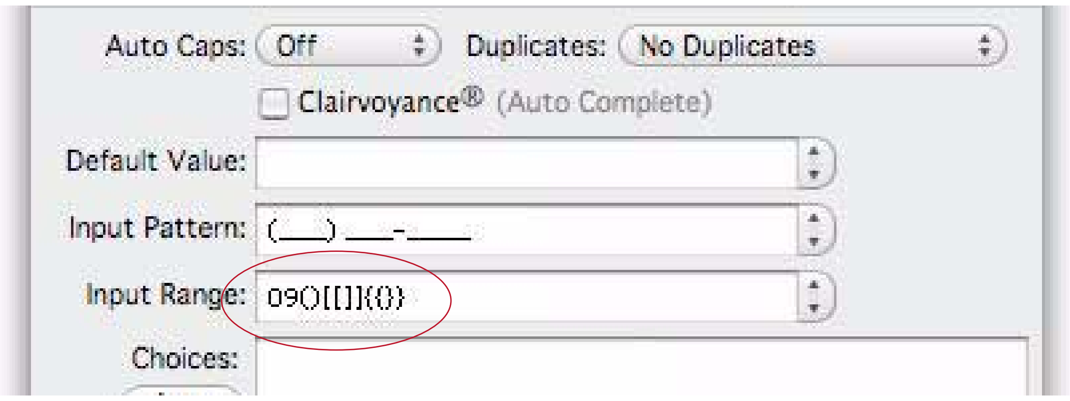
Custom Character Restrictions

The **Custom** option allows you to exactly specify the characters you want to allow and disallow in this field. The actual characters allowed are defined by one or more pairs of characters. Each pair specifies a range of characters that are allowed. For example the pair 09 would allow all characters in the range 0…9, while the pair az would allow all lower case letters. You can combine several pairs to create a more complex range, for example az09 for all lower case letters or numbers. A pair may specify a single character as both the beginning and end of the range, for instance %% (only the percent symbol allowed), or 09%% (numerals and the percent symbol, but not the decimal point). If you wish to allow spaces, one of the pairs should be a pair of spaces, for instance AZ az09. To preview the effect of a character range you can use the ASCII Chart wizard.

The table below shows some common examples of custom character restrictions. For each range a sample of Ok data and bad data is shown, with the disallowed characters shown in red.

Custom Range	Ok Data	Bad Data	Comments
09	936	923.77	Only digits, no decimal point, spaces or other punctuation allowed.
09..	156.23	1,294.48	Basic fixed point numbers
09..%%	67.82%	67.82 %	Percentages (no spaces)
09//	5/23/02	March 1st	Numeric format dates
09::	1:24:83	1:24 PM	Time
09 ::AAaaMMmmPPpp	5:32 PM	5:32 DL	Time (am/pm)
AZ	SEATTLE	Seattle	Upper case letters only—no punctuation or lower case letters
Azaz	John	John Smith	Letters but no spaces
AZaz@@..	sue@my.net	sue$my.net	Handy for email addresses
09 (())--	(213) 444-1234	342-3982 ext 12	Basic US phone numbers
!~	Check#	El Niño	Everything ok except spaces, international characters and special symbols
!Ù	Niño	El Niño	Everything ok except spaces

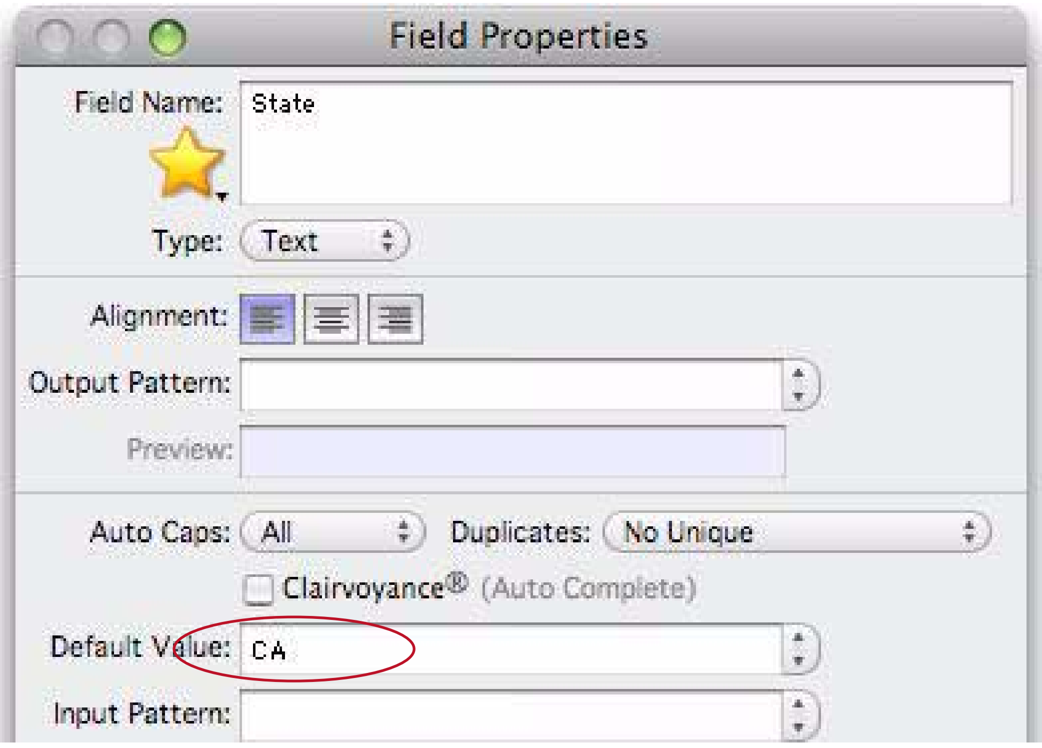
If you are using the **Field Properties** dialog, you can set up a custom restriction by typing the custom range directly into the dialog.



Auto Caps: Off
Duplicates: No Duplicates
□ Clairvoyance® (Auto Complete)
Default Value:
Input Pattern: (___) ___-____
Input Range: 09()[[]]{{}}
Choices:

Default Values

When a new record is added to a database, it is usually completely empty. You can, however, set up a default value for each field. One way to set up default values is with the **Field Properties** dialog. The dialog below is for a State field which defaults to CA (California).



Field Properties

Field Name: State

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: All

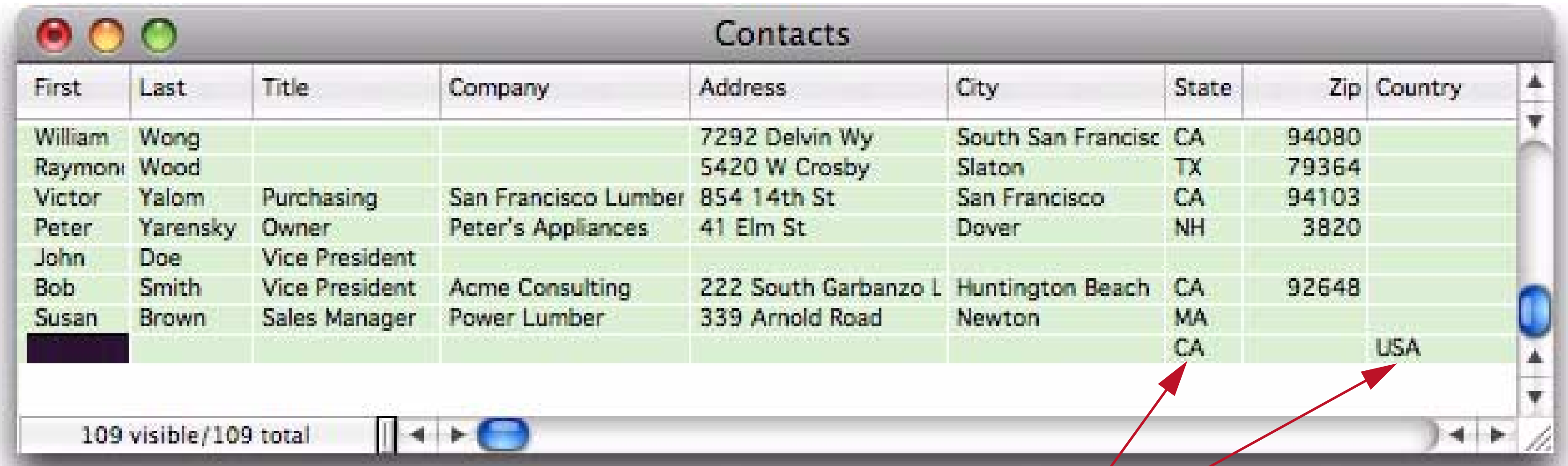
Duplicates: No Unique

☐ Clairvoyance® (Auto Complete)

Default Value: CA

Input Pattern:

The simplest default is a fixed value, as shown in the example above. For example you might want the Country field to default to your home country, a shipping field to default to your preferred shipper. Once defaults are set up, they are automatically entered whenever a new record is created.



Contacts

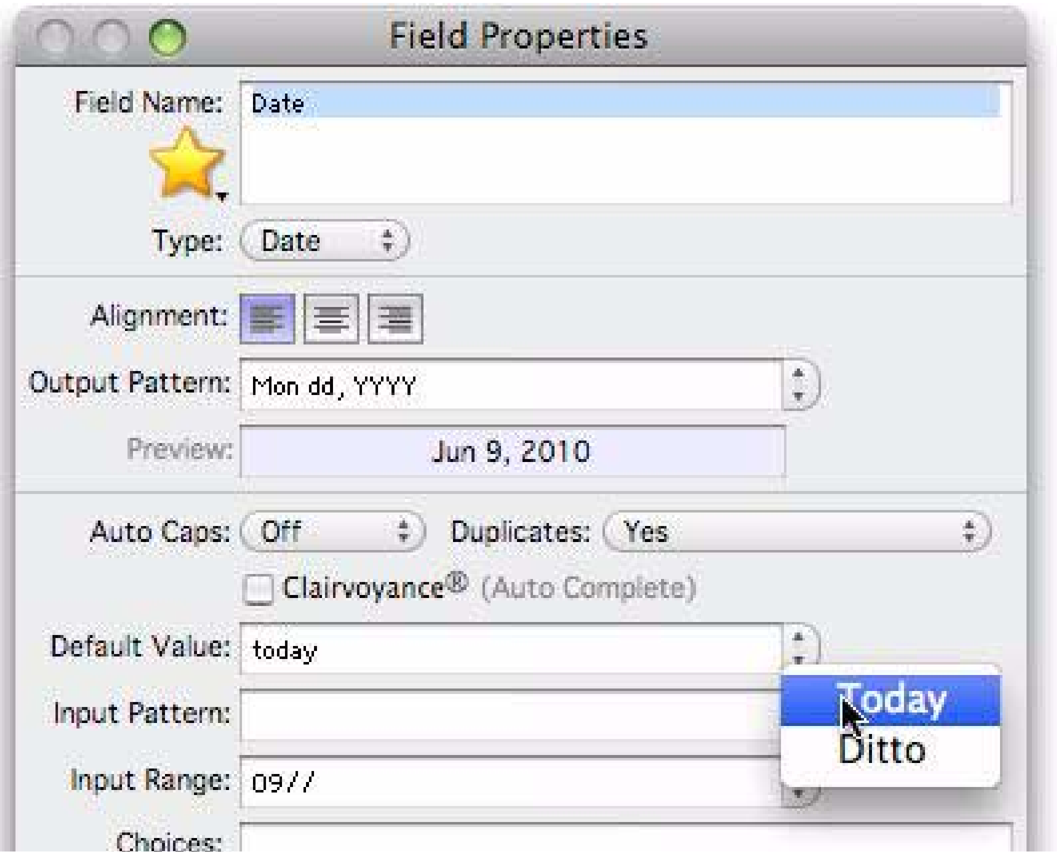
First	Last	Title	Company	Address	City	State	Zip	Country
William	Wong			7292 Delvin Wy	South San Francisc	CA	94080	
Raymon	Wood			5420 W Crosby	Slaton	TX	79364	
Victor	Yalom	Purchasing	San Francisco Lumber	854 14th St	San Francisco	CA	94103	
Peter	Yarensky	Owner	Peter's Appliances	41 Elm St	Dover	NH	3820	
John	Doe	Vice President						
Bob	Smith	Vice President	Acme Consulting	222 South Garbanzo L	Huntington Beach	CA	92648	
Susan	Brown	Sales Manager	Power Lumber	339 Arnold Road	Newton	MA		
						CA		USA

109 visible/109 total

new record with default values

Default to Today's Date

To default to today's date, choose **Today** from the pop-up menu (or you can just type in today).



Field Properties

Field Name: Date

Type: Date

Alignment:

Output Pattern: Mon dd, YYYY

Preview: Jun 9, 2010

Auto Caps: Off Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value: today

Input Pattern:

Input Range: 09//

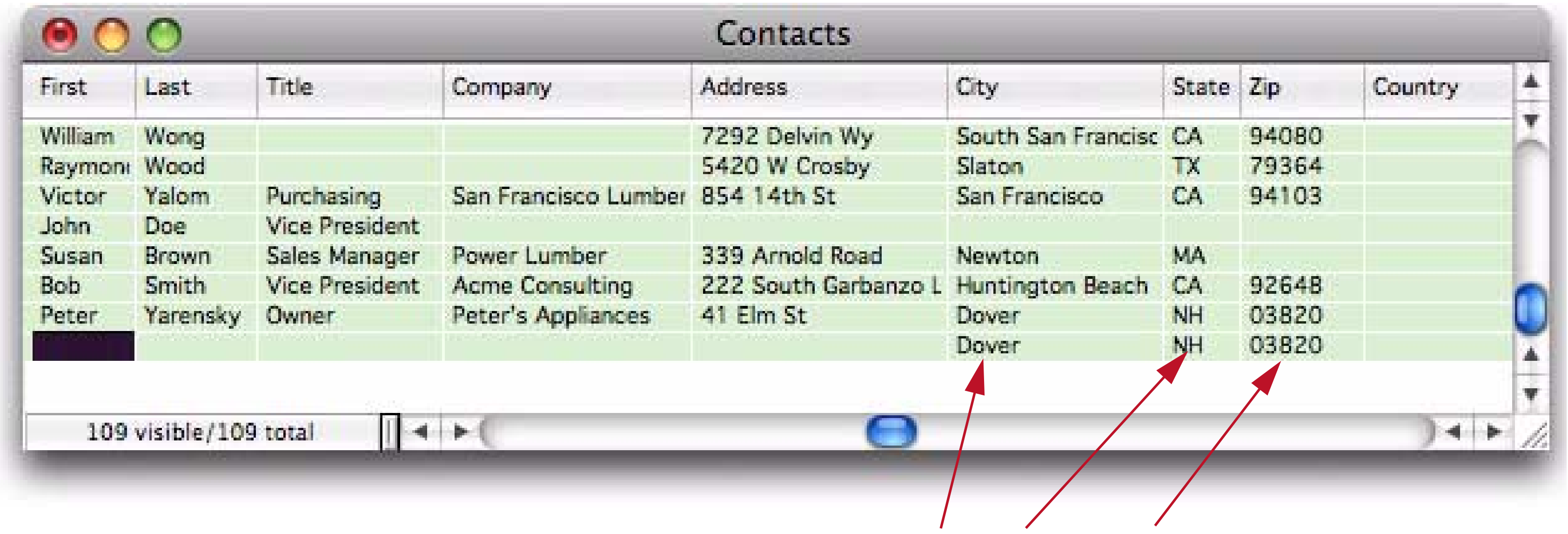
Choices:

Note: The today default only works for fields that use the date data type. If you use the default value today with a text field you will simply get the word today. See "Dates" on page 200 for more information on the date data type.

"Ditto" Defaults Based on the Previous Record

Instead of being fixed, a default value can be based on the data in the previous record. You can produce this type of "**ditto**" default by using the default value ". This is the quote character, which is produced by holding down the **Shift** key and pressing the " key (just to the right of the **semicolon** key). (Some people mistakenly call this the double-quote character.)

When you create a new record, the fields using the ditto default will contain the same values as the previous record.



Contacts

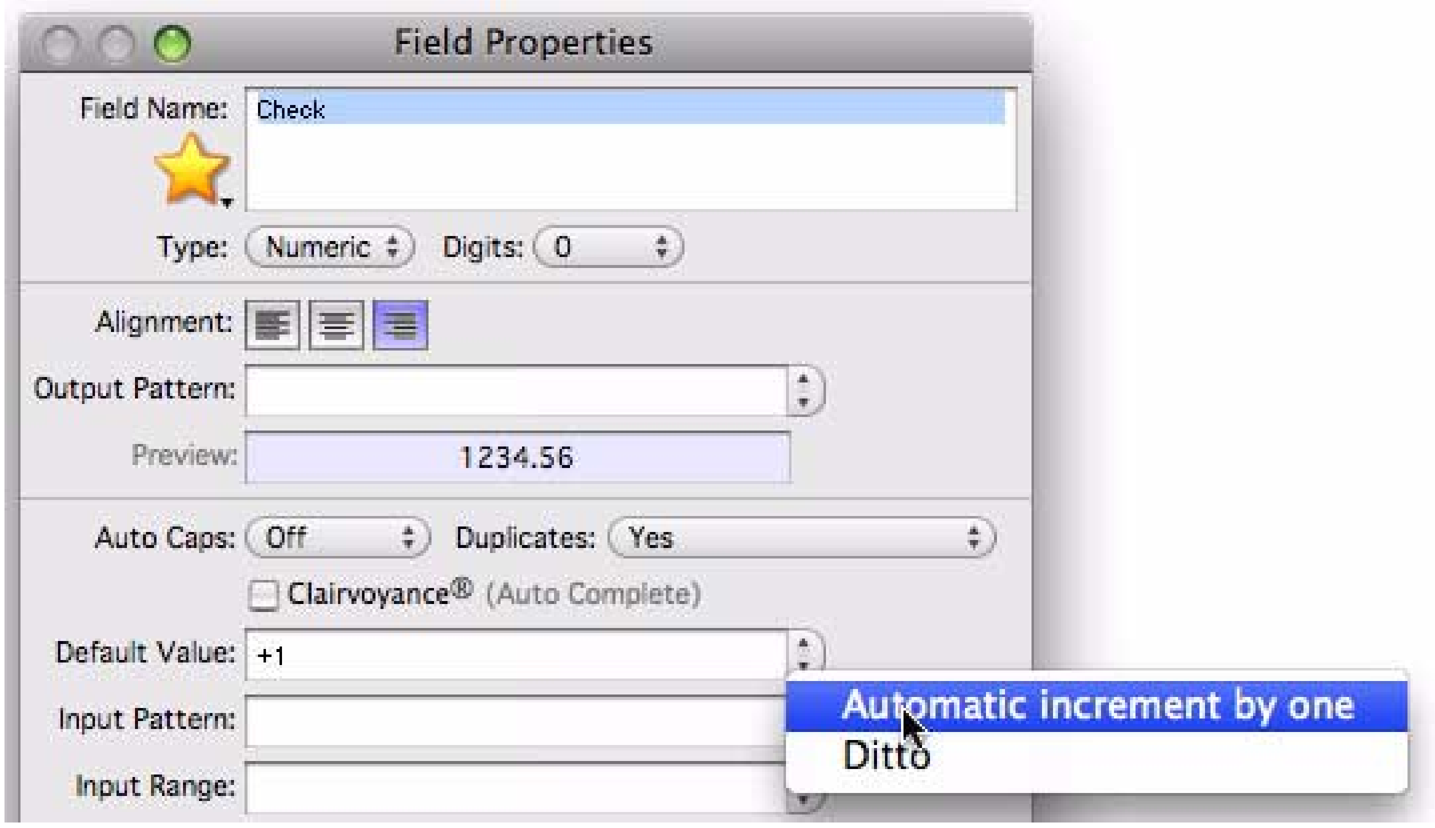
First	Last	Title	Company	Address	City	State	Zip	Country
William	Wong			7292 Delvin Wy	South San Francisc	CA	94080	
Raymon	Wood			5420 W Crosby	Slaton	TX	79364	
Victor	Yalom	Purchasing	San Francisco Lumber	854 14th St	San Francisco	CA	94103	
John	Doe	Vice President						
Susan	Brown	Sales Manager	Power Lumber	339 Arnold Road	Newton	MA		
Bob	Smith	Vice President	Acme Consulting	222 South Garbanzo L	Huntington Beach	CA	92648	
Peter	Yarensky	Owner	Peter's Appliances	41 Elm St	Dover	NH	03820	
					Dover	NH	03820	

109 visible/109 total

"ditto" defaults for City, State and Zip

Automatically Incrementing Defaults (1, 2, 3, …) Based on the Previous Record

For a numeric field you can specify a default that is created by adding to the previous value in the field. To do this, use a default of +nn, where nn is the amount to add to the previous value. For example +1 causes the value to increment by one for each new record.



Field Properties

Field Name: Check

Type: Numeric Digits: 0

Alignment:

Output Pattern:

Preview: 1234.56

Auto Caps: Off Duplicates: Yes

☐ Clairvoyance® (Auto Complete)

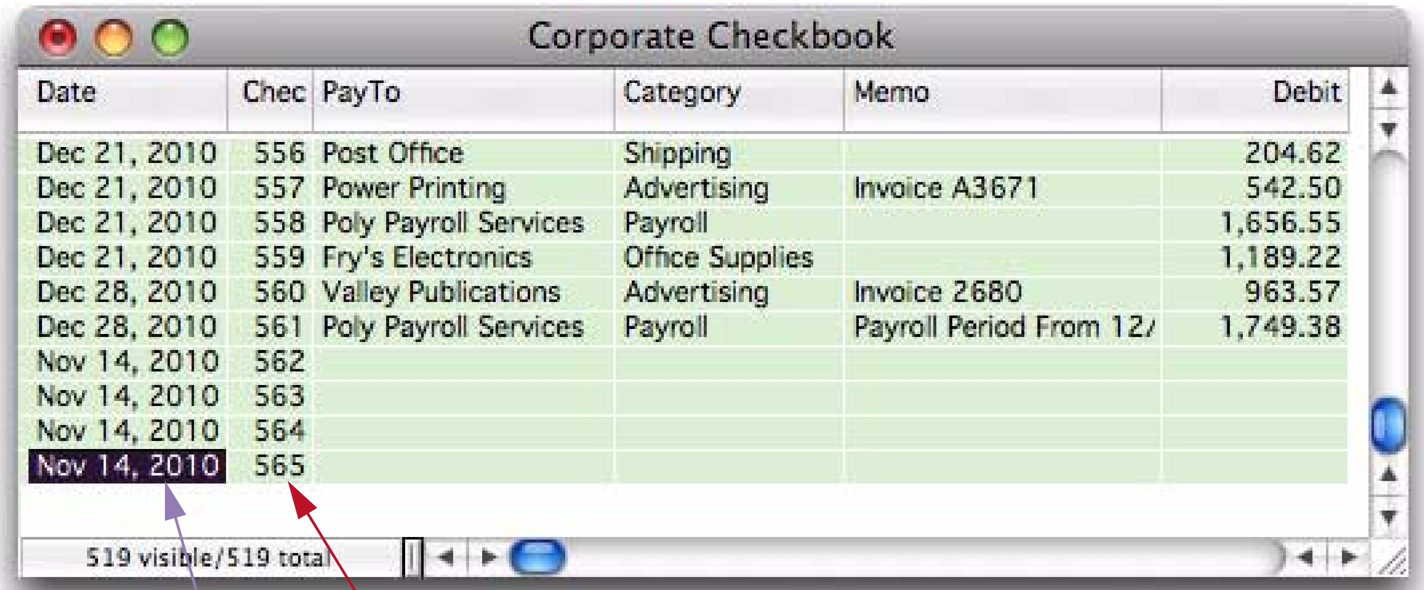
Default Value: +1

Input Pattern:

Input Range:

You can use any number, even a negative number like +-5. This default would cause Panorama to add negative 5 (same as subtracting 5) to the value each time a new record is created. If the numeric type allows it, you can even use non-integer values like 2.5 or 0.1.

As new records are added to the database, they are numbered automatically, like this.



Corporate Checkbook

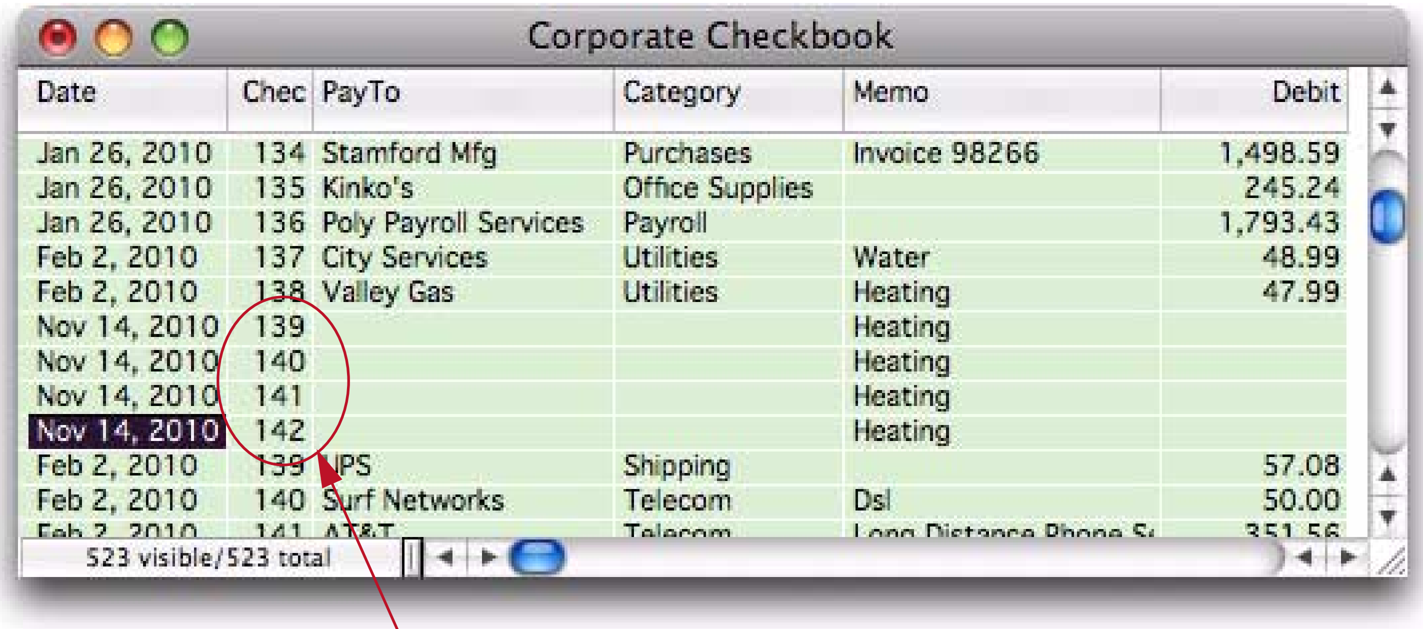
Date	Chec	PayTo	Category	Memo	Debit
Dec 21, 2010	556	Post Office	Shipping		204.62
Dec 21, 2010	557	Power Printing	Advertising	Invoice A3671	542.50
Dec 21, 2010	558	Poly Payroll Services	Payroll		1,656.55
Dec 21, 2010	559	Fry's Electronics	Office Supplies		1,189.22
Dec 28, 2010	560	Valley Publications	Advertising	Invoice 2680	963.57
Dec 28, 2010	561	Poly Payroll Services	Payroll	Payroll Period From 12/	1,749.38
Nov 14, 2010	562				
Nov 14, 2010	563				
Nov 14, 2010	564				
Nov 14, 2010	565				

519 visible/519 total

automatically incrementing check numbers

this field set up to default to today's date

Be sure to keep in mind that an incrementing default like +1 is based on the previous record, not on the largest value in the entire database. So if you insert a record in the middle of the database, the incremented value will be based on the value just above it, not on the value at the end of the database.



Corporate Checkbook

Date	Chec	PayTo	Category	Memo	Debit
Jan 26, 2010	134	Stamford Mfg	Purchases	Invoice 98266	1,498.59
Jan 26, 2010	135	Kinko's	Office Supplies		245.24
Jan 26, 2010	136	Poly Payroll Services	Payroll		1,793.43
Feb 2, 2010	137	City Services	Utilities	Water	48.99
Feb 2, 2010	138	Valley Gas	Utilities	Heating	47.99
Nov 14, 2010	139			Heating	
Nov 14, 2010	140			Heating	
Nov 14, 2010	141			Heating	
Nov 14, 2010	142			Heating	
Feb 2, 2010	139	UPS	Shipping		57.08
Feb 2, 2010	140	Surf Networks	Telecom	Dsl	50.00
Feb 2, 2010	141	AT&T	Telecom	Long Distance Phone S	351.56

523 visible/523 total

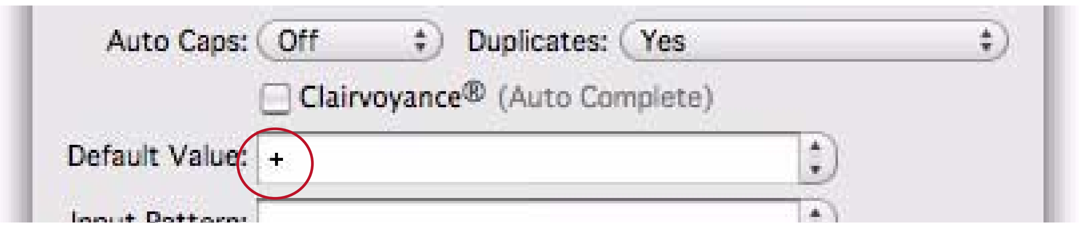
records inserted in the middle have incorrect numbers

If you want to generate a unique incrementing number for use as a record ID (for instance an invoice number or check number), use the technique described in the next section.

Creating a Unique Record Number

Many databases applications require that each record contain a unique number that can be used to identify the record. Common examples include invoice numbers, batch ID's, employee numbers, etc. Panorama can automatically assign a unique number to each new record as it is created, even if several people are using the database simultaneously over a network.

The field containing the record number must be a numeric field. To specify that this field should contain a unique record number, the default should be + . Do not specify any increment value, just use a single + character.



Auto Caps: Off Duplicates: Yes

☐ Clairvoyance® (Auto Complete)

Default Value: +

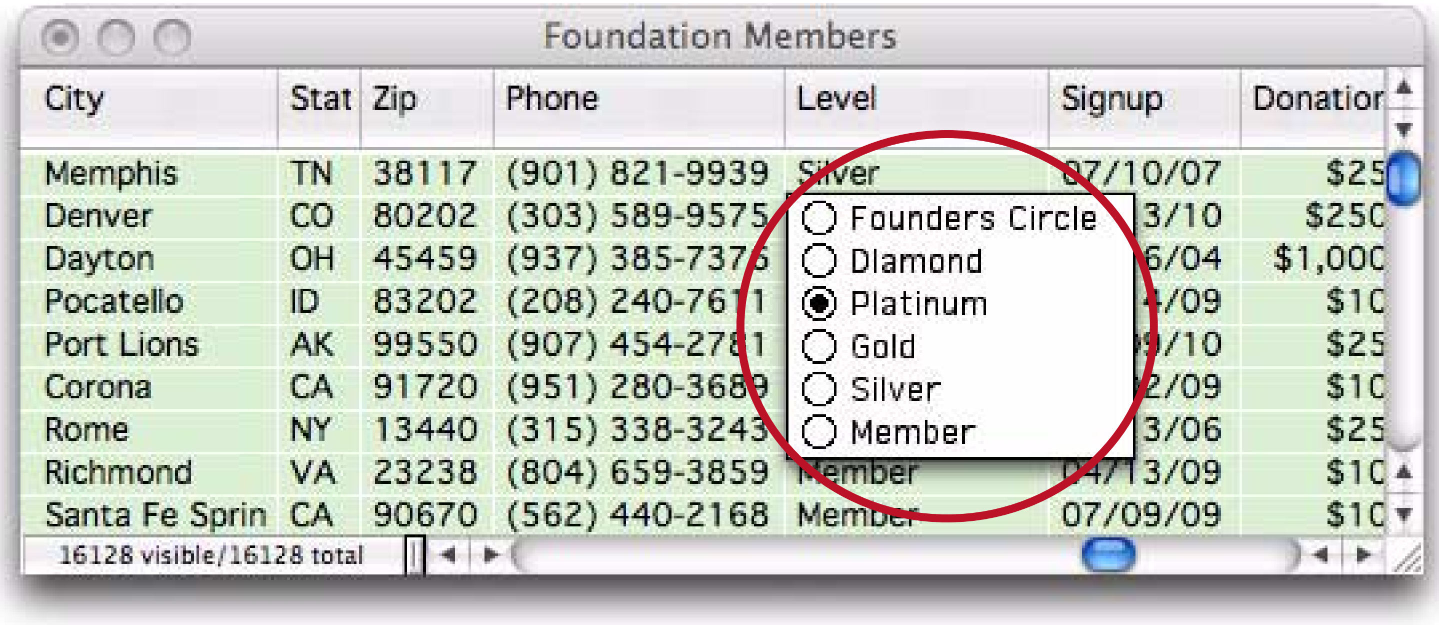
Input Pattern:

Each database contains a counter for keeping track of the next record number. Every time a new record is created the counter is incremented by one. Even if the record is later deleted, the number will never be re-used (unless you **Quit** Panorama or close the database without saving your changes, or unless you reset the counter manually as described below).

If necessary you can manually change the record number using the **Setup>Next Record Number** command.

The Choice Palette

The choice palette provides a completely different way to use the Input Box. Instead of entering the data with the keyboard, you pick the value from a list of buttons.



Foundation Members

City	Stat	Zip	Phone	Level	Signup	Donation
Memphis	TN	38117	(901) 821-9939	Silver	07/10/07	$25
Denver	CO	80202	(303) 589-9575		3/10	$250
Dayton	OH	45459	(937) 385-7376		6/04	$1,000
Pocatello	ID	83202	(208) 240-7611		/09	$10
Port Lions	AK	99550	(907) 454-2781		/10	$25
Corona	CA	91720	(951) 280-3689		2/09	$10
Rome	NY	13440	(315) 338-3243		3/06	$25
Richmond	VA	23238	(804) 659-3859	Member	04/13/09	$10
Santa Fe Sprin	CA	90670	(562) 440-2168	Member	07/09/09	$10

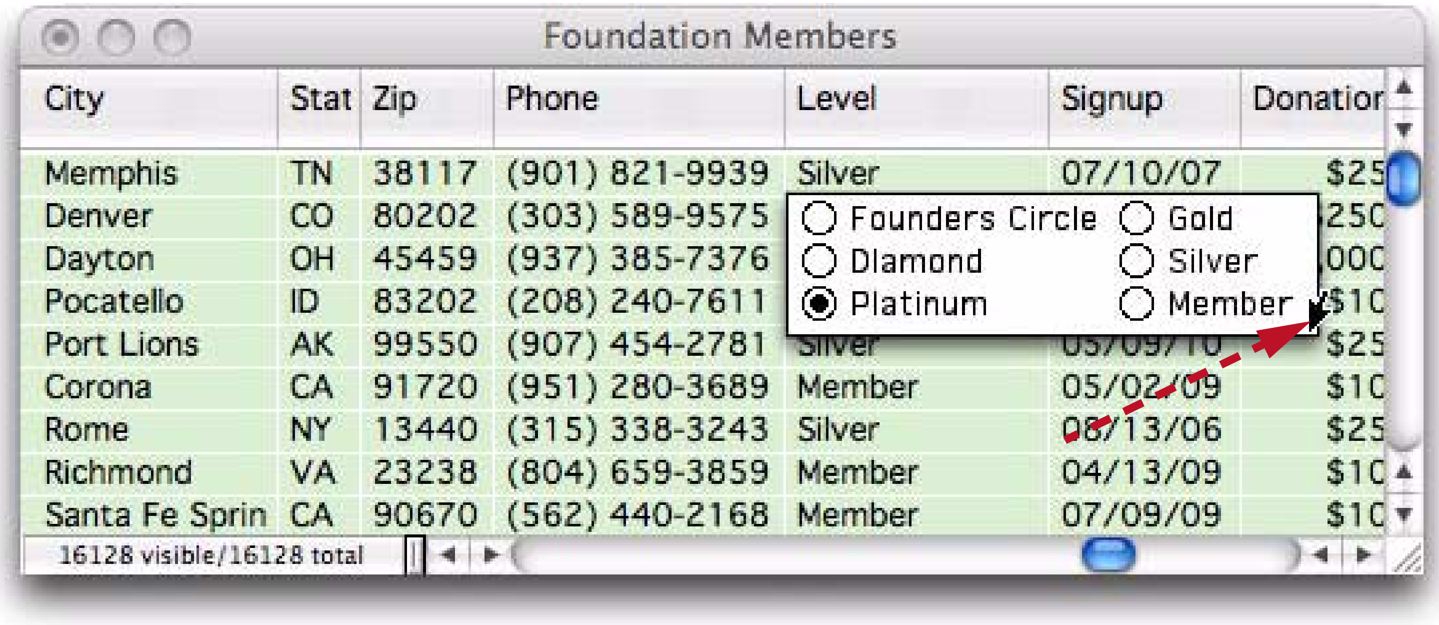
16128 visible/16128 total

○ Founders Circle
○ Diamond
● Platinum
○ Gold
○ Silver
○ Member

The choice palette can be used with any data type except pictures. All you have to do is create a list of choices (see below).

Changing the Shape of the Choice Palette

Panorama automatically arranges the buttons in the choice palette for the best fit in the Input Box. By changing the size and shape of the Input Box you can arrange the buttons vertically, horizontally, or in a grid of rows and columns.



Foundation Members

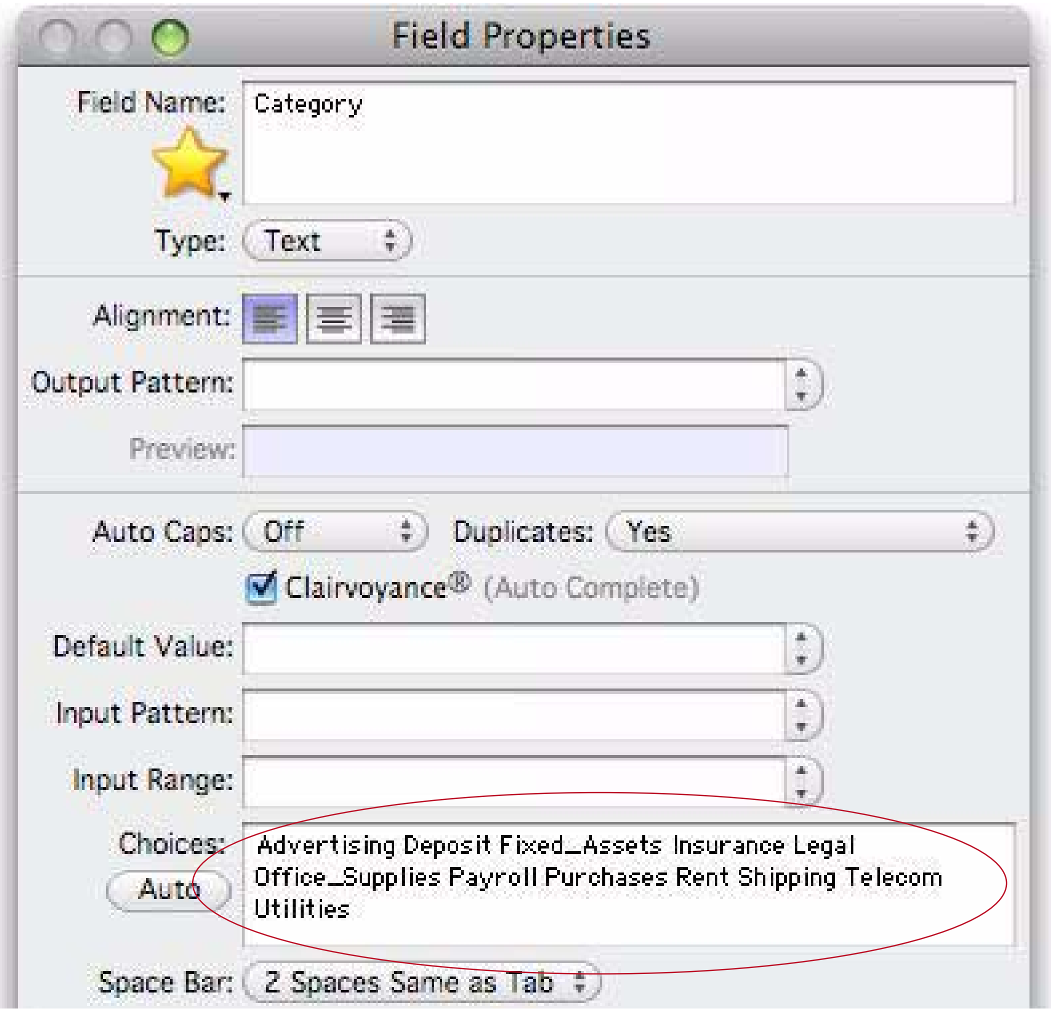
City	Stat	Zip	Phone	Level	Signup	Donation
Memphis	TN	38117	(901) 821-9939	Silver	07/10/07	$25
Denver	CO	80202	(303) 589-9575			250
Dayton	OH	45459	(937) 385-7376			000
Pocatello	ID	83202	(208) 240-7611			$10
Port Lions	AK	99550	(907) 454-2781	Silver	05/09/10	$25
Corona	CA	91720	(951) 280-3689	Member	05/02/09	$10
Rome	NY	13440	(315) 338-3243	Silver	08/13/06	$25
Richmond	VA	23238	(804) 659-3859	Member	04/13/09	$10
Santa Fe Sprin	CA	90670	(562) 440-2168	Member	07/09/09	$10

16128 visible/16128 total

○ Founders Circle ○ Gold
○ Diamond ○ Silver
● Platinum ○ Member

Creating the List of Choices

Set up the list of choices with the **Field Properties** dialog.



Field Properties

Field Name: Category

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Off Duplicates: Yes

☑ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

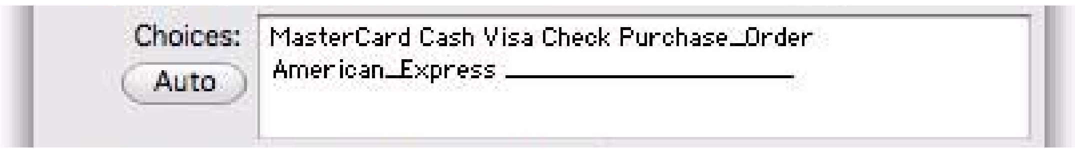
Choices: Advertising Deposit Fixed_Assets Insurance Legal Office_Supplies Payroll Purchases Rent Shipping Telecom Utilities

Space Bar: 2 Spaces Same as Tab

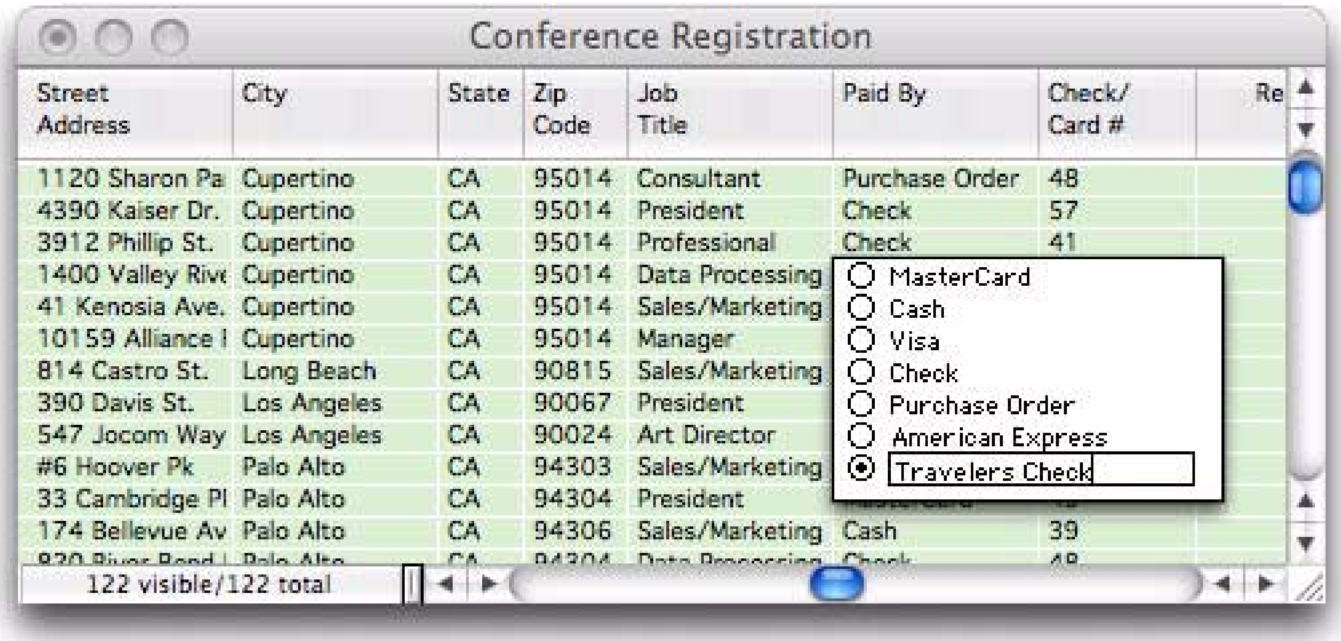
You can key in the list manually or you can press the **Auto** button to ask Panorama to automatically create the list for you. If you press the **Auto** button, Panorama scans the database and creates a list of all the choices already in the data. If you key in the list of choices manually, you must separate each choice with a space. If a choice contains a space (US Mail) you must represent the space with an underscore character (**`US_Mail`**).

Allowing Choice Exceptions

An option for any choice palette is an exception box. The exception box lets you type any value into the data cell, even if the choice palette doesn't contain a button for it. Use the exception box when you have a few common choices, but cannot anticipate every value in advance. To create an exception box, simply type in a line of underscores at the end of the choice list.


Choices: MasterCard Cash Visa Check Purchase_Order American_Express ____________________

The exception box is always one line high. The width of the exception box is controlled by the number of underscores.


Conference Registration

Street Address	City	State	Zip Code	Job Title	Paid By	Check/ Card #	Re
1120 Sharon Pa	Cupertino	CA	95014	Consultant	Purchase Order	48	
4390 Kaiser Dr.	Cupertino	CA	95014	President	Check	57	
3912 Phillip St.	Cupertino	CA	95014	Professional	Check	41	
1400 Valley Rive	Cupertino	CA	95014	Data Processing			
41 Kenosia Ave.	Cupertino	CA	95014	Sales/Marketing			
10159 Alliance I	Cupertino	CA	95014	Manager			
814 Castro St.	Long Beach	CA	90815	Sales/Marketing			
390 Davis St.	Los Angeles	CA	90067	President			
547 Jocom Way	Los Angeles	CA	90024	Art Director			
#6 Hoover Pk	Palo Alto	CA	94303	Sales/Marketing			
33 Cambridge Pl	Palo Alto	CA	94304	President			
174 Bellevue Av	Palo Alto	CA	94306	Sales/Marketing	Cash	39	

○ MasterCard
○ Cash
○ Visa
○ Check
○ Purchase Order
○ American Express
● Travelers Check

122 visible/122 total

To make the exception box wider, add more underscores.

The Choice Palette vs. the Choices Data Type

If you've already read about the choices data type, you may be wondering how the choice palette relates to the choices data type.

The choice palette is a way to enter data. It provides a way to enter or edit data by picking from a list of choices instead of typing from the keyboard. Using the choice palette does not affect how that data is stored, however. The data can be stored as text, as a number, a date, or using the choices data type.

The choices data type is a way to store data. This data type is efficient (saves memory) for storing data that has only a few possible values.

The choices data type can be used with a choice palette (and it usually is), but you can also use regular keyboard editing to enter choice values. A choice data type field will use regular keyboard editing (instead of the choice palette) if you set the number of digits to 1.

Automatically Calculated Field Values

If the value of a field can be calculated with a formula, Panorama can calculate the value for you using the Formula option in the **Field Properties** dialog. See also to learn how to set up calculations.

Generic Fields

Panorama allows you to designate certain fields in your database as “Generic” fields.

Databases come in all sizes and shapes. Generic fields allow different databases to share information even if they have different field names or slightly different configurations. For example, one database may store company names in a field named Company, while another may have a similar field named Organization. By setting up generic fields for each database, you build a bridge so that Panorama knows that these two fields, though named differently, contain the same type of information. Once this bridge is built Panorama can exchange data between these two databases (for example by drag and drop), and between Panorama and other applications that can share information (for example Apple’s Address Book).

Unlike normal Panorama fields, generic fields don’t actually store any information themselves. Instead, a generic field simply references one or more normal Panorama fields that contain the same information. When Panorama needs to access the information in the generic field, it examines the generic field definition (see below) to extract the data from the actual database fields.

Standard Generic Fields

While ordinary Panorama fields can store an unlimited variety of information, there are only about two dozen generic fields to choose from (this list may grow in future releases). Not all databases will be able to support all of these generic fields, but a database that contains contact information (mailing lists, phone books, etc.) will be able to support many of them.

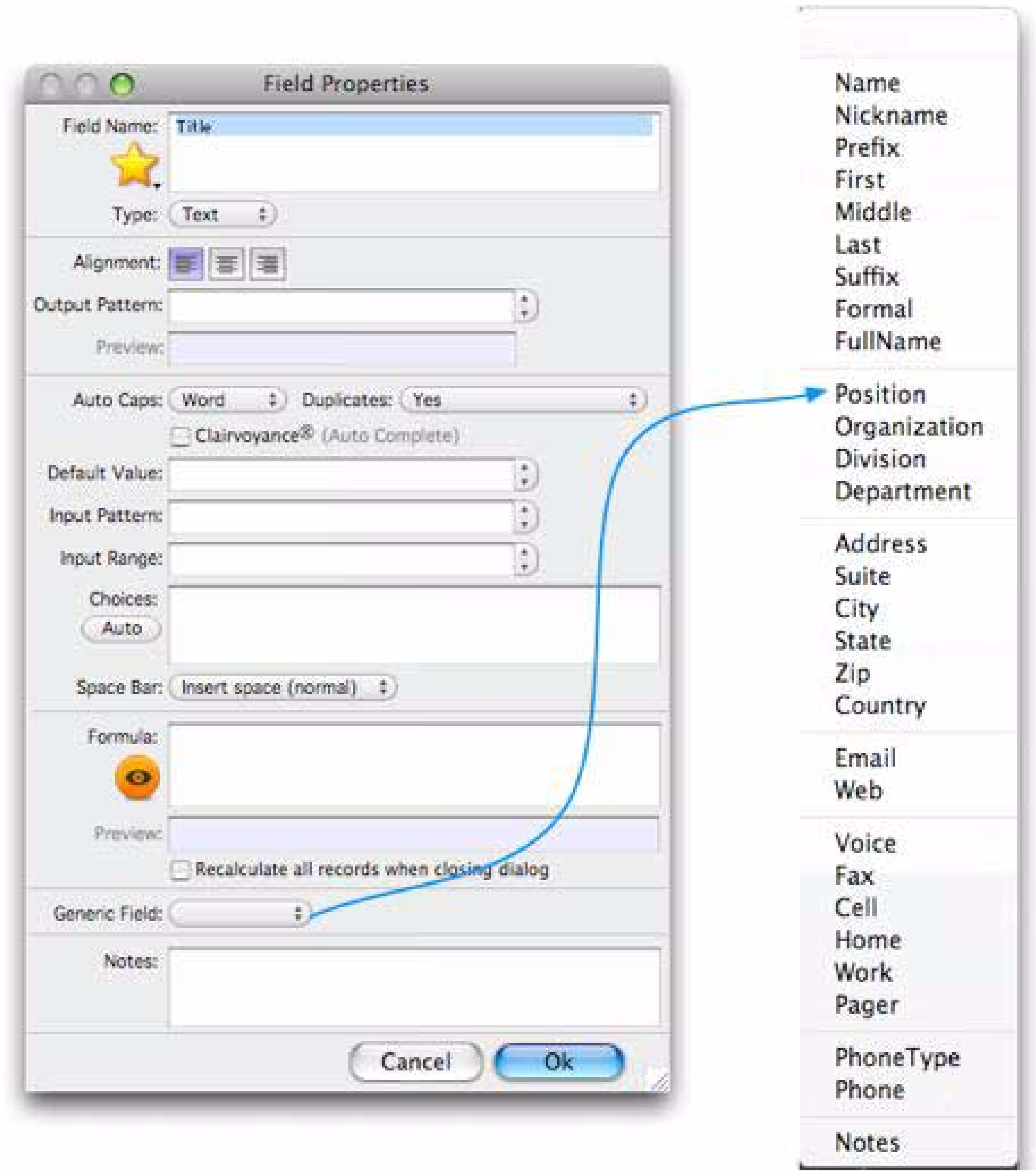
Category	Generic Field	Description	Examples
Contact	Name	A person’s first and last name.	John Wilson, Mary Furnare
	Nickname	A person’s nickname.	Sammy, Beth
	Prefix	A person’s honorific.	Mr., Ms., Dr.
	First	A person’s first name.	John, Mary
	Middle	A person’s middle name or initial.	August, Walker
	Last	A person’s last name.	Wilson, Furnare
	Suffix	A person’s suffix.	Jr., D.D.S
	Formal	A person’s honorific and last name.	Dr. Wilson, Ms. Furnare
	FullName	A person’s complete name.	Dr. John August Wilson
Affiliation	Position	A person’s title or position within an organization.	President, Sales Manager
	Organization	The company, school, agency or other organization this person is affiliated with (if any).	Acme Construction
	Division	The major division or group this person is affiliated with (if any).	Communications Products
	Department	The department this person is affiliated with (if any).	Human Resources
Address	Address	Street address.	1892 North Glendale Blvd.
	Suite	Suite, apartment or room number (if any)	Room 463
	City	City or town.	Saskatoon
	State	State or province.	SK
	Zip	Zip or postal code	4Y2 A8G
	Country	Country	Canada

Category	Generic Field	Description	Examples
Internet	Email	Email address. This field may contain multiple e-mail addresses, one per line.	maryf@acme.com
	Web	URL for web site	http://www.acme.com/cp/hr/
Telephone (separate)	Voice	Primary phone number.	(303) 442-9011
	Fax	Fax phone number.	(888) 763-1290
	Cell	Cell or mobile phone number.	(909) 487-2063
	Home	Home phone number.	(562) 491-3992
	Work	Word phone number	(324) 987-3367 ext 2384
	Pager	Pager number.	(817) 335-9832
Telephone (line items/ array)	PhoneType	The PhoneType and Phone fields are composite fields designed for holding multiple phone numbers. Use these generic fields when the underlying database contains phone numbers in line items or an array instead of in separate fields. Each line in these fields corresponds to a single phone number. Each line in the PhoneType generic field contains the type of the corresponding phone number: Home, Office, Cell, Fax, etc. Each line in the Phone generic field contains the actual phone number.	Voice Cell Fax
	Phone		(303) 442-9011 (909) 487-2063 (888) 763-1290
Other	Notes	Notes, memos, comments, etc.	

If you are familiar with the vCard specification (RFC 2426) for exchanging data between programs you'll recognize that many of these generic fields correspond to vCard fields.

Setting Up Generic Fields

When you create a new database with the New Database wizard, Panorama will normally set up generic fields for you if you use standard field names like Name, Address, City, State and Zip. If your database contains address or contact information and doesn't have Generic fields, you can set them up with the **Field Properties** dialog. To specify that a field is a generic field, open the **Field Properties** dialog and select from the Generic Field pop-up menu.



Field Properties

Field Name: Title

Type: Text

Alignment:

Output Pattern:

Preview:

Auto Caps: Word

Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

Choices:

Space Bar: Insert space (normal)

Formula:

Preview:

□ Recalculate all records when closing dialog

Generic Field:

Notes:

That's it!

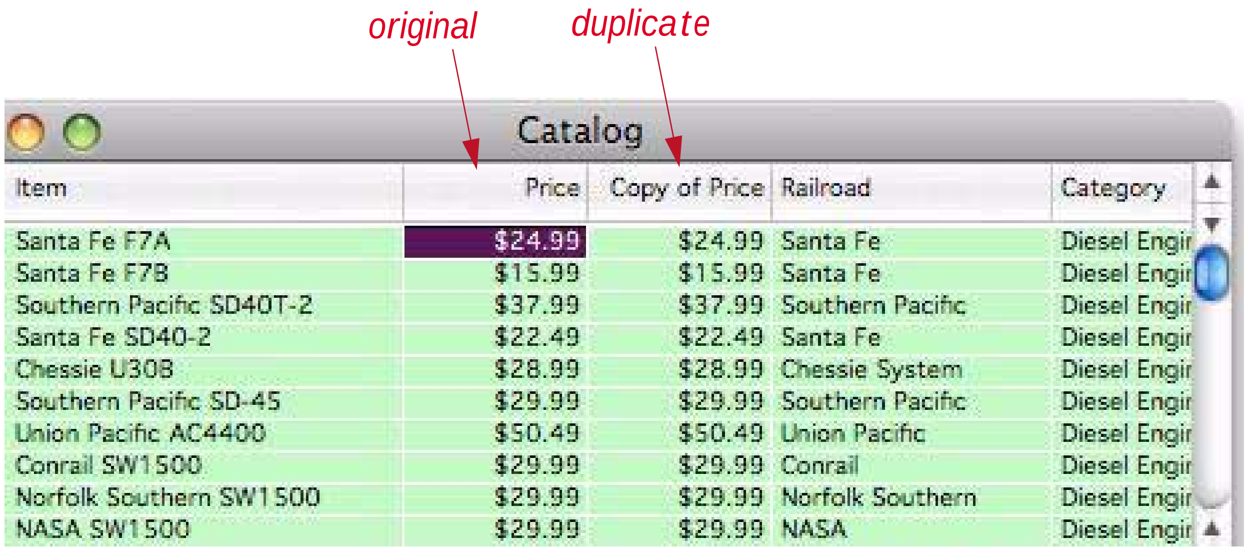
Chapter 7: Data Manipulation

This chapter describes some of the most powerful commands in Panorama. These commands allow you to automatically transform and modify large amounts of existing data. Many different kinds of transformations are possible, including mathematical calculations, re-arranging characters or words, transforming individual characters (for example converting from lower to upper case), and transformations based on patterns in the data.

The commands described in this chapter are very powerful. In a few seconds you may be able to make changes to your data that would otherwise require tedious hours of manual data entry. Like any power tool, these commands should be treated with respect. For insurance, you should **Save** your database before you begin trying to transform it. If you mangle your data, you can always get the original data back with the **Revert to Saved** command, or with Panorama's Time Lapse function (see also).

Duplicating a Field

To make a copy of a field, click anywhere in the field and chose the **Duplicate Field** command from the **Fields** menu.

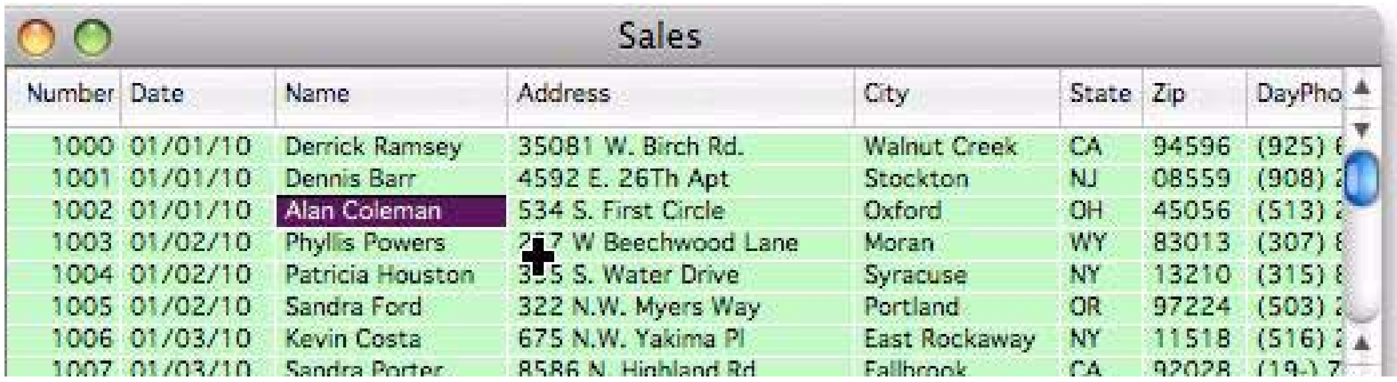


Item	Price	Copy of Price	Railroad	Category
Santa Fe F7A	$24.99	$24.99	Santa Fe	Diesel Engir
Santa Fe F7B	$15.99	$15.99	Santa Fe	Diesel Engir
Southern Pacific SD40T-2	$37.99	$37.99	Southern Pacific	Diesel Engir
Santa Fe SD40-2	$22.49	$22.49	Santa Fe	Diesel Engir
Chessie U30B	$28.99	$28.99	Chessie System	Diesel Engir
Southern Pacific SD-45	$29.99	$29.99	Southern Pacific	Diesel Engir
Union Pacific AC4400	$50.49	$50.49	Union Pacific	Diesel Engir
Conrail SW1500	$29.99	$29.99	Conrail	Diesel Engir
Norfolk Southern SW1500	$29.99	$29.99	Norfolk Southern	Diesel Engir
NASA SW1500	$29.99	$29.99	NASA	Diesel Engir

The duplicate will be named "Copy of " original field, as shown above. To change the name just double click on the name to open the **Field Properties** dialog.

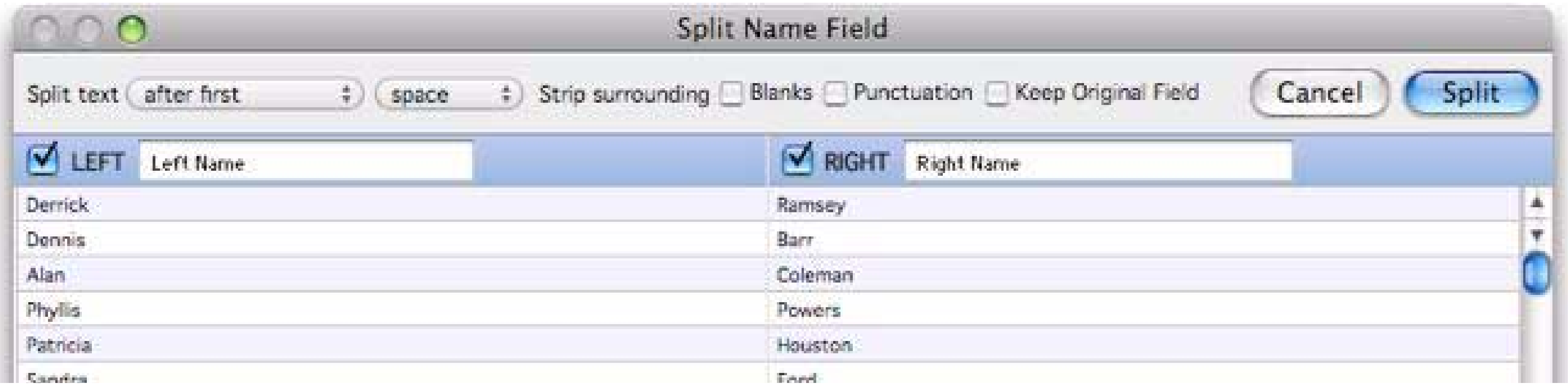
Splitting a Field

Sometimes you'll need to take an existing field that already has data in it and split it apart. This can be accomplished with the **Split Field** dialog. For example, this database contains a combined Name field that we'd like to split into separate First and Last fields.



Number	Date	Name	Address	City	State	Zip	DayPho
1000	01/01/10	Derrick Ramsey	35081 W. Birch Rd.	Walnut Creek	CA	94596	(925) 6
1001	01/01/10	Dennis Barr	4592 E. 26Th Apt	Stockton	NJ	08559	(908) 2
1002	01/01/10	Alan Coleman	534 S. First Circle	Oxford	OH	45056	(513) 2
1003	01/02/10	Phyllis Powers	237 W Beechwood Lane	Moran	WY	83013	(307) 8
1004	01/02/10	Patricia Houston	395 S. Water Drive	Syracuse	NY	13210	(315) 8
1005	01/02/10	Sandra Ford	322 N.W. Myers Way	Portland	OR	97224	(503) 2
1006	01/03/10	Kevin Costa	675 N.W. Yakima Pl	East Rockaway	NY	11518	(516) 2
1007	01/03/10	Sandra Porter	8586 N. Highland Rd	Fallbrook	CA	92028	(19-) 7

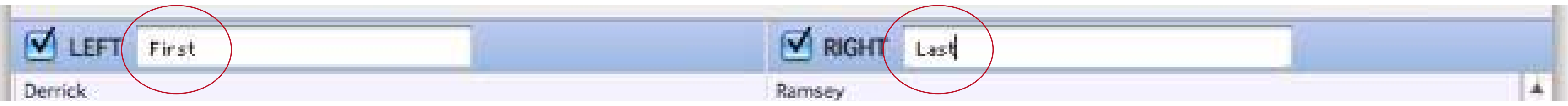
To split the field, click on it then choose **Split Field** from the **Fields** menu. The preview area shows how the data will be split. Since splitting at the first space is the default for this dialog, the split looks perfect.



Split text after first space Strip surrounding □ Blanks □ Punctuation □ Keep Original Field

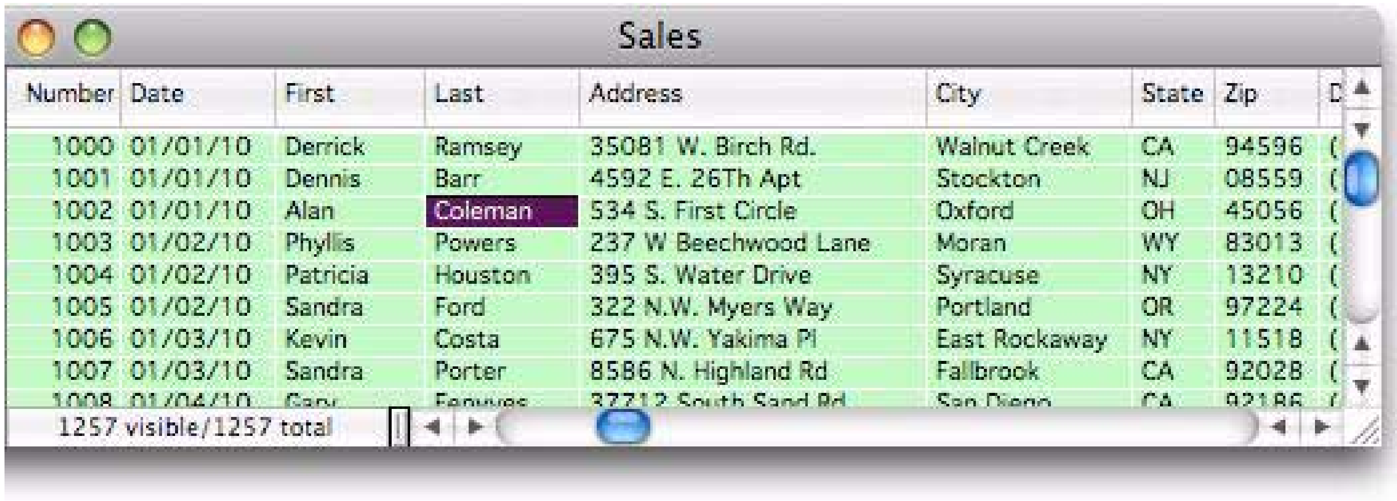
☑ LEFT Left Name	☑ RIGHT Right Name
Derrick	Ramsey
Dennis	Barr
Alan	Coleman
Phyllis	Powers
Patricia	Houston
Sandra	Ford

Before actually performing the split you have the change to assign the names for the new fields. Just type in the names you want to use.



☑ LEFT First	☑ RIGHT Last
Derrick	Ramsey

Press the **Split** button to actually split the field into two fields.

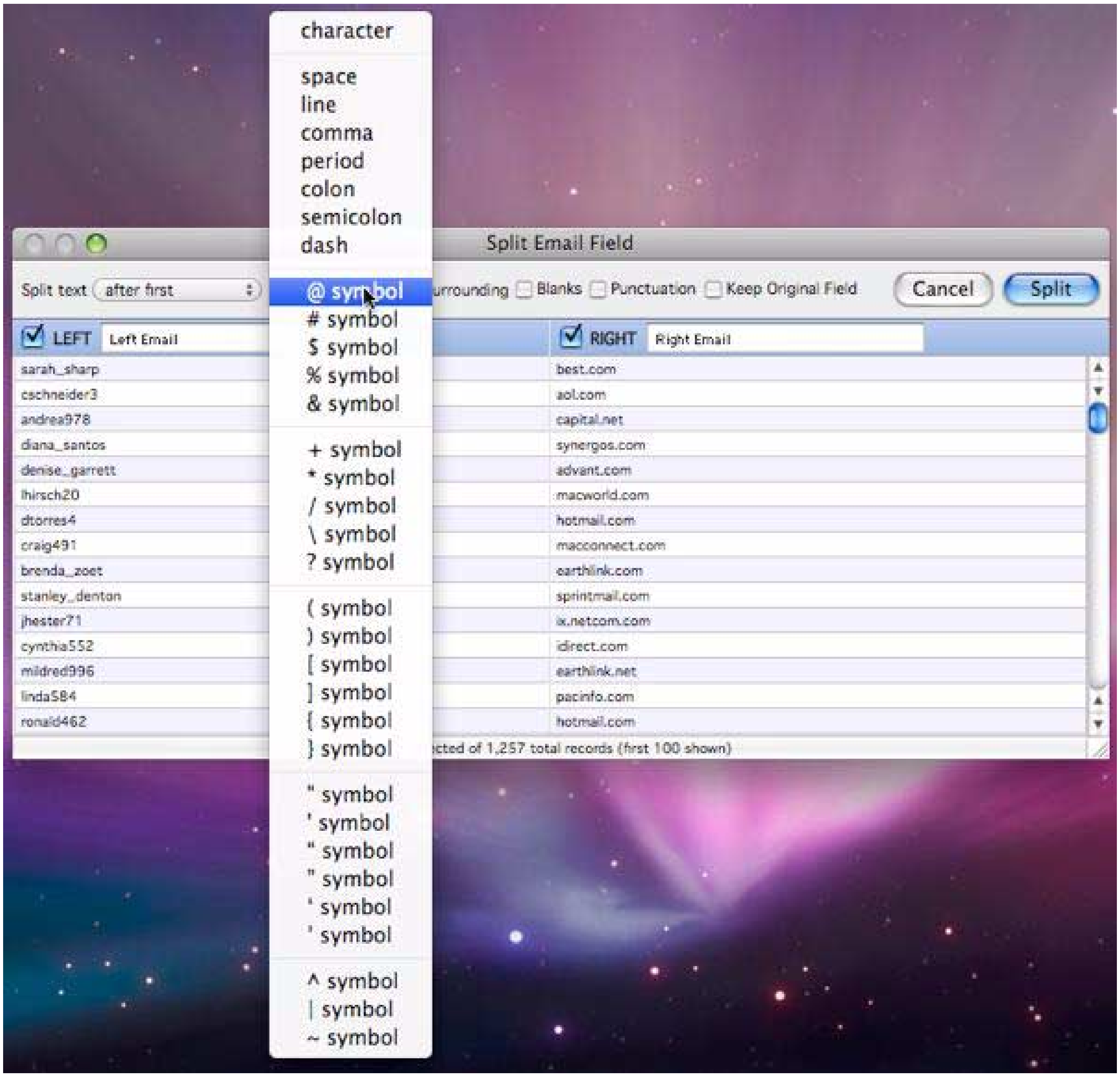


Number	Date	First	Last	Address	City	State	Zip	D
1000	01/01/10	Derrick	Ramsey	35081 W. Birch Rd.	Walnut Creek	CA	94596	(
1001	01/01/10	Dennis	Barr	4592 E. 26Th Apt	Stockton	NJ	08559	(
1002	01/01/10	Alan	Coleman	534 S. First Circle	Oxford	OH	45056	(
1003	01/02/10	Phyllis	Powers	237 W Beechwood Lane	Moran	WY	83013	(
1004	01/02/10	Patricia	Houston	395 S. Water Drive	Syracuse	NY	13210	(
1005	01/02/10	Sandra	Ford	322 N.W. Myers Way	Portland	OR	97224	(
1006	01/03/10	Kevin	Costa	675 N.W. Yakima Pl	East Rockaway	NY	11518	(
1007	01/03/10	Sandra	Porter	8586 N. Highland Rd	Fallbrook	CA	92028	(
1008	01/04/10	Gary	Fenwyes	37712 South Sand Rd	San Diego	CA	92186	(

1257 visible/1257 total

Controlling the Split Location

Panorama can split a field at any of three dozen different characters or symbols, or at a specific character position. For example, an e-mail address can be split into user name and ISP by splitting at the @ symbol.



Split Email Field

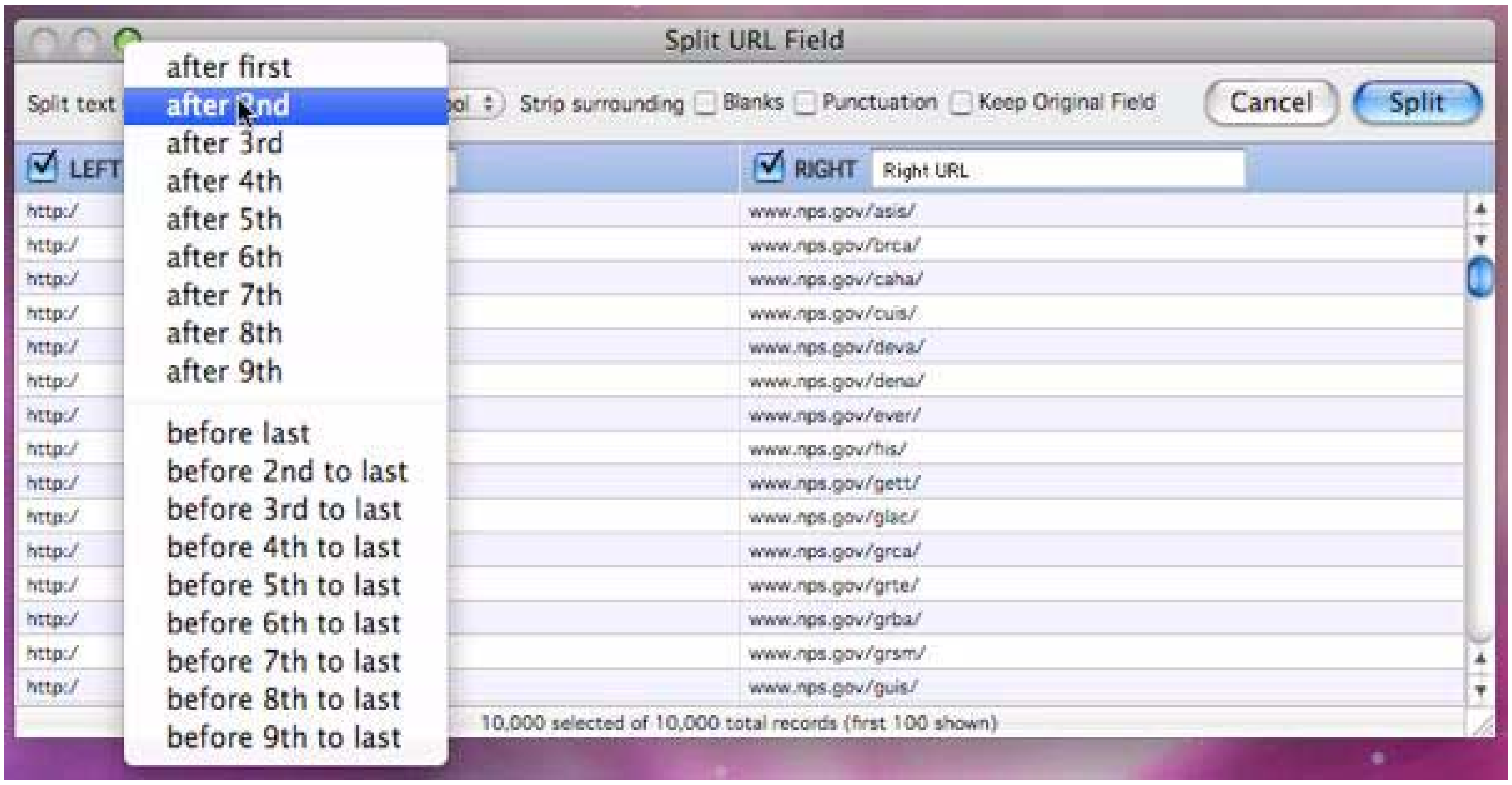
Split text: after first · @ symbol

☑ LEFT: Left Email · ☑ RIGHT: Right Email

LEFT	RIGHT
sarah_sharp	best.com
cschneider3	aol.com
andrea978	capital.net
diana_santos	synergos.com
denise_garrett	advant.com
lhirsch20	macworld.com
dtorres4	hotmail.com
craig491	macconnect.com
brenda_zoet	earthlink.com
stanley_denton	sprintmail.com
jhester71	ix.netcom.com
cynthia552	idirect.com
mildred996	earthlink.net
linda584	pacinfo.com
ronald462	hotmail.com

cted of 1,257 total records (first 100 shown)

You don't have to split at the first instance of a character - you can choose any of the first or last nine instances. In this example the split occurs after the second / symbol.



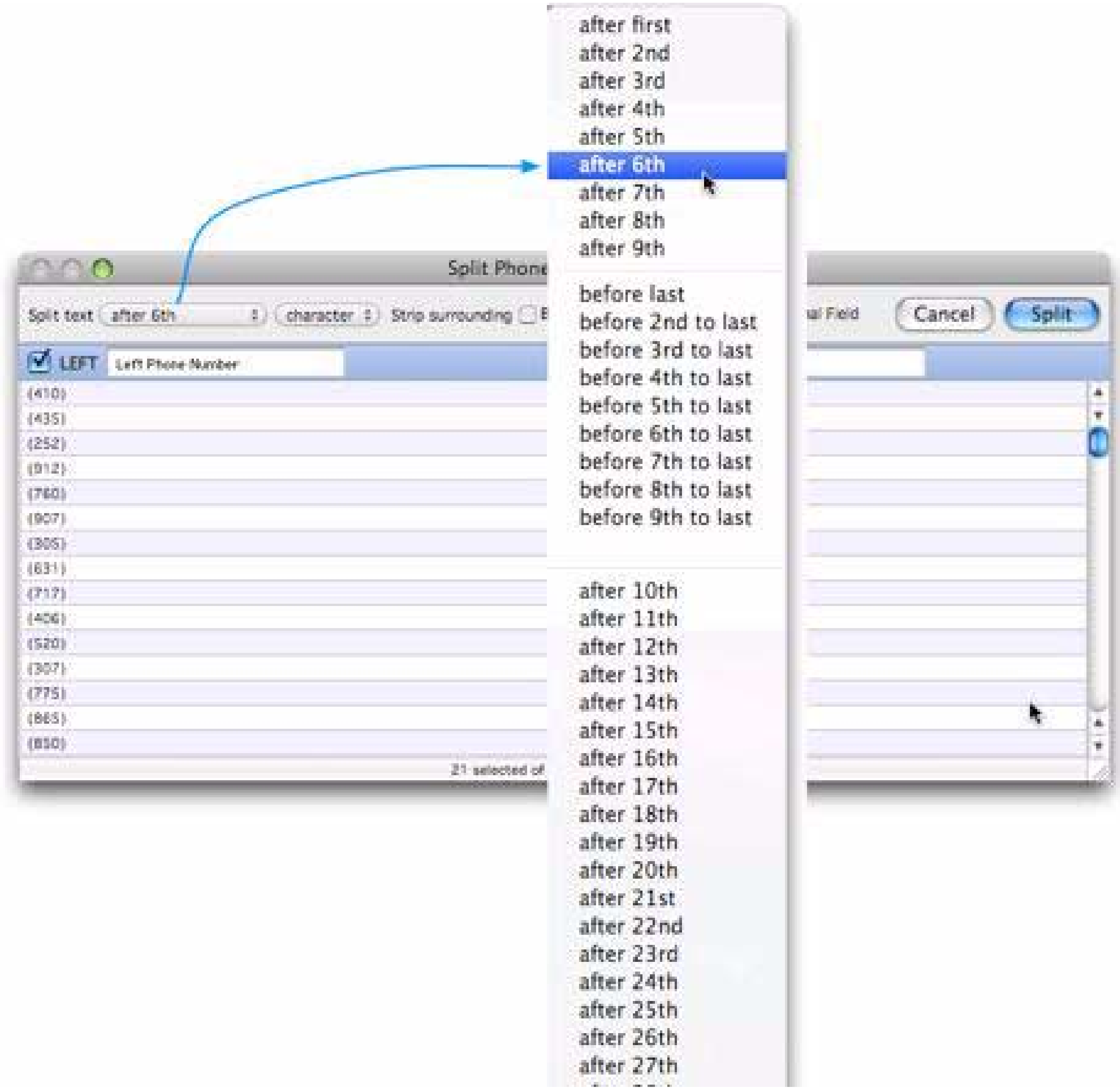
Split URL Field

Split text after 2nd | ol | Strip surrounding □ Blanks □ Punctuation □ Keep Original Field

☑ LEFT	☑ RIGHT Right URL
http:/	www.nps.gov/asis/
http:/	www.nps.gov/brca/
http:/	www.nps.gov/caha/
http:/	www.nps.gov/cuis/
http:/	www.nps.gov/deva/
http:/	www.nps.gov/dena/
http:/	www.nps.gov/ever/
http:/	www.nps.gov/fiis/
http:/	www.nps.gov/gett/
http:/	www.nps.gov/glac/
http:/	www.nps.gov/grca/
http:/	www.nps.gov/grte/
http:/	www.nps.gov/grba/
http:/	www.nps.gov/grsm/
http:/	www.nps.gov/guis/

10,000 selected of 10,000 total records (first 100 shown)

If you choose to split at a character position instead of at a character or symbol, the pop-up menu expands to allow you to select up to the first 99 positions. In this example a phone number is split into separate area codes and local numbers by splitting after the sixth character (this is just one way to split a phone number, another method will be described later).



Split Phone

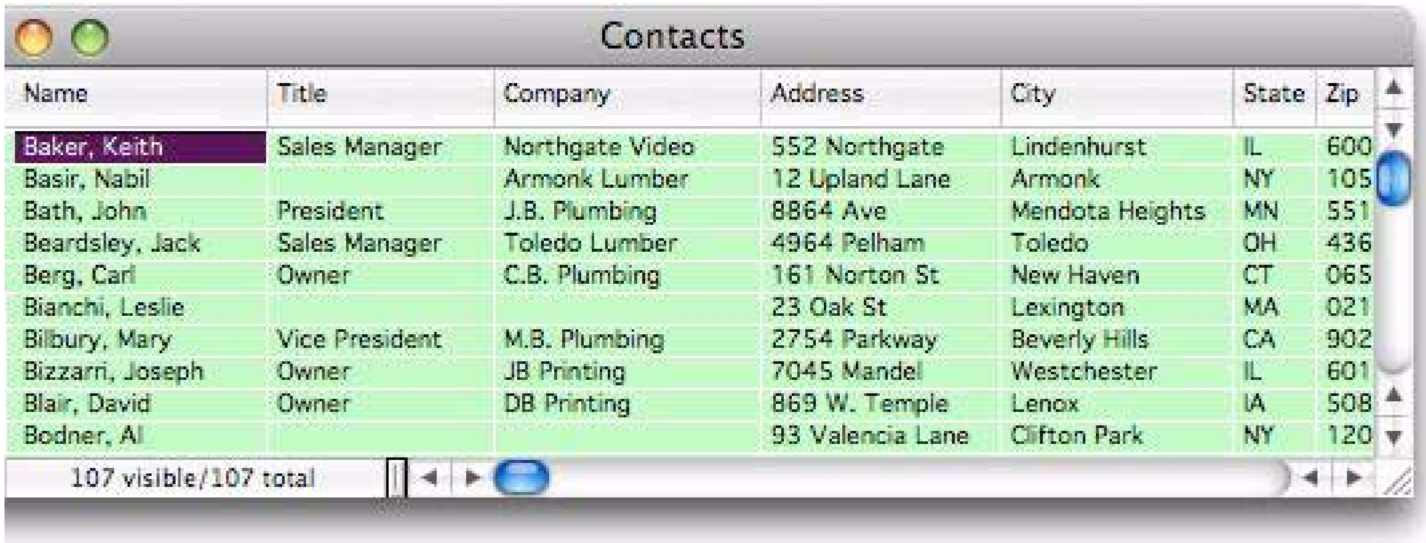
Split text after 6th | character | Strip surrounding □

☑ LEFT Left Phone Number
(410)
(435)
(252)
(912)
(760)
(907)
(305)
(631)
(717)
(406)
(520)
(307)
(775)
(865)
(850)

21 selected of

Stripping Extra Spaces and Punctuation

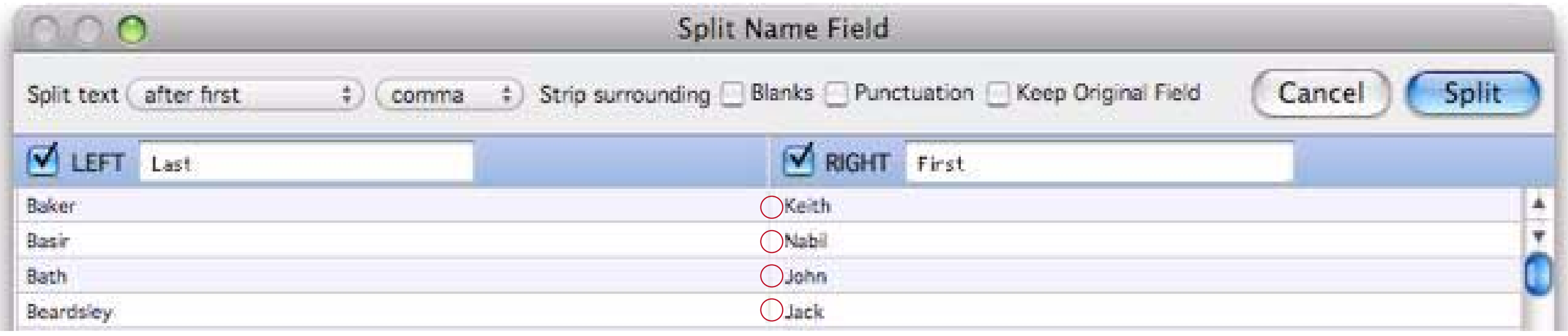
Sometimes after you split a field there will be extra spaces or punctuation that needs to be removed. For example, suppose you want to split this name field into separate last and first names.


Contacts

Name	Title	Company	Address	City	State	Zip
Baker, Keith	Sales Manager	Northgate Video	552 Northgate	Lindenhurst	IL	600
Basir, Nabil		Armonk Lumber	12 Upland Lane	Armonk	NY	105
Bath, John	President	J.B. Plumbing	8864 Ave	Mendota Heights	MN	551
Beardsley, Jack	Sales Manager	Toledo Lumber	4964 Pelham	Toledo	OH	436
Berg, Carl	Owner	C.B. Plumbing	161 Norton St	New Haven	CT	065
Bianchi, Leslie			23 Oak St	Lexington	MA	021
Bilbury, Mary	Vice President	M.B. Plumbing	2754 Parkway	Beverly Hills	CA	902
Bizzarri, Joseph	Owner	JB Printing	7045 Mandel	Westchester	IL	601
Blair, David	Owner	DB Printing	869 W. Temple	Lenox	IA	508
Bodner, Al			93 Valencia Lane	Clifton Park	NY	120

107 visible/107 total

This can easily be done by splitting on the comma, like this.

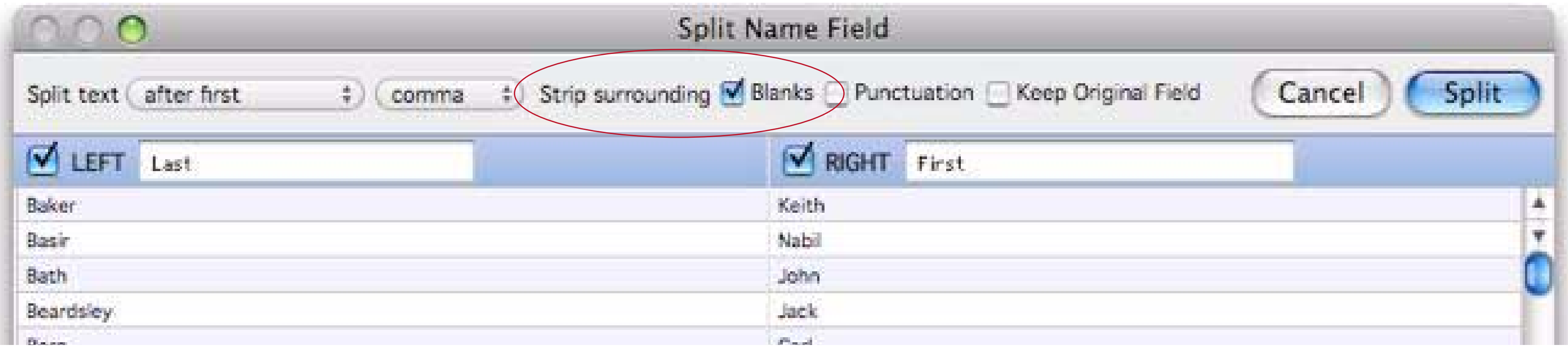

Split Name Field

Split text after first comma Strip surrounding □ Blanks □ Punctuation □ Keep Original Field

☑ LEFT Last ☑ RIGHT First

Baker	Keith
Basir	Nabil
Bath	John
Beardsley	Jack

But … there's a problem — an extra space at the beginning of each first name. To remove this extra space check the Strip surrounding Blanks checkbox.

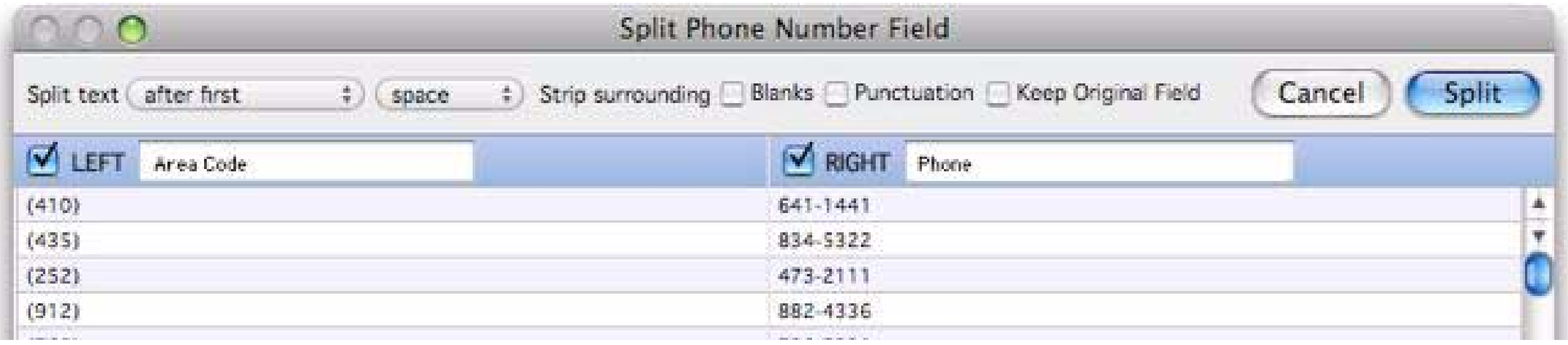

Split Name Field

Split text after first comma Strip surrounding ☑ Blanks □ Punctuation □ Keep Original Field

☑ LEFT Last ☑ RIGHT First

Baker	Keith
Basir	Nabil
Bath	John
Beardsley	Jack

Sometimes you'll need to strip off punctuation in addition to or instead of blanks. In this example the dialog is splitting a phone number into separate area codes and local numbers.

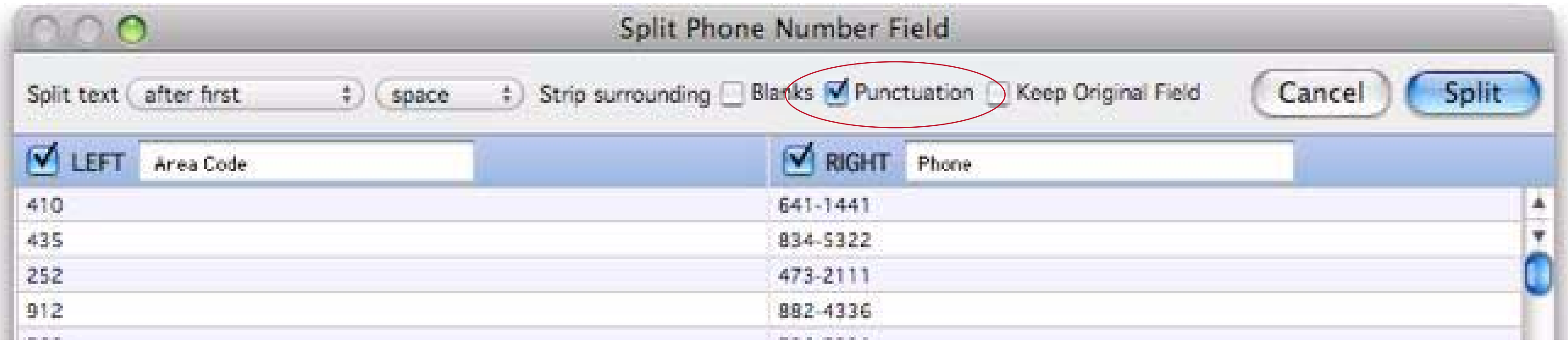

Split Phone Number Field

Split text after first space Strip surrounding □ Blanks □ Punctuation □ Keep Original Field

☑ LEFT Area Code ☑ RIGHT Phone

(410)	641-1441
(435)	834-5322
(252)	473-2111
(912)	882-4336

To eliminate the (and) around the area code check the Strip Surrounding Punctuation option.



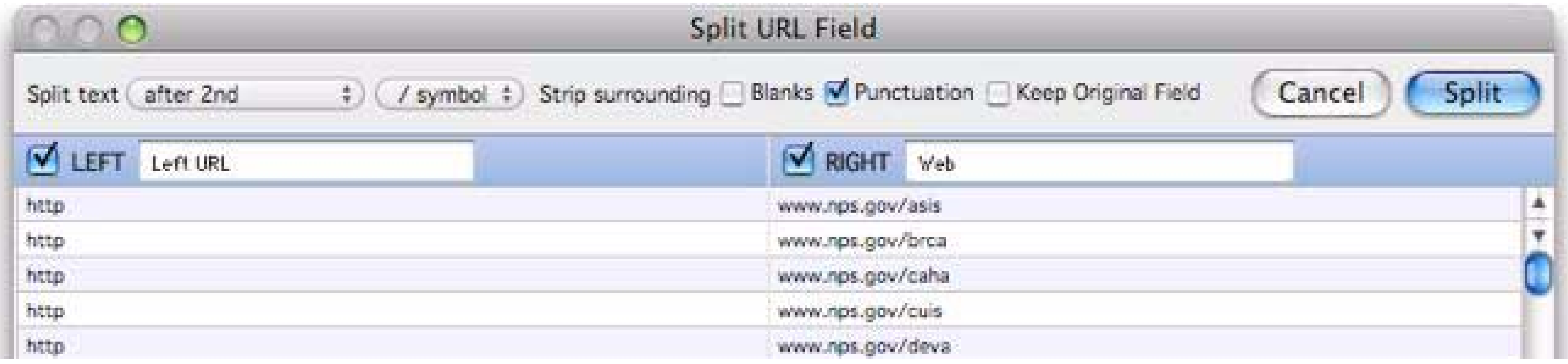
Split text after first ⇕ space ⇕ Strip surrounding ☐ Blanks ☑ Punctuation ☐ Keep Original Field

☑ LEFT Area Code	☑ RIGHT Phone
410	641-1441
435	834-5322
252	473-2111
912	882-4336

If necessary, you can always perform additional cleanup with the Manipulate Data dialog after the fields have been split (see “The Manipulate Data Dialog” on page 230).

Partial Splits

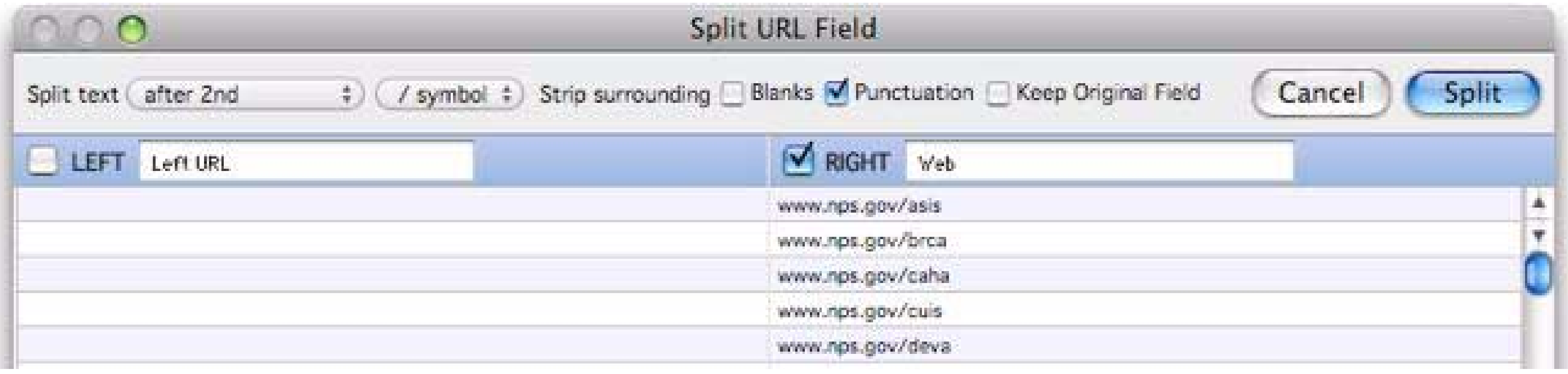
Usually splitting involves turning one field into two, but sometimes you just want to keep one part of the original field and discard the rest. To do that just uncheck the side of split that you don’t want. For example, this dialog splits off the http portion of the URL.



Split text after 2nd ⇕ / symbol ⇕ Strip surrounding ☐ Blanks ☑ Punctuation ☐ Keep Original Field

☑ LEFT Left URL	☑ RIGHT Web
http	www.nps.gov/asis
http	www.nps.gov/brca
http	www.nps.gov/caha
http	www.nps.gov/cuis
http	www.nps.gov/deva

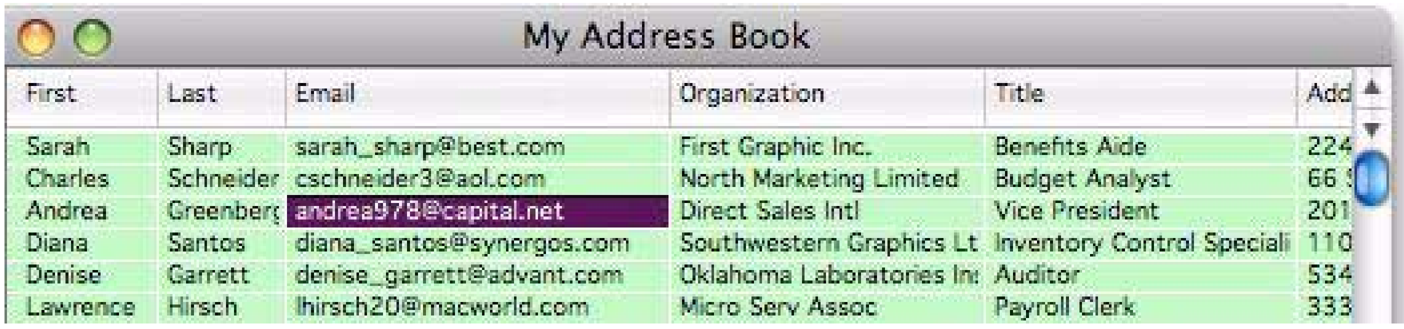
We really don’t need a field that just contains http over and over. By unchecking the LEFT option, only the right portion of the data is retained.



Split text after 2nd ⇕ / symbol ⇕ Strip surrounding ☐ Blanks ☑ Punctuation ☐ Keep Original Field

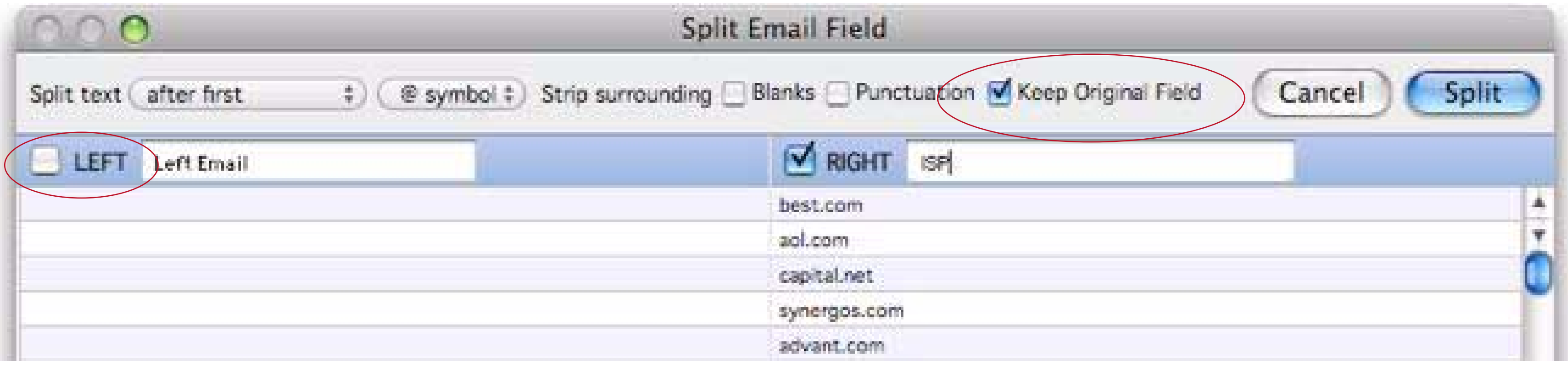
☐ LEFT Left URL	☑ RIGHT Web
	www.nps.gov/asis
	www.nps.gov/brca
	www.nps.gov/caha
	www.nps.gov/cuis
	www.nps.gov/deva

A useful option is to do a partial split combined with keeping the original field. For example, suppose I want to start with this database and create a field that contains the email ISP name (aol.com, me.com, etc.)



First	Last	Email	Organization	Title	Add
Sarah	Sharp	sarah_sharp@best.com	First Graphic Inc.	Benefits Aide	224
Charles	Schneider	cschneider3@aol.com	North Marketing Limited	Budget Analyst	66
Andrea	Greenber	andrea978@capital.net	Direct Sales Intl	Vice President	201
Diana	Santos	diana_santos@synergos.com	Southwestern Graphics Lt	Inventory Control Speciali	110
Denise	Garrett	denise_garrett@advant.com	Oklahoma Laboratories In	Auditor	534
Lawrence	Hirsch	lhirsch20@macworld.com	Micro Serv Assoc	Payroll Clerk	333

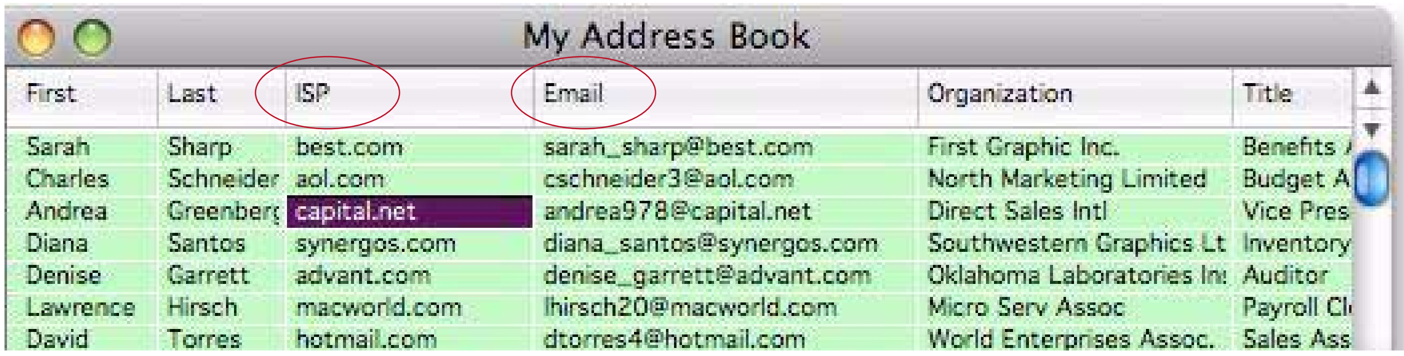
Here's the setup for the **Split Field** dialog.



Split text: after first · @ symbol · Strip surrounding □ Blanks □ Punctuation ☑ Keep Original Field

□ LEFT: Left Email	☑ RIGHT: ISP
	best.com
	aol.com
	capital.net
	synergos.com
	advant.com

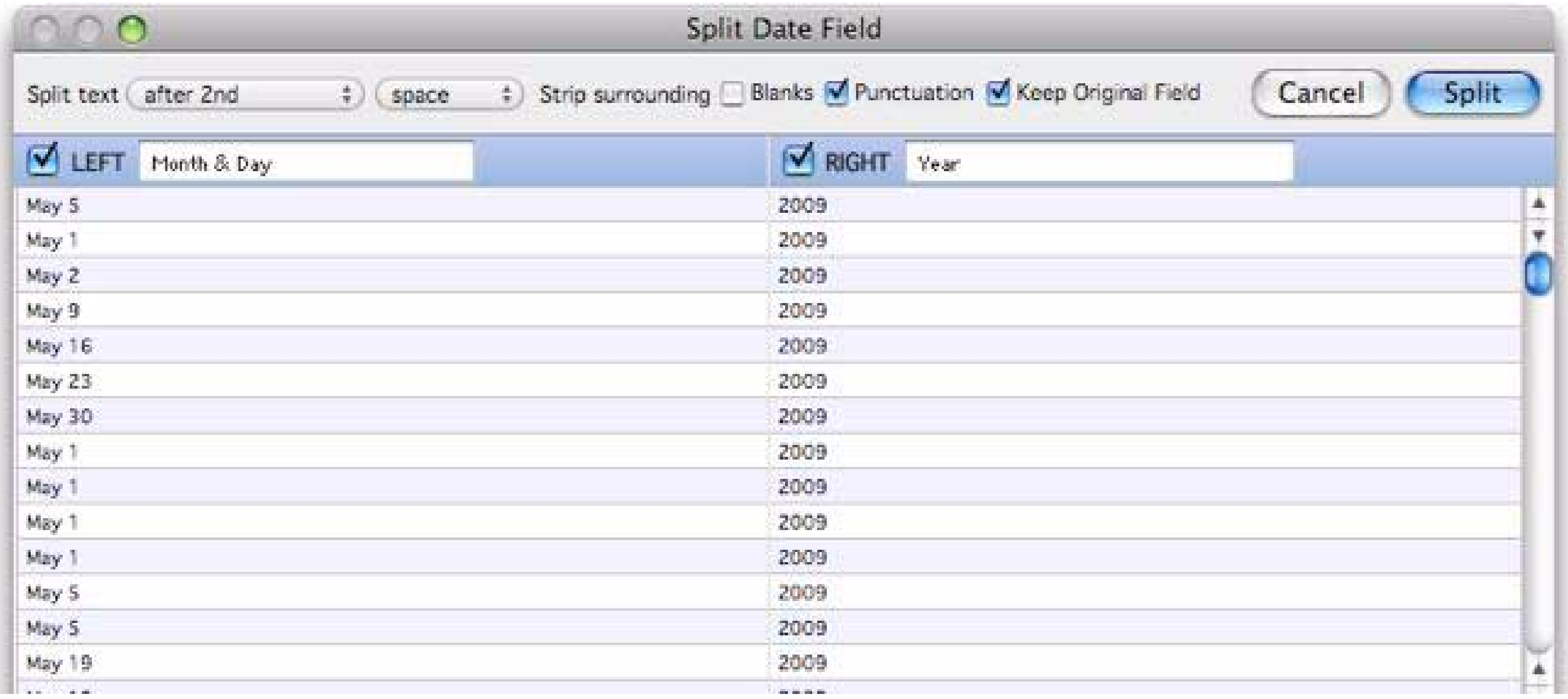
Here's the final split.



First	Last	ISP	Email	Organization	Title
Sarah	Sharp	best.com	sarah_sharp@best.com	First Graphic Inc.	Benefits A
Charles	Schneider	aol.com	cschneider3@aol.com	North Marketing Limited	Budget A
Andrea	Greenberg	capital.net	andrea978@capital.net	Direct Sales Intl	Vice Pres
Diana	Santos	synergos.com	diana_santos@synergos.com	Southwestern Graphics Lt	Inventory
Denise	Garrett	advant.com	denise_garrett@advant.com	Oklahoma Laboratories In	Auditor
Lawrence	Hirsch	macworld.com	lhirsch20@macworld.com	Micro Serv Assoc	Payroll Cl
David	Torres	hotmail.com	dtorres4@hotmail.com	World Enterprises Assoc.	Sales Ass

Splitting Non-Text Fields

It's possible, though unusual, to split number or date fields. The number or date is converted to text before being split, and the resulting fields are always text fields. Here's an example (please note that you may need to set the output pattern for the date or number field before you split it to get the format you want).

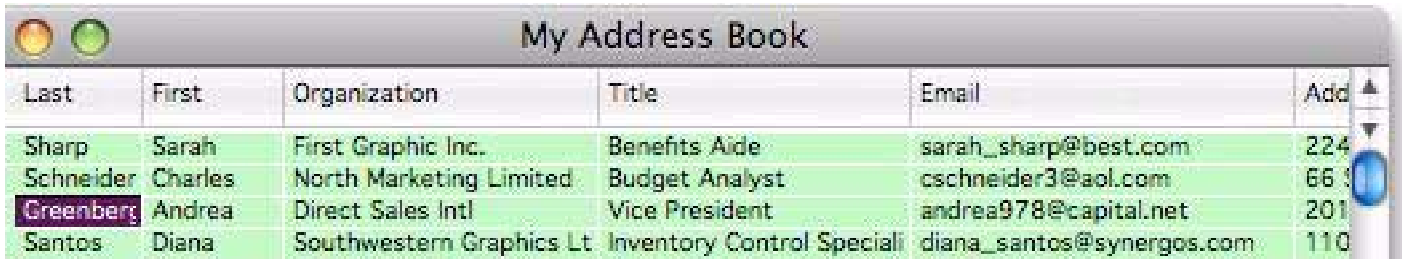


Split text: after 2nd · space · Strip surrounding □ Blanks ☑ Punctuation ☑ Keep Original Field

☑ LEFT: Month & Day	☑ RIGHT: Year
May 5	2009
May 1	2009
May 2	2009
May 9	2009
May 16	2009
May 23	2009
May 30	2009
May 1	2009
May 1	2009
May 1	2009
May 1	2009
May 5	2009
May 5	2009
May 19	2009

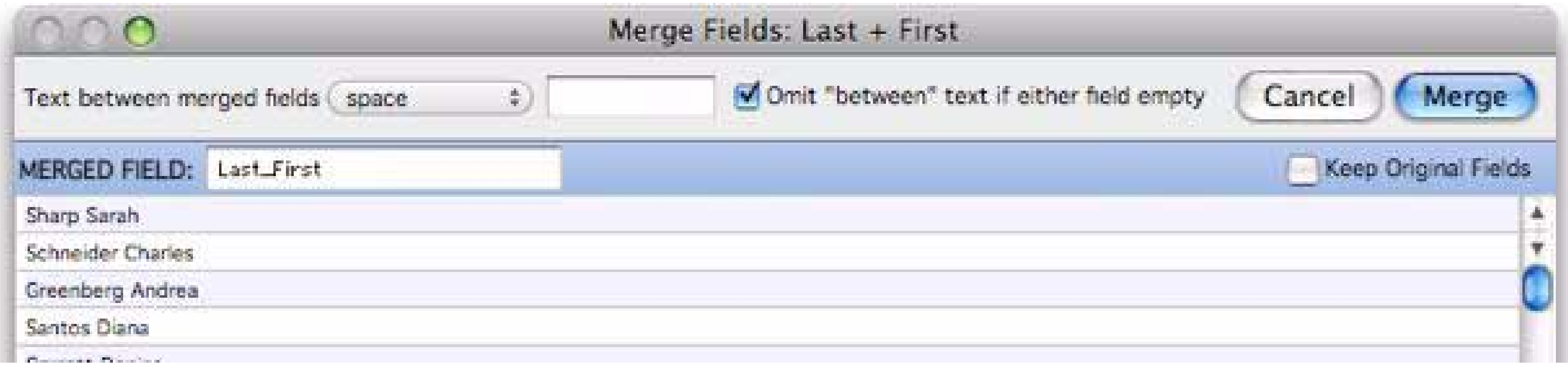
Merging Adjacent Fields

To merge two adjacent fields, click on the leftmost field you want to merge and choose **Merge Fields** from the **Fields** menu. To illustrate this we'll merge the Last and First name fields in this database.



Last	First	Organization	Title	Email	Add
Sharp	Sarah	First Graphic Inc.	Benefits Aide	sarah_sharp@best.com	224
Schneider	Charles	North Marketing Limited	Budget Analyst	cschneider3@aol.com	66 !
Greenberg	Andrea	Direct Sales Intl	Vice President	andrea978@capital.net	201
Santos	Diana	Southwestern Graphics Lt	Inventory Control Speciali	diana_santos@synergos.com	110

When the Merge Fields dialog is first opened it defaults to merging the fields with a single space in between.



Text between merged fields: space

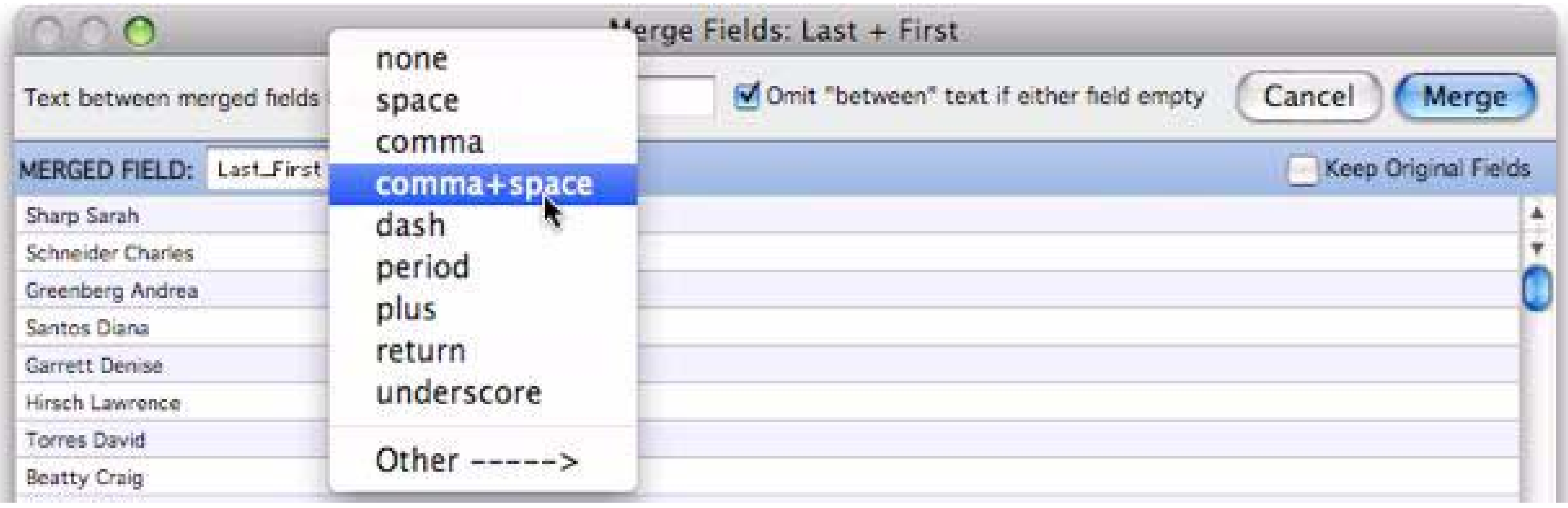
☑ Omit "between" text if either field empty

MERGED FIELD: Last_First

☐ Keep Original Fields

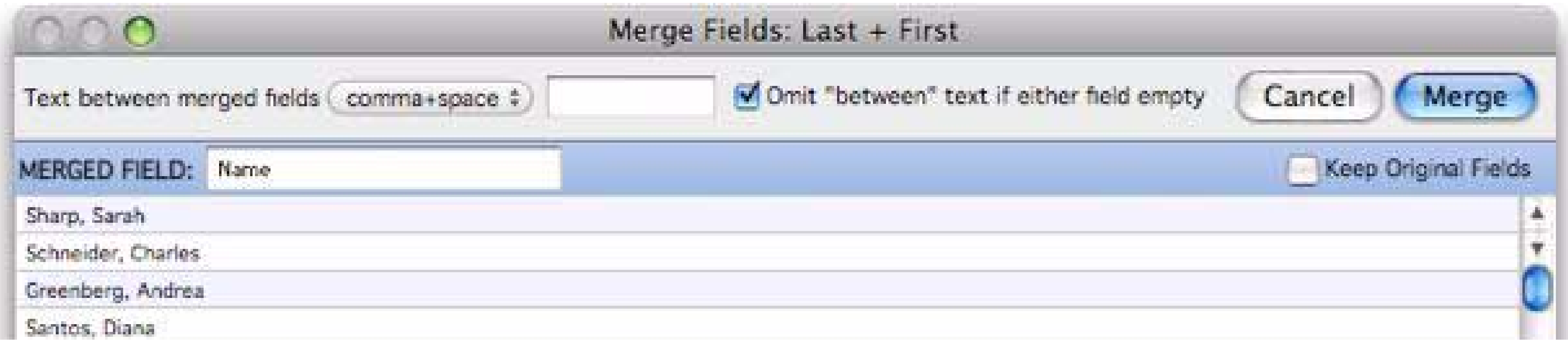
Sharp Sarah
Schneider Charles
Greenberg Andrea
Santos Diana

Use the pop-up menu to select the text to appear between the merged fields.



Sharp Sarah
Schneider Charles
Greenberg Andrea
Santos Diana
Garrett Denise
Hirsch Lawrence
Torres David
Beatty Craig

The preview shows what the merged field will look like. Edit the field name and you're ready to merge.



Text between merged fields: comma+space

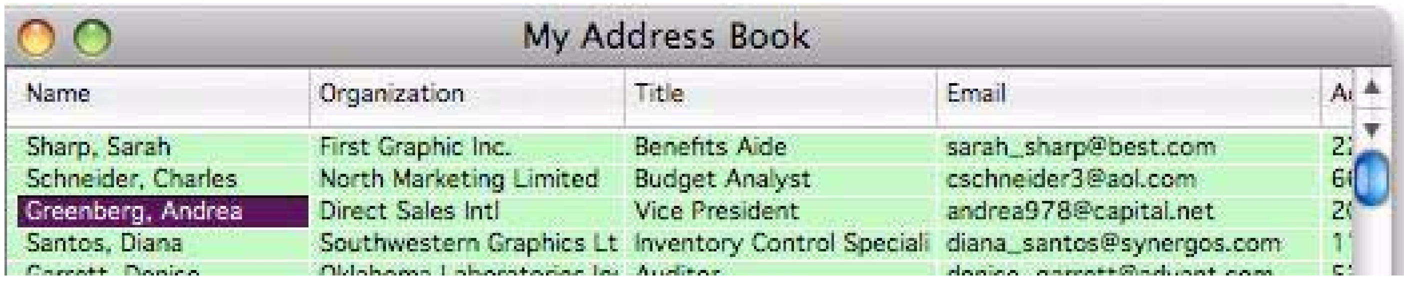
☑ Omit "between" text if either field empty

MERGED FIELD: Name

☐ Keep Original Fields

Sharp, Sarah
Schneider, Charles
Greenberg, Andrea
Santos, Diana

Here's the finished result.

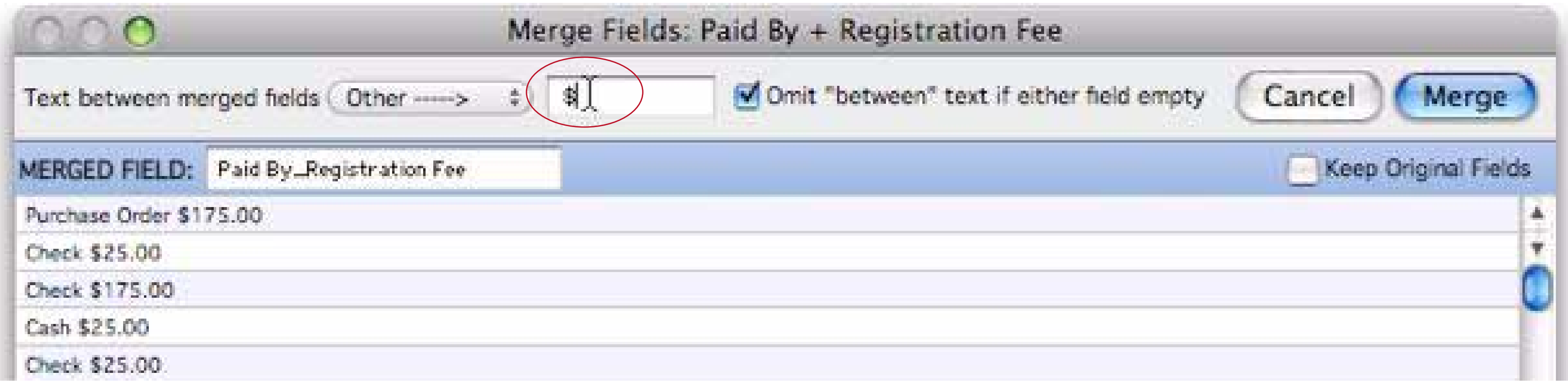


My Address Book

Name	Organization	Title	Email	A
Sharp, Sarah	First Graphic Inc.	Benefits Aide	sarah_sharp@best.com	2
Schneider, Charles	North Marketing Limited	Budget Analyst	cschneider3@aol.com	6
Greenberg, Andrea	Direct Sales Intl	Vice President	andrea978@capital.net	2
Santos, Diana	Southwestern Graphics Lt	Inventory Control Speciali	diana_santos@synergos.com	1
Garrett, Denise	Oklahoma Laboratories Inc	Auditor	denise_garrett@advant.com	5

Merge Field Options

You can type any text you want to be inserted between the merged fields.



Merge Fields: Paid By + Registration Fee

Text between merged fields: Other -----> $

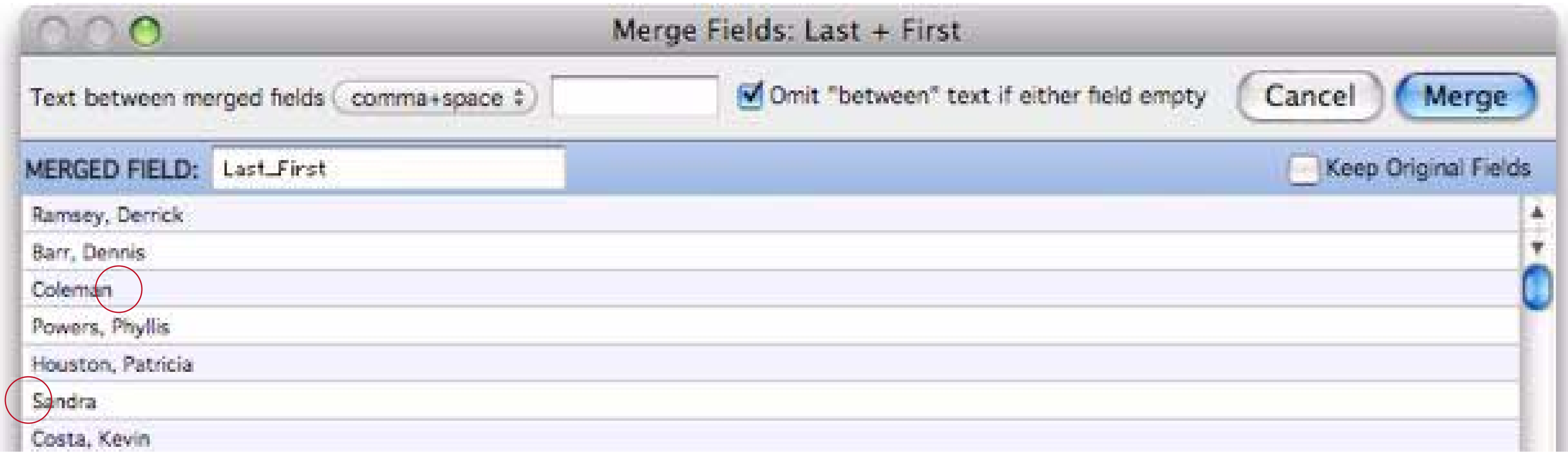
☑ Omit "between" text if either field empty

MERGED FIELD: Paid By_Registration Fee

□ Keep Original Fields

Purchase Order $175.00
Check $25.00
Check $175.00
Cash $25.00
Check $25.00

Normally the Merge Fields dialog intelligently omits the text in between the fields if one or both of the fields are missing.



Merge Fields: Last + First

Text between merged fields: comma+space

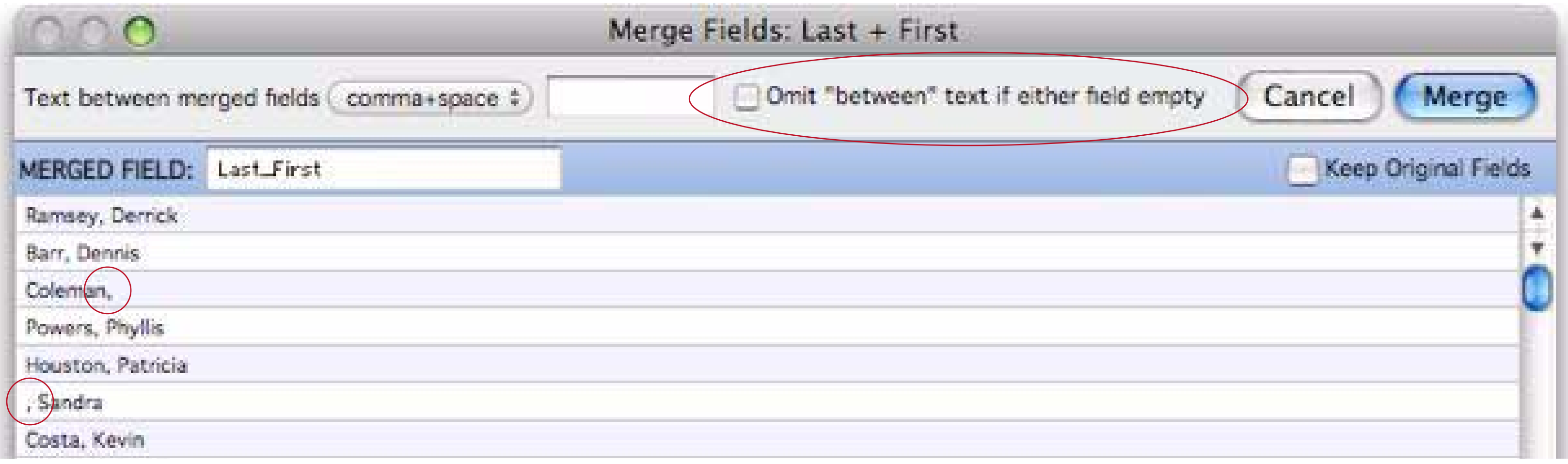
☑ Omit "between" text if either field empty

MERGED FIELD: Last_First

□ Keep Original Fields

Ramsey, Derrick
Barr, Dennis
Coleman
Powers, Phyllis
Houston, Patricia
Sandra
Costa, Kevin

If necessary, however, you can tell Panorama to always include this text even if one or both fields are missing.



Merge Fields: Last + First

Text between merged fields: comma+space

□ Omit "between" text if either field empty

MERGED FIELD: Last_First

□ Keep Original Fields

Ramsey, Derrick
Barr, Dennis
Coleman,
Powers, Phyllis
Houston, Patricia
, Sandra
Costa, Kevin

The final option is Keep Original Fields, which allows you to merge the fields while still keeping the original split fields.

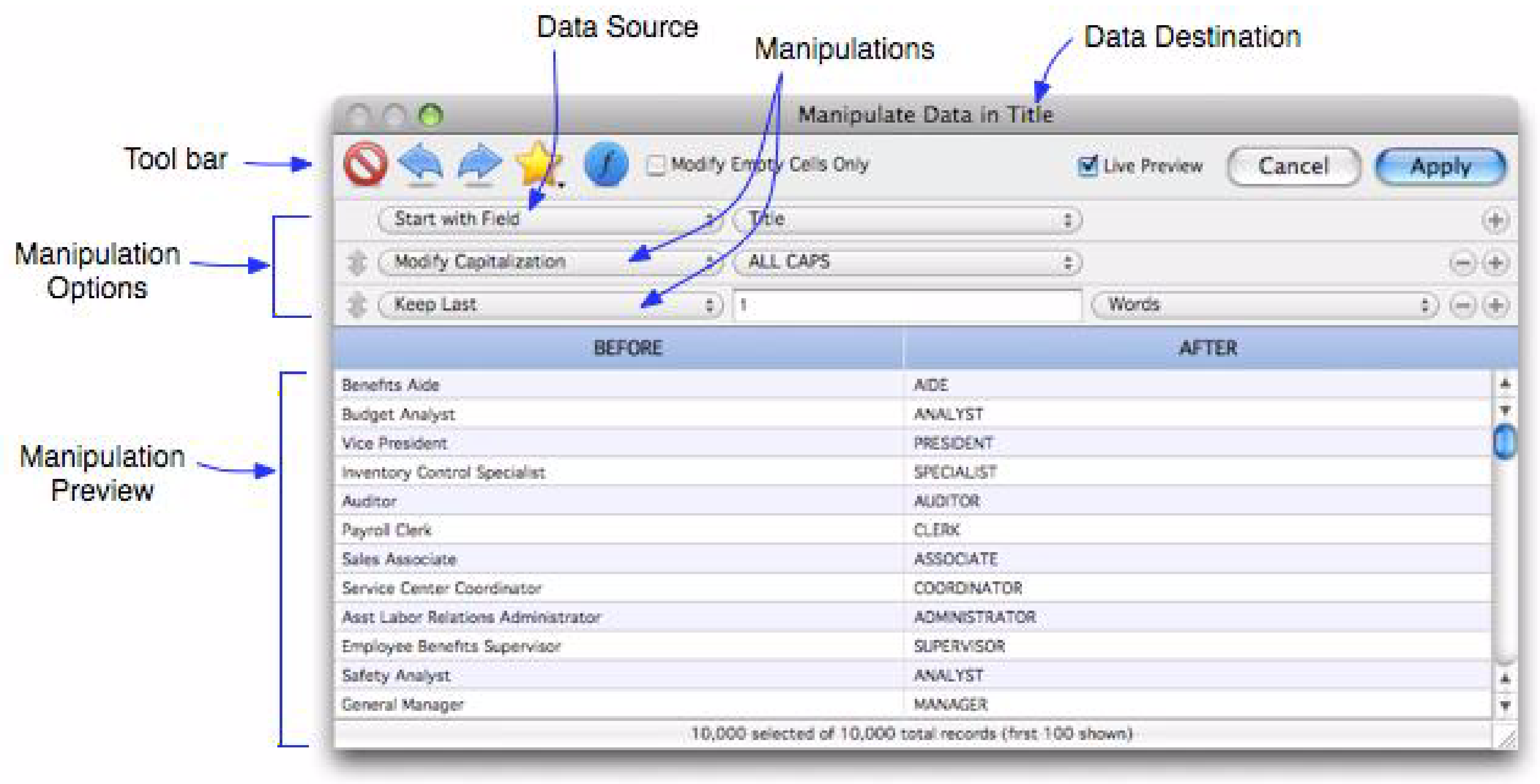
Transforming Selected Data

The transformation commands described in the rest of chapter may be used on an entire database, or on a selected subset. The **Find/Select** (or **Formula Find/Select**) command is used to select the data you want to transform, then the commands described in this chapter are used to transform the data. Only the selected data will be transformed—the invisible data will be left untouched. See "The Find/Select Dialog" on page 144 for more information on selecting a subset of the database.

The same rules apply to data that has been collapsed with the outline tools. If data is invisible because it has been collapsed, it will not be transformed. Only data that is both selected and expanded will be transformed. See "Data Analysis" on page 167 for more information on outlines.

The Manipulate Data Dialog

This dialog, in the Fields menu, is the workhorse of data manipulation. (If you've used previous versions of Panorama, the **Manipulate Data** dialog replaces Fill, Formula Fill, Empty Fill and Sequence commands you are used to.) When you first open this dialog you'll see that it is split into three sections:



□ Modify Empty Cells Only
☑ Live Preview

Start with Field: Title
Modify Capitalization: ALL CAPS
Keep Last: 1 Words

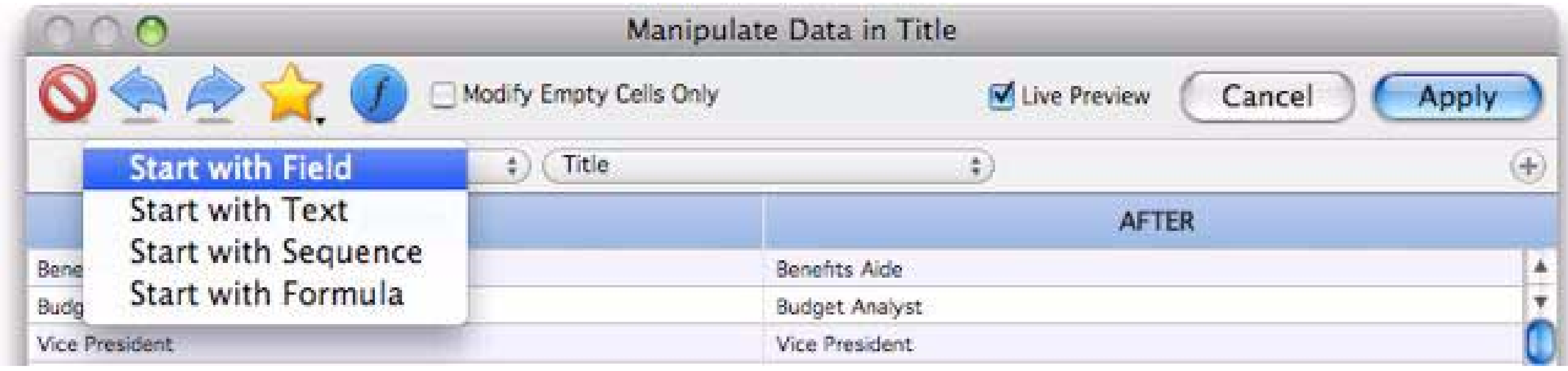
BEFORE	AFTER
Benefits Aide	AIDE
Budget Analyst	ANALYST
Vice President	PRESIDENT
Inventory Control Specialist	SPECIALIST
Auditor	AUDITOR
Payroll Clerk	CLERK
Sales Associate	ASSOCIATE
Service Center Coordinator	COORDINATOR
Asst Labor Relations Administrator	ADMINISTRATOR
Employee Benefits Supervisor	SUPERVISOR
Safety Analyst	ANALYST
General Manager	MANAGER

10,000 selected of 10,000 total records (first 100 shown)

There are three components to a manipulation — the data source, the manipulations, and the destination. The destination is the current field when the dialog is opened (to remind you, this field is shown in the title bar of the dialog). Any data already in the destination field will be overwritten when you press the **Apply** button.

Specifying the Data Source

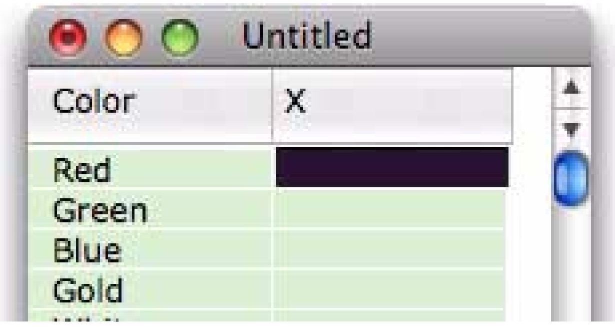
The first step in performing a manipulation is specifying a data source. There are four data source options: *Field*, *Text/Number/Date*, *Sequence* and *Formula*. Use the pop-up menu to choose the source you want to use:



	AFTER
Bene	Benefits Aide
Budg	Budget Analyst
Vice President	Vice President

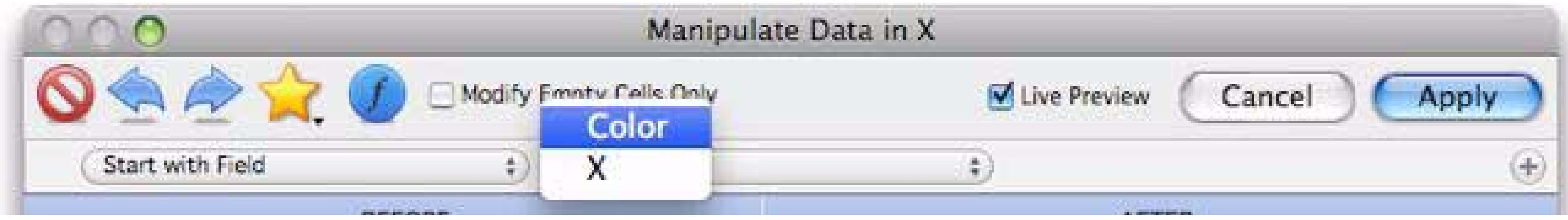
Start with Field

You'll usually want to manipulate data that is in an existing field in the database. Simply choose the field you want to manipulate from the pop-up menu. The simplest manipulation you can perform is to copy the data from one existing field to another. To illustrate this I'll copy the data in this database from the Color field to the X field. I start by clicking on the destination field, X.

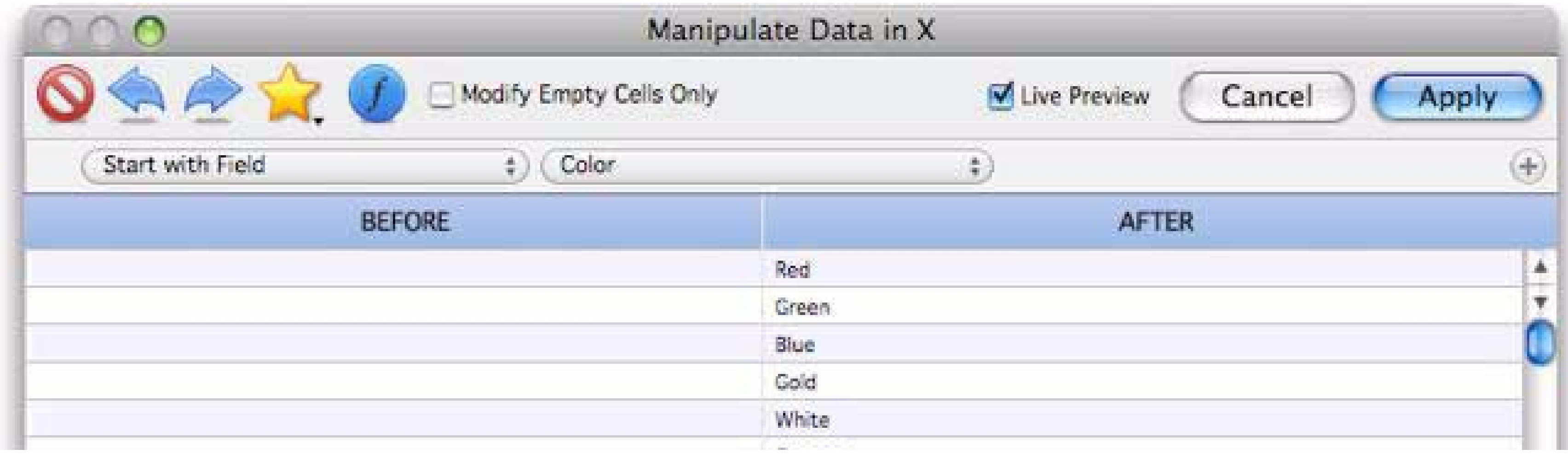


Color	X
Red	
Green	
Blue	
Gold	

Now I open the **Manipulate Data** dialog (either from the Field menu, or by right clicking the field name, or by pressing Command-=). Then I choose the field I want to copy (Color) from the pop-up menu.

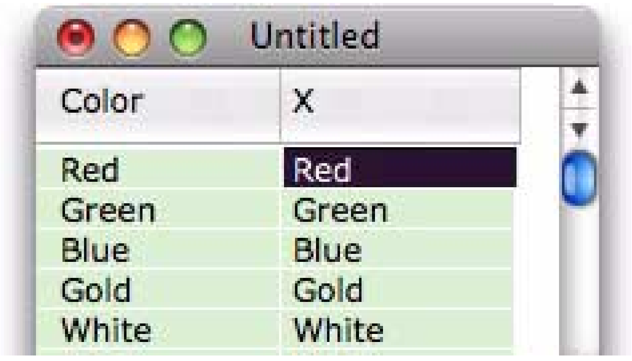


Once I've chosen the data source field the preview area shows what the result will look like. The BEFORE area shows the current contents of the X field (which is empty), the AFTER area shows what it will look like after the manipulation (in this case a copy of the Color field). The preview area always lets you know what is going to happen before you actually commit to modifying the original data.



BEFORE	AFTER
	Red
	Green
	Blue
	Gold
	White

To actually copy the data I press the **Apply** button. Now I have two copies of this field.

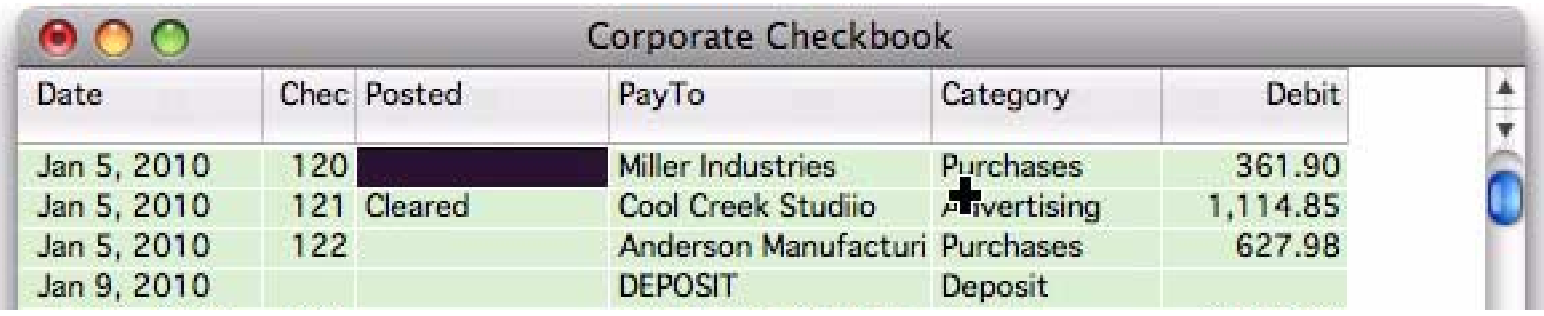


Color	X
Red	Red
Green	Green
Blue	Blue
Gold	Gold
White	White

Of course most manipulations are more complicated than this, but the basic steps remain the same: Click on the destination field, open the dialog, choose the data source, choose the manipulations, then apply.

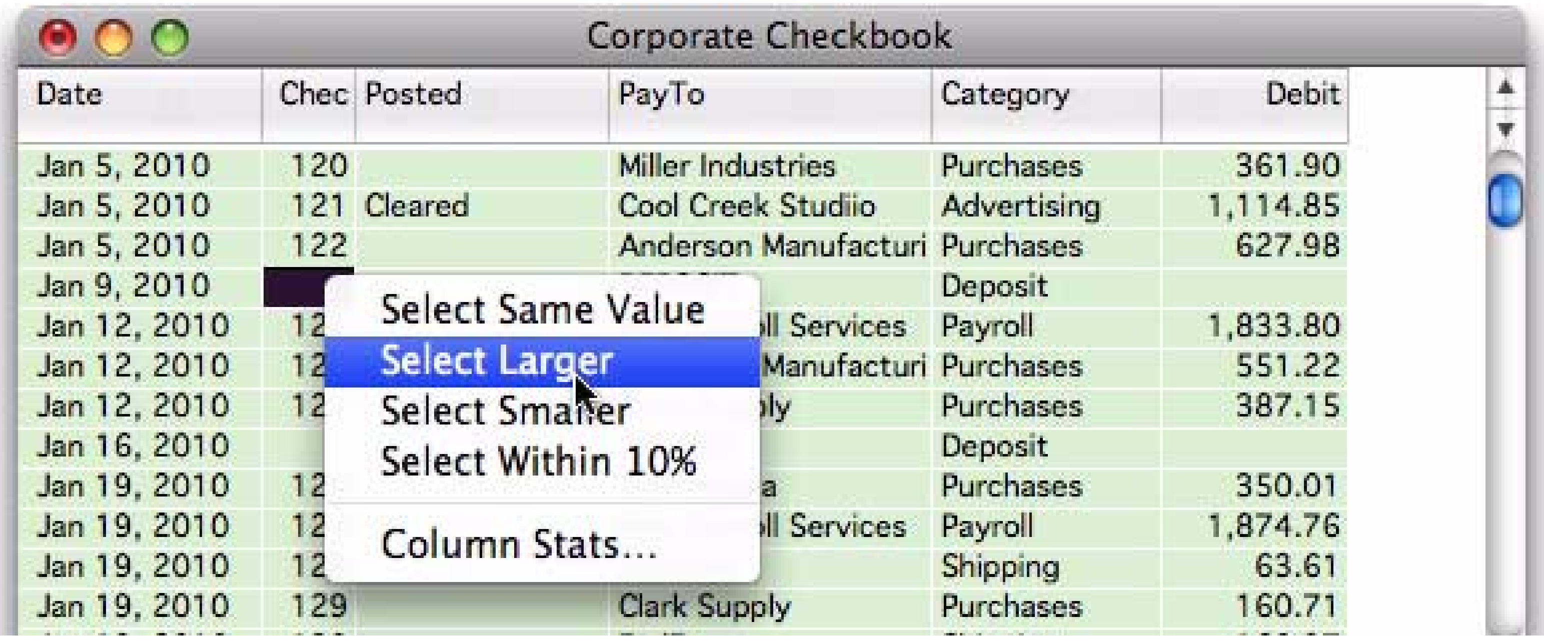
Start with a Fixed Value (Text/Number/Date)

Choose this option if you want to fill all of the selected cells in the current field with the same value. For example, suppose you wanted to mark all of the checks in this database as Posted.



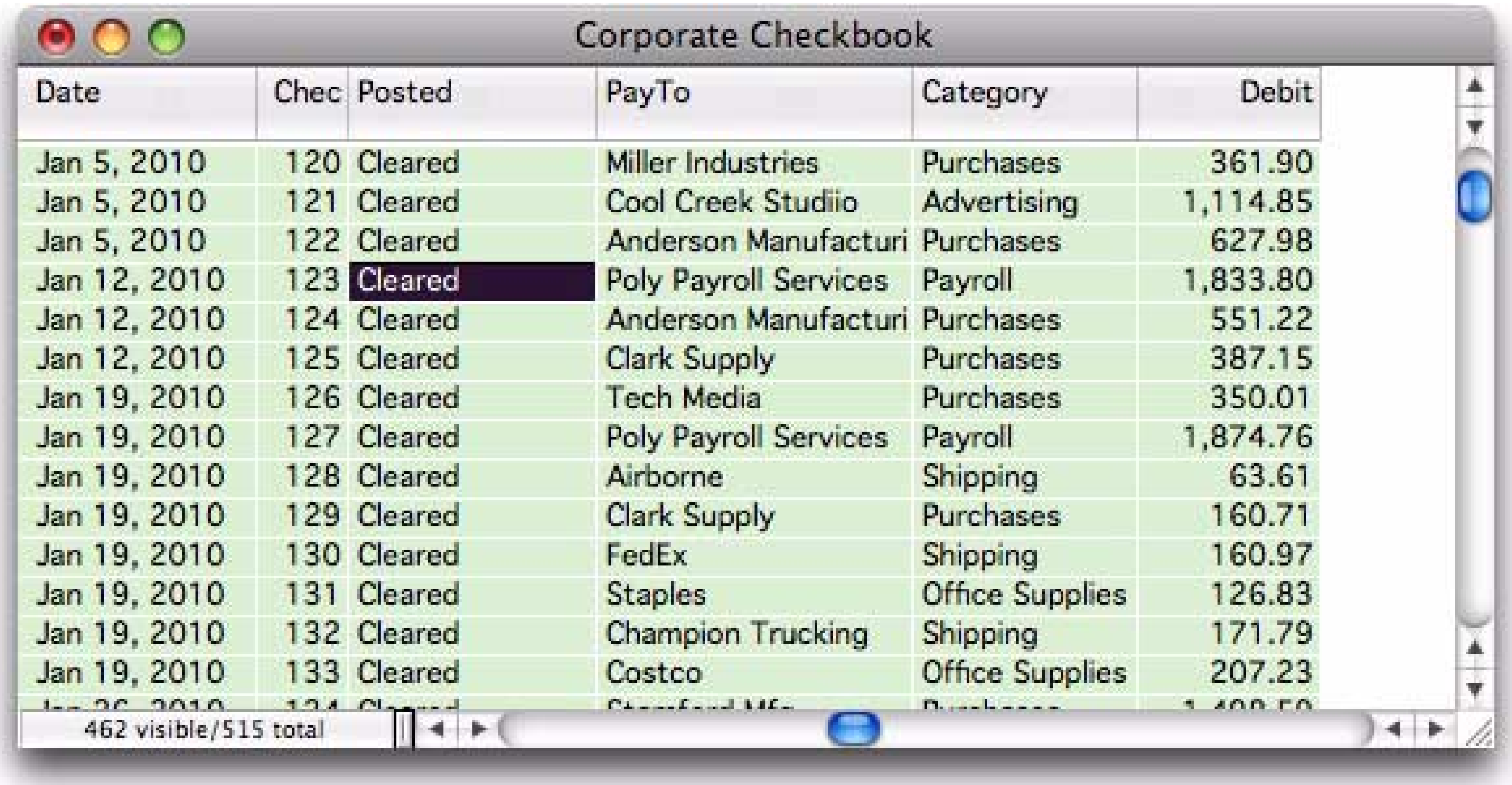
Date	Chec	Posted	PayTo	Category	Debit
Jan 5, 2010	120		Miller Industries	Purchases	361.90
Jan 5, 2010	121	Cleared	Cool Creek Studiio	Advertising	1,114.85
Jan 5, 2010	122		Anderson Manufacturi	Purchases	627.98
Jan 9, 2010			DEPOSIT	Deposit	

The first step is to select only the records that should be modified -- in this case, with a check number larger than 0. I can easily do that by right clicking on the check number of a deposit (it should be blank) and choosing **Select Larger**.



Date	Chec	Posted	PayTo	Category	Debit
Jan 5, 2010	120		Miller Industries	Purchases	361.90
Jan 5, 2010	121	Cleared	Cool Creek Studiio	Advertising	1,114.85
Jan 5, 2010	122		Anderson Manufacturi	Purchases	627.98
Jan 9, 2010				Deposit	
Jan 12, 2010	12		ll Services	Payroll	1,833.80
Jan 12, 2010	12		Manufacturi	Purchases	551.22
Jan 12, 2010	12		ly	Purchases	387.15
Jan 16, 2010				Deposit	
Jan 19, 2010	12		a	Purchases	350.01
Jan 19, 2010	12		ll Services	Payroll	1,874.76
Jan 19, 2010	12			Shipping	63.61
Jan 19, 2010	129		Clark Supply	Purchases	160.71

As you can see below, the 462 checks in this database are now selected, while deposits and other transactions are not selected. Now I click anywhere in the field I want to modify, in this case Posted.

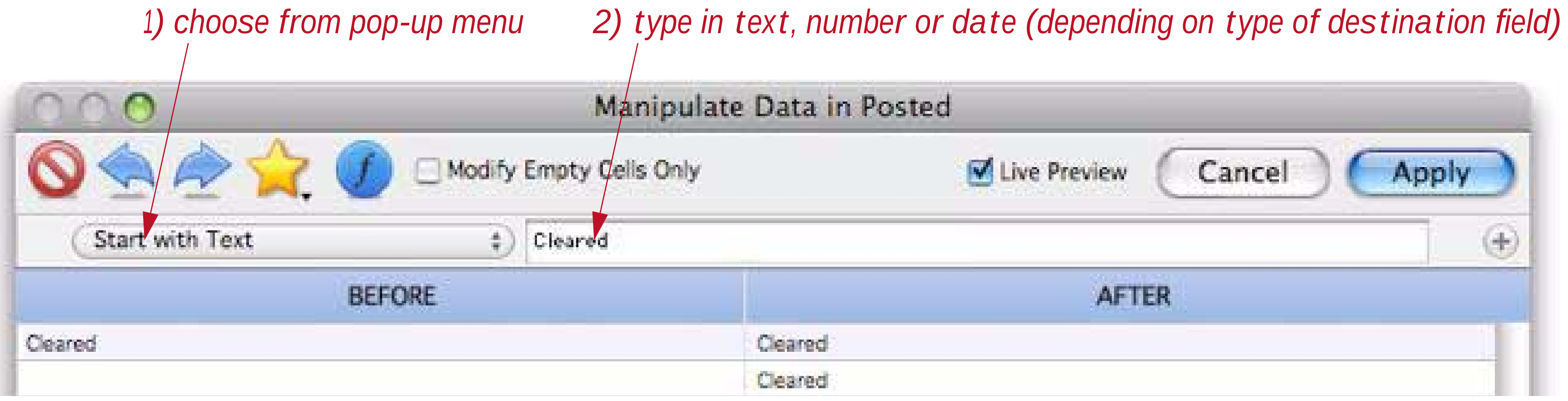


Corporate Checkbook

Date	Chec	Posted	PayTo	Category	Debit
Jan 5, 2010	120	Cleared	Miller Industries	Purchases	361.90
Jan 5, 2010	121	Cleared	Cool Creek Studiio	Advertising	1,114.85
Jan 5, 2010	122	Cleared	Anderson Manufacturi	Purchases	627.98
Jan 12, 2010	123	Cleared	Poly Payroll Services	Payroll	1,833.80
Jan 12, 2010	124	Cleared	Anderson Manufacturi	Purchases	551.22
Jan 12, 2010	125	Cleared	Clark Supply	Purchases	387.15
Jan 19, 2010	126	Cleared	Tech Media	Purchases	350.01
Jan 19, 2010	127	Cleared	Poly Payroll Services	Payroll	1,874.76
Jan 19, 2010	128	Cleared	Airborne	Shipping	63.61
Jan 19, 2010	129	Cleared	Clark Supply	Purchases	160.71
Jan 19, 2010	130	Cleared	FedEx	Shipping	160.97
Jan 19, 2010	131	Cleared	Staples	Office Supplies	126.83
Jan 19, 2010	132	Cleared	Champion Trucking	Shipping	171.79
Jan 19, 2010	133	Cleared	Costco	Office Supplies	207.23

462 visible/515 total

The database is ready to be manipulated. Open the **Manipulate Data** dialog and set up the options to fill every record with the same, fixed value.



1) choose from pop-up menu

2) type in text, number or date (depending on type of destination field)

Manipulate Data in Posted

□ Modify Empty Cells Only

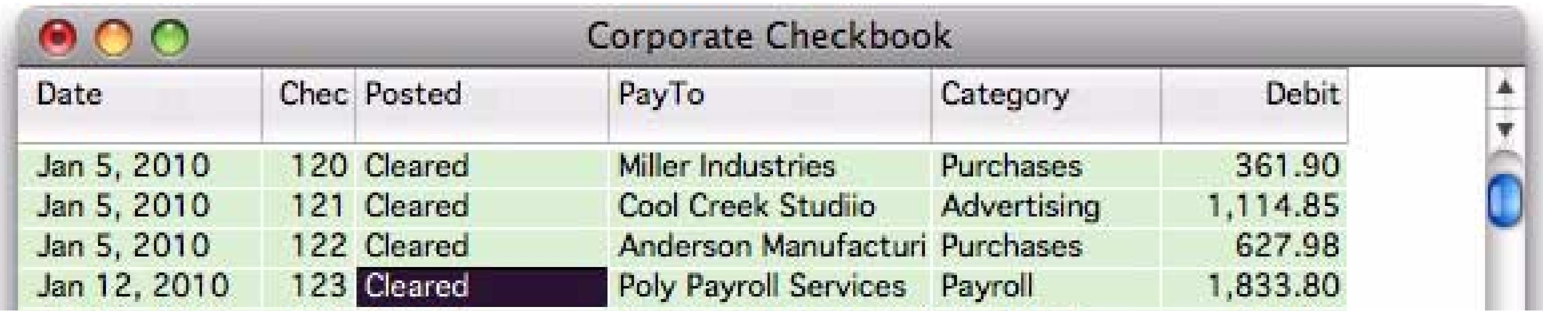
☑ Live Preview

Start with Text

Cleared

BEFORE	AFTER
Cleared	Cleared
	Cleared

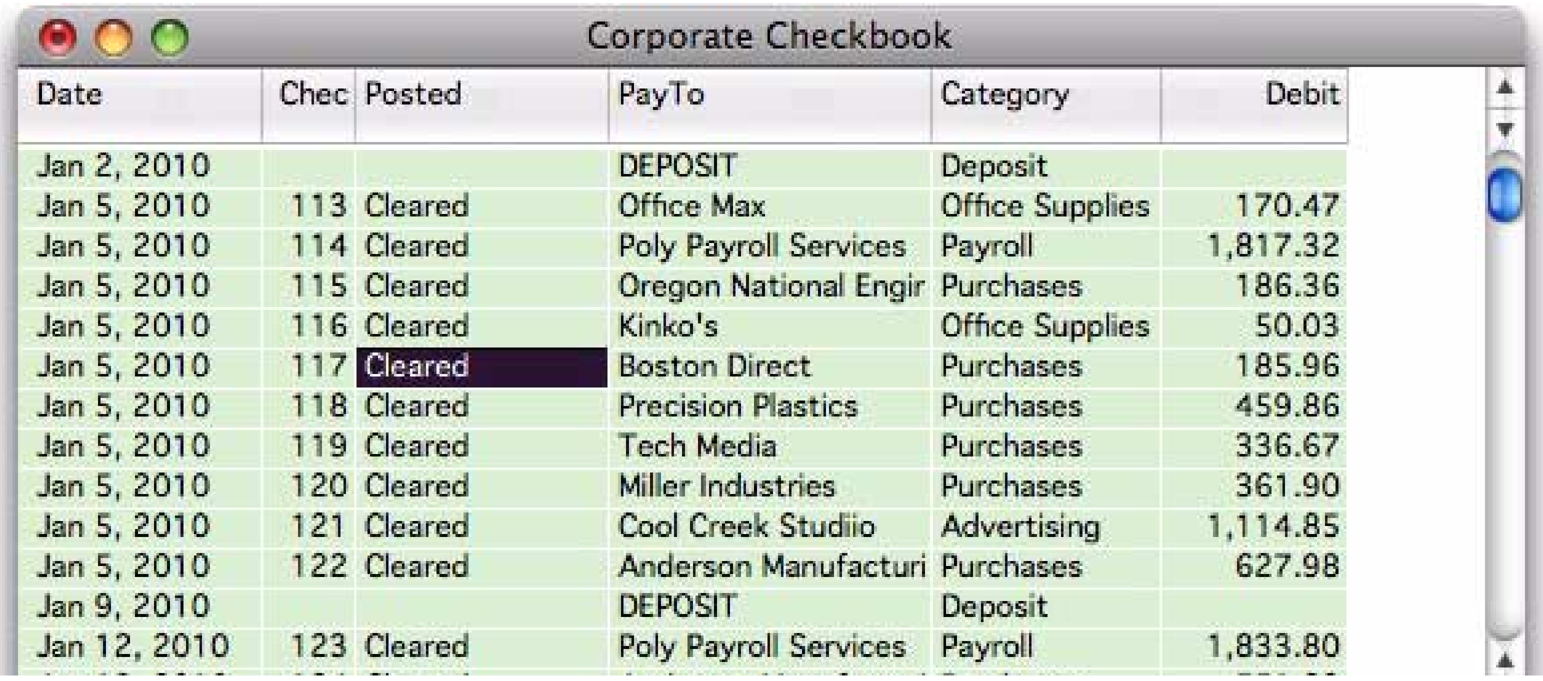
Press the **Apply** button to modify the actual data.



Corporate Checkbook

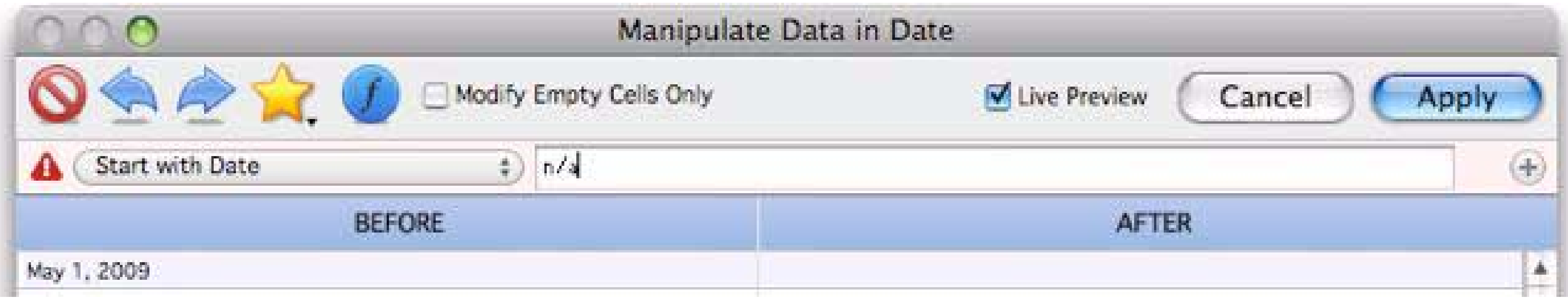
Date	Chec	Posted	PayTo	Category	Debit
Jan 5, 2010	120	Cleared	Miller Industries	Purchases	361.90
Jan 5, 2010	121	Cleared	Cool Creek Studiio	Advertising	1,114.85
Jan 5, 2010	122	Cleared	Anderson Manufacturi	Purchases	627.98
Jan 12, 2010	123	Cleared	Poly Payroll Services	Payroll	1,833.80

Choosing **Select All** shows all of the records again. As you can see, the unselected records were not modified.


Corporate Checkbook

Date	Chec	Posted	PayTo	Category	Debit
Jan 2, 2010			DEPOSIT	Deposit	
Jan 5, 2010	113	Cleared	Office Max	Office Supplies	170.47
Jan 5, 2010	114	Cleared	Poly Payroll Services	Payroll	1,817.32
Jan 5, 2010	115	Cleared	Oregon National Engir	Purchases	186.36
Jan 5, 2010	116	Cleared	Kinko's	Office Supplies	50.03
Jan 5, 2010	117	Cleared	Boston Direct	Purchases	185.96
Jan 5, 2010	118	Cleared	Precision Plastics	Purchases	459.86
Jan 5, 2010	119	Cleared	Tech Media	Purchases	336.67
Jan 5, 2010	120	Cleared	Miller Industries	Purchases	361.90
Jan 5, 2010	121	Cleared	Cool Creek Studiio	Advertising	1,114.85
Jan 5, 2010	122	Cleared	Anderson Manufacturi	Purchases	627.98
Jan 9, 2010			DEPOSIT	Deposit	
Jan 12, 2010	123	Cleared	Poly Payroll Services	Payroll	1,833.80

The new data must be compatible with the field that is being filled. For example, you cannot fill a date field with n/a because n/a is not a date value. Panorama will warn you if you attempt to fill a field with an incompatible value.


Manipulate Data in Date

☐ Modify Empty Cells Only

☑ Live Preview

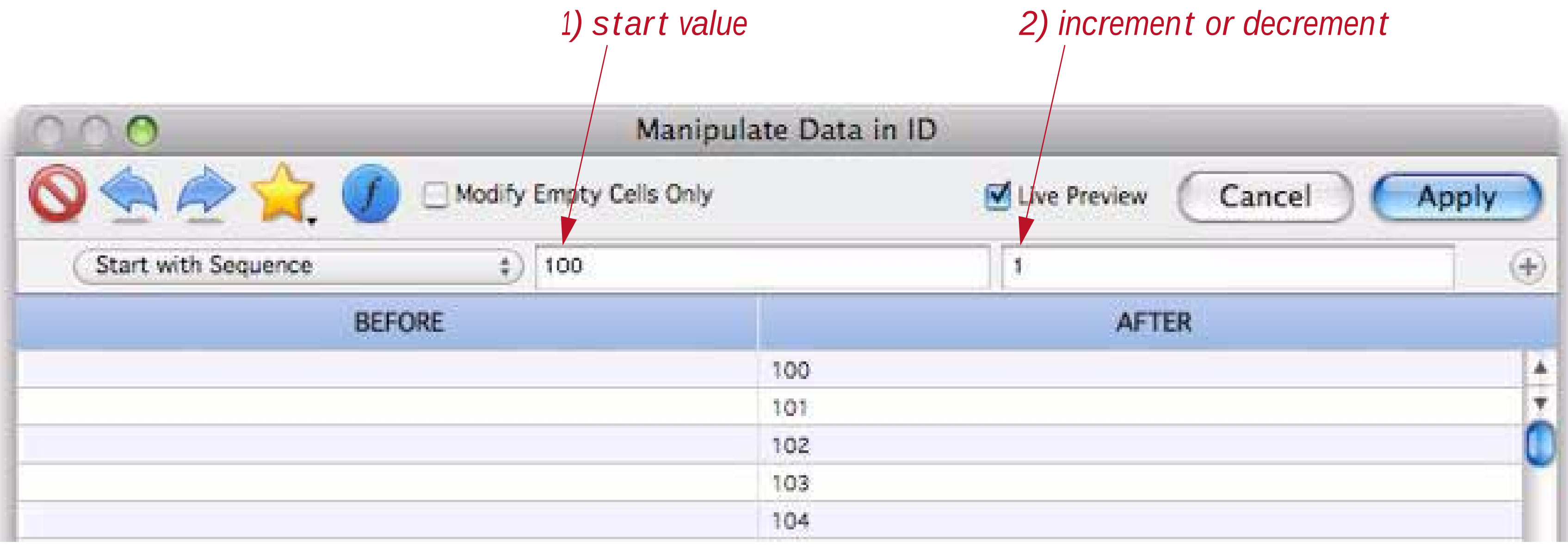
Start with Date: n/a

BEFORE	AFTER
May 1, 2009	

Click on the red triangle to find out more information about the problem (in this case, Illegal Date).

Starting with a Sequence

Choose this option if you want to fill the field with a incrementing or decrementing sequence, for example 1, 2, 3, 4, … 100, 110, 120, … 99, 98, 97, etc. When using this option you specify the starting value and the amount to increase or decrease for each record.


1) start value

2) increment or decrement

Manipulate Data in ID

☐ Modify Empty Cells Only

☑ Live Preview

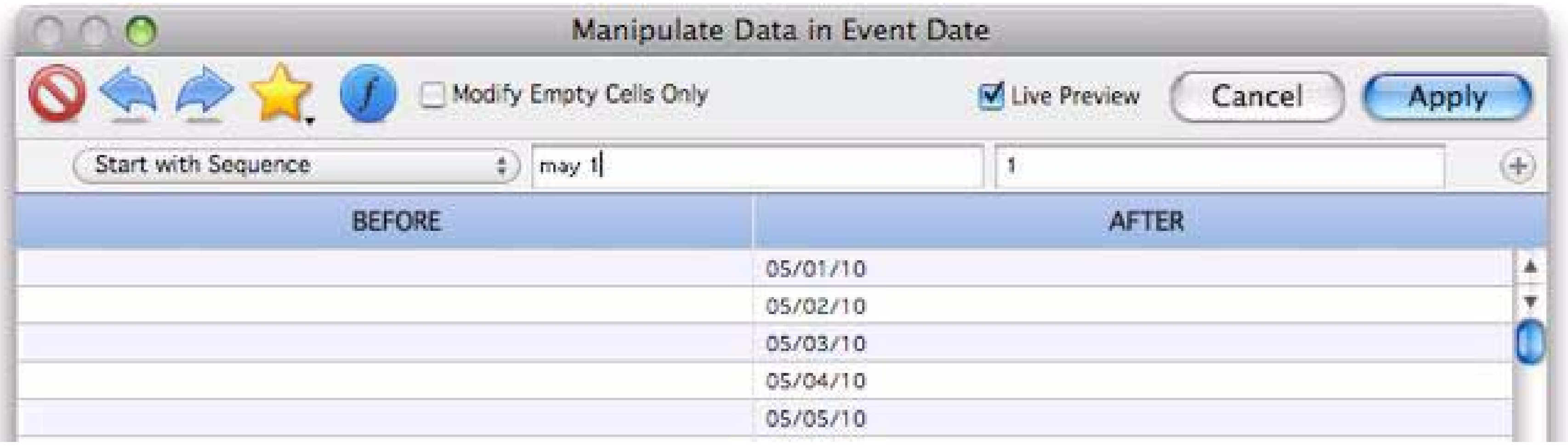
Start with Sequence: 100 1

BEFORE	AFTER
	100
	101
	102
	103
	104

The preview shows what the sequence will look like, so just play with the values until you get the sequence you want.

Sequencing a Date Field

If the destination is a date field the start value must be a valid date (Panorama’s “smart dates” are allowed, so you can specify today, yesterday, tomorrow, monday, tue, next tue, etc. This example will generate a sequence every day starting with May 1st.



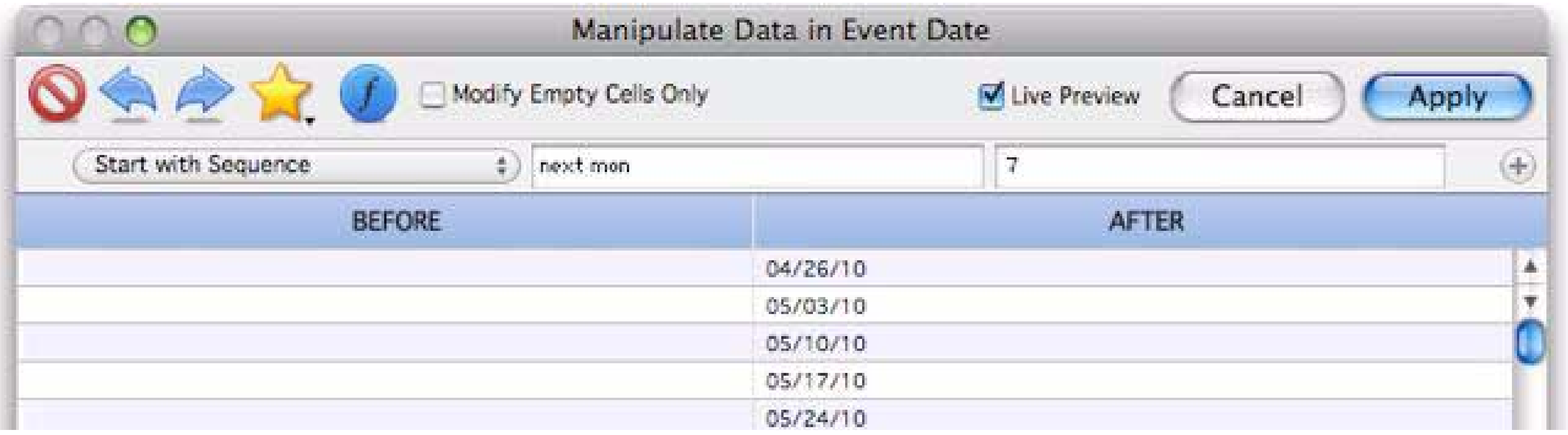
Manipulate Data in Event Date

□ Modify Empty Cells Only ☑ Live Preview

Start with Sequence | may 1 | 1

BEFORE	AFTER
	05/01/10
	05/02/10
	05/03/10
	05/04/10
	05/05/10

The example below generates a record for each week, starting with next Monday. If I wanted an event every two weeks, I would change the 7 to 14.



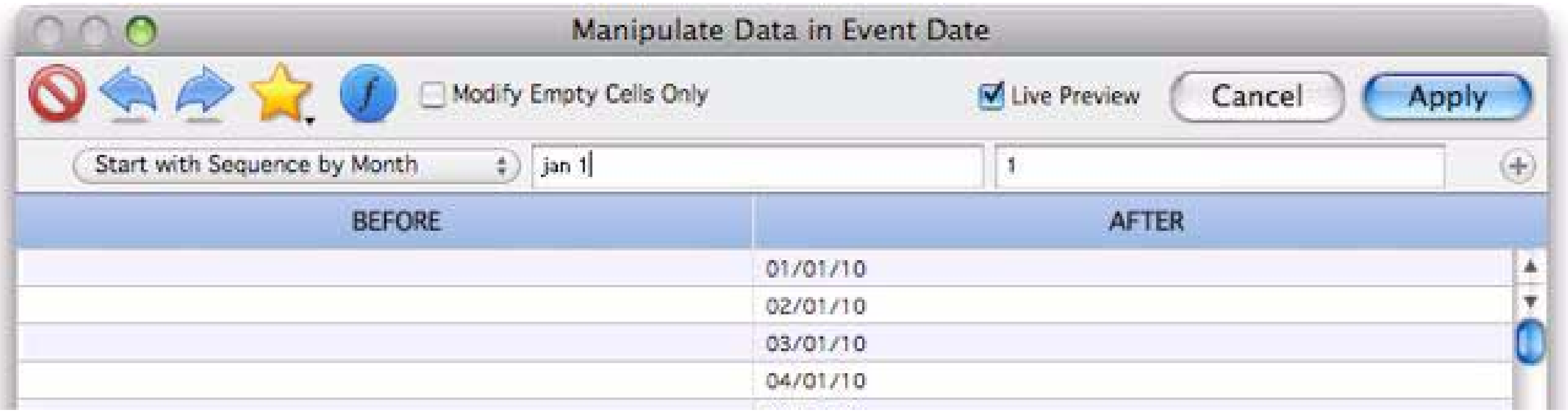
Manipulate Data in Event Date

□ Modify Empty Cells Only ☑ Live Preview

Start with Sequence | next mon | 7

BEFORE	AFTER
	04/26/10
	05/03/10
	05/10/10
	05/17/10
	05/24/10

When manipulating a date field, an extra option appears in the Data Source pop-up menu — **Start with Sequence by Month**. This option allows date sequences to be generated by months, quarters or years.



Manipulate Data in Event Date

□ Modify Empty Cells Only ☑ Live Preview

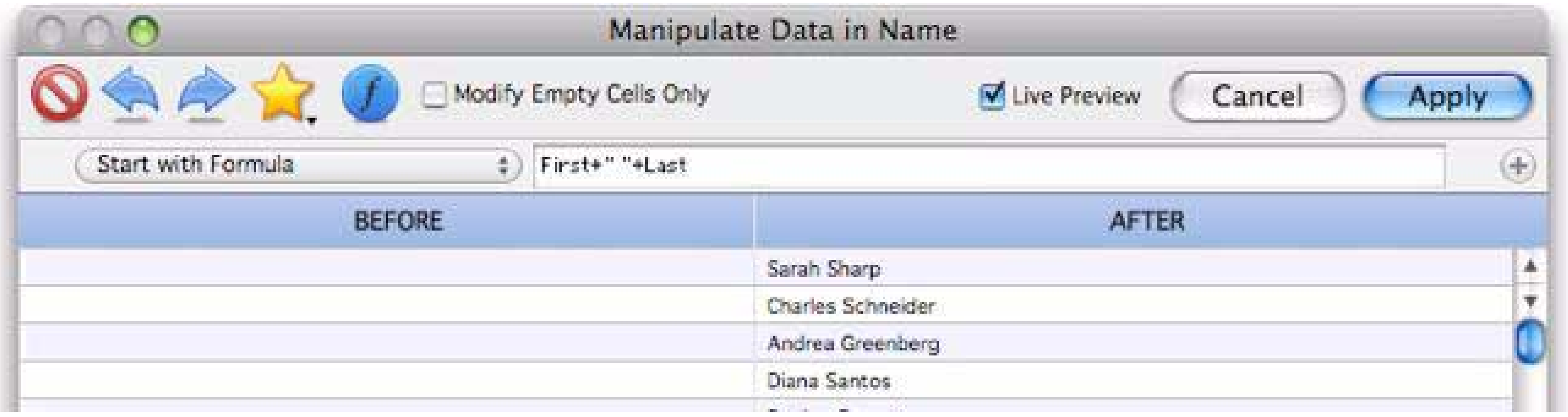
Start with Sequence by Month | jan 1 | 1

BEFORE	AFTER
	01/01/10
	02/01/10
	03/01/10
	04/01/10

To generate the sequence by quarter, change the 1 to 3, for by year, change to 12.

Starting with a Formula

If none of the other options fit the bill you can use a formula as the starting point for your manipulation. Once you learn how to use them, formulas give you incredible power for any kind of manipulation you want to do. Formulas are covered in detail elsewhere (see "Calculations & Formulas" on page 273), but let's look at a simple example to see how a formula can be used in this dialog. In this example the database has three fields, First, Last and Name. The formula below combines the first and last names into a combined Name field.

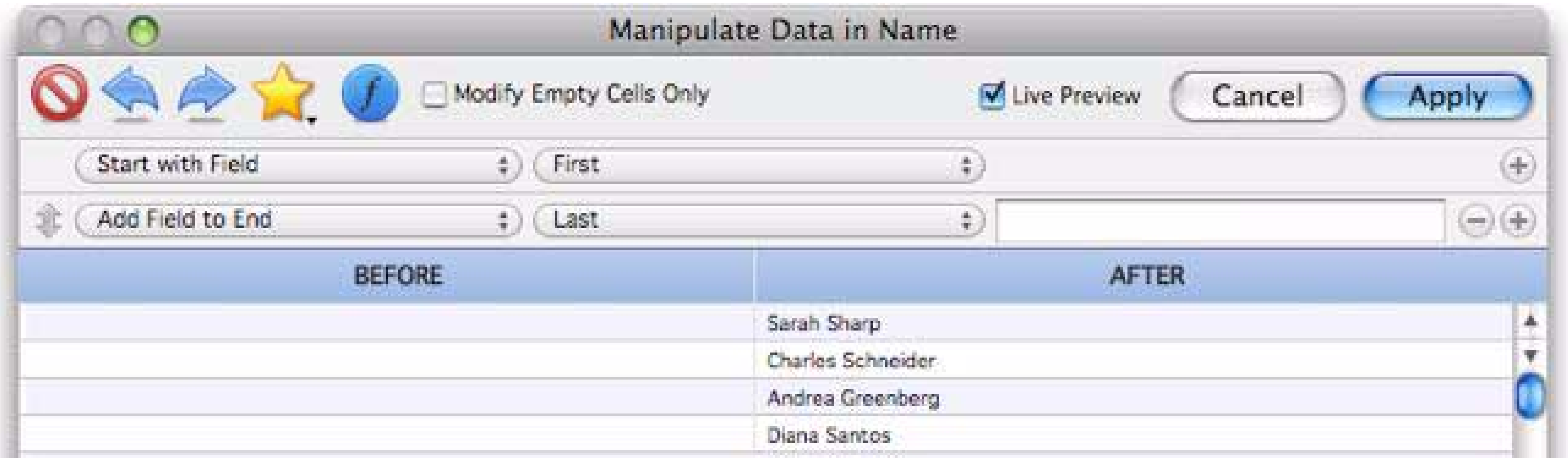


□ Modify Empty Cells Only ☑ Live Preview

Start with Formula: First+" "+Last

BEFORE	AFTER
	Sarah Sharp
	Charles Schneider
	Andrea Greenberg
	Diana Santos

If you've used formulas in a programming language or spreadsheet before, this may look natural to you. Otherwise, it probably just looks like a geeky mystery. Fortunately many common manipulations can be performed simply by selecting from pop-up menus. Here's an alternate method for combining the first and last names:



□ Modify Empty Cells Only ☑ Live Preview

Start with Field: First

Add Field to End: Last

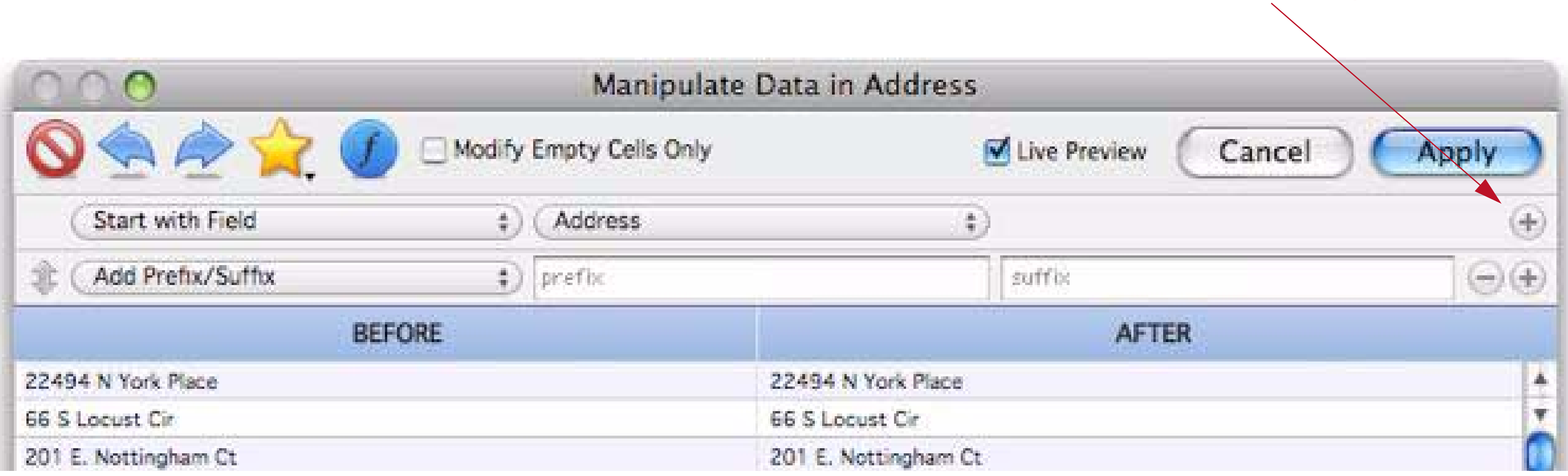
BEFORE	AFTER
	Sarah Sharp
	Charles Schneider
	Andrea Greenberg
	Diana Santos

The following sections will explain how to set up these kinds of simple non-formula manipulations.

Manipulating the Data

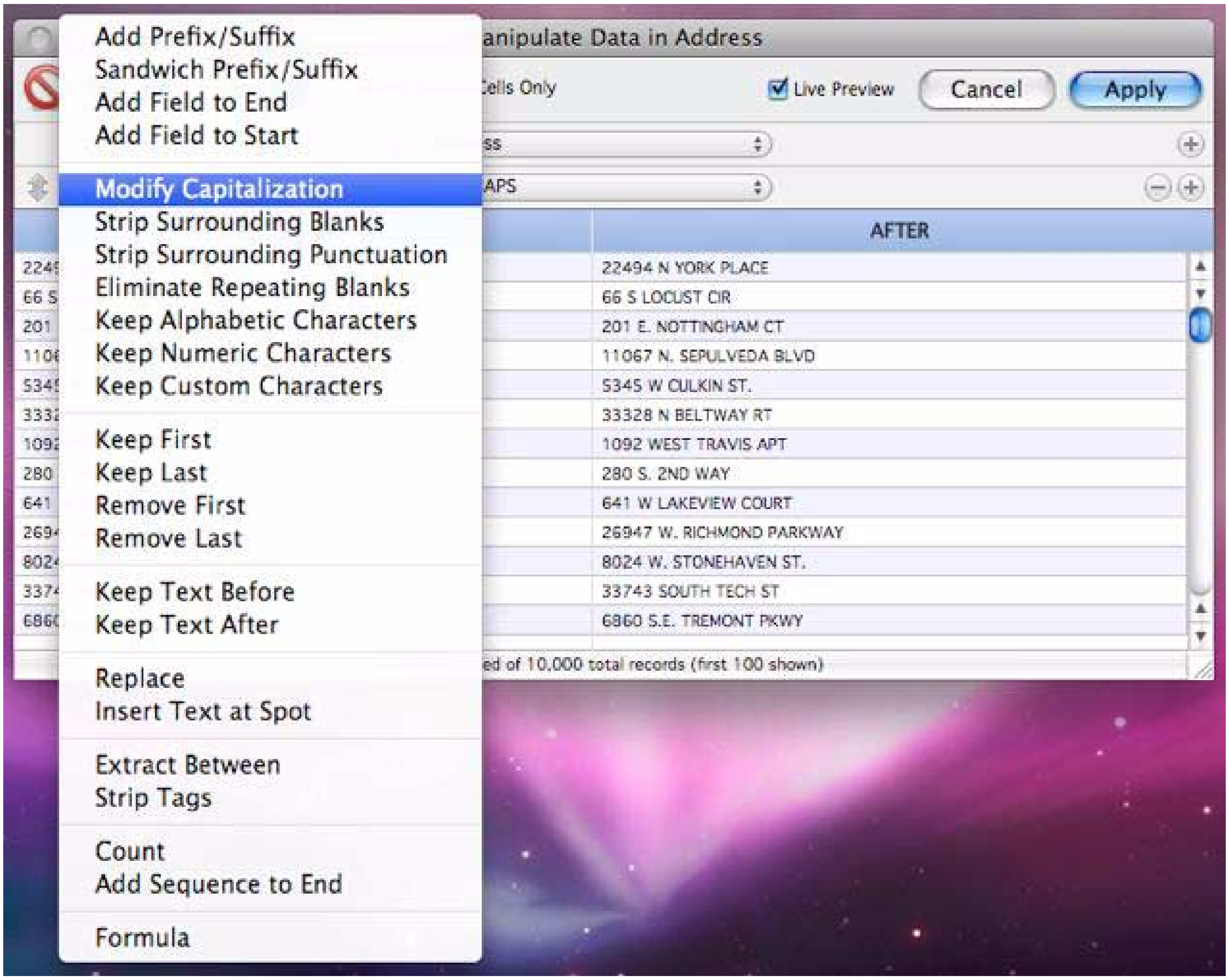
Unless you're doing something really simple like copying a field or filling with a fixed value, the second step is to add one or more manipulations to your data source. To add a manipulation, press the + button on the far right hand side of the dialog.

add manipulation



BEFORE	AFTER
22494 N York Place	22494 N York Place
66 S Locust Cir	66 S Locust Cir
201 E. Nottingham Ct	201 E. Nottingham Ct

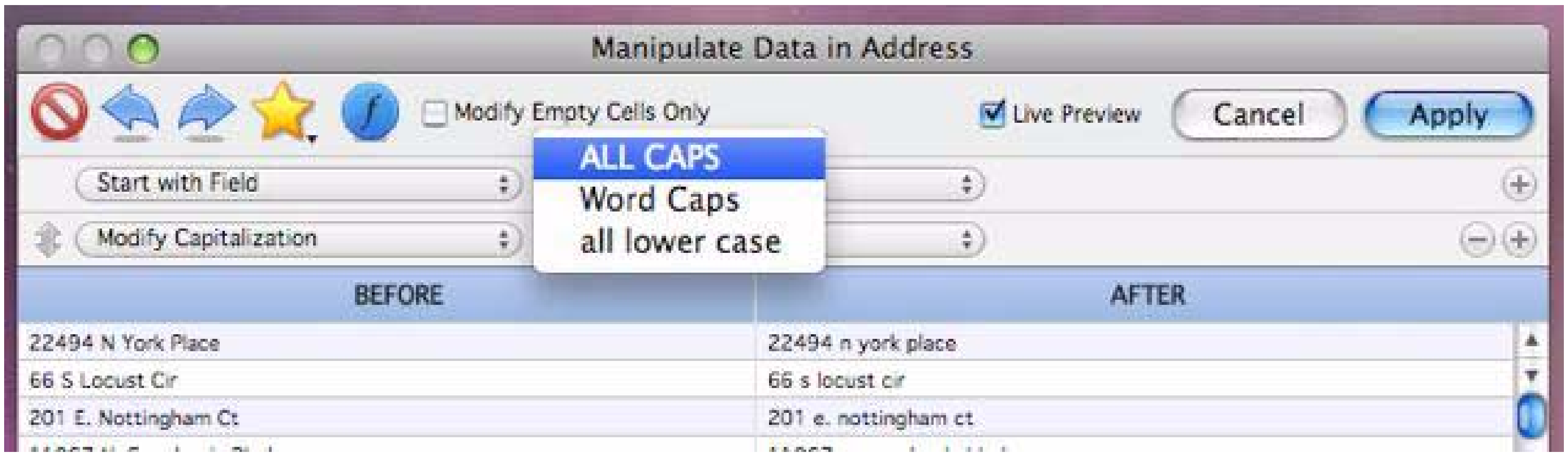
There are many standard manipulations you can choose from. Use the pop-up menu to pick the manipulation you want to use.



	AFTER
224	22494 N YORK PLACE
66 S	66 S LOCUST CIR
201	201 E. NOTTINGHAM CT
1106	11067 N. SEPULVEDA BLVD
534	5345 W CULKIN ST.
3332	33328 N BELTWAY RT
109	1092 WEST TRAVIS APT
280	280 S. 2ND WAY
641	641 W LAKEVIEW COURT
269	26947 W. RICHMOND PARKWAY
802	8024 W. STONEHAVEN ST.
337	33743 SOUTH TECH ST
686	6860 S.E. TREMONT PKWY

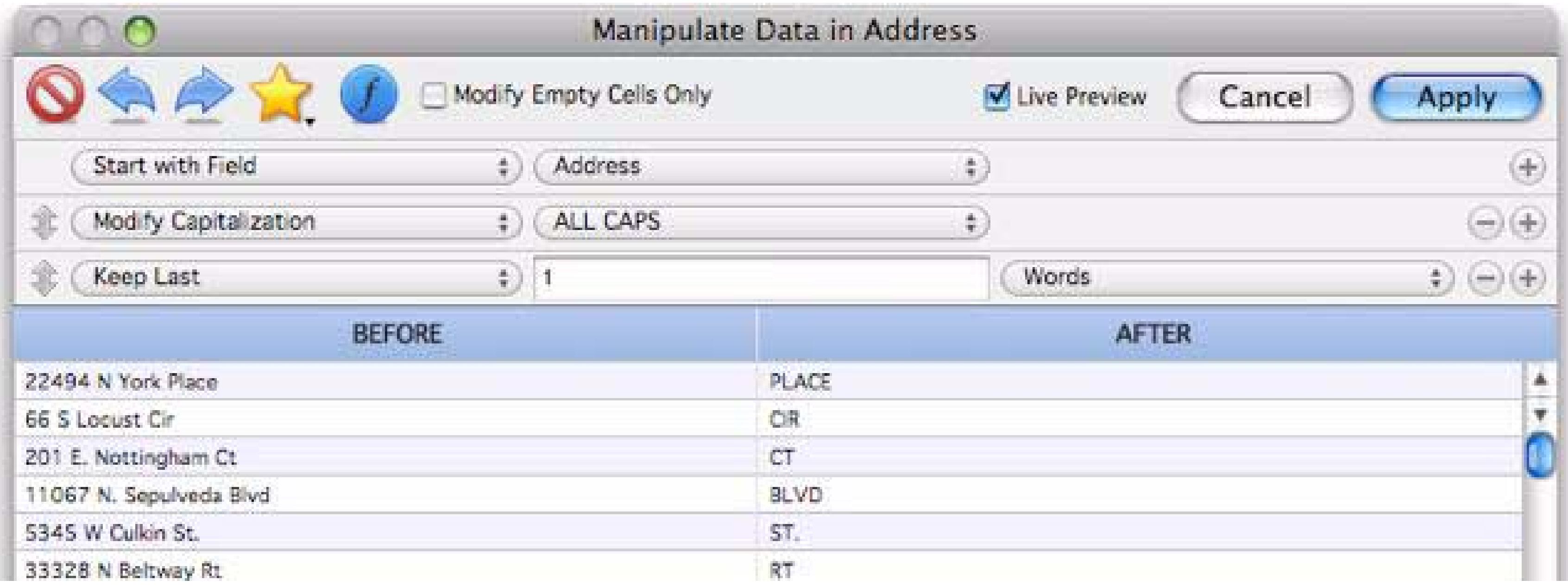
ed of 10,000 total records (first 100 shown)

In most cases there will be one or two options you can specify to control the manipulation, either with a pop-up menu or by typing in an option.



BEFORE	AFTER
22494 N York Place	22494 n york place
66 S Locust Cir	66 s locust cir
201 E. Nottingham Ct	201 e. nottingham ct

You can add up to seven manipulations, just keep pressing the + button.



Start with Field: Address

Modify Capitalization: ALL CAPS

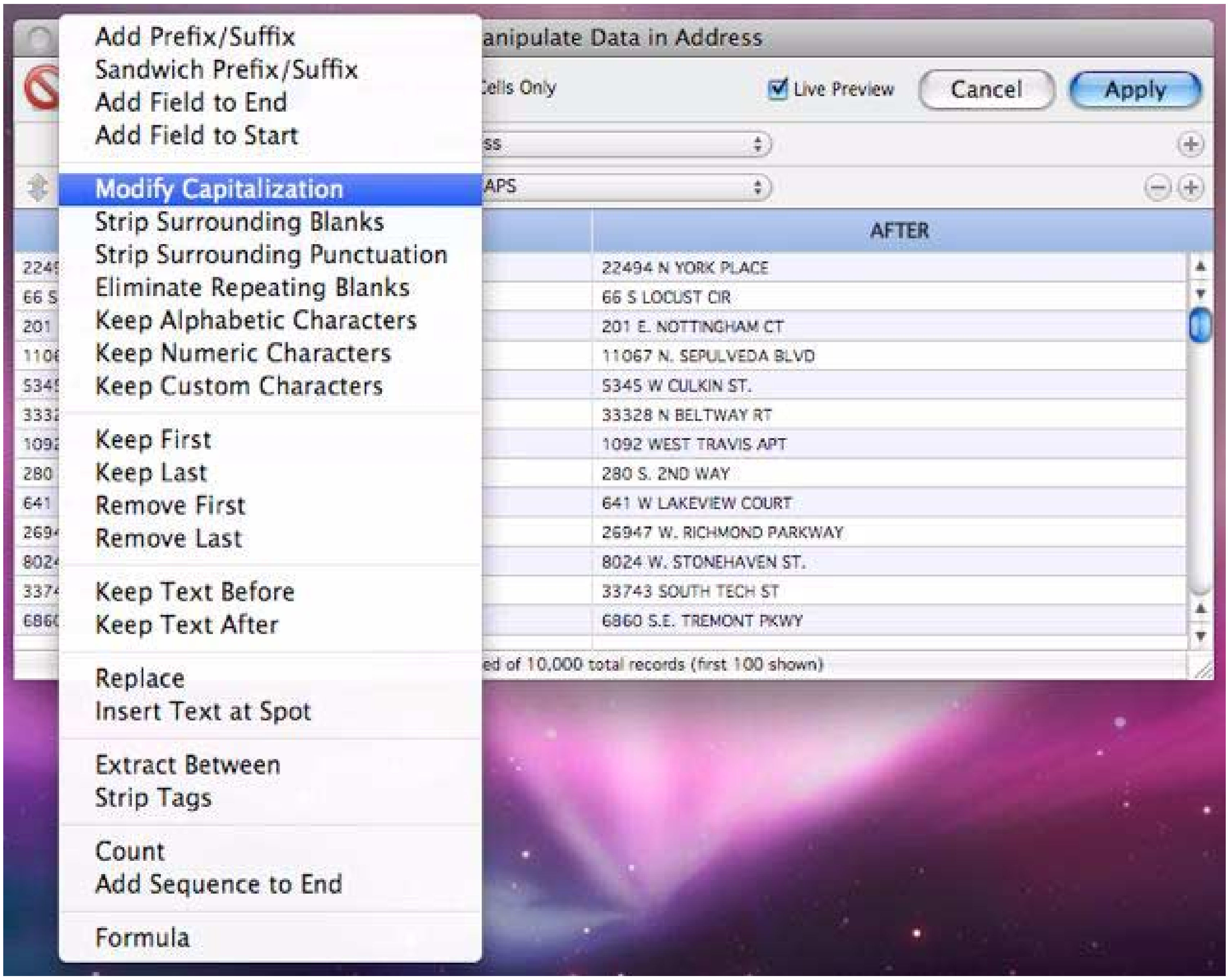
Keep Last: 1 Words

BEFORE	AFTER
22494 N York Place	PLACE
66 S Locust Cir	CIR
201 E. Nottingham Ct	CT
11067 N. Sepulveda Blvd	BLVD
5345 W Culkin St.	ST.
33328 N Beltway Rt	RT

When there are multiple manipulations they are performed in order from top to bottom. In some cases the order of the manipulations may be important. You can insert a new manipulation in any spot by pressing the appropriate + button, the new manipulation will be inserted just below the button you pressed. You can also re-arrange the order of the manipulations by dragging on the arrows on the left hand side. Keep your eye on the preview area to make sure that the manipulations are doing what you want them to.

Manipulating Text

The types of manipulation you can perform varies depending on the type of data you are manipulating — text, numbers or dates. There are about two dozen different manipulations available for text.



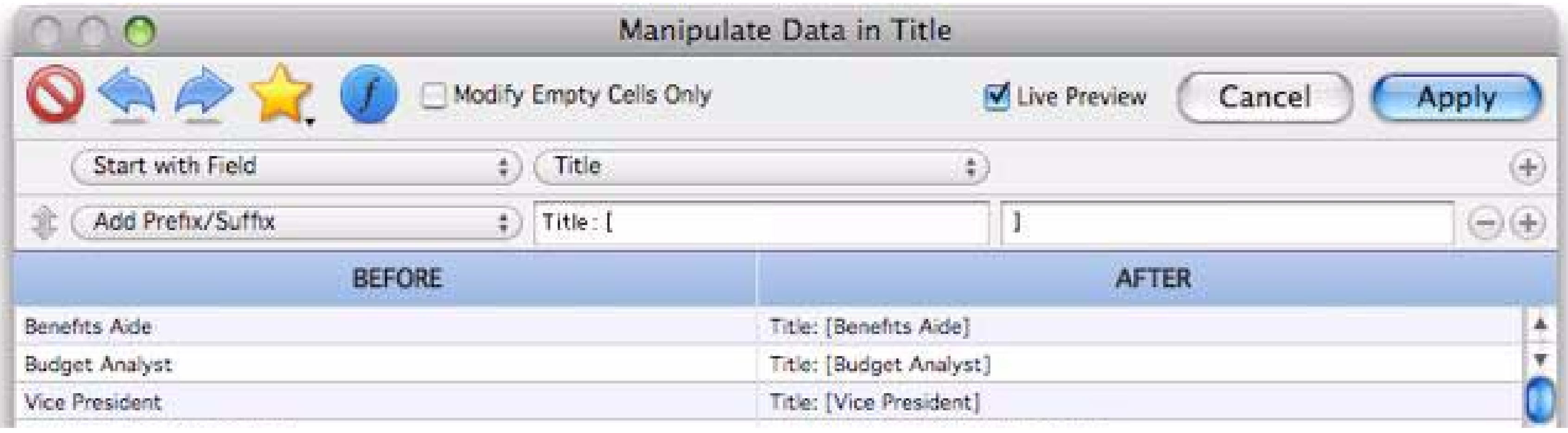
AFTER
22494 N YORK PLACE
66 S LOCUST CIR
201 E. NOTTINGHAM CT
11067 N. SEPULVEDA BLVD
5345 W CULKIN ST.
33328 N BELTWAY RT
1092 WEST TRAVIS APT
280 S. 2ND WAY
641 W LAKEVIEW COURT
26947 W. RICHMOND PARKWAY
8024 W. STONEHAVEN ST.
33743 SOUTH TECH ST
6860 S.E. TREMONT PKWY

ed of 10,000 total records (first 100 shown)

The following sections discuss each of these manipulation options.

Add Prefix/Suffix

This option allows you to add a prefix to the beginning of the text, or a suffix on the end, or both (as shown below).



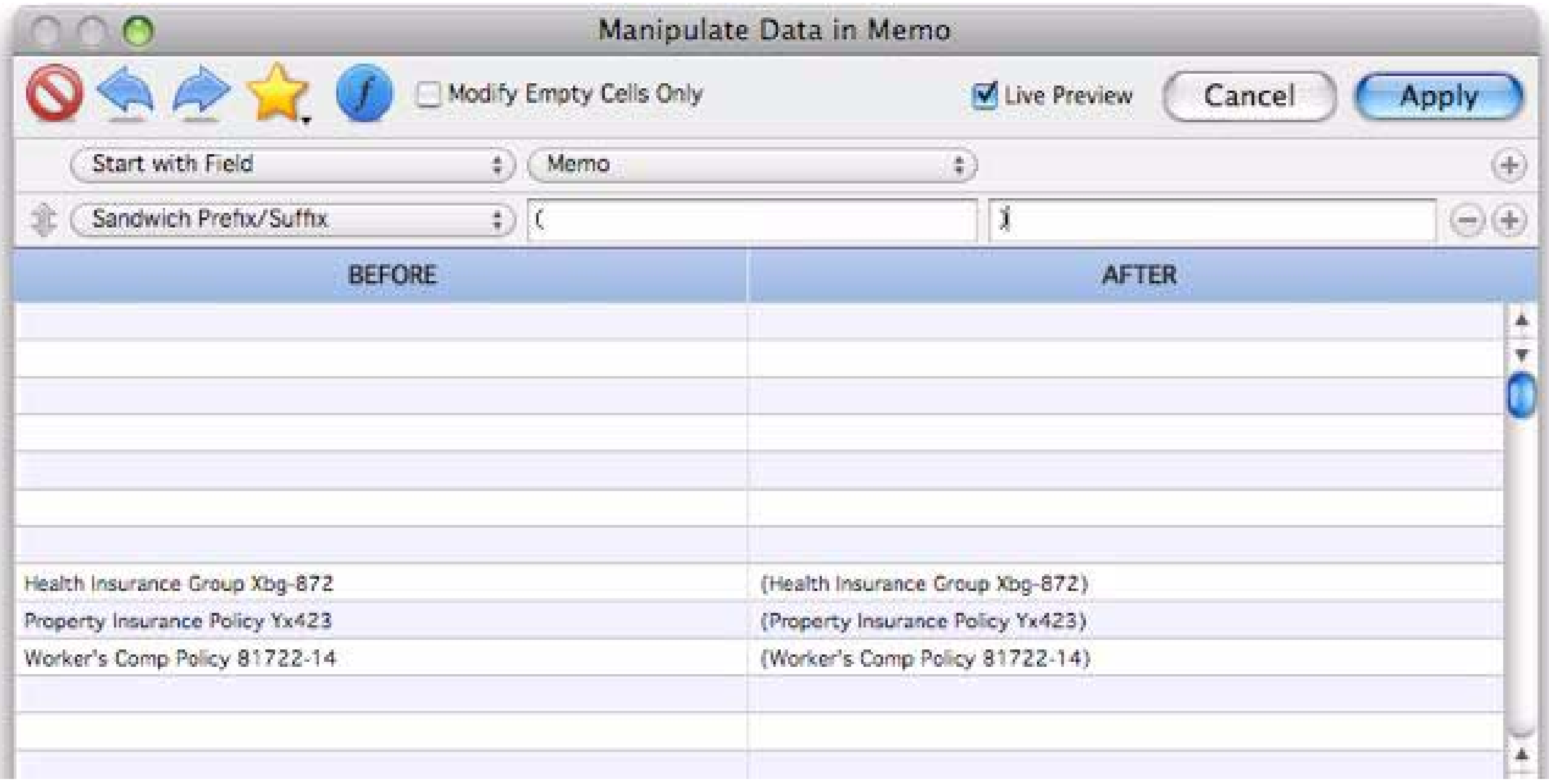
Start with Field — Title

Add Prefix/Suffix — Title : [—]

BEFORE	AFTER
Benefits Aide	Title: [Benefits Aide]
Budget Analyst	Title: [Budget Analyst]
Vice President	Title: [Vice President]

Sandwich Prefix/Suffix

This option also adds a prefix and/or a suffix. However, unlike the **Add Prefix/Suffix** option, when the “sandwich” option is used the prefix and/or suffix are only added if the source text is non-blank. In other words, if there is no “meat” then this sandwich doesn’t include any “bread” either.



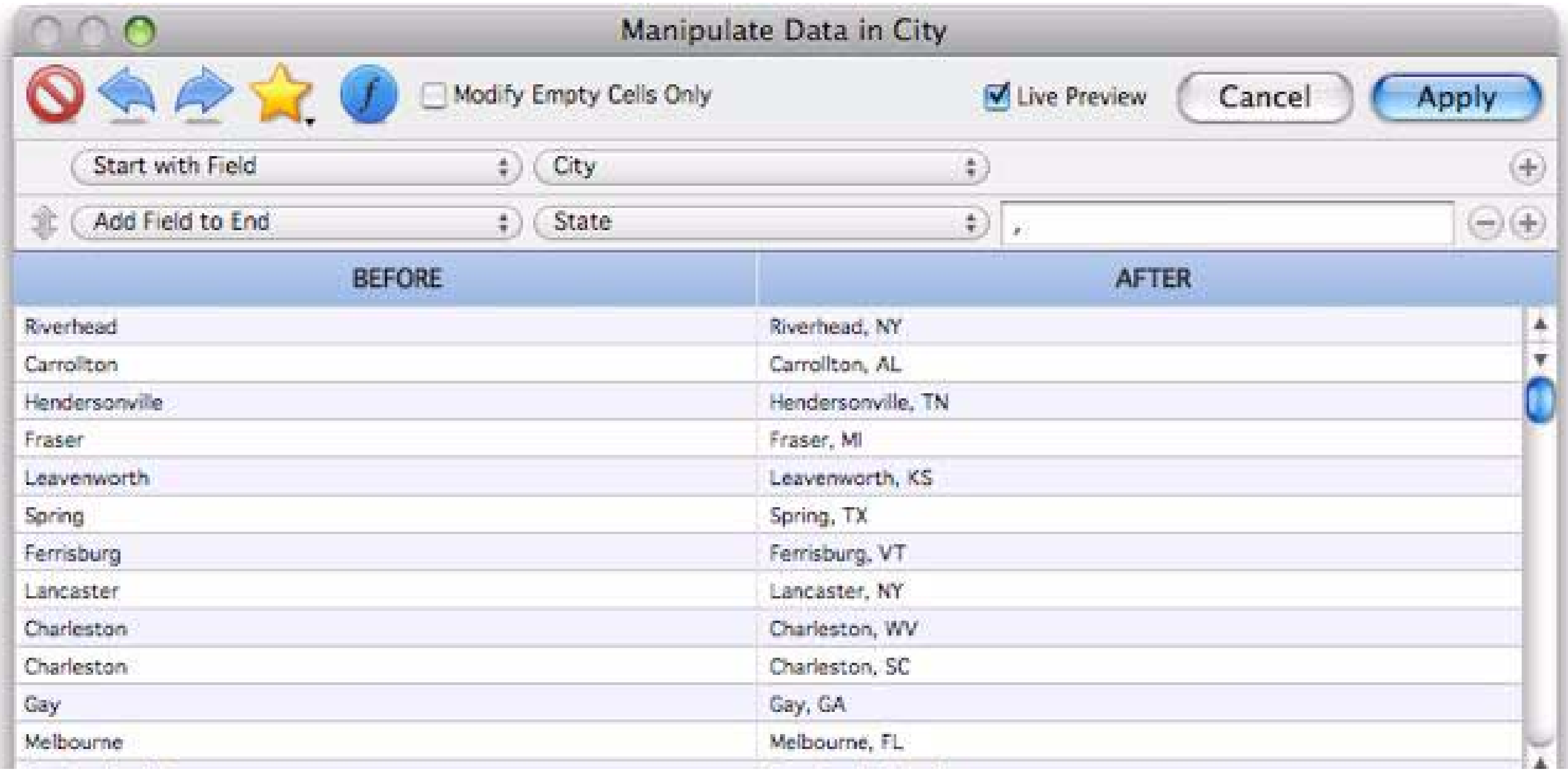
Start with Field: Memo

Sandwich Prefix/Suffix: ( )

BEFORE	AFTER
Health Insurance Group Xbg-872	(Health Insurance Group Xbg-872)
Property Insurance Policy Yx423	(Property Insurance Policy Yx423)
Worker's Comp Policy 81722-14	(Worker's Comp Policy 81722-14)

Add FIeld to End

This option appends a database field to the end of the manipulated text. It also allows you to specify “connector” text between the existing text and the field being added (in the example below the connector text is a comma and a space).

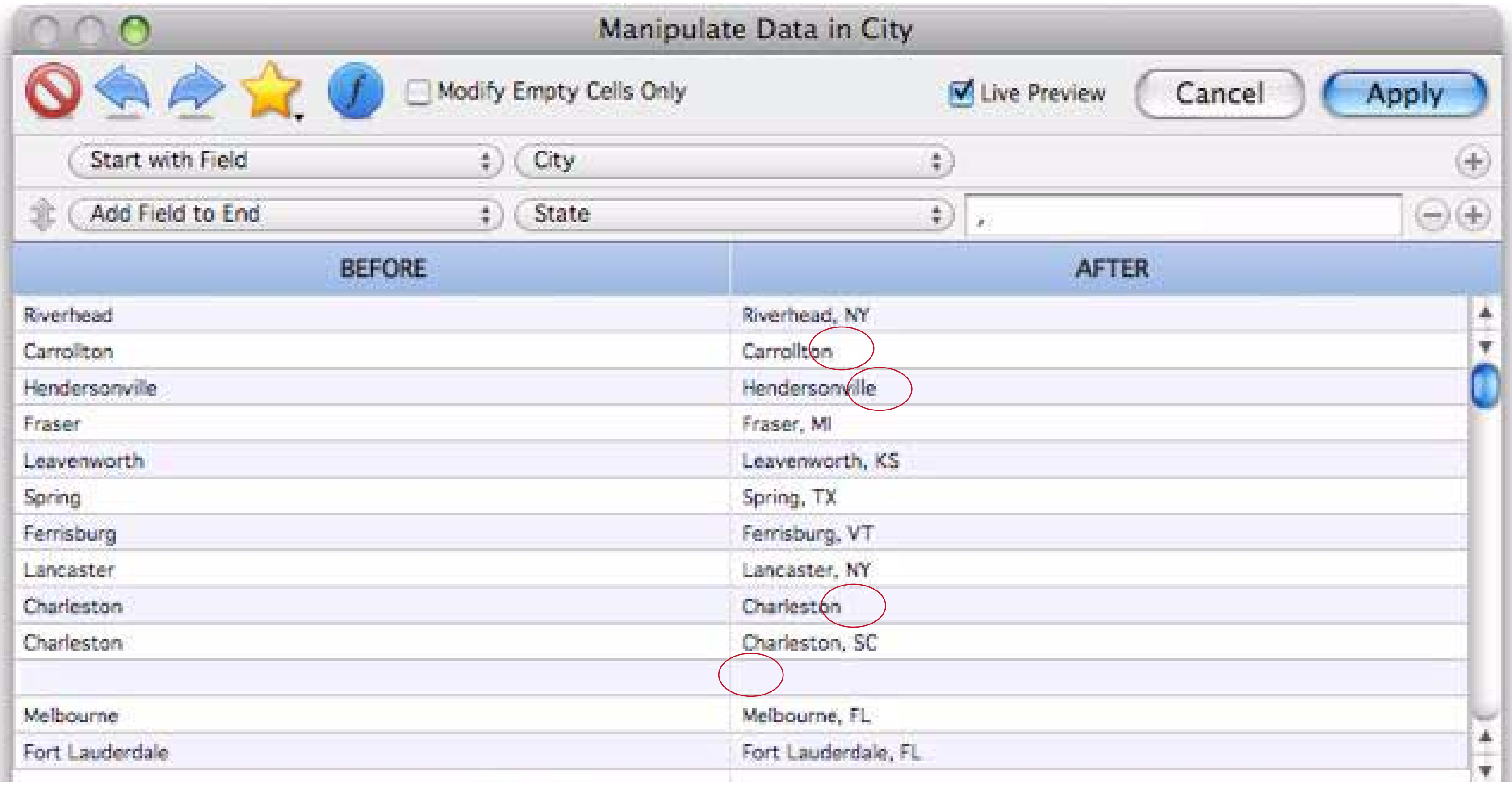


Start with Field: City

Add Field to End: State ,

BEFORE	AFTER
Riverhead	Riverhead, NY
Carrollton	Carrollton, AL
Hendersonville	Hendersonville, TN
Fraser	Fraser, MI
Leavenworth	Leavenworth, KS
Spring	Spring, TX
Ferrisburg	Ferrisburg, VT
Lancaster	Lancaster, NY
Charleston	Charleston, WV
Charleston	Charleston, SC
Gay	Gay, GA
Melbourne	Melbourne, FL

Panorama is smart about adding the connector text -- the connector is only added if necessary. In the example below either the city or state is missing for some records. The connector is omitted in that case.

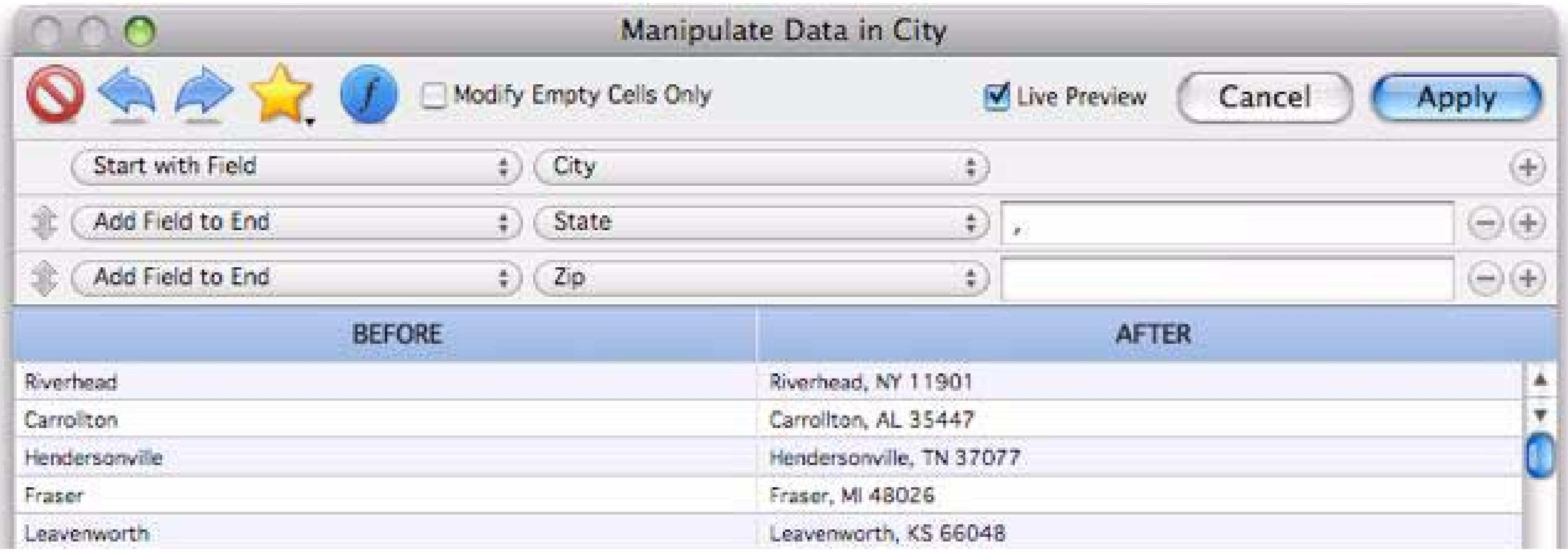


□ Modify Empty Cells Only ☑ Live Preview

Start with Field	City	
Add Field to End	State	,

BEFORE	AFTER
Riverhead	Riverhead, NY
Carrollton	Carrollton
Hendersonville	Hendersonville
Fraser	Fraser, MI
Leavenworth	Leavenworth, KS
Spring	Spring, TX
Ferrisburg	Ferrisburg, VT
Lancaster	Lancaster, NY
Charleston	Charleston
Charleston	Charleston, SC
Melbourne	Melbourne, FL
Fort Lauderdale	Fort Lauderdale, FL

If necessary, you can append multiple fields, one after the next.



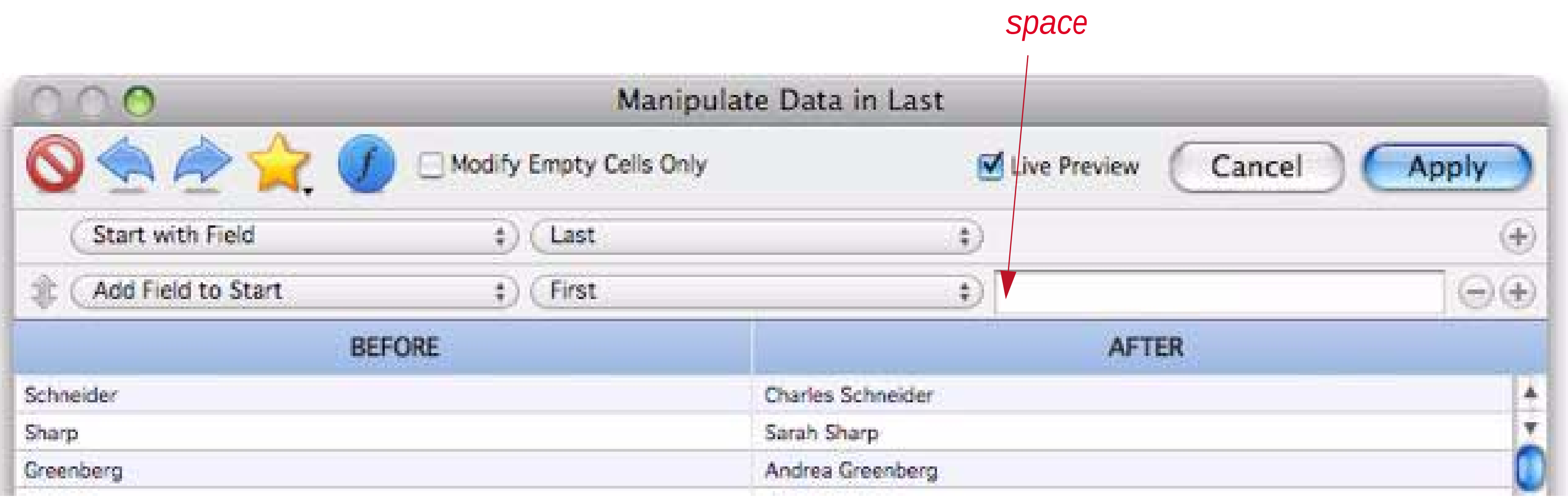
□ Modify Empty Cells Only ☑ Live Preview

Start with Field	City	
Add Field to End	State	,
Add Field to End	Zip	

BEFORE	AFTER
Riverhead	Riverhead, NY 11901
Carrollton	Carrollton, AL 35447
Hendersonville	Hendersonville, TN 37077
Fraser	Fraser, MI 48026
Leavenworth	Leavenworth, KS 66048

Add Field to Start

This option is just like **Add Field to End**, but the field is added at the beginning of the manipulated text. In the example below a space has been typed into the connector option.


space

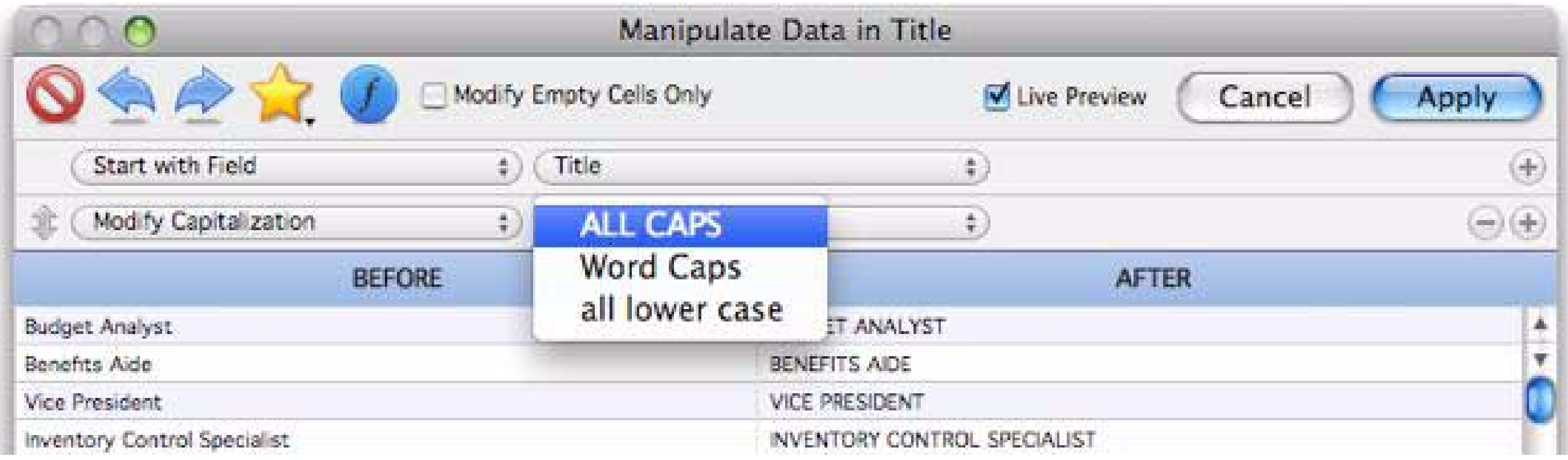
Start with Field | Last

Add Field to Start | First

BEFORE	AFTER
Schneider	Charles Schneider
Sharp	Sarah Sharp
Greenberg	Andrea Greenberg

Modify Capitalization

This option changes the capitalization of the text. Use the pop-up menu to select all upper case, all lower case, or capitalization of the first letter of each word.



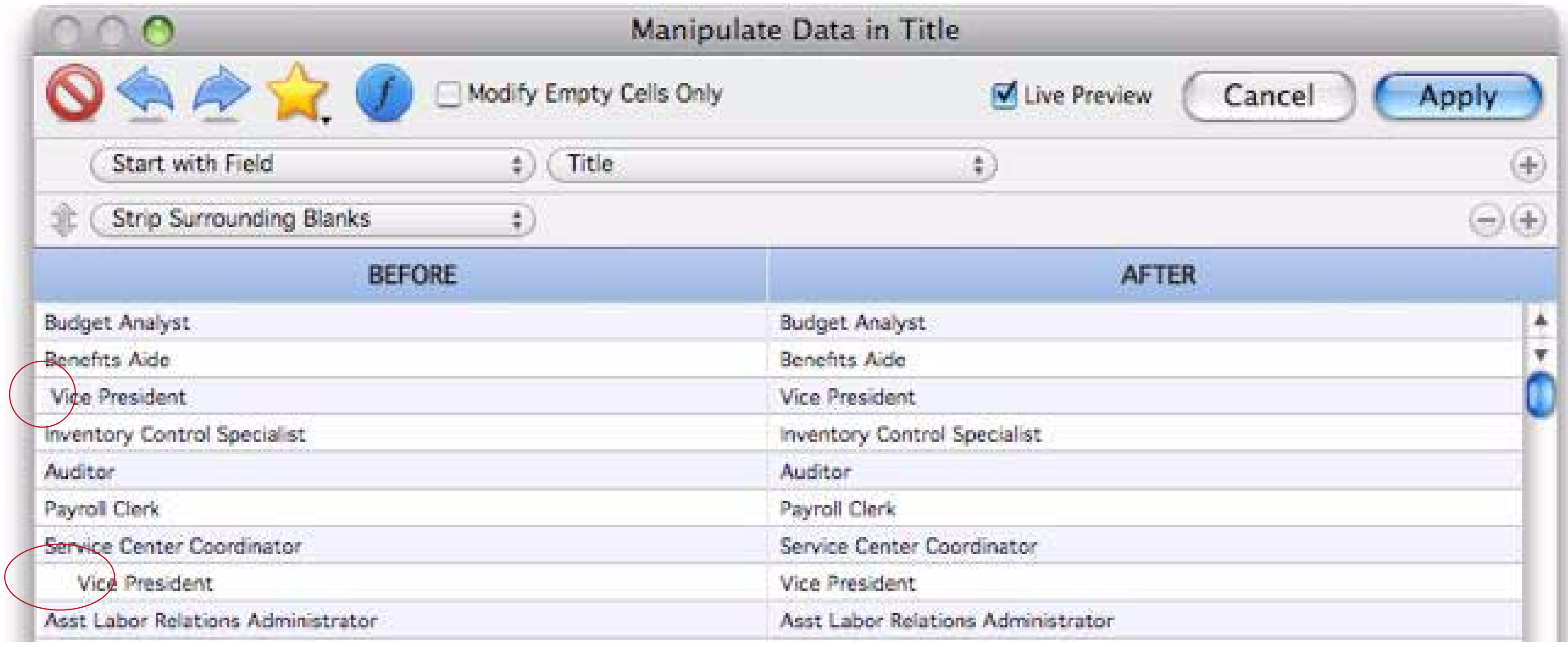
Start with Field | Title

Modify Capitalization

BEFORE	AFTER
Budget Analyst	ET ANALYST
Benefits Aide	BENEFITS AIDE
Vice President	VICE PRESIDENT
Inventory Control Specialist	INVENTORY CONTROL SPECIALIST

Strip Surrounding Blanks

This option strips off any extra blanks at the beginning or end of the text.



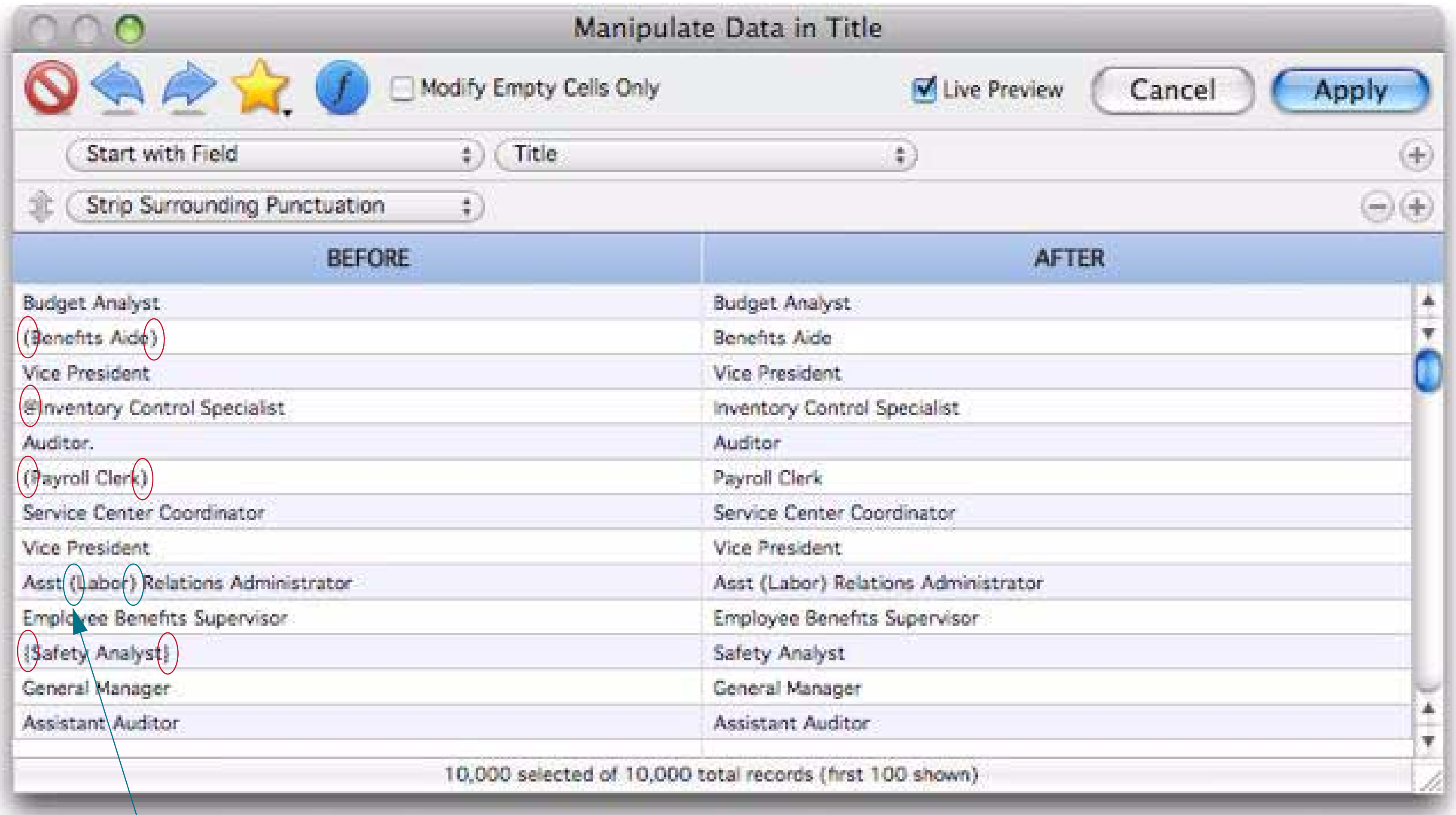
Start with Field | Title

Strip Surrounding Blanks

BEFORE	AFTER
Budget Analyst	Budget Analyst
Benefits Aide	Benefits Aide
Vice President	Vice President
Inventory Control Specialist	Inventory Control Specialist
Auditor	Auditor
Payroll Clerk	Payroll Clerk
Service Center Coordinator	Service Center Coordinator
Vice President	Vice President
Asst Labor Relations Administrator	Asst Labor Relations Administrator

Strip Surrounding Punctuation

This option strips off any punctuation at the beginning or end of the data. (Punctuation in the middle of the data is left intact.) Punctuation is defined as any non-alphanumeric character, so this can be used to strip off extra parentheses, braces, periods, question marks, spaces etc.



Manipulate Data in Title

☐ Modify Empty Cells Only ☑ Live Preview

Start with Field: Title

Strip Surrounding Punctuation

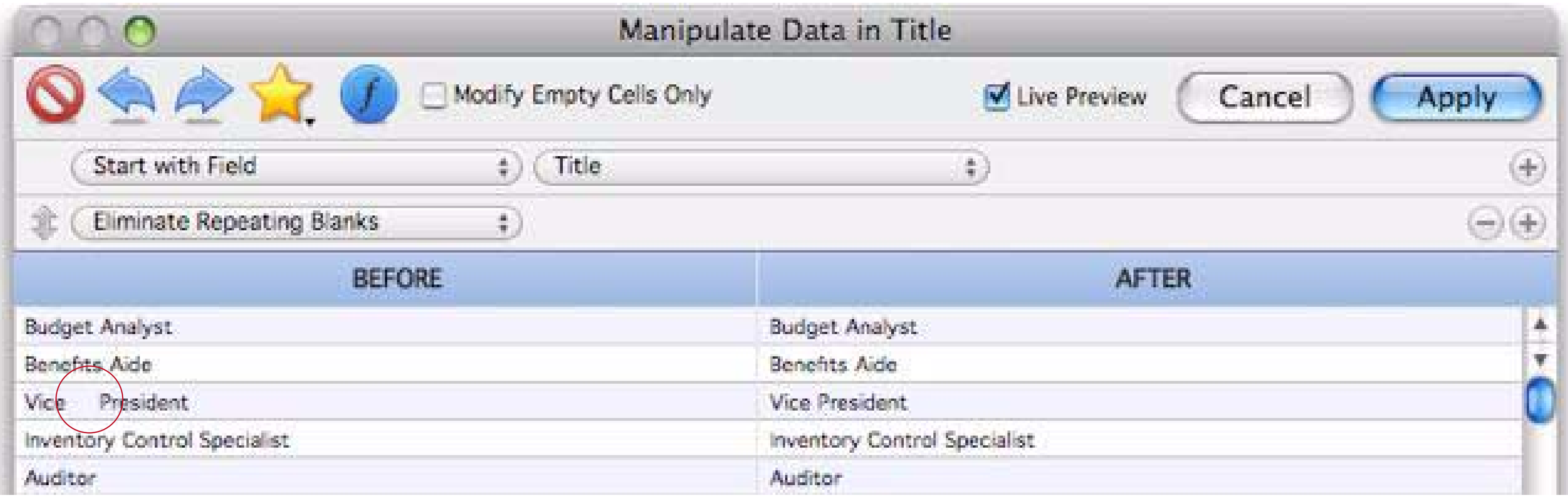
BEFORE	AFTER
Budget Analyst	Budget Analyst
(Benefits Aide)	Benefits Aide
Vice President	Vice President
@Inventory Control Specialist	Inventory Control Specialist
Auditor.	Auditor
(Payroll Clerk)	Payroll Clerk
Service Center Coordinator	Service Center Coordinator
Vice President	Vice President
Asst (Labor) Relations Administrator	Asst (Labor) Relations Administrator
Employee Benefits Supervisor	Employee Benefits Supervisor
{Safety Analyst}	Safety Analyst
General Manager	General Manager
Assistant Auditor	Assistant Auditor

10,000 selected of 10,000 total records (first 100 shown)

punctuation in the middle is left intact

Eliminate Repeating Blanks

This option converts strings of two or more spaces in a row into single spaces.



Manipulate Data in Title

☐ Modify Empty Cells Only ☑ Live Preview

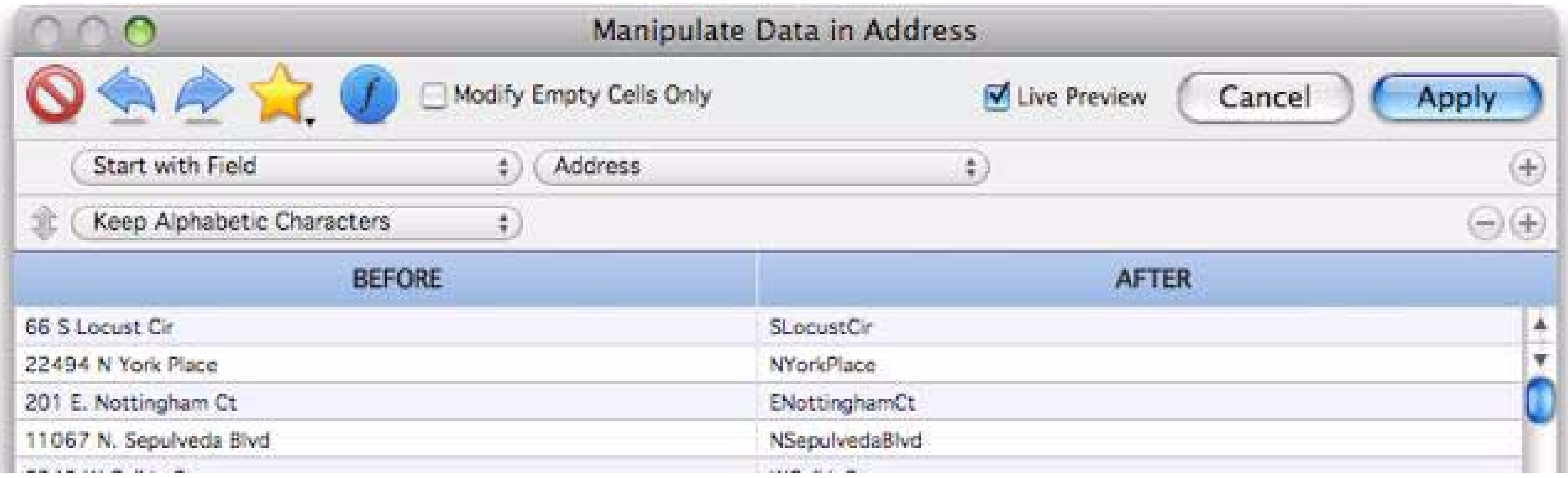
Start with Field: Title

Eliminate Repeating Blanks

BEFORE	AFTER
Budget Analyst	Budget Analyst
Benefits Aide	Benefits Aide
Vice President	Vice President
Inventory Control Specialist	Inventory Control Specialist
Auditor	Auditor

Keep Alphabetic Characters

This option strips out all non-alphabetic characters. In other words, anything other than A to Z and a to z will be stripped from the text.



□ Modify Empty Cells Only ☑ Live Preview

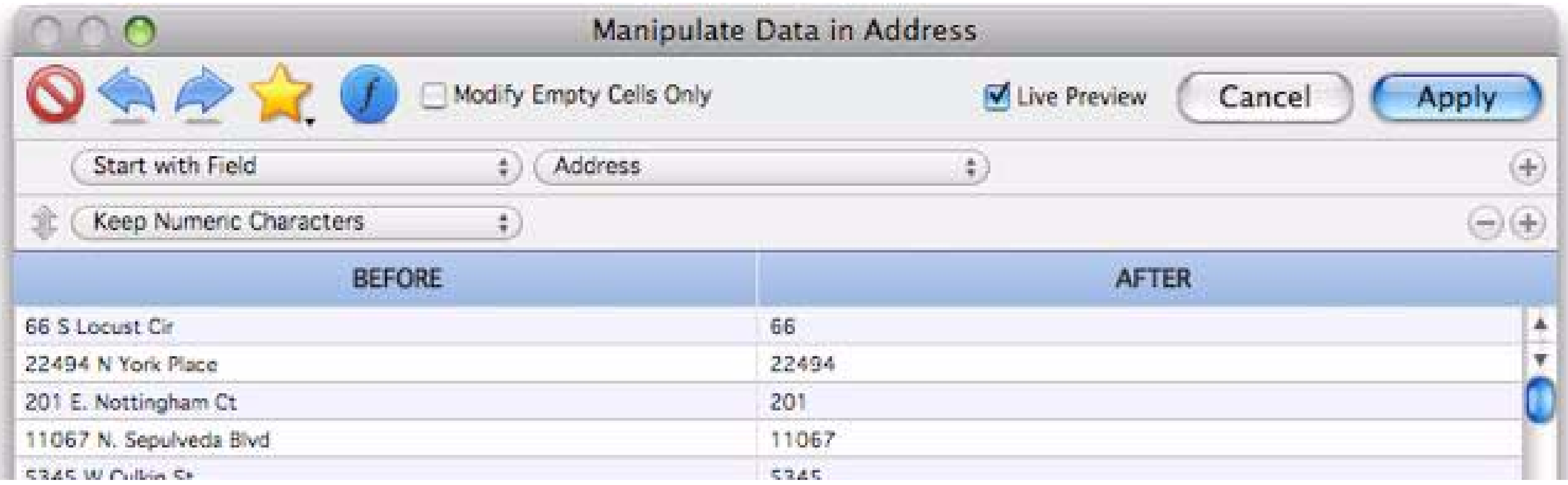
Start with Field — Address

Keep Alphabetic Characters

BEFORE	AFTER
66 S Locust Cir	SLocustCir
22494 N York Place	NYorkPlace
201 E. Nottingham Ct	ENottinghamCt
11067 N. Sepulveda Blvd	NSepulvedaBlvd

Keep Numeric Characters

This option strips out all non-numeric characters. In other words, anything other than 0 to 9 will be stripped from the text.



□ Modify Empty Cells Only ☑ Live Preview

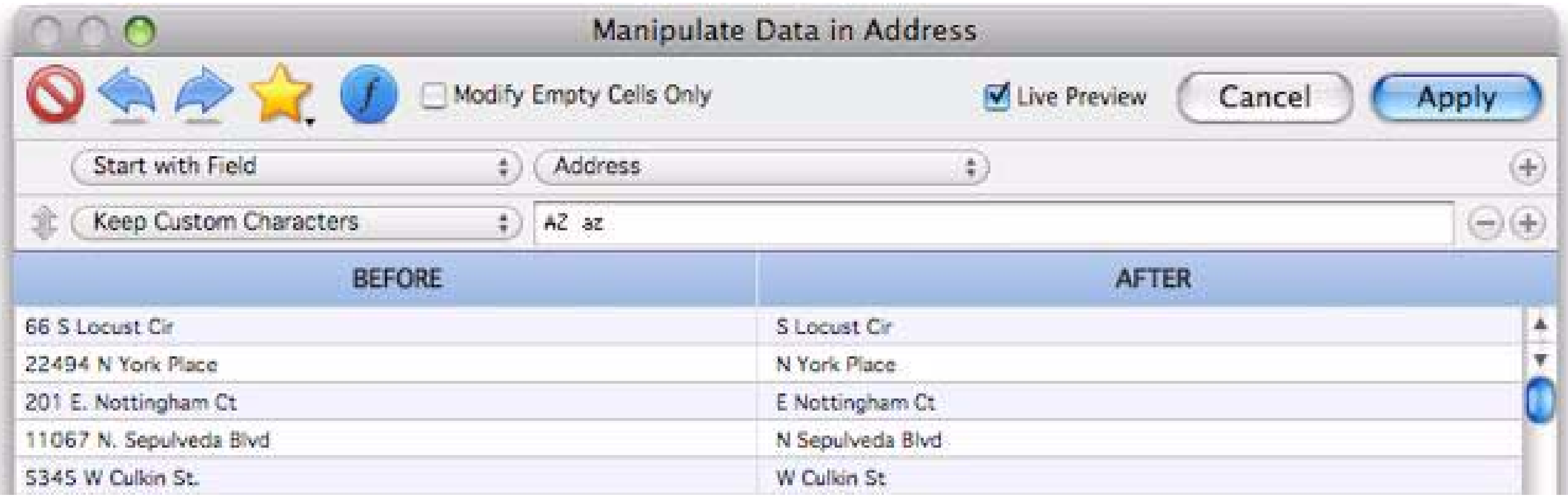
Start with Field — Address

Keep Numeric Characters

BEFORE	AFTER
66 S Locust Cir	66
22494 N York Place	22494
201 E. Nottingham Ct	201
11067 N. Sepulveda Blvd	11067
5345 W Culkin St	5345

Keep Custom Characters

This option is more flexible than the previous two, but also a bit more complicated. It allows you to specify exactly what characters to keep and what to strip out. The character to keep are specified as a series of character pairs. The example below includes three pairs: AZ (A to Z), space-space (space) and az (a to z). The result is that all characters except for letters and spaces are stripped.



□ Modify Empty Cells Only ☑ Live Preview

Start with Field — Address

Keep Custom Characters — AZ az

BEFORE	AFTER
66 S Locust Cir	S Locust Cir
22494 N York Place	N York Place
201 E. Nottingham Ct	E Nottingham Ct
11067 N. Sepulveda Blvd	N Sepulveda Blvd
5345 W Culkin St.	W Culkin St

Here are some common pairs:

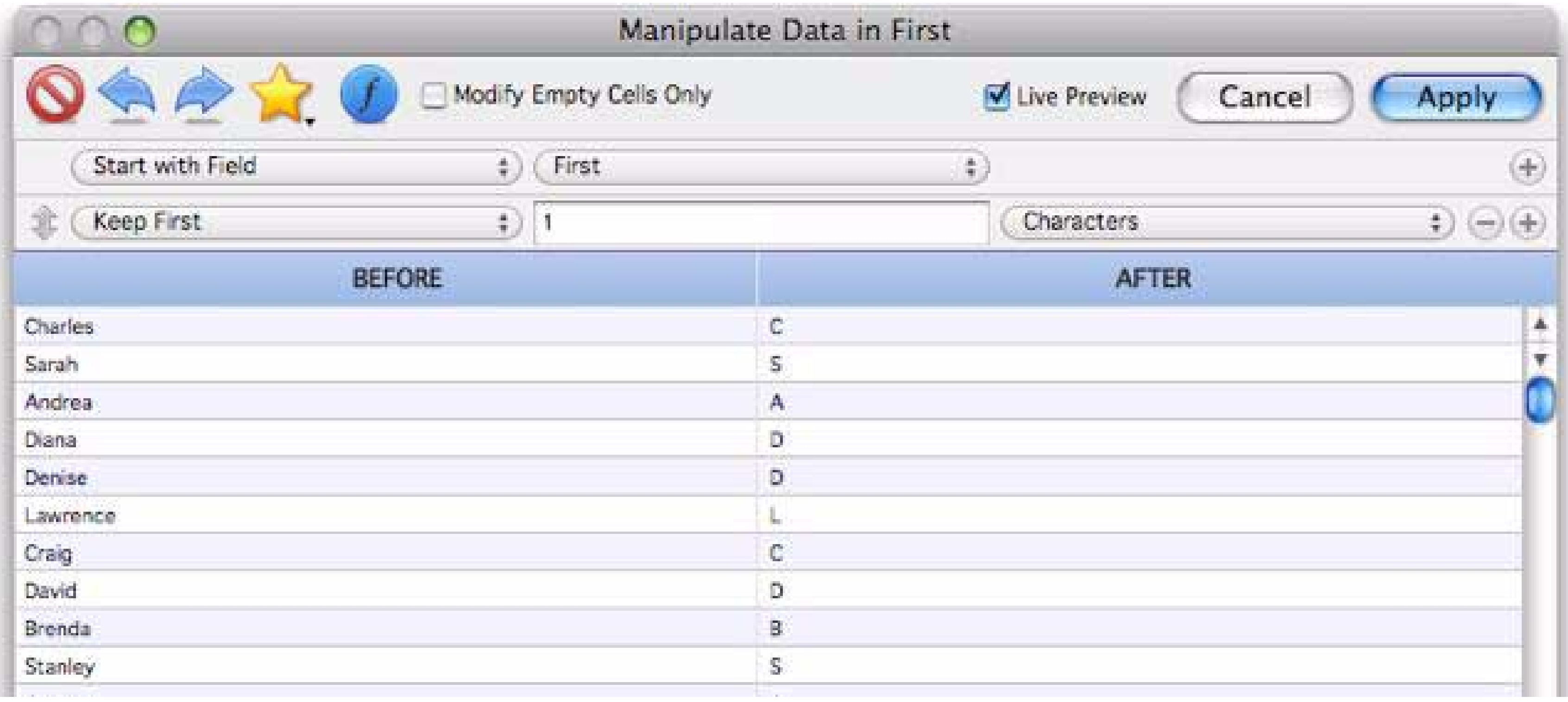
Pair	Description
AZ	Upper case characters
az	Lower case characters
09	Numeric digits
Åü	International characters
()	Parentheses
!~	All non-blank characters

If you want to include a single character rather than a range, simply include that character twice to make a pair. For example to allow semicolons use ;;, to allow exclamation points use !!. You can use as many pairs as you need, but make sure there is no punctuation or spaces between the pairs (of course punctuation and spaces can be used as part of a pair). Here are some typical custom character specifications you might want to use.

Spec	Description
AZaz	Alphabetic
AZ az	Letters & spaces
AZaz09	Alphanumeric
09()--	Phone numbers
09..++--	Positive or negative numbers
09/ /	Dates (mm/dd/yy)
09::AAaaMMmmPPpp	Times
$$09..--	Money (US)

Keep First

This option keeps the first few letters, words or lines of the data, removing the rest. For example, you could use this to convert a name into an initial.



Manipulate Data in First

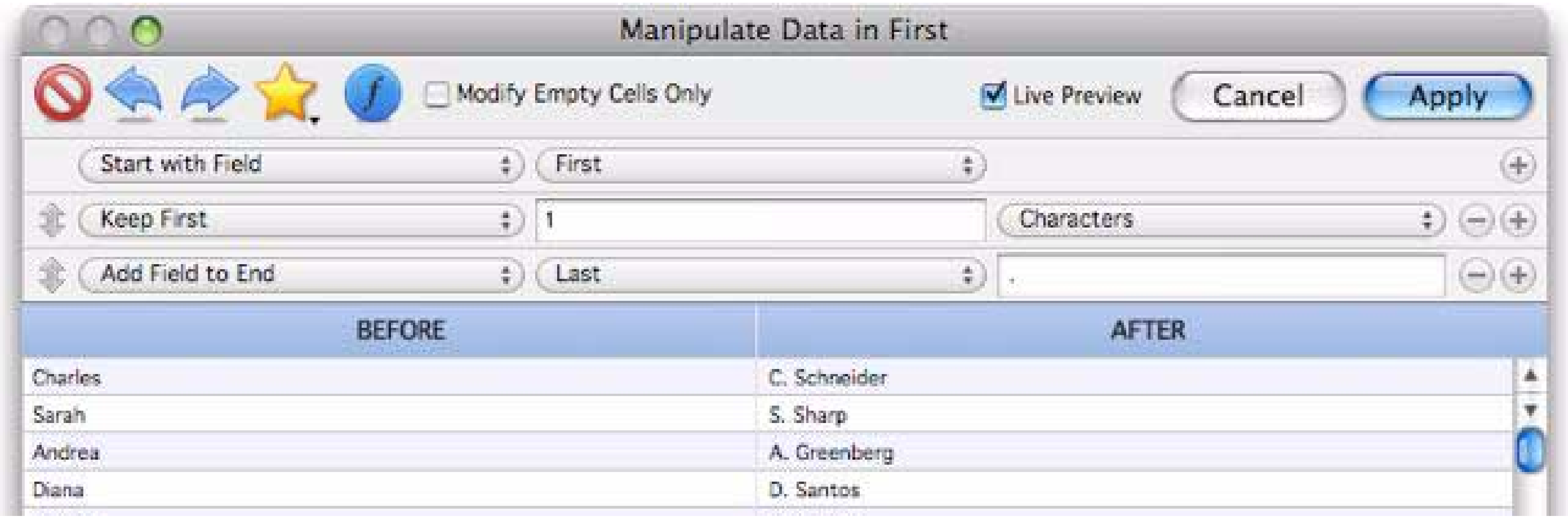
□ Modify Empty Cells Only ☑ Live Preview Cancel Apply

Start with Field | First

Keep First | 1 | Characters

BEFORE	AFTER
Charles	C
Sarah	S
Andrea	A
Diana	D
Denise	D
Lawrence	L
Craig	C
David	D
Brenda	B
Stanley	S

This might not seem that useful, but remember that you can combine multiple manipulations. Here I've added a second step that gives us the first initial and last name.



Manipulate Data in First

☐ Modify Empty Cells Only ☑ Live Preview

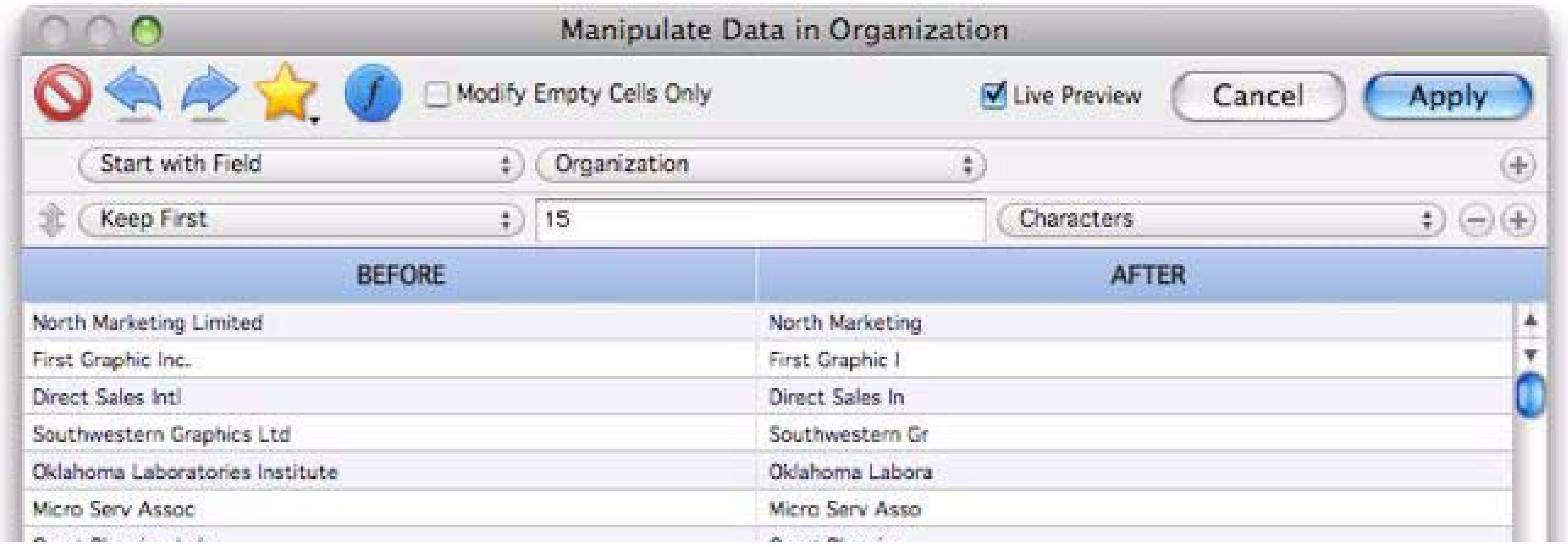
Start with Field | First

Keep First | 1 | Characters

Add Field to End | Last | .

BEFORE	AFTER
Charles	C. Schneider
Sarah	S. Sharp
Andrea	A. Greenberg
Diana	D. Santos

I can edit the number of characters, in this example keeping the first 15 characters of the organization name.



Manipulate Data in Organization

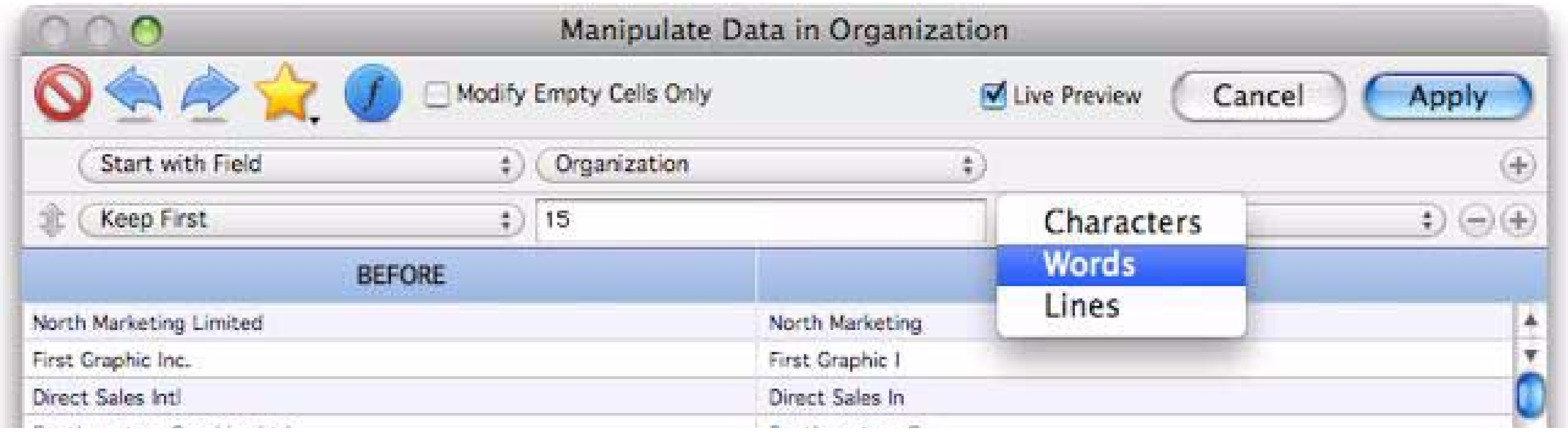
☐ Modify Empty Cells Only ☑ Live Preview

Start with Field | Organization

Keep First | 15 | Characters

BEFORE	AFTER
North Marketing Limited	North Marketing
First Graphic Inc.	First Graphic I
Direct Sales Intl	Direct Sales In
Southwestern Graphics Ltd	Southwestern Gr
Oklahoma Laboratories Institute	Oklahoma Labora
Micro Serv Assoc	Micro Serv Asso

The pop-up menu allows you to pick whether you want to keep text by character, by word or by line.



Manipulate Data in Organization

☐ Modify Empty Cells Only ☑ Live Preview

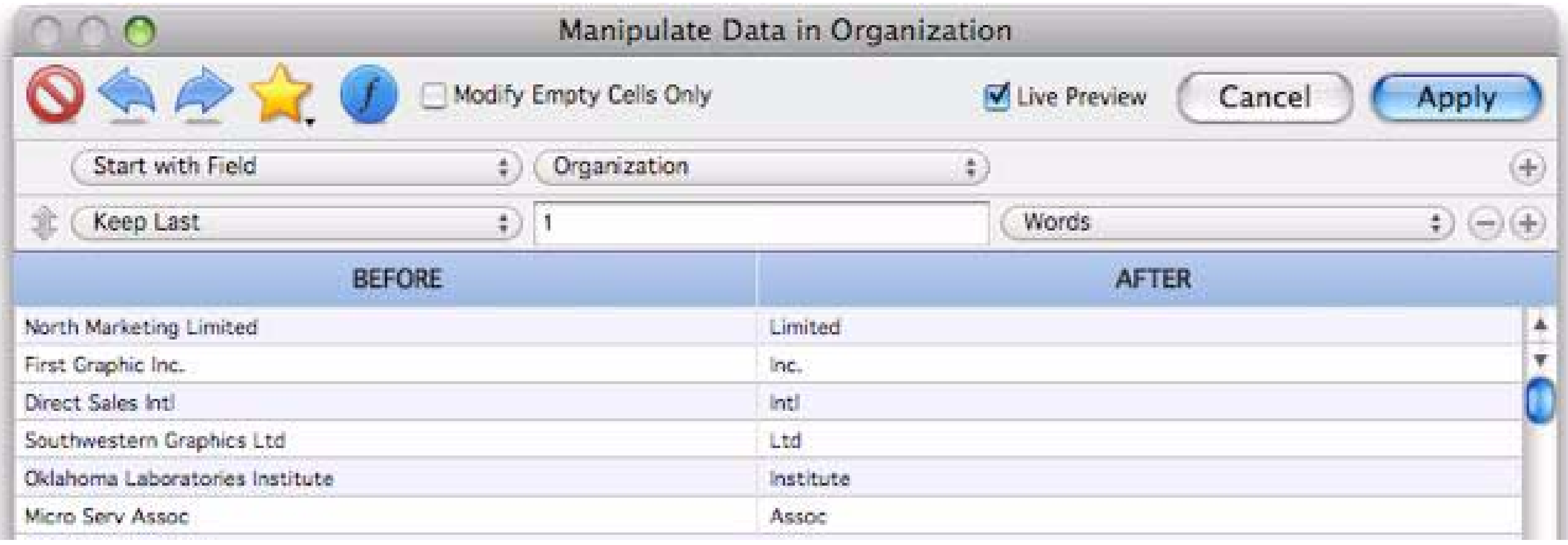
Start with Field | Organization

Keep First | 15

BEFORE	
North Marketing Limited	North Marketing
First Graphic Inc.	First Graphic I
Direct Sales Intl	Direct Sales In

Keep Last

This option is similar to **Keep First**, but keeps characters, words or lines at the end of the data. In this example this option has been used to extract the last word from the organization name.



☐ Modify Empty Cells Only ☑ Live Preview

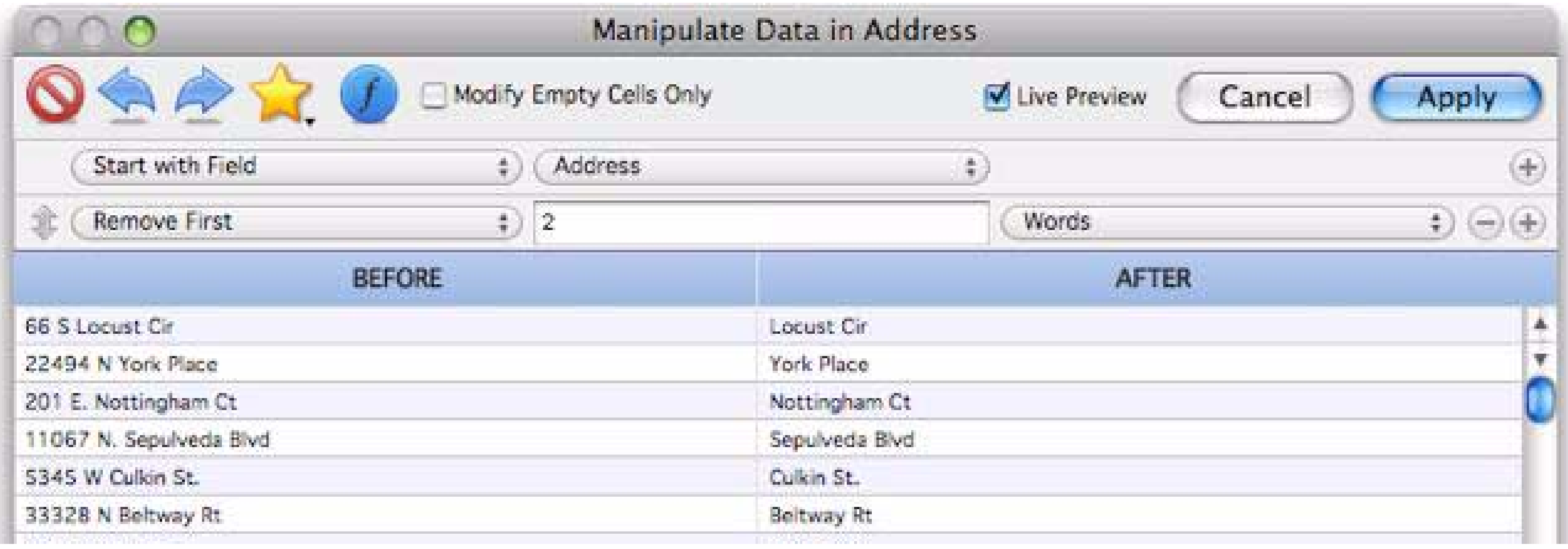
Start with Field | Organization

Keep Last | 1 | Words

BEFORE	AFTER
North Marketing Limited	Limited
First Graphic Inc.	Inc.
Direct Sales Intl	Intl
Southwestern Graphics Ltd	Ltd
Oklahoma Laboratories Institute	Institute
Micro Serv Assoc	Assoc

Remove First

This option removes characters, words or lines from the beginning of the text. In this example the first two words (number and direction) have been removed from the address, leaving only the street name.



☐ Modify Empty Cells Only ☑ Live Preview

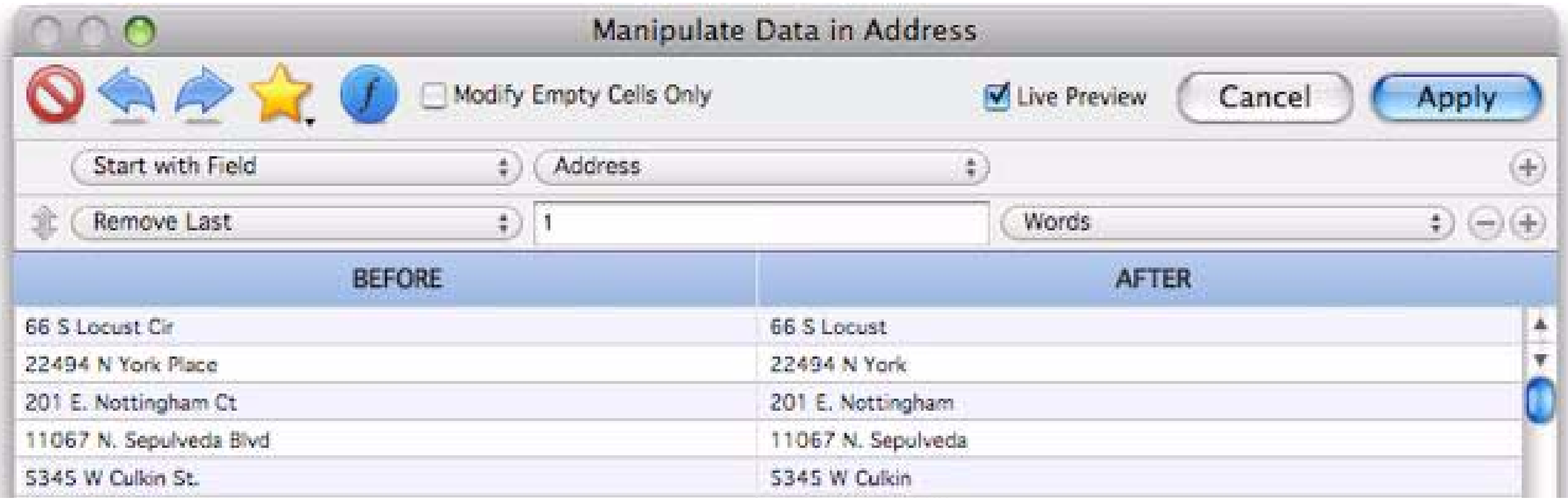
Start with Field | Address

Remove First | 2 | Words

BEFORE	AFTER
66 S Locust Cir	Locust Cir
22494 N York Place	York Place
201 E. Nottingham Ct	Nottingham Ct
11067 N. Sepulveda Blvd	Sepulveda Blvd
5345 W Culkin St.	Culkin St.
33328 N Beltway Rt	Beltway Rt

Remove Last

This option removes characters, words or lines from the end of the text. In this example the last word (Ave, Place, Blvd, St. etc.) has been removed from the address.



☐ Modify Empty Cells Only ☑ Live Preview

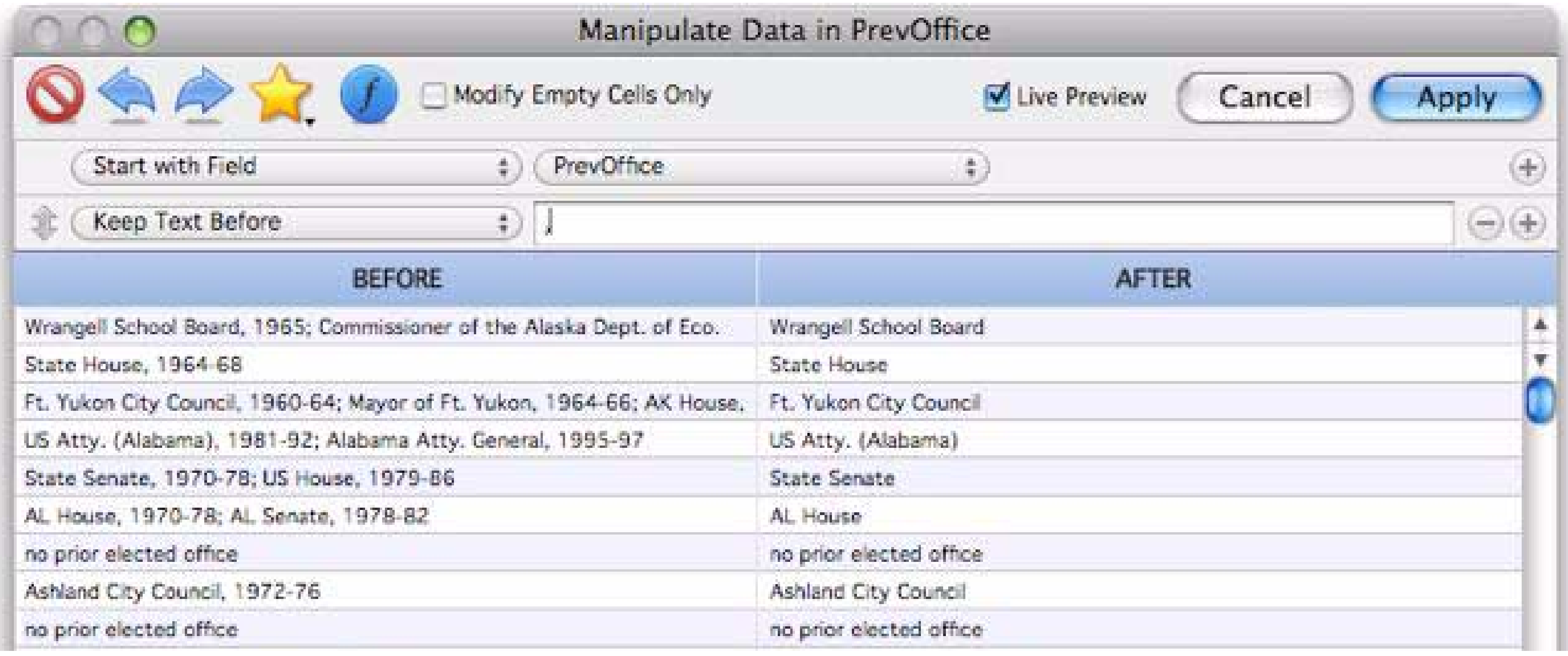
Start with Field | Address

Remove Last | 1 | Words

BEFORE	AFTER
66 S Locust Cir	66 S Locust
22494 N York Place	22494 N York
201 E. Nottingham Ct	201 E. Nottingham
11067 N. Sepulveda Blvd	11067 N. Sepulveda
5345 W Culkin St.	5345 W Culkin

Keep Text Before

This option keeps the text before the specified matching text, discarding whatever is after. In this example only text before the comma is kept.



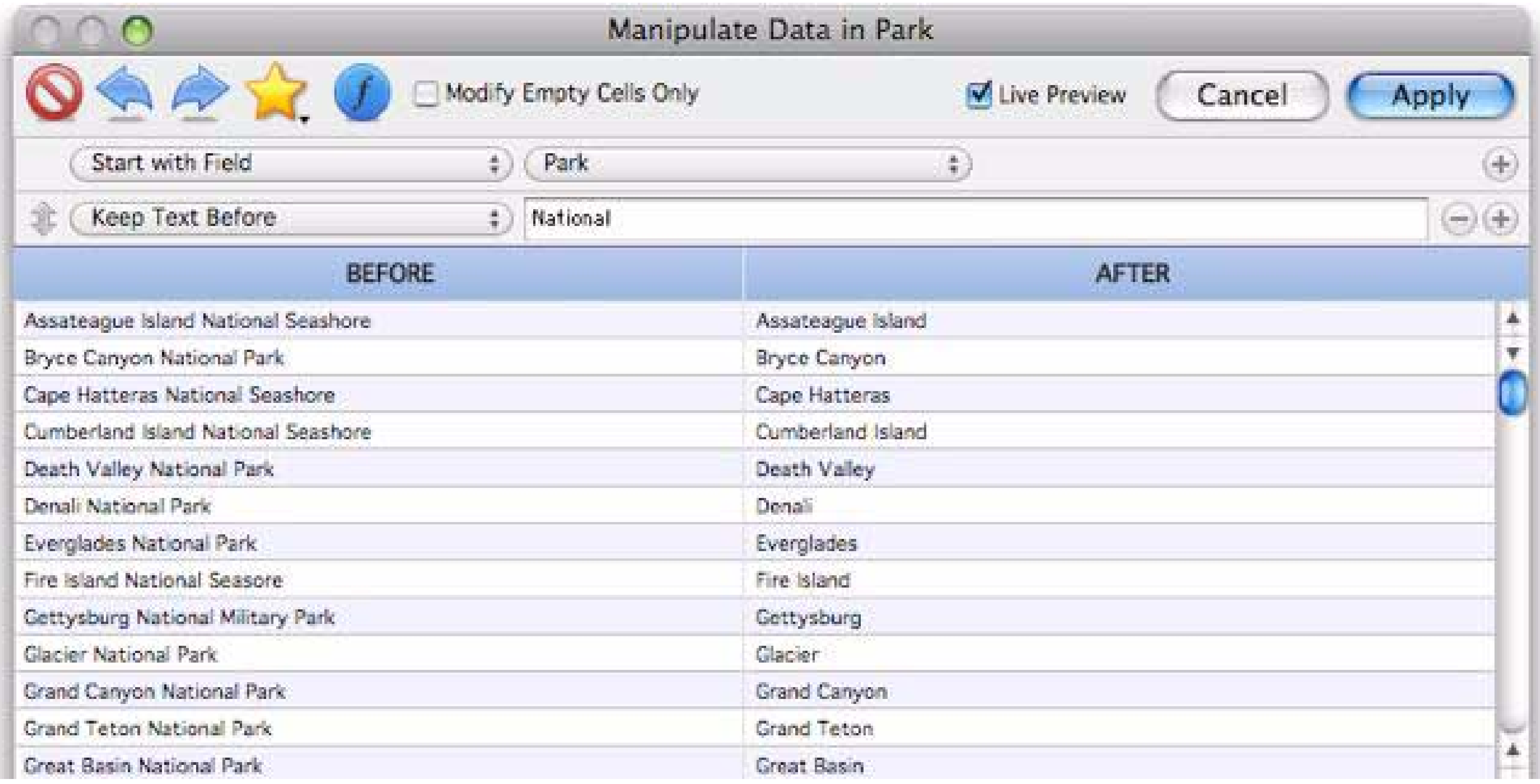
☐ Modify Empty Cells Only ☑ Live Preview

Start with Field: PrevOffice

Keep Text Before: ,

BEFORE	AFTER
Wrangell School Board, 1965; Commissioner of the Alaska Dept. of Eco.	Wrangell School Board
State House, 1964-68	State House
Ft. Yukon City Council, 1960-64; Mayor of Ft. Yukon, 1964-66; AK House,	Ft. Yukon City Council
US Atty. (Alabama), 1981-92; Alabama Atty. General, 1995-97	US Atty. (Alabama)
State Senate, 1970-78; US House, 1979-86	State Senate
AL House, 1970-78; AL Senate, 1978-82	AL House
no prior elected office	no prior elected office
Ashland City Council, 1972-76	Ashland City Council
no prior elected office	no prior elected office

The matching text can be more than one character long, as shown here.



☐ Modify Empty Cells Only ☑ Live Preview

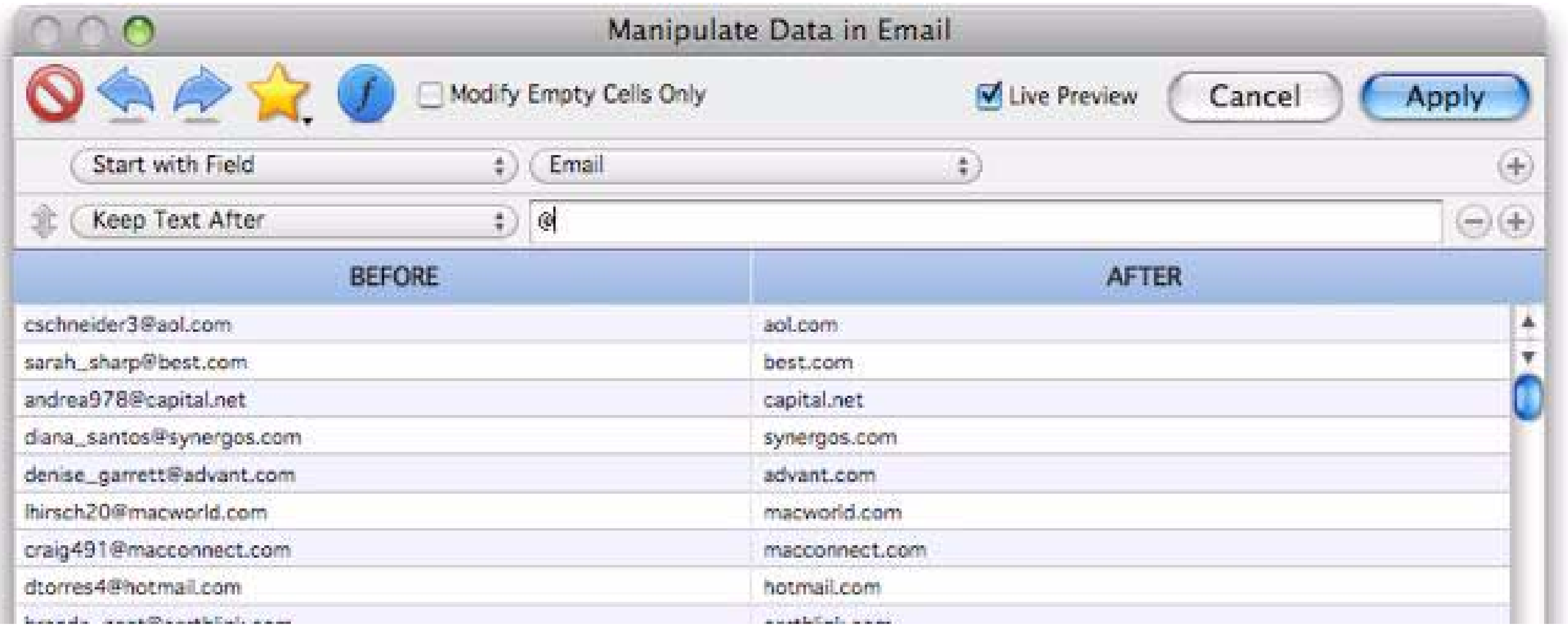
Start with Field: Park

Keep Text Before: National

BEFORE	AFTER
Assateague Island National Seashore	Assateague Island
Bryce Canyon National Park	Bryce Canyon
Cape Hatteras National Seashore	Cape Hatteras
Cumberland Island National Seashore	Cumberland Island
Death Valley National Park	Death Valley
Denali National Park	Denali
Everglades National Park	Everglades
Fire Island National Seasore	Fire Island
Gettysburg National Military Park	Gettysburg
Glacier National Park	Glacier
Grand Canyon National Park	Grand Canyon
Grand Teton National Park	Grand Teton
Great Basin National Park	Great Basin

Keep Text After

This option keeps the text after the specified matching text, discarding whatever is after. In this example we're keeping the ISP name, while discarding the user name.

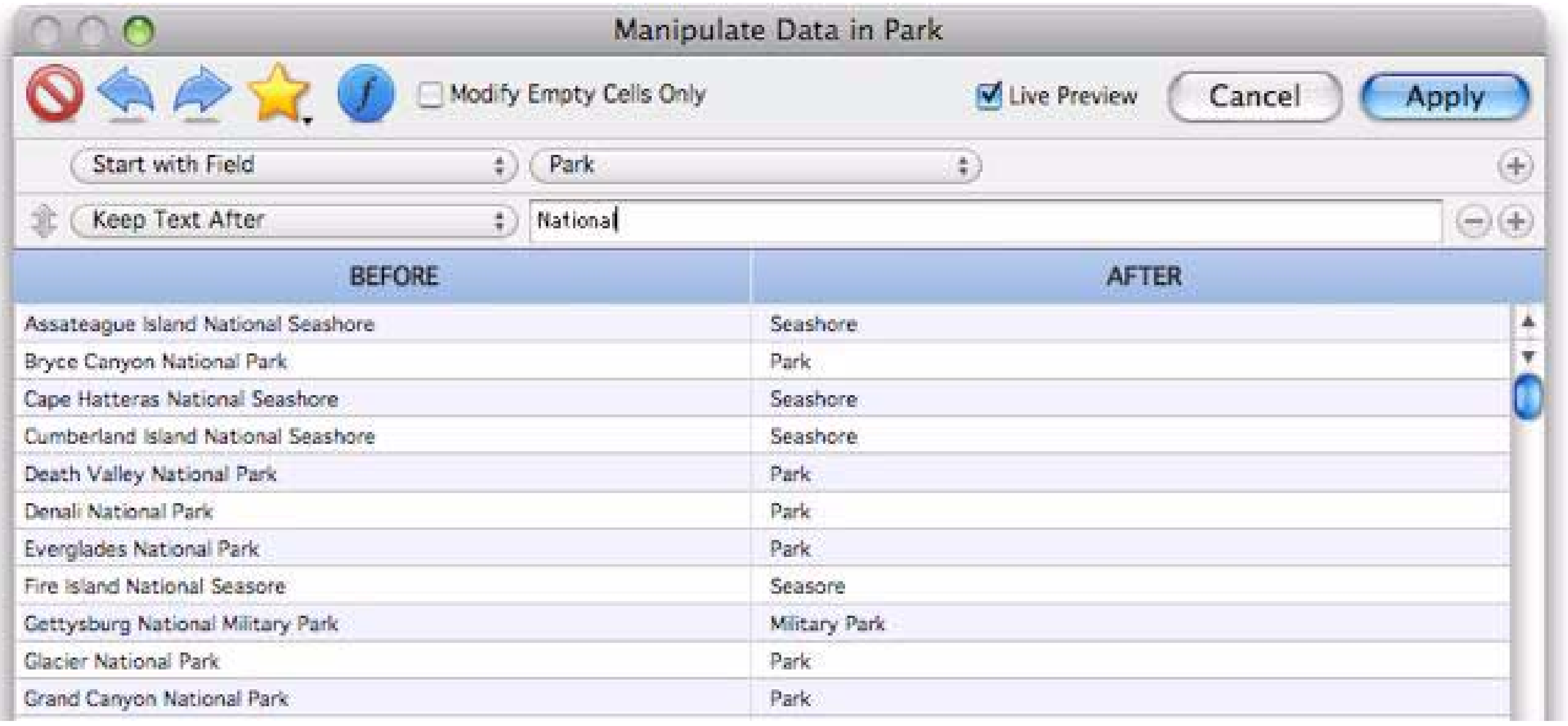


Start with Field: Email

Keep Text After: @

BEFORE	AFTER
cschneider3@aol.com	aol.com
sarah_sharp@best.com	best.com
andrea978@capital.net	capital.net
diana_santos@synergos.com	synergos.com
denise_garrett@advant.com	advant.com
lhirsch20@macworld.com	macworld.com
craig491@macconnect.com	macconnect.com
dtorres4@hotmail.com	hotmail.com

The matching text can be more than one character long, as shown here.



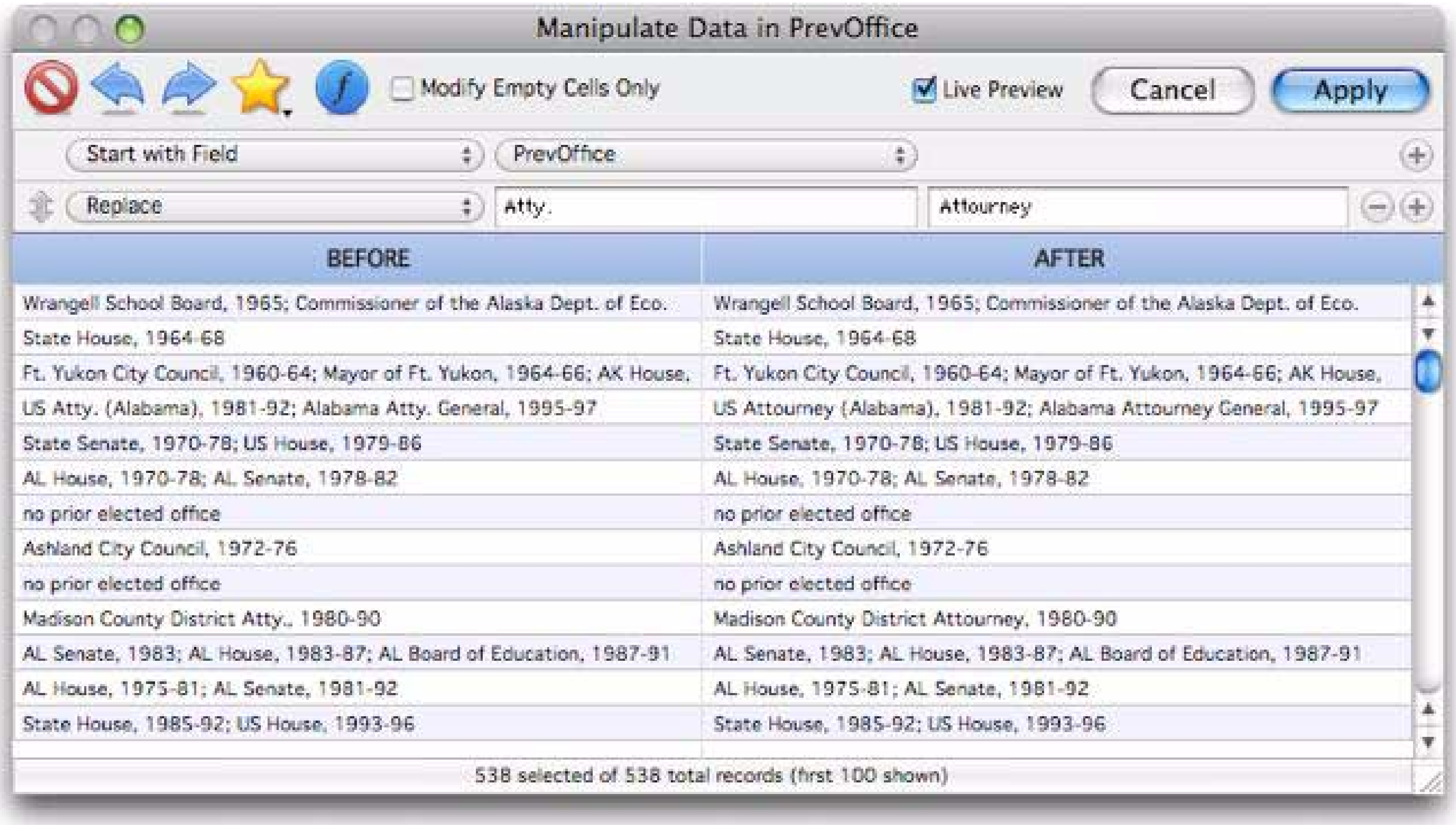
Start with Field: Park

Keep Text After: National

BEFORE	AFTER
Assateague Island National Seashore	Seashore
Bryce Canyon National Park	Park
Cape Hatteras National Seashore	Seashore
Cumberland Island National Seashore	Seashore
Death Valley National Park	Park
Denali National Park	Park
Everglades National Park	Park
Fire Island National Seasore	Seasore
Gettysburg National Military Park	Military Park
Glacier National Park	Park
Grand Canyon National Park	Park

Replace

This option replaces a sequence of characters with another sequence of characters.



□ Modify Empty Cells Only ☑ Live Preview

Start with Field | PrevOffice

Replace | Atty. | Attourney

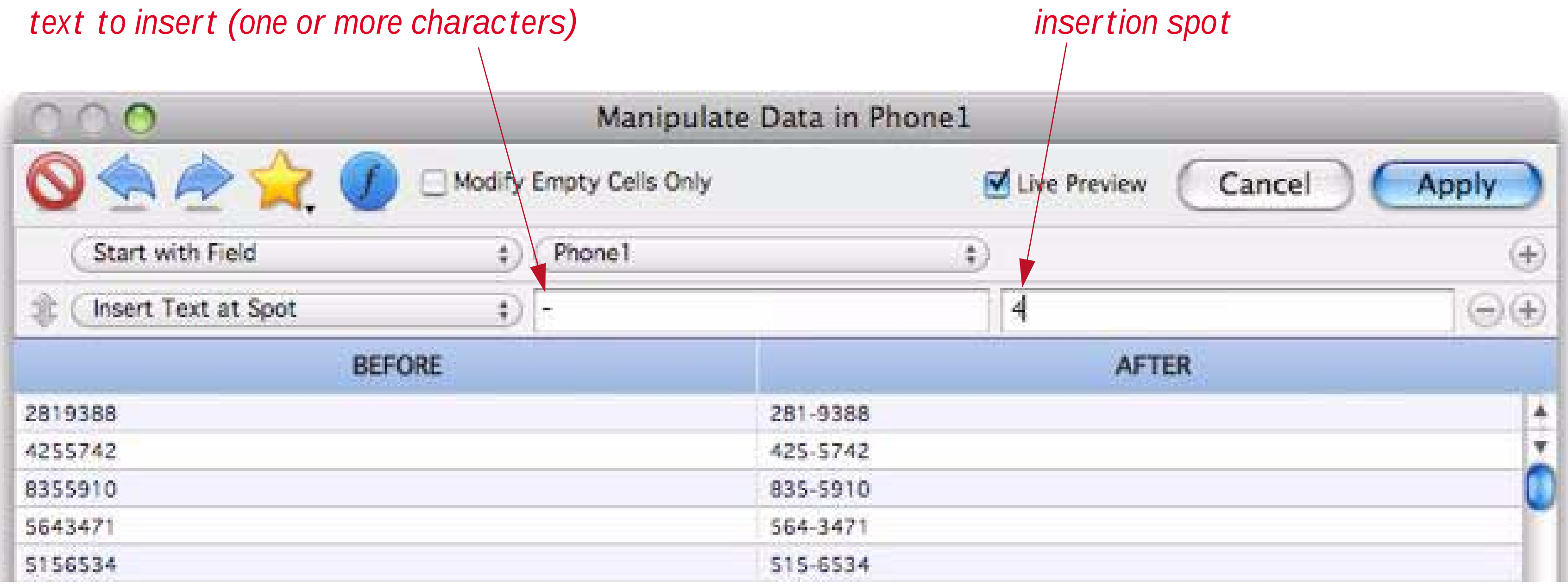
BEFORE	AFTER
Wrangell School Board, 1965; Commissioner of the Alaska Dept. of Eco.	Wrangell School Board, 1965; Commissioner of the Alaska Dept. of Eco.
State House, 1964-68	State House, 1964-68
Ft. Yukon City Council, 1960-64; Mayor of Ft. Yukon, 1964-66; AK House,	Ft. Yukon City Council, 1960-64; Mayor of Ft. Yukon, 1964-66; AK House,
US Atty. (Alabama), 1981-92; Alabama Atty. General, 1995-97	US Attourney (Alabama), 1981-92; Alabama Attourney General, 1995-97
State Senate, 1970-78; US House, 1979-86	State Senate, 1970-78; US House, 1979-86
AL House, 1970-78; AL Senate, 1978-82	AL House, 1970-78; AL Senate, 1978-82
no prior elected office	no prior elected office
Ashland City Council, 1972-76	Ashland City Council, 1972-76
no prior elected office	no prior elected office
Madison County District Atty., 1980-90	Madison County District Attourney, 1980-90
AL Senate, 1983; AL House, 1983-87; AL Board of Education, 1987-91	AL Senate, 1983; AL House, 1983-87; AL Board of Education, 1987-91
AL House, 1975-81; AL Senate, 1981-92	AL House, 1975-81; AL Senate, 1981-92
State House, 1985-92; US House, 1993-96	State House, 1985-92; US House, 1993-96

538 selected of 538 total records (first 100 shown)

The original sequence of characters must match exactly, including upper and lower case. In the example above it means that only Atty. will be replaced, not atty. or ATTY. For more flexibility in replacing text see "Change (Find and Replace)" on page 270.

Insert Text at Spot

This option inserts one or more characters at a specified spot within the text. In this example we're inserting a dash before the 4th character of the phone number.


text to insert (one or more characters)
insertion spot
Manipulate Data in Phone1
Cancel
Apply

□ Modify Empty Cells Only ☑ Live Preview

Start with Field | Phone1

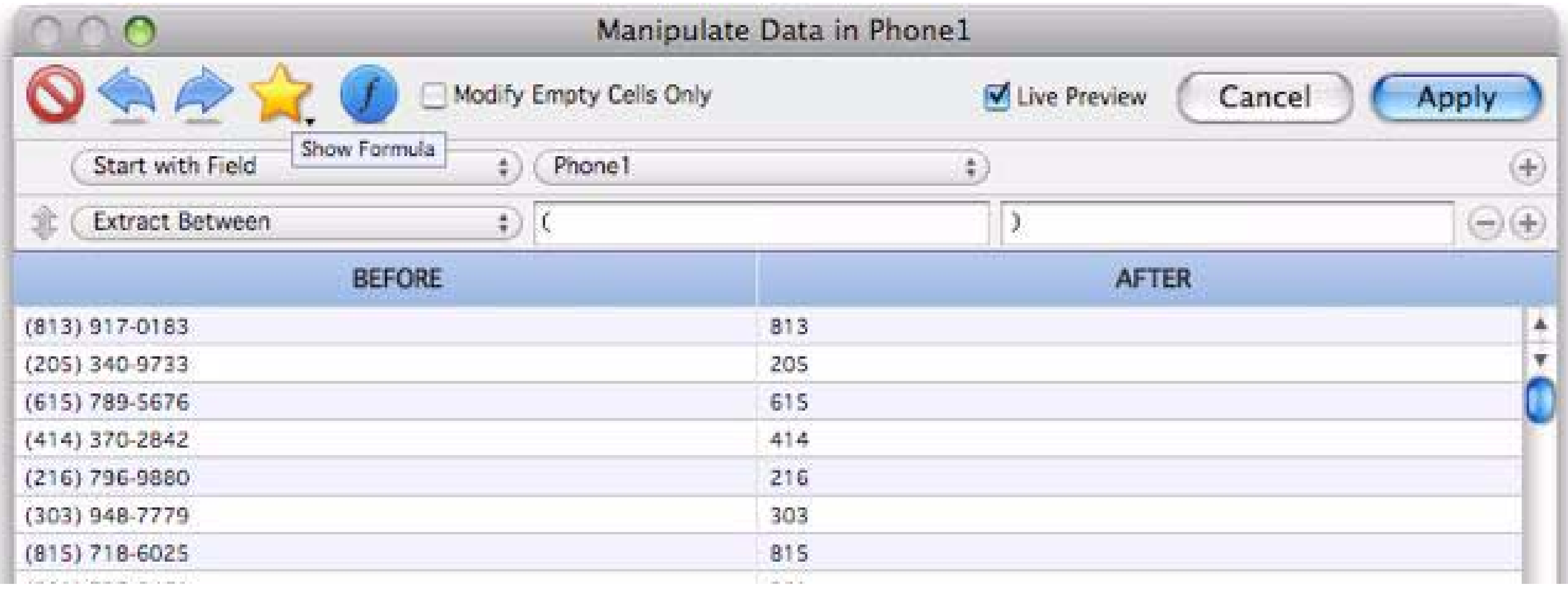
Insert Text at Spot | - | 4

BEFORE	AFTER
2819388	281-9388
4255742	425-5742
8355910	835-5910
5643471	564-3471
5156534	515-6534

If the insertion spot is a negative number it is relative to the end of the text instead of the beginning.

Extract Between

This option is like a combination of Keep After and Keep Before. It returns text that is after the first matching string and before the second matching string. In this example it is extracting the area code phone numbers.



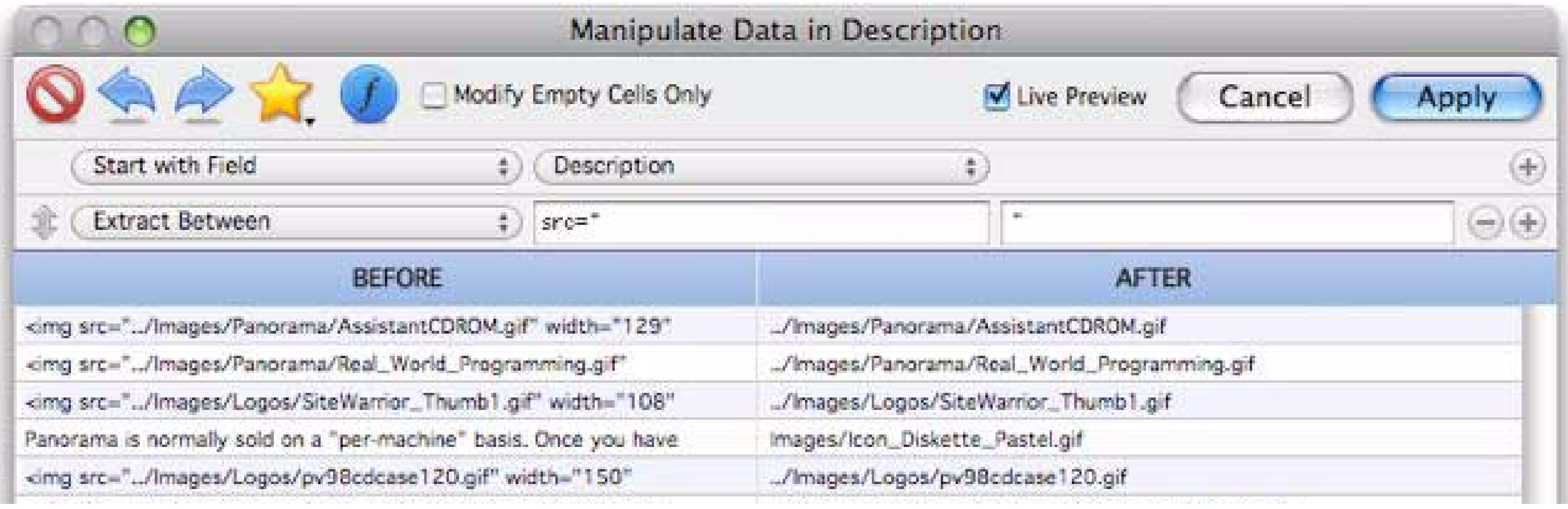
□ Modify Empty Cells Only ☑ Live Preview

Start with Field: Phone1

Extract Between: ( )

BEFORE	AFTER
(813) 917-0183	813
(205) 340-9733	205
(615) 789-5676	615
(414) 370-2842	414
(216) 796-9880	216
(303) 948-7779	303
(815) 718-6025	815

The matching strings can be more than one character. This example extracts the name of the first image referenced in the text (in this case the text contains HTML markup).



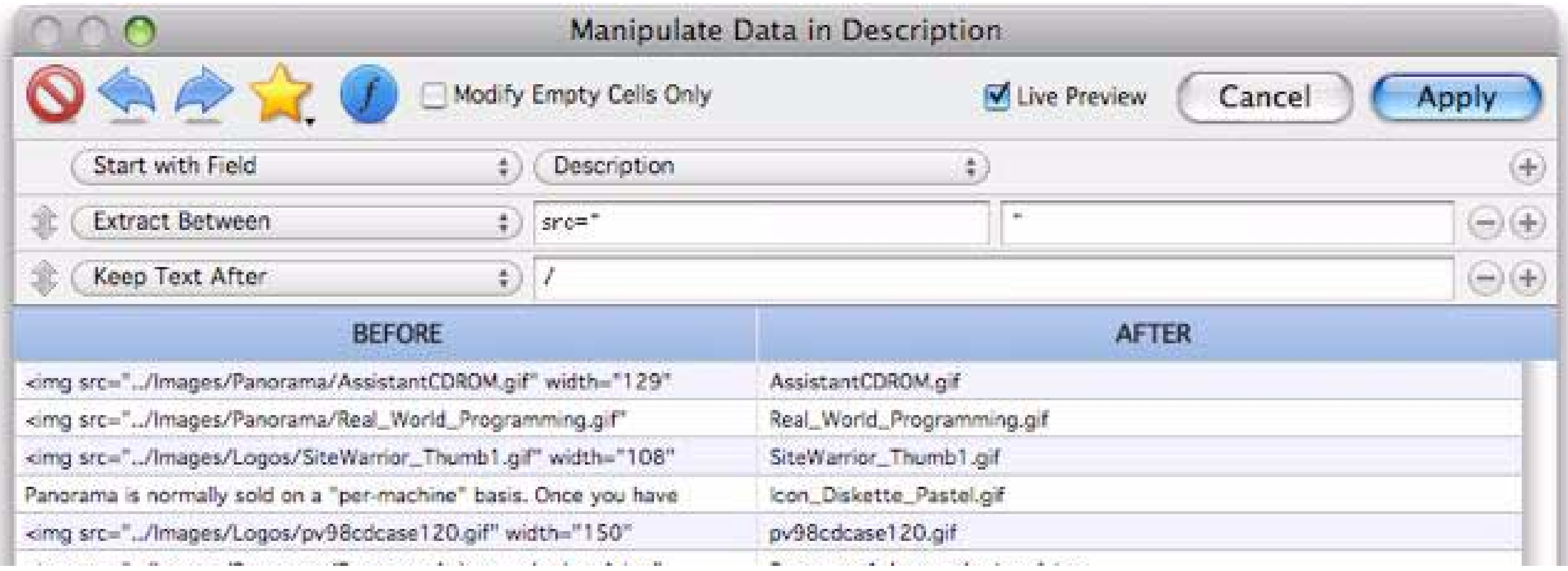
□ Modify Empty Cells Only ☑ Live Preview

Start with Field: Description

Extract Between: src=" "

BEFORE	AFTER
<img src="../Images/Panorama/AssistantCDROM.gif" width="129"	../Images/Panorama/AssistantCDROM.gif
<img src="../Images/Panorama/Real_World_Programming.gif"	../Images/Panorama/Real_World_Programming.gif
<img src="../Images/Logos/SiteWarrior_Thumb1.gif" width="108"	../Images/Logos/SiteWarrior_Thumb1.gif
Panorama is normally sold on a "per-machine" basis. Once you have	Images/Icon_Diskette_Pastel.gif
<img src="../Images/Logos/pv98cdcase120.gif" width="150"	../Images/Logos/pv98cdcase120.gif

With one additional step I can extract just the name of the image, without the folder.



□ Modify Empty Cells Only ☑ Live Preview

Start with Field: Description

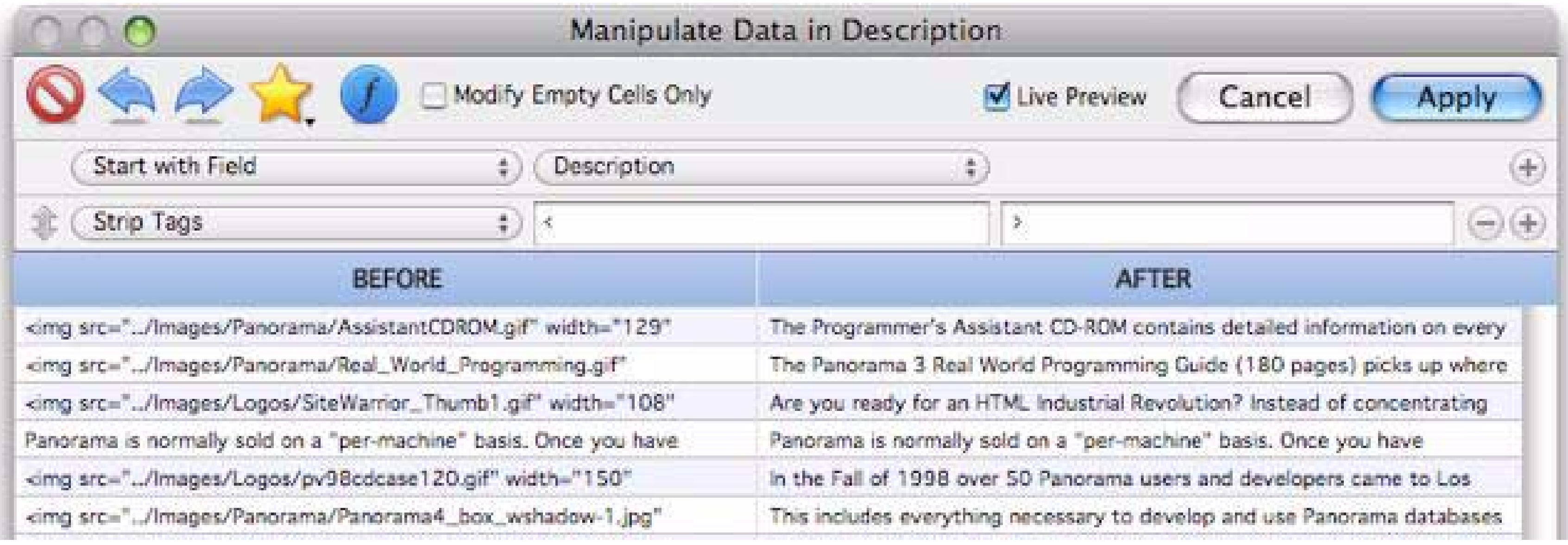
Extract Between: src=" "

Keep Text After: /

BEFORE	AFTER
<img src="../Images/Panorama/AssistantCDROM.gif" width="129"	AssistantCDROM.gif
<img src="../Images/Panorama/Real_World_Programming.gif"	Real_World_Programming.gif
<img src="../Images/Logos/SiteWarrior_Thumb1.gif" width="108"	SiteWarrior_Thumb1.gif
Panorama is normally sold on a "per-machine" basis. Once you have	Icon_Diskette_Pastel.gif
<img src="../Images/Logos/pv98cdcase120.gif" width="150"	pv98cdcase120.gif

Strip Tags

This option strips out all text that appears between beginning and end tags. If the tags are < and >, this option will strip out all HTML markup from the specified text, leaving just the text itself.

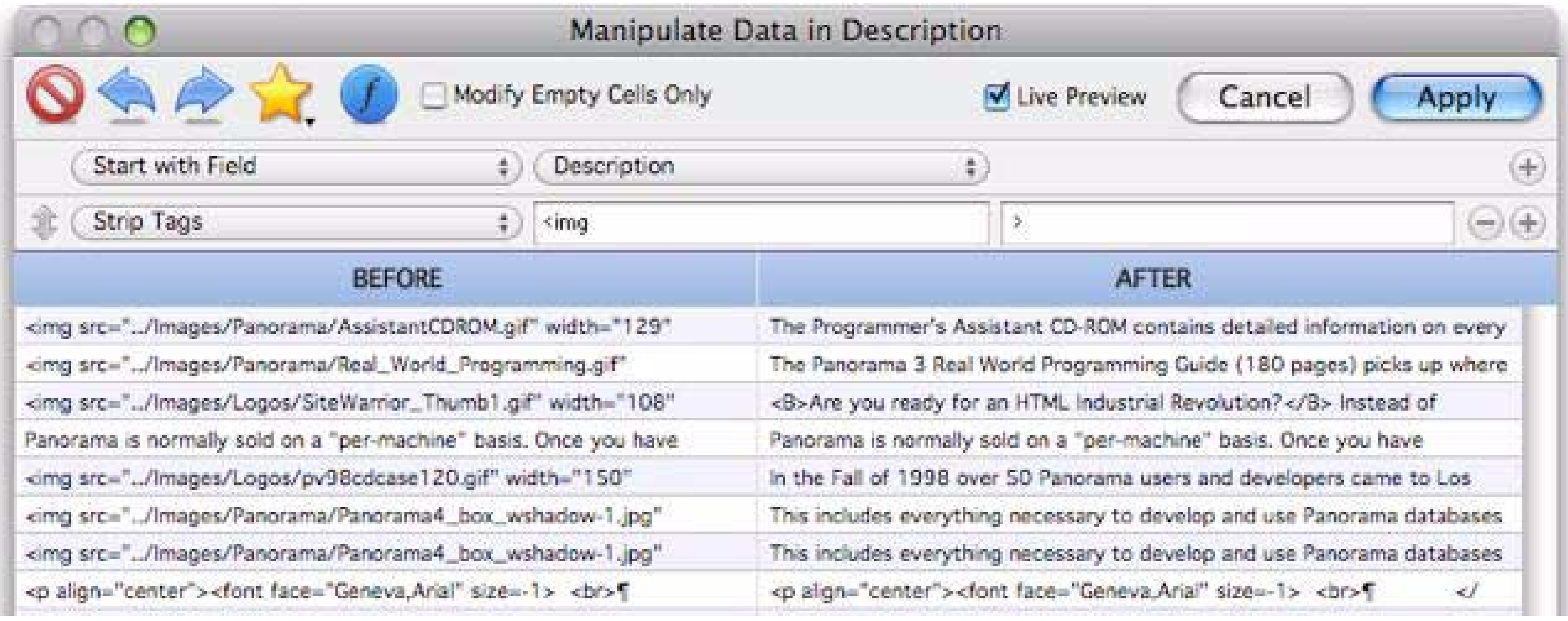


Start with Field: Description

Strip Tags: < >

BEFORE	AFTER
<img src="../Images/Panorama/AssistantCDROM.gif" width="129"	The Programmer's Assistant CD-ROM contains detailed information on every
<img src="../Images/Panorama/Real_World_Programming.gif"	The Panorama 3 Real World Programming Guide (180 pages) picks up where
<img src="../Images/Logos/SiteWarrior_Thumb1.gif" width="108"	Are you ready for an HTML Industrial Revolution? Instead of concentrating
Panorama is normally sold on a "per-machine" basis. Once you have	Panorama is normally sold on a "per-machine" basis. Once you have
<img src="../Images/Logos/pv98cdcase120.gif" width="150"	In the Fall of 1998 over 50 Panorama users and developers came to Los
<img src="../Images/Panorama/Panorama4_box_wshadow-1.jpg"	This includes everything necessary to develop and use Panorama databases

The tags don't have to be single characters. In this example only image tags are stripped out — all other HTML tags will be left in the text.



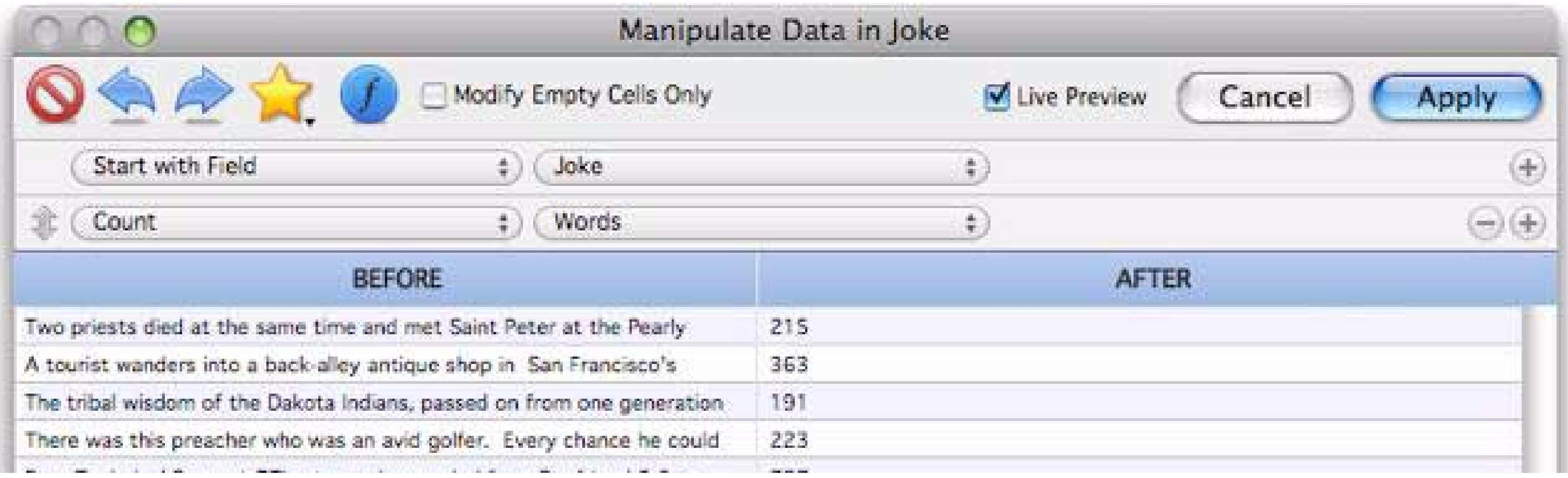
Start with Field: Description

Strip Tags: <img >

BEFORE	AFTER
<img src="../Images/Panorama/AssistantCDROM.gif" width="129"	The Programmer's Assistant CD-ROM contains detailed information on every
<img src="../Images/Panorama/Real_World_Programming.gif"	The Panorama 3 Real World Programming Guide (180 pages) picks up where
<img src="../Images/Logos/SiteWarrior_Thumb1.gif" width="108"	<B>Are you ready for an HTML Industrial Revolution?</B> Instead of
Panorama is normally sold on a "per-machine" basis. Once you have	Panorama is normally sold on a "per-machine" basis. Once you have
<img src="../Images/Logos/pv98cdcase120.gif" width="150"	In the Fall of 1998 over 50 Panorama users and developers came to Los
<img src="../Images/Panorama/Panorama4_box_wshadow-1.jpg"	This includes everything necessary to develop and use Panorama databases
<img src="../Images/Panorama/Panorama4_box_wshadow-1.jpg"	This includes everything necessary to develop and use Panorama databases
<p align="center"><font face="Geneva,Arial" size=-1> ¶	<p align="center"><font face="Geneva,Arial" size=-1> ¶ </

Count

This option counts the number of characters, words or lines in the text. (If you use the lines option, Panorama is actually counting the number of carriage returns in the text.)



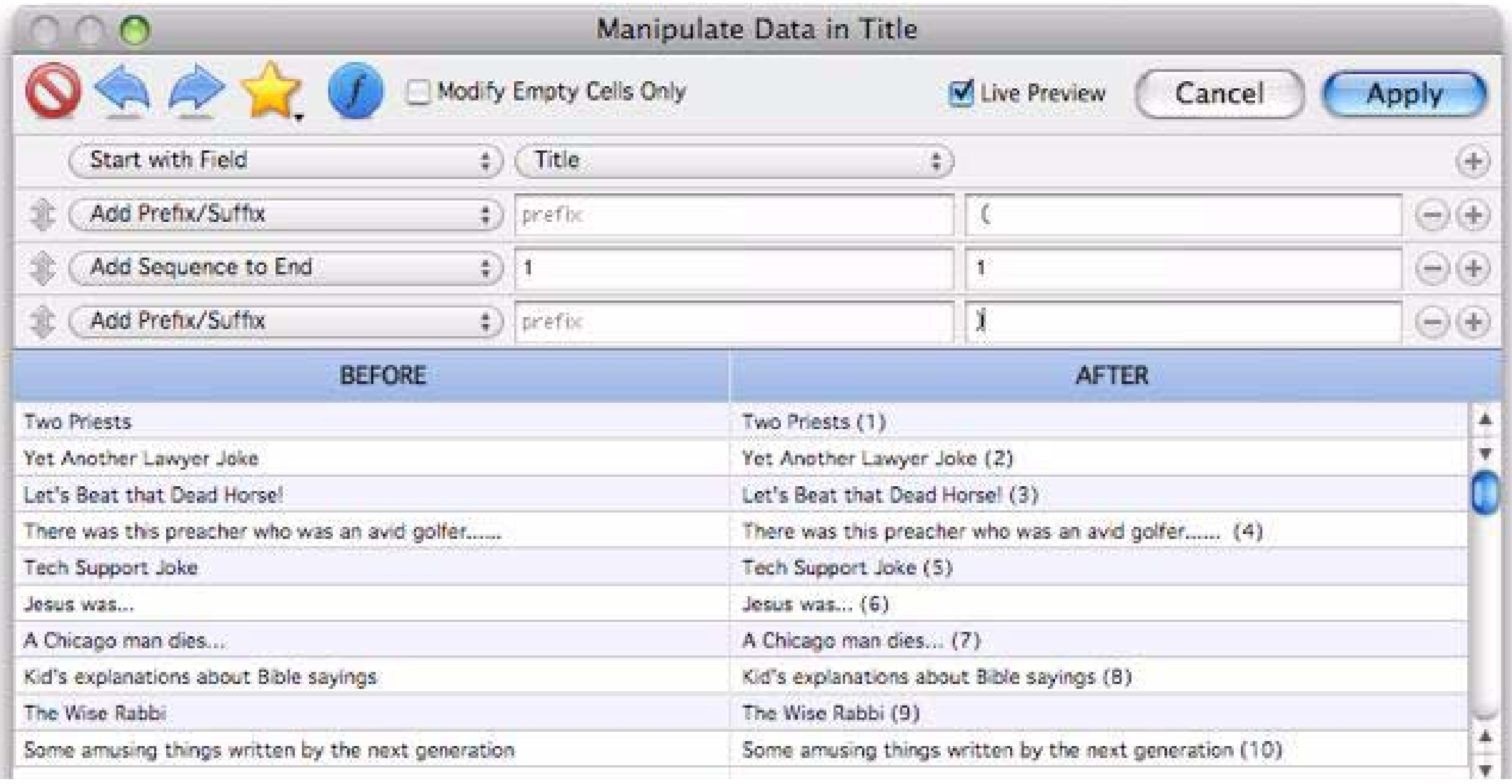
Start with Field: Joke

Count: Words

BEFORE	AFTER
Two priests died at the same time and met Saint Peter at the Pearly	215
A tourist wanders into a back-alley antique shop in San Francisco's	363
The tribal wisdom of the Dakota Indians, passed on from one generation	191
There was this preacher who was an avid golfer. Every chance he could	223

Add Sequence to End

This option adds a numeric sequence to the end of the text. You can specify the starting number and the amount to increase or decrease for each record.



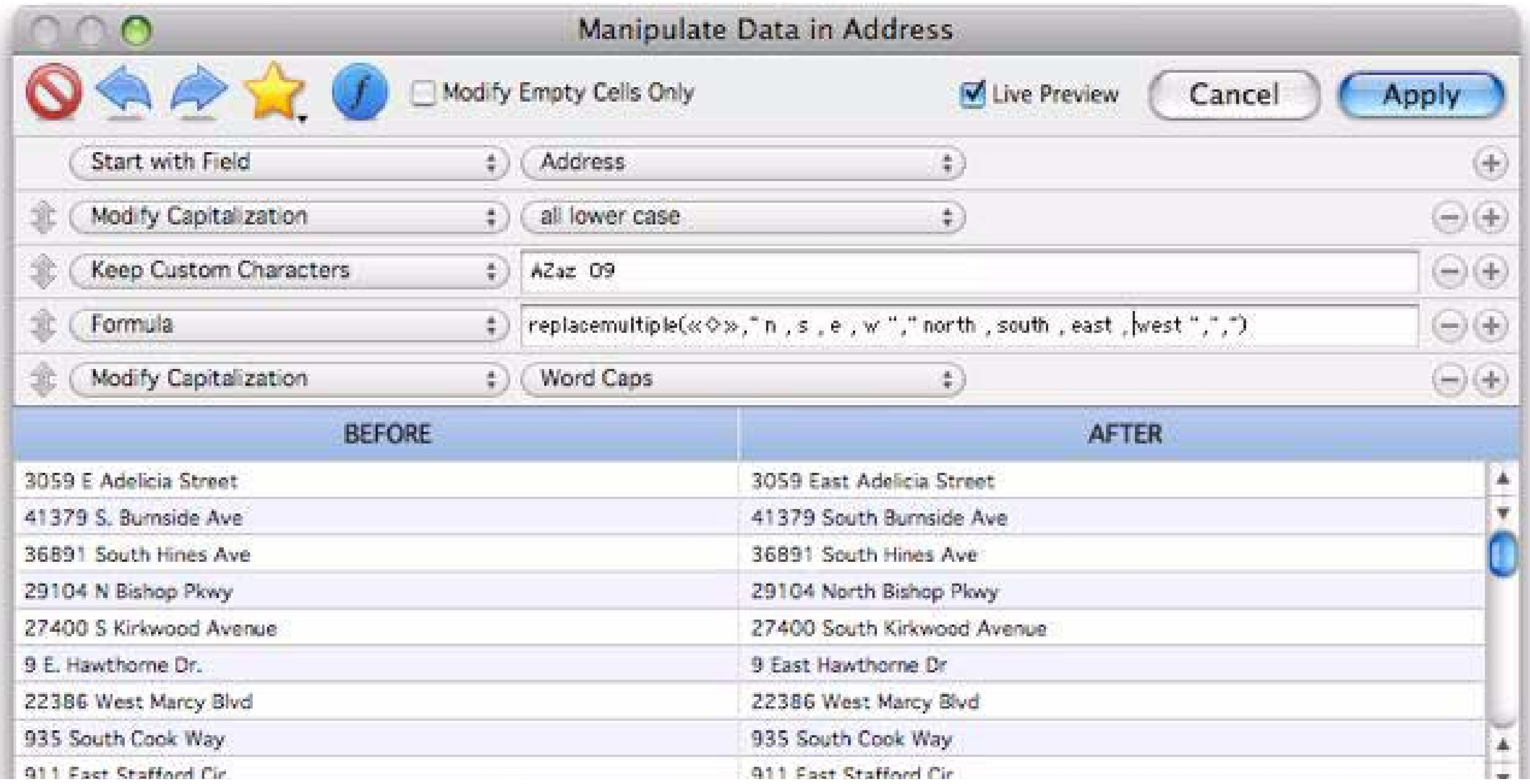
□ Modify Empty Cells Only ☑ Live Preview

Start with Field	Title	
Add Prefix/Suffix	prefix	(
Add Sequence to End	1	1
Add Prefix/Suffix	prefix	)

BEFORE	AFTER
Two Priests	Two Priests (1)
Yet Another Lawyer Joke	Yet Another Lawyer Joke (2)
Let's Beat that Dead Horse!	Let's Beat that Dead Horse! (3)
There was this preacher who was an avid golfer......	There was this preacher who was an avid golfer...... (4)
Tech Support Joke	Tech Support Joke (5)
Jesus was...	Jesus was... (6)
A Chicago man dies...	A Chicago man dies... (7)
Kid's explanations about Bible sayings	Kid's explanations about Bible sayings (8)
The Wise Rabbi	The Wise Rabbi (9)
Some amusing things written by the next generation	Some amusing things written by the next generation (10)

Formula

If none of the option so far will do the job then it's time to pull out the big gun — a formula. You can use a formula all on its own (see "Starting with a Formula" on page 236) but you can also use a formula in combination with other manipulations. When used this way, the «◊» symbol will expand into the text produced by the previous manipulations. Then the result of the formula will be fed into any additional manipulations below it. This example expands the abbreviations for North, South, East and West in an address.

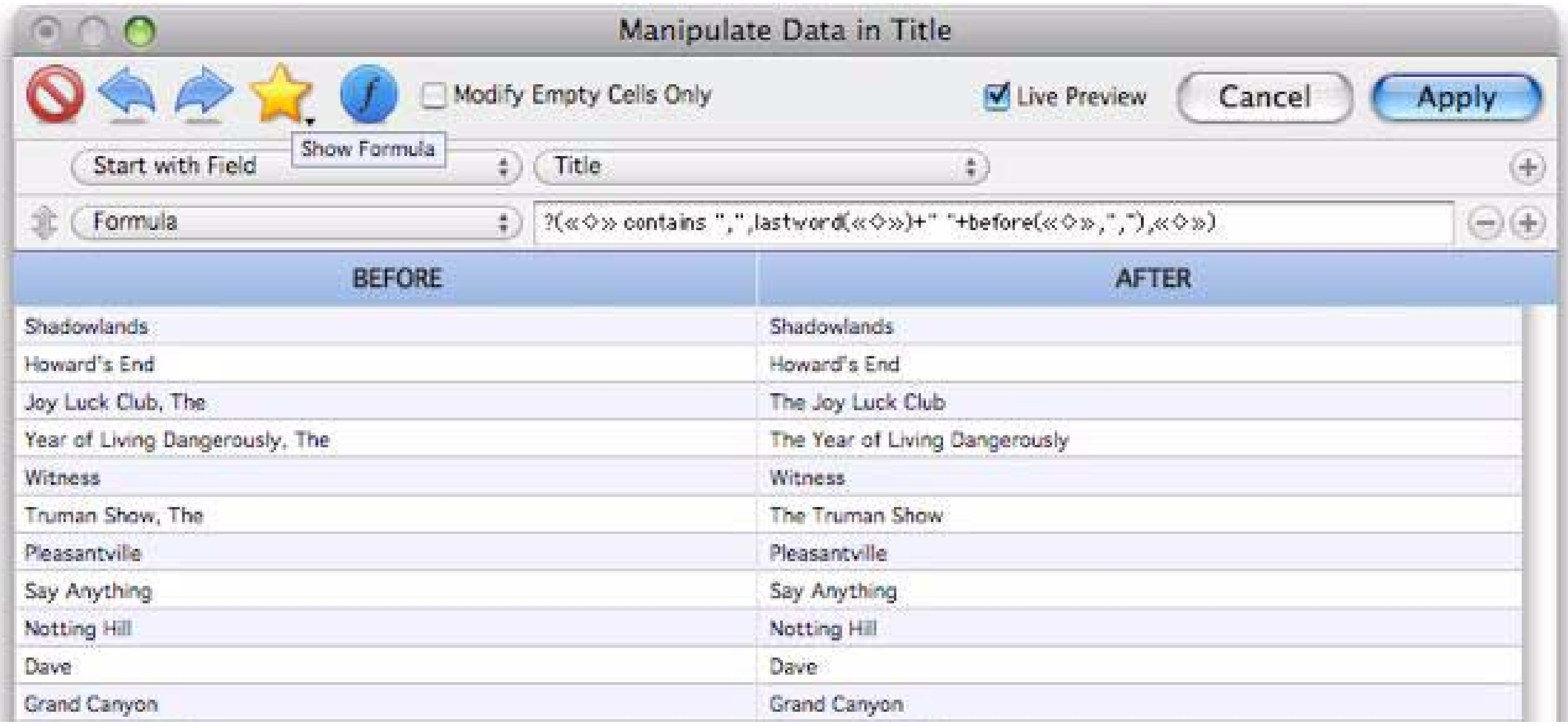


□ Modify Empty Cells Only ☑ Live Preview

Start with Field	Address
Modify Capitalization	all lower case
Keep Custom Characters	AZaz 09
Formula	replacemultiple(«◊»," n , s , e , w "," north , south , east , west ",",")
Modify Capitalization	Word Caps

BEFORE	AFTER
3059 E Adelicia Street	3059 East Adelicia Street
41379 S. Burnside Ave	41379 South Burnside Ave
36891 South Hines Ave	36891 South Hines Ave
29104 N Bishop Pkwy	29104 North Bishop Pkwy
27400 S Kirkwood Avenue	27400 South Kirkwood Avenue
9 E. Hawthorne Dr.	9 East Hawthorne Dr
22386 West Marcy Blvd	22386 West Marcy Blvd
935 South Cook Way	935 South Cook Way
911 East Stafford Cir	911 East Stafford Cir

The «◊» symbol can be used more than once in the formula. This formula checks to see if the text contains a comma, and if so, swaps it.



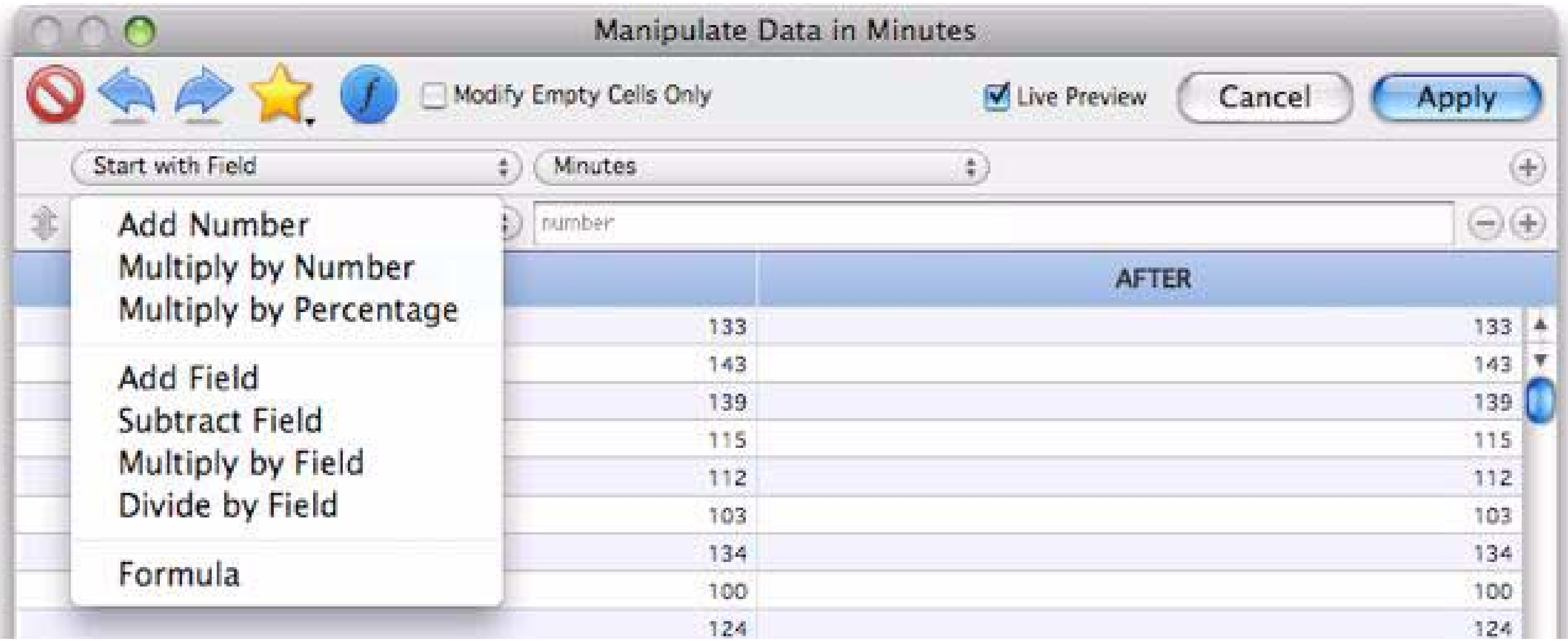
```
?(«◊» contains ",",lastword(«◊»)+" "+before(«◊»,","),«◊»)
```

BEFORE	AFTER
Shadowlands	Shadowlands
Howard's End	Howard's End
Joy Luck Club, The	The Joy Luck Club
Year of Living Dangerously, The	The Year of Living Dangerously
Witness	Witness
Truman Show, The	The Truman Show
Pleasantville	Pleasantville
Say Anything	Say Anything
Notting Hill	Notting Hill
Dave	Dave
Grand Canyon	Grand Canyon

As you can see, formulas are very powerful, but there's also a lot to learn. To find out more about the details, see "Calculations & Formulas" on page 273.

Manipulating Numbers

There are about a half dozen different manipulations available for numbers.

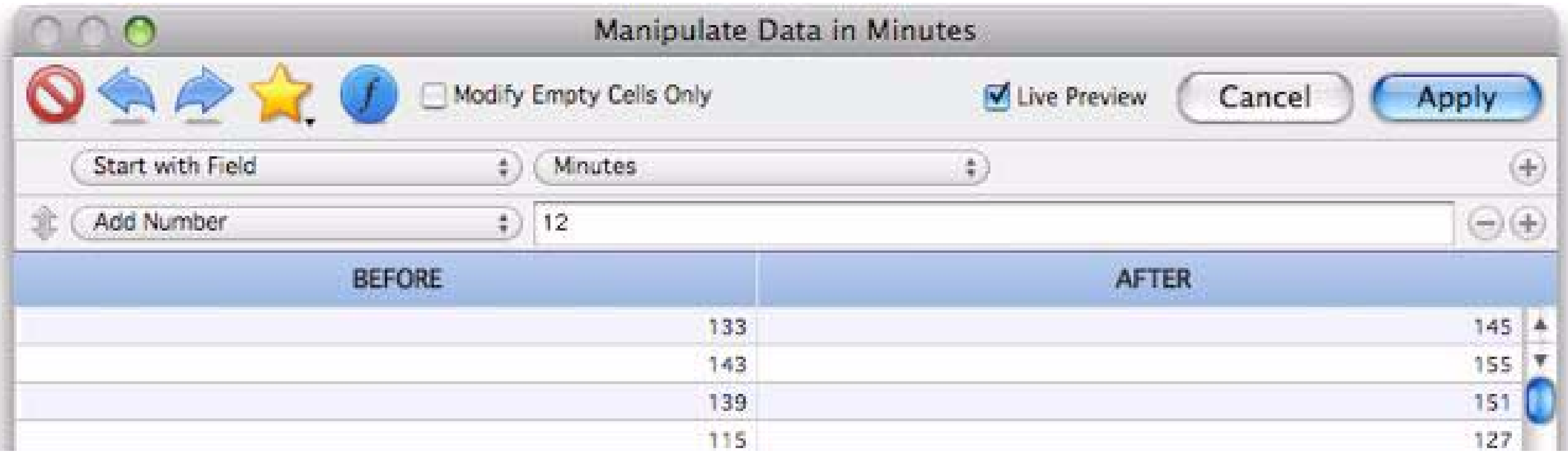


	AFTER
133	133
143	143
139	139
115	115
112	112
103	103
134	134
100	100
124	124

The following sections discuss each of these manipulation options.

Add Number

This option adds a fixed value to each cell.



Start with Field: Minutes

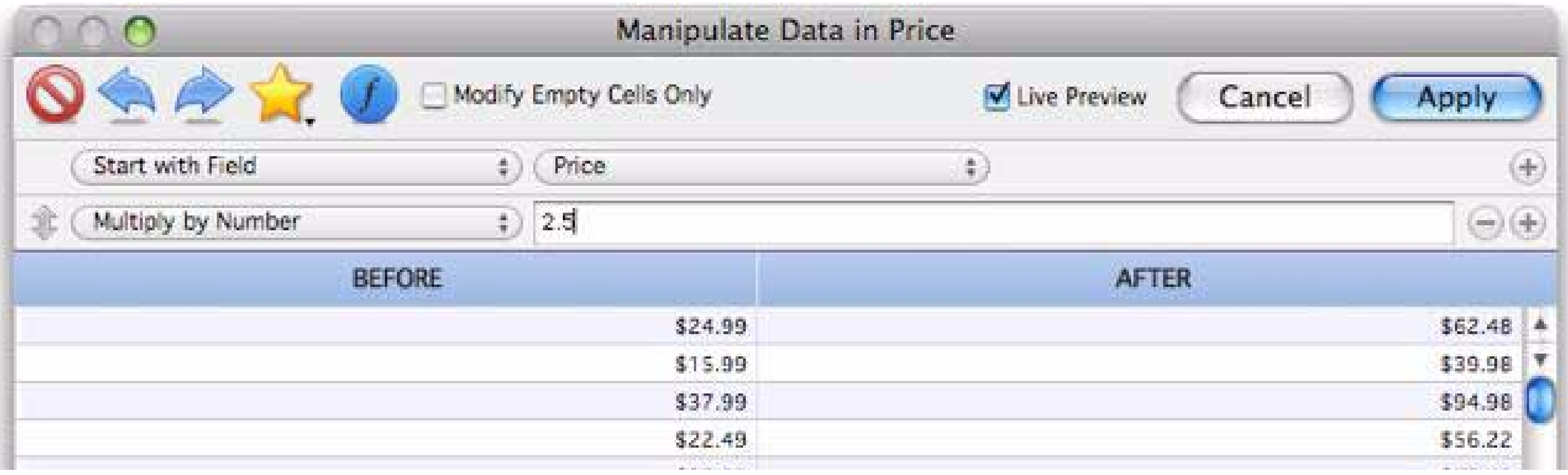
Add Number: 12

BEFORE	AFTER
133	145
143	155
139	151
115	127

If you want to subtract, use a negative number.

Multiply by Number

This option multiplies each number by a fixed amount.



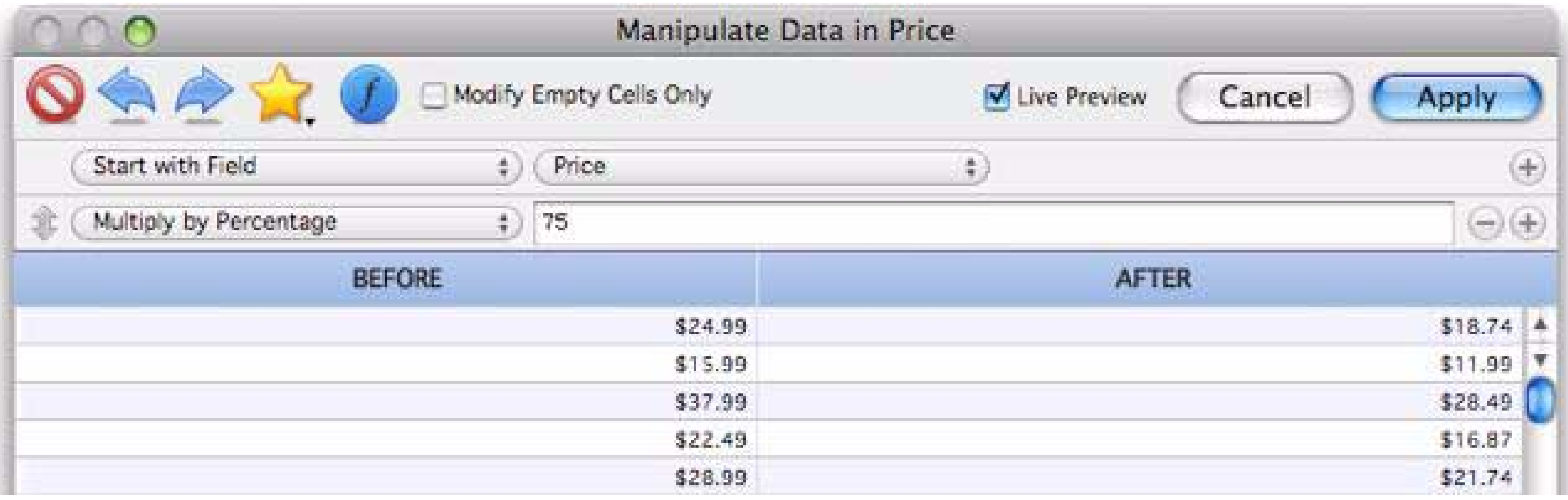
Start with Field: Price

Multiply by Number: 2.5

BEFORE	AFTER
$24.99	$62.48
$15.99	$39.98
$37.99	$94.98
$22.49	$56.22

Multiply by Percentage

This option multiplies each number by a percentage.



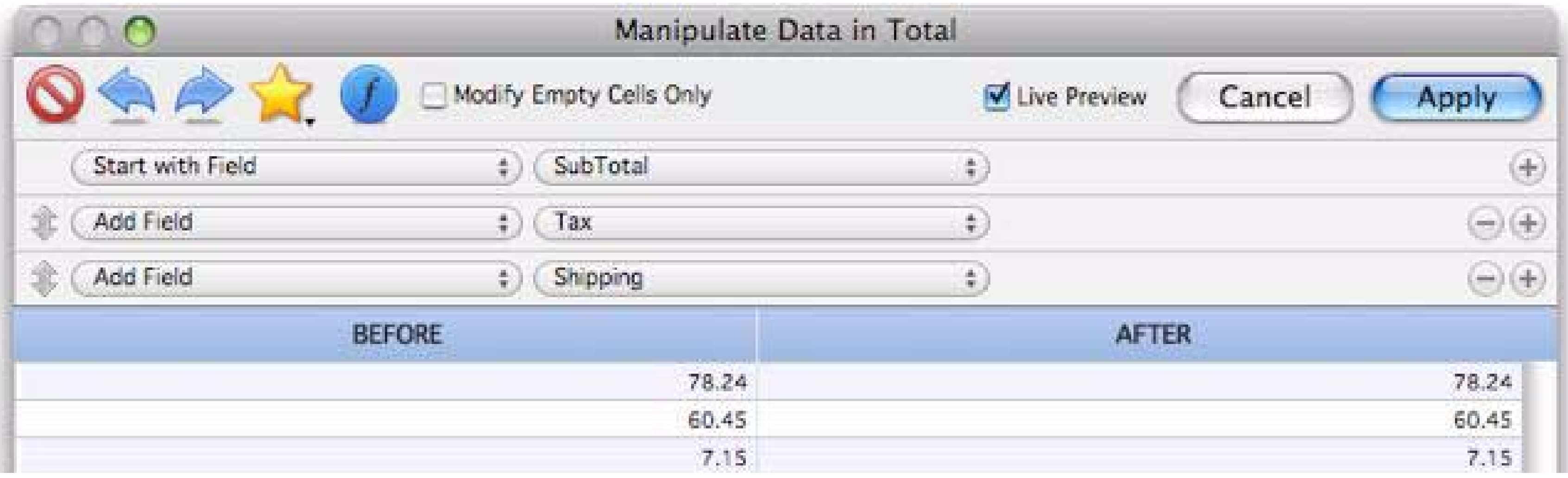
Start with Field: Price

Multiply by Percentage: 75

BEFORE	AFTER
$24.99	$18.74
$15.99	$11.99
$37.99	$28.49
$22.49	$16.87
$28.99	$21.74

Add Field

This option adds another numeric field to the data source.



□ Modify Empty Cells Only ☑ Live Preview

Start with Field: SubTotal
Add Field: Tax
Add Field: Shipping

BEFORE	AFTER
78.24	78.24
60.45	60.45
7.15	7.15

Subtract Field

This option subtracts another numeric field from the data source.

Multiply by Field

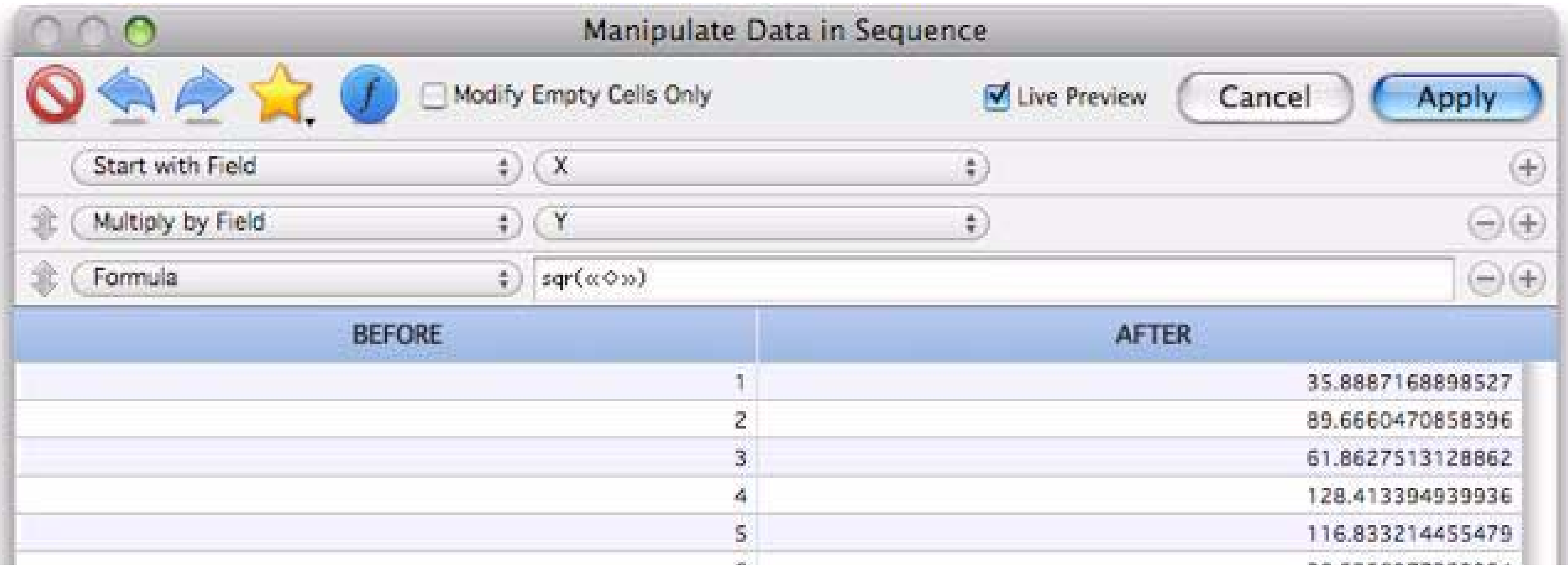
This option multiplies the data source by a numeric field.

Divide by Field

This option divides the data source by a numeric field.

Formula

For more complex calculations you can use a formula. You can use a formula all on its own (see “Starting with a Formula” on page 236) but you can also use a formula in combination with other manipulations. When used this way, the «◊» symbol will expand into the number produced by the previous manipulations. Then the result of the formula will be fed into any additional manipulations below it. The example below calculates the square root of X*Y.



□ Modify Empty Cells Only ☑ Live Preview

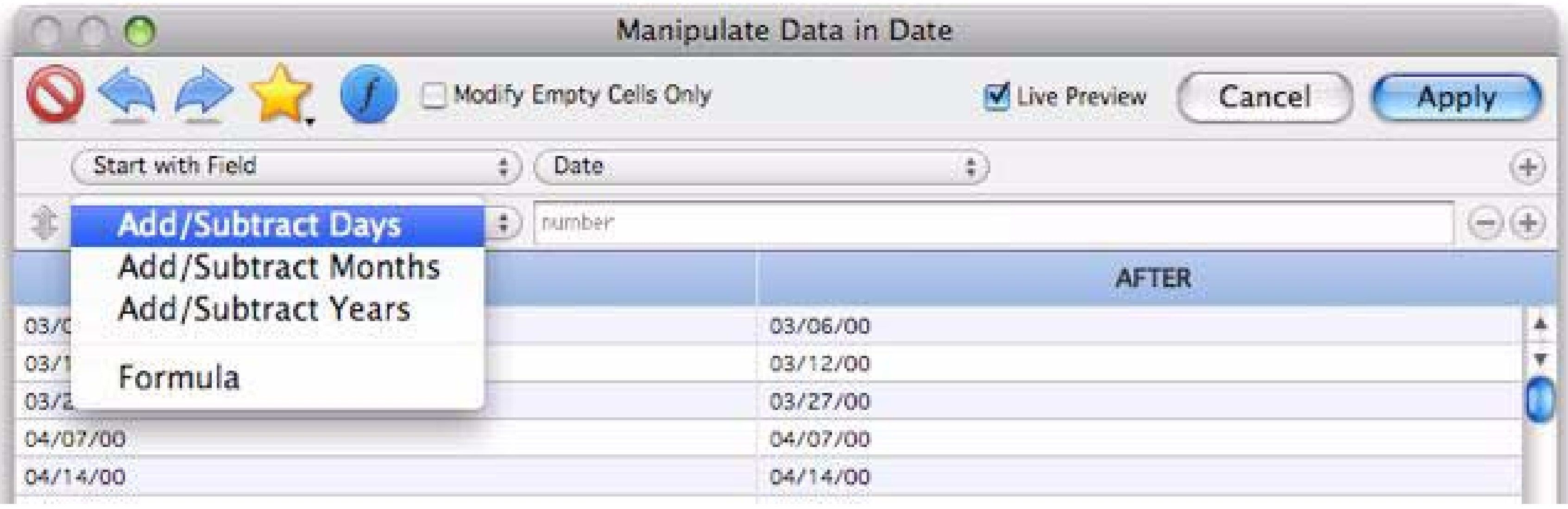
Start with Field: X
Multiply by Field: Y
Formula: sqr(«◊»)

BEFORE	AFTER
1	35.8887168898527
2	89.6660470858396
3	61.8627513128862
4	128.413394939936
5	116.833214455479

To learn more about numeric formulas see “Arithmetic Formulas” on page 289.

Manipulating Dates

There are about a just a handful of manipulations available for dates.



□ Modify Empty Cells Only ☑ Live Preview

Start with Field | Date

	AFTER
03/0	03/06/00
03/1	03/12/00
03/2	03/27/00
04/07/00	04/07/00
04/14/00	04/14/00

The following sections discuss each of these manipulation options.

Add/Subtract Days

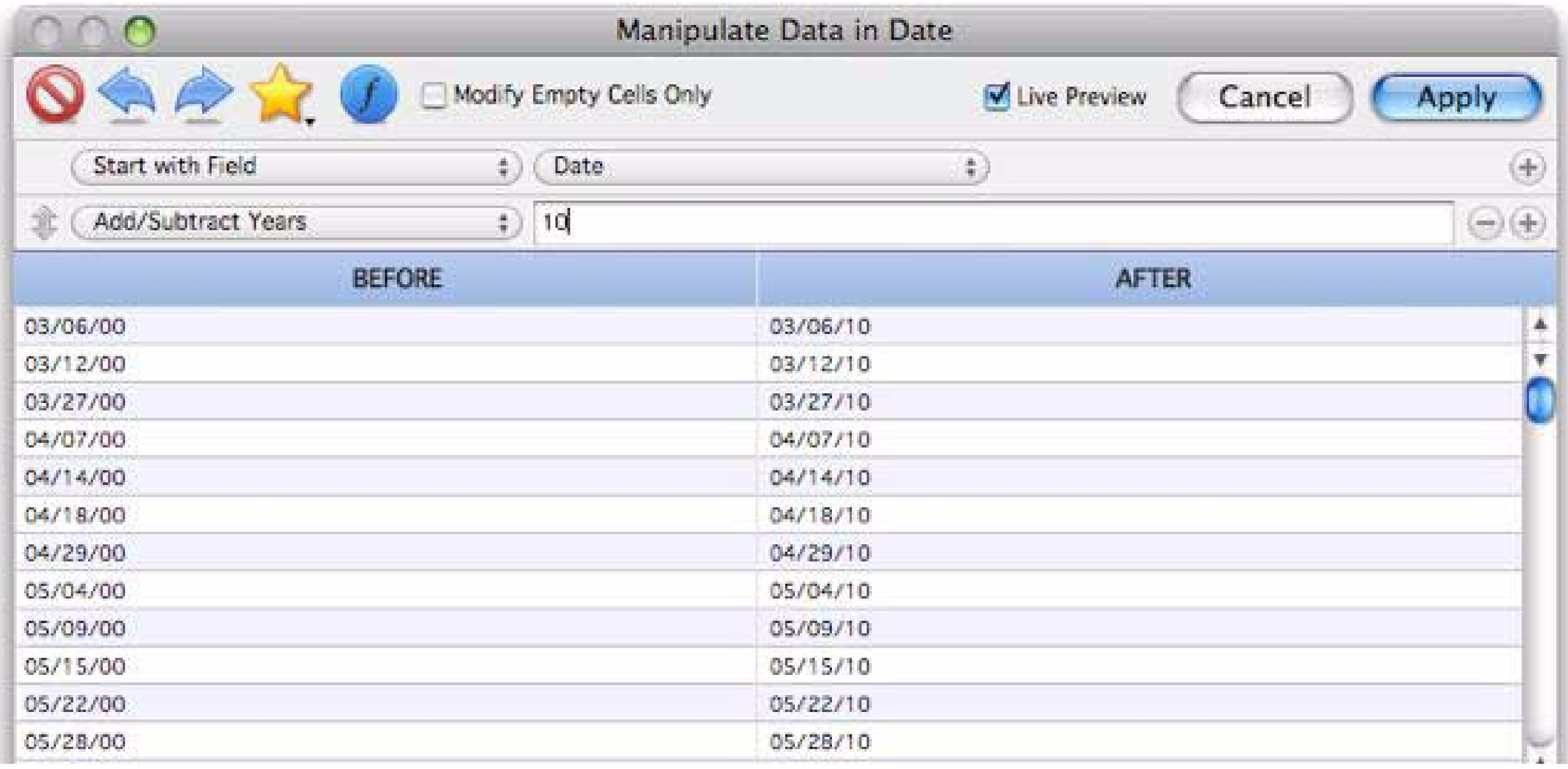
This option adds or subtracts a fixed number of days to the data source.

Add/Subtract Months

This option adds or subtracts a fixed number of months to the data source.

Add/Subtract Years

This option adds or subtracts a fixed number of years to the data source. For example, I can easily bring this sample data forward ten years.



□ Modify Empty Cells Only ☑ Live Preview

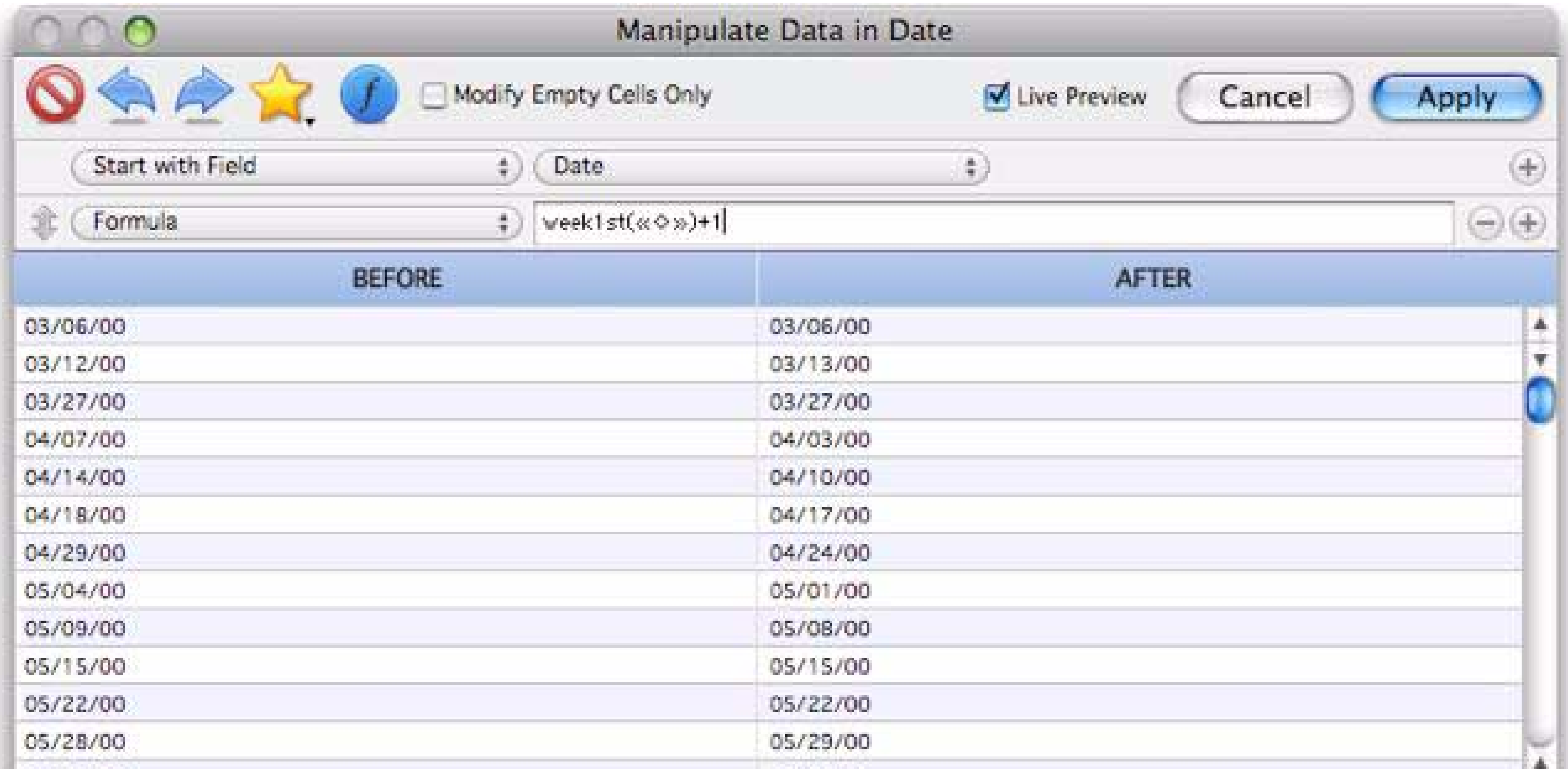
Start with Field | Date

Add/Subtract Years | 10

BEFORE	AFTER
03/06/00	03/06/10
03/12/00	03/12/10
03/27/00	03/27/10
04/07/00	04/07/10
04/14/00	04/14/10
04/18/00	04/18/10
04/29/00	04/29/10
05/04/00	05/04/10
05/09/00	05/09/10
05/15/00	05/15/10
05/22/00	05/22/10
05/28/00	05/28/10

Formula

For more complex calculations you can use a formula. You can use a formula all on its own (see "Starting with a Formula" on page 236) but you can also use a formula in combination with other manipulations. When used this way, the «◊» symbol will expand into the number produced by the previous manipulations. Then the result of the formula will be fed into any additional manipulations below it. For example, this formula turns all dates into Mondays.


Manipulate Data in Date

□ Modify Empty Cells Only ☑ Live Preview Cancel Apply

Start with Field — Date

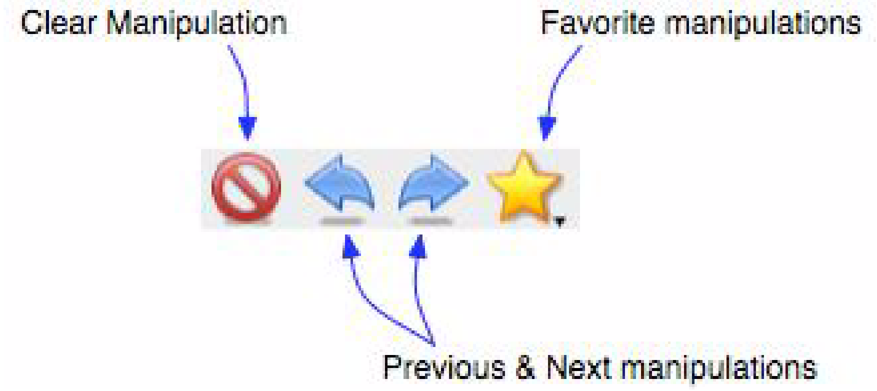
Formula — week1st(«◊»)+1

BEFORE	AFTER
03/06/00	03/06/00
03/12/00	03/13/00
03/27/00	03/27/00
04/07/00	04/03/00
04/14/00	04/10/00
04/18/00	04/17/00
04/29/00	04/24/00
05/04/00	05/01/00
05/09/00	05/08/00
05/15/00	05/15/00
05/22/00	05/22/00
05/28/00	05/29/00

To learn more about date calculations see "Date Arithmetic" on page 307.

Managing Manipulations

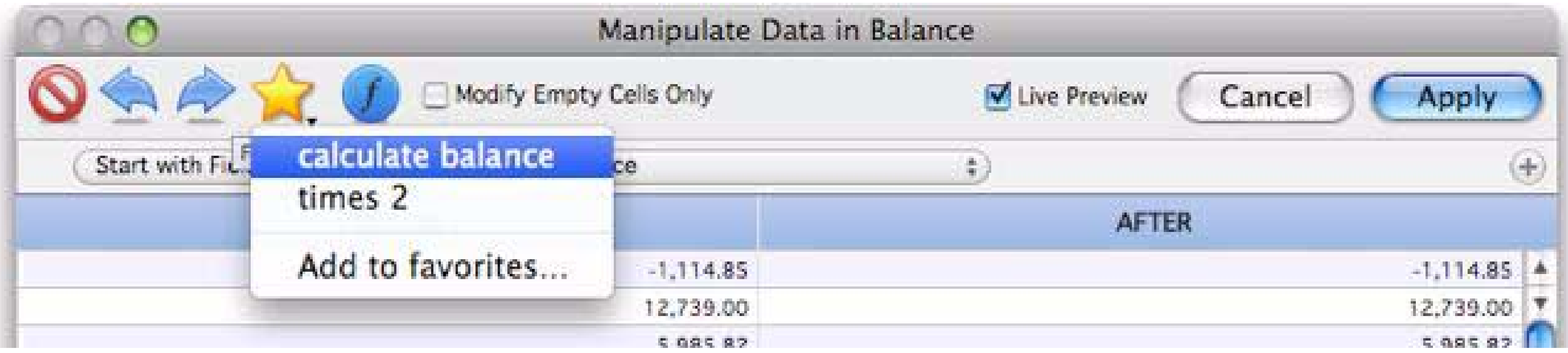
The tools in the upper left corner of the **Manipulate Data** dialog allow you to manage and easily re-use previous manipulations.



Clear Manipulation — This button clears the current manipulation, reseting the dialog. (If you press **Clear Manipulation** by mistake you you can press **Previous Manipulation** to go back.)

Previous Manipulation, **Next Manipulation** — This pair of buttons allows you to go back to previously used manipulations. (Note: Only manipulations that you actually "finalized" by pressing the **Apply** button are included in the list of previously used manipulations.)

Favorites — This button displays a pop-up menu of favorite manipulations, along with options for adding and removing favorites. To select a favorite you've saved previously, just click on the star and choose the favorite from the menu.

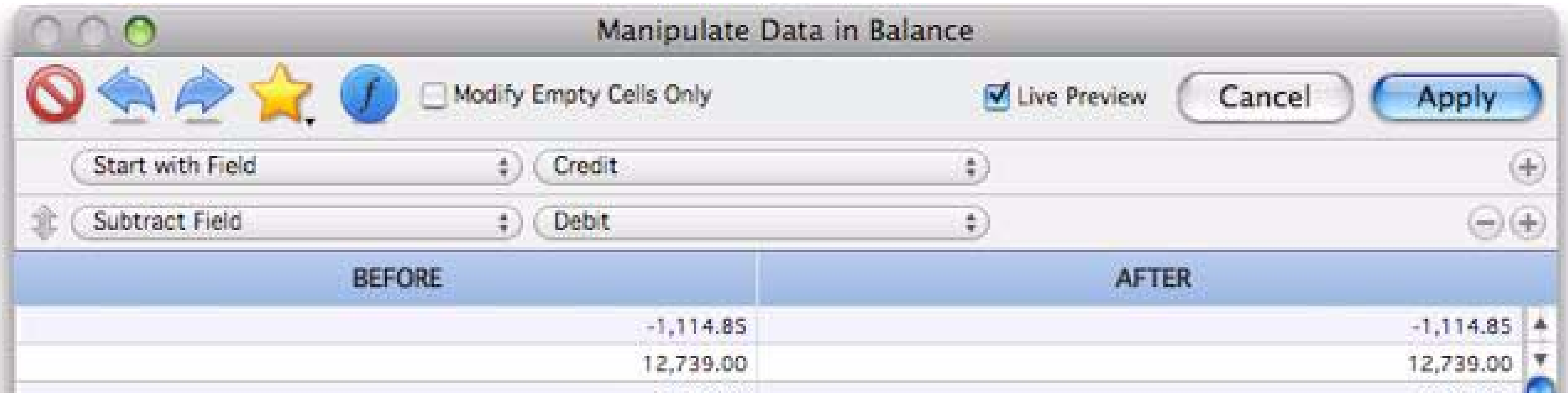


□ Modify Empty Cells Only
☑ Live Preview

Start with Fi...

	AFTER
-1,114.85	-1,114.85
12,739.00	12,739.00

The manipulation is restored just as it was saved. You can use it as is by pressing **Apply**, or you can modify it first.

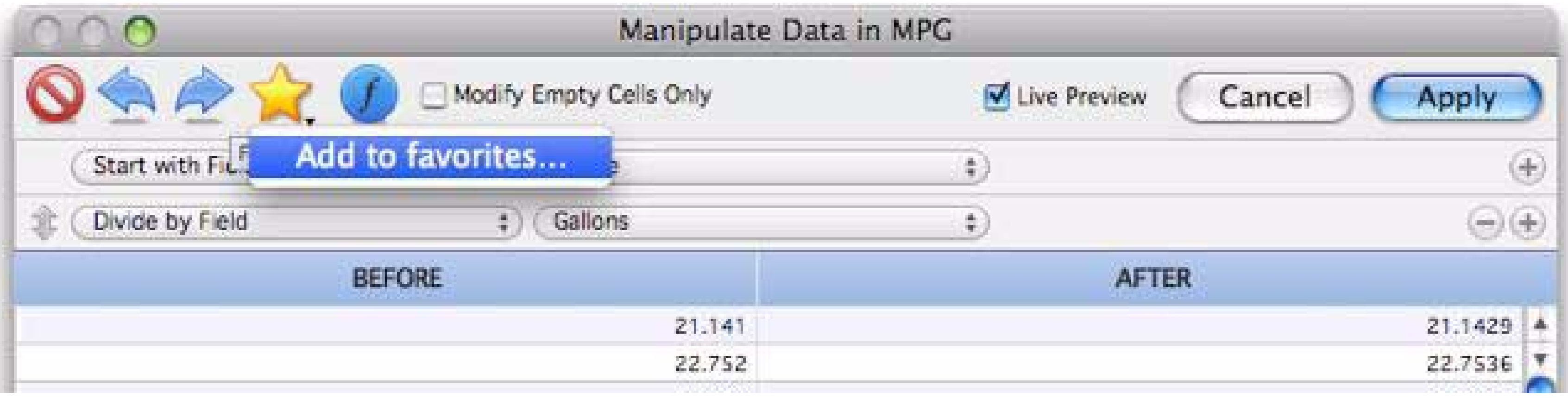


□ Modify Empty Cells Only
☑ Live Preview

Start with Field: Credit
Subtract Field: Debit

BEFORE	AFTER
-1,114.85	-1,114.85
12,739.00	12,739.00

To save a new favorite, first set up the query specification, then click on the star and choose **Add to favorites...**

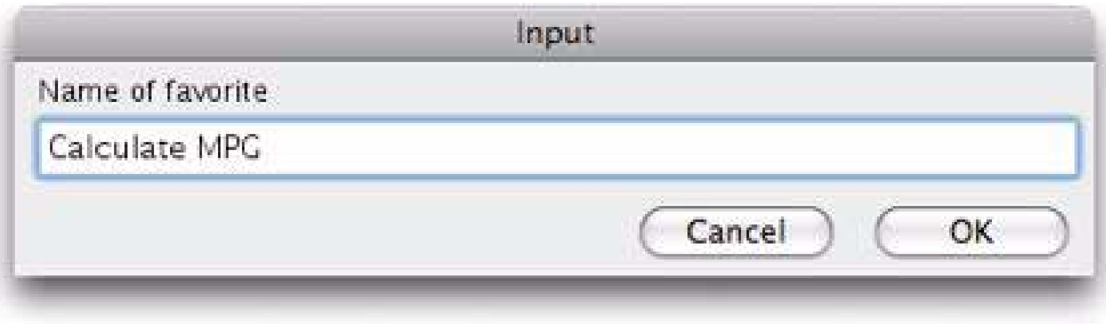


□ Modify Empty Cells Only
☑ Live Preview

Start with Fi...
Divide by Field: Gallons

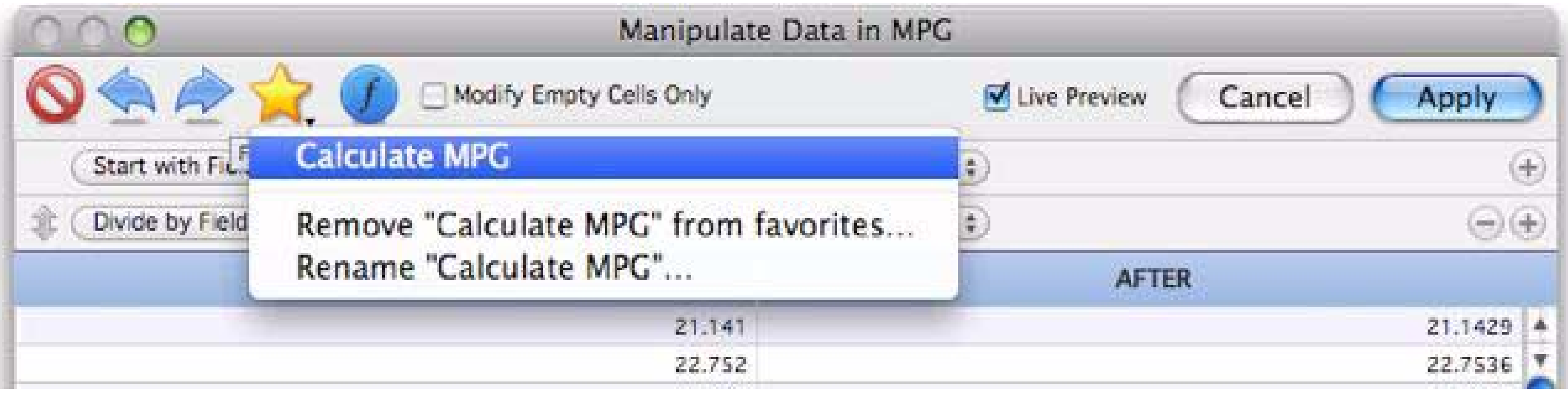
BEFORE	AFTER
21.141	21.1429
22.752	22.7536

Enter a name for the new favorite.



Name of favorite: Calculate MPG

Your new favorite now appears in the pop-up menu.



☐ Modify Empty Cells Only

☑ Live Preview

Start with Fi…

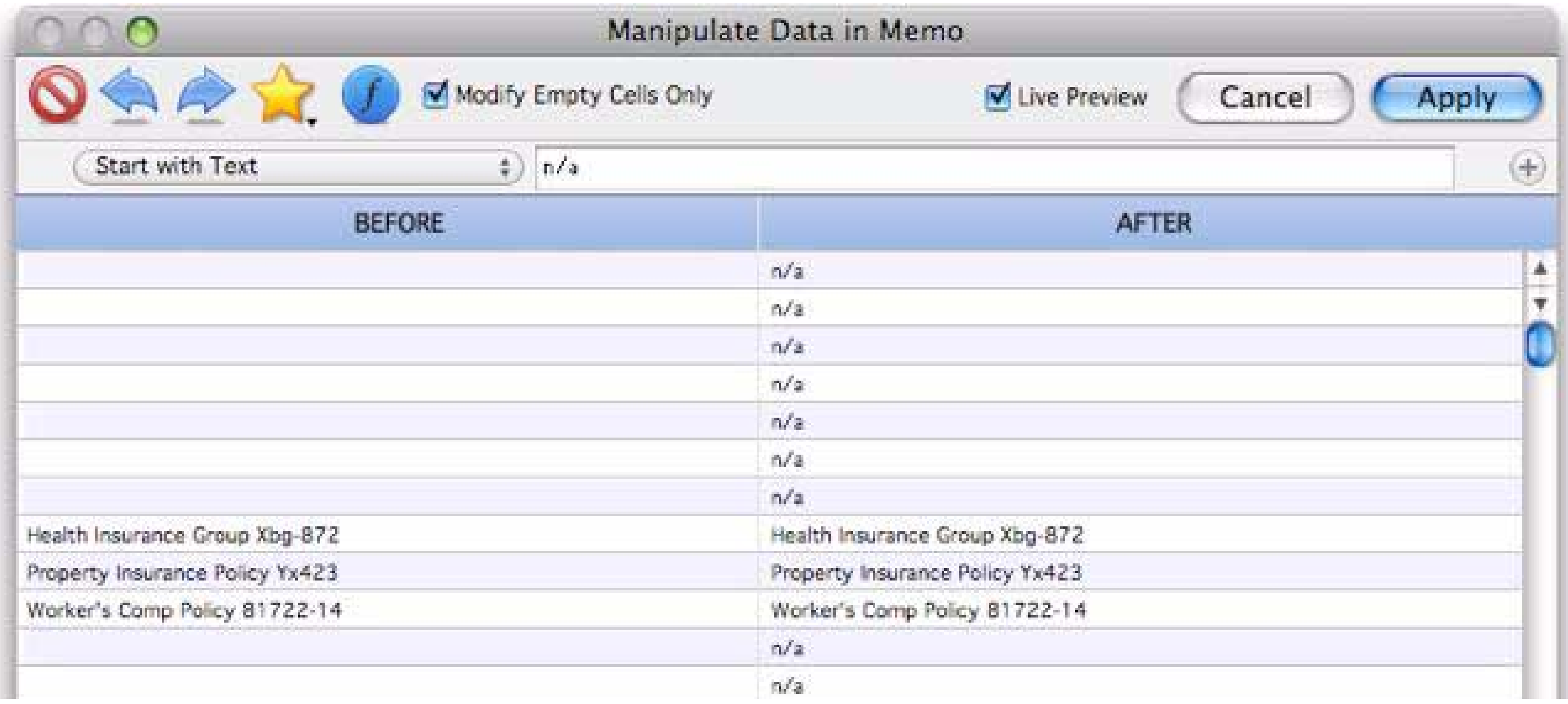
Divide by Field

	AFTER
21.141	21.1429
22.752	22.7536

To delete or rename a favorite, first select the favorite from the pop-up menu. Then choose Remove or Rename, as shown above.

The *Modify Empty Cells Only* Option

The Manipulate Data dialog normally modifies all selected cells when you press the **Apply** button. However, if the Modify Empty Cells Only box is checked, only empty cells will be modified. Any cells that already contain a value will not be changed. In the example below all empty cells are changed to n/a, while cells that contain memos are left untouched.



☑ Modify Empty Cells Only

☑ Live Preview

Start with Text: n/a

BEFORE	AFTER
	n/a
	n/a
	n/a
	n/a
	n/a
	n/a
	n/a
Health Insurance Group Xbg-872	Health Insurance Group Xbg-872
Property Insurance Policy Yx423	Property Insurance Policy Yx423
Worker's Comp Policy 81722-14	Worker's Comp Policy 81722-14
	n/a
	n/a

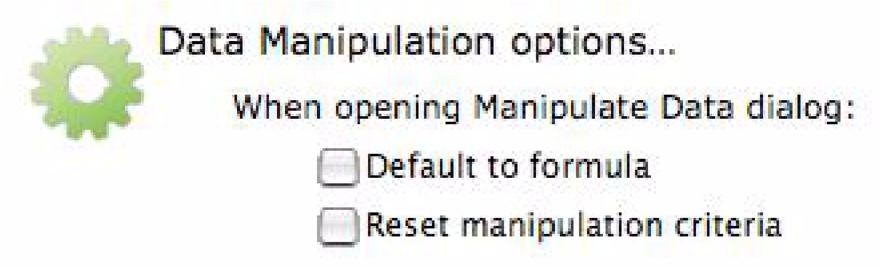
Live Preview

The bottom section of the **Manipulate Data** dialog shows a live preview of the manipulations you have specified. (For speed, only the first 100 records are shown.) The preview is divided into two sections. On the left is the original data in the field you are manipulating. On the right is the manipulated version of data. The preview updates instantly as you modify the manipulation options, making it easy to see the effects of the options you choose.

Note: If your data contains carriage returns, they will be displayed using the ¶ symbol.

Customizing the Manipulate Data Dialog

The **Manipulate** dialog has several options that can be customized. To access these options, open the **Preferences** dialog. This opens a window with many types of preferences, but at the moment we're only interested in the Data Manipulation options.



Data Manipulation options...

When opening Manipulate Data dialog:

□ Default to formula

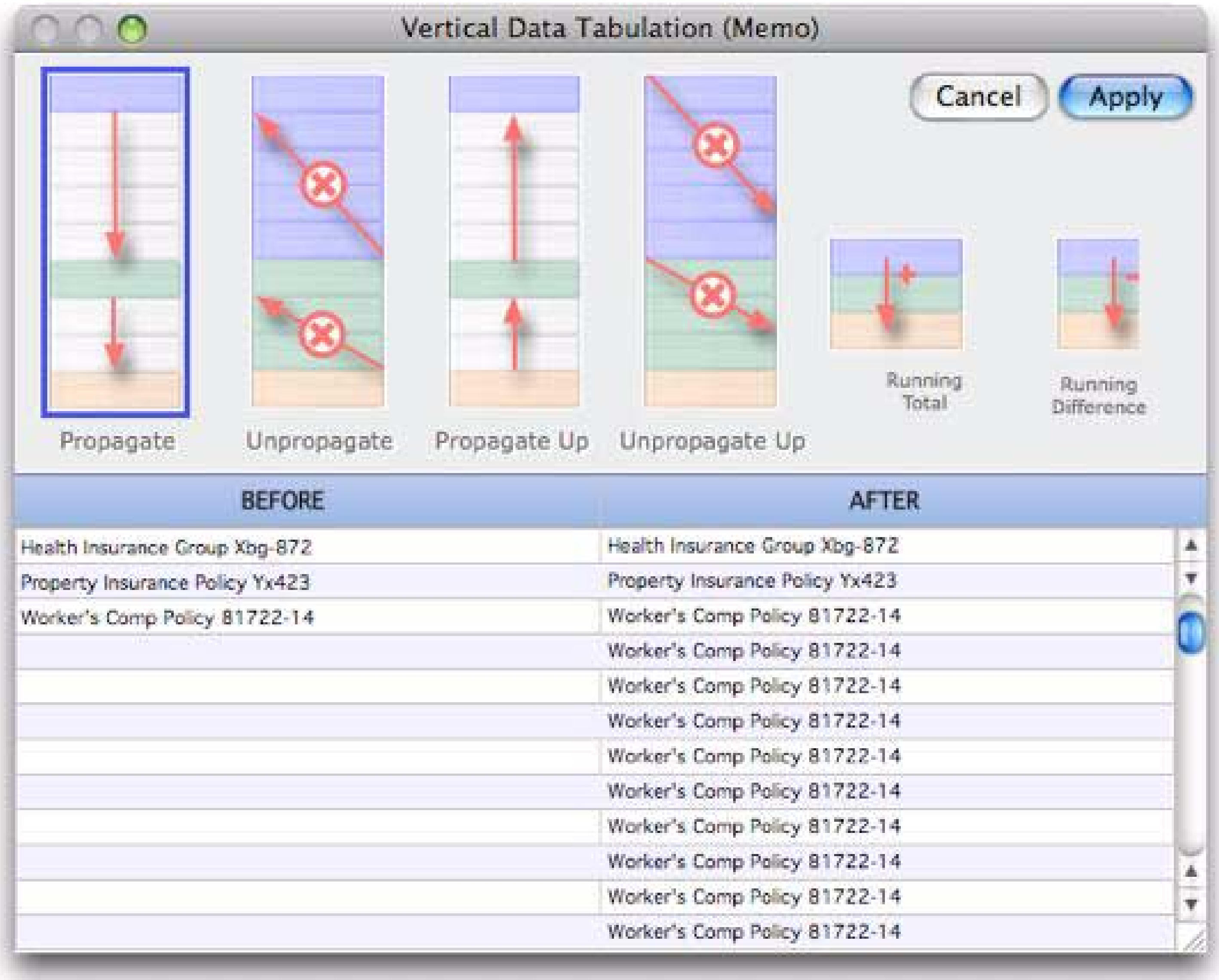
□ Reset manipulation criteria

The first option is Default to formula. If this option is checked, the dialog will initially default to **Start with Formula** (instead of **Start with Field**) when it is first opened. If you are a formula wizard you may find this option more convenient. This essentially makes this dialog default to behaving like the Formula Fill command in earlier (5.5 and before) versions of Panorama.

The Reset manipulation criteria option controls whether the **Manipulate Data** dialog starts fresh each time it opens. If this option is checked, the dialog will always start empty when it opens, ready for a new manipulation (you can recall the previous search by pressing the **Previous Manipulation** icon, see "Managing Manipulations" on page 258). If this option is *not* checked, the dialog will start out with the previous manipulation. You can then modify the manipulation, or you can start over by pressing the **Clear Manipulation** icon (see "Managing Manipulations" on page 258).

Vertical Data Tabulation

The **Manipulate Data** dialog manipulates each record independently. The **Vertical Data Tabulation** dialog, on the other hand, manipulates data vertically across multiple records.



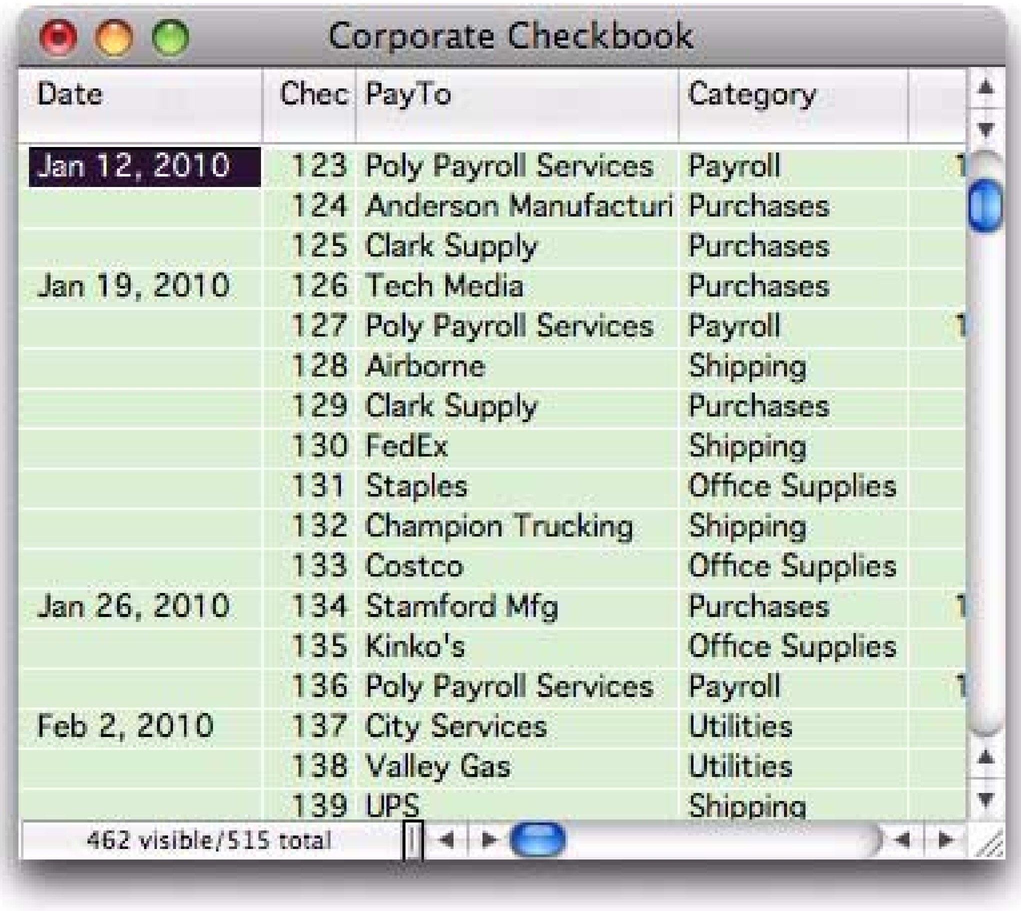
BEFORE	AFTER
Health Insurance Group Xbg-872	Health Insurance Group Xbg-872
Property Insurance Policy Yx423	Property Insurance Policy Yx423
Worker's Comp Policy 81722-14	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14
	Worker's Comp Policy 81722-14

The dialog contains six vertical data manipulations options. Choose the option you want, then press the **Apply** button.

Propagate

he **Propagate** option fills all the empty cells in the current field, leaving the previously filled cells untouched. The **Propagate** option propagates filled data cells into the empty data cells (if any) below them.

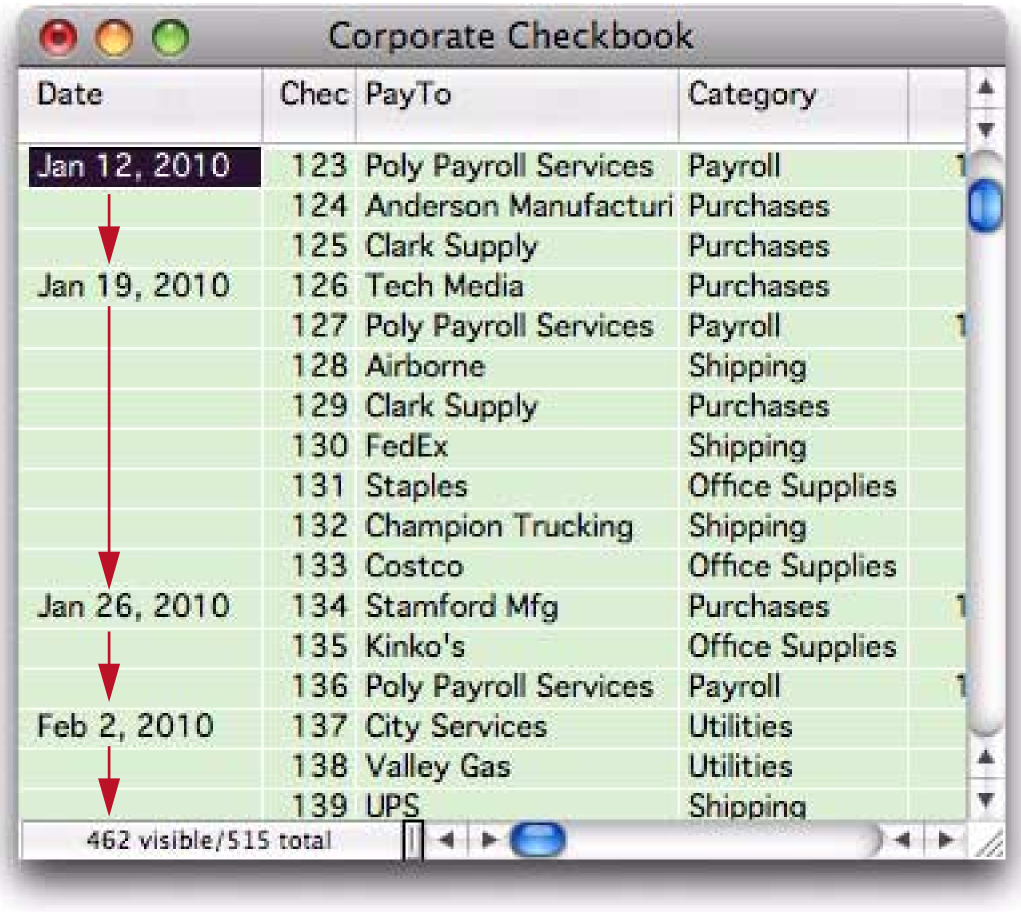
To illustrate, here is a database where the date was only entered for the first check written each day. For example, checks 123, 124 and 125 were all written on January 12th, but the date has only been filled in for check 123.


Corporate Checkbook

Date	Chec	PayTo	Category	
Jan 12, 2010	123	Poly Payroll Services	Payroll	1
	124	Anderson Manufacturi	Purchases	
	125	Clark Supply	Purchases	
Jan 19, 2010	126	Tech Media	Purchases	
	127	Poly Payroll Services	Payroll	1
	128	Airborne	Shipping	
	129	Clark Supply	Purchases	
	130	FedEx	Shipping	
	131	Staples	Office Supplies	
	132	Champion Trucking	Shipping	
	133	Costco	Office Supplies	
Jan 26, 2010	134	Stamford Mfg	Purchases	1
	135	Kinko's	Office Supplies	
	136	Poly Payroll Services	Payroll	1
Feb 2, 2010	137	City Services	Utilities	
	138	Valley Gas	Utilities	
	139	UPS	Shipping	

462 visible/515 total

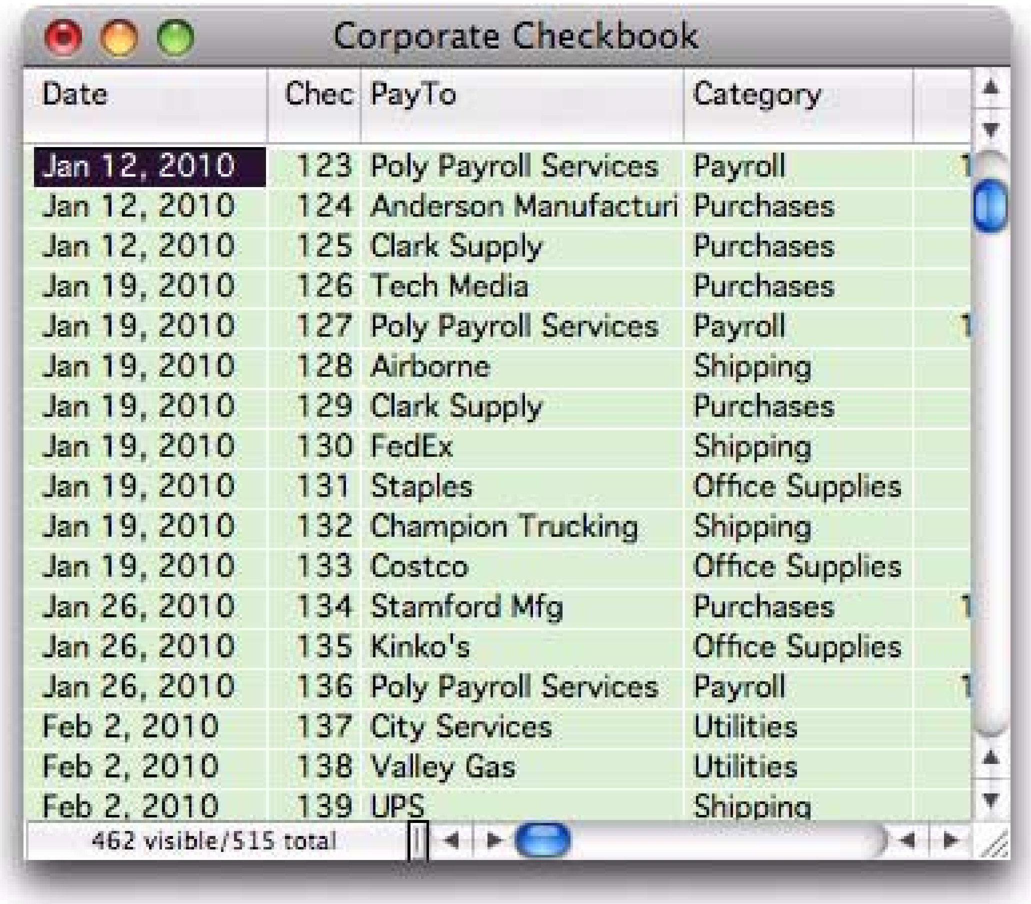
The **Propagate** option will fill in the empty cells, as shown by the arrows in this illustration.


Corporate Checkbook

Date	Chec	PayTo	Category	
Jan 12, 2010	123	Poly Payroll Services	Payroll	1
	124	Anderson Manufacturi	Purchases	
	125	Clark Supply	Purchases	
Jan 19, 2010	126	Tech Media	Purchases	
	127	Poly Payroll Services	Payroll	1
	128	Airborne	Shipping	
	129	Clark Supply	Purchases	
	130	FedEx	Shipping	
	131	Staples	Office Supplies	
	132	Champion Trucking	Shipping	
	133	Costco	Office Supplies	
Jan 26, 2010	134	Stamford Mfg	Purchases	1
	135	Kinko's	Office Supplies	
	136	Poly Payroll Services	Payroll	1
Feb 2, 2010	137	City Services	Utilities	
	138	Valley Gas	Utilities	
	139	UPS	Shipping	

462 visible/515 total

Here is the actual result after the **Propagate** has completed.



Corporate Checkbook

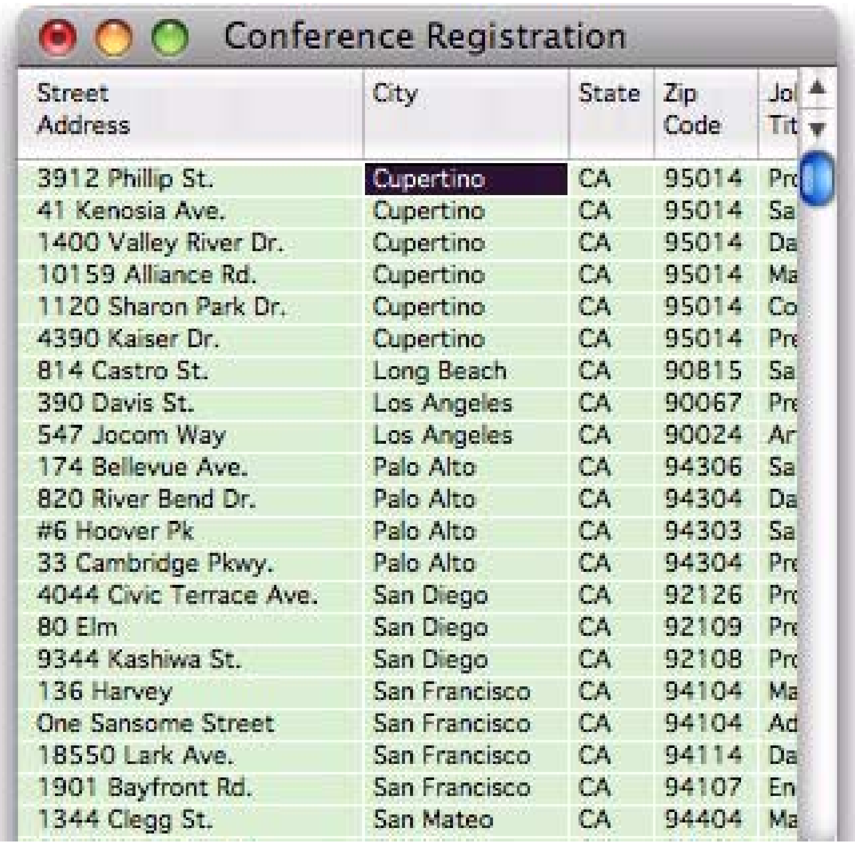
Date	Chec	PayTo	Category	
Jan 12, 2010	123	Poly Payroll Services	Payroll	1
Jan 12, 2010	124	Anderson Manufacturi	Purchases	
Jan 12, 2010	125	Clark Supply	Purchases	
Jan 19, 2010	126	Tech Media	Purchases	
Jan 19, 2010	127	Poly Payroll Services	Payroll	1
Jan 19, 2010	128	Airborne	Shipping	
Jan 19, 2010	129	Clark Supply	Purchases	
Jan 19, 2010	130	FedEx	Shipping	
Jan 19, 2010	131	Staples	Office Supplies	
Jan 19, 2010	132	Champion Trucking	Shipping	
Jan 19, 2010	133	Costco	Office Supplies	
Jan 26, 2010	134	Stamford Mfg	Purchases	1
Jan 26, 2010	135	Kinko's	Office Supplies	
Jan 26, 2010	136	Poly Payroll Services	Payroll	1
Feb 2, 2010	137	City Services	Utilities	
Feb 2, 2010	138	Valley Gas	Utilities	
Feb 2, 2010	139	UPS	Shipping	

462 visible/515 total

The **Propagate Up** option performs the same operation upside down, propagating filled data cells into the empty data cells above them.

UnPropagate

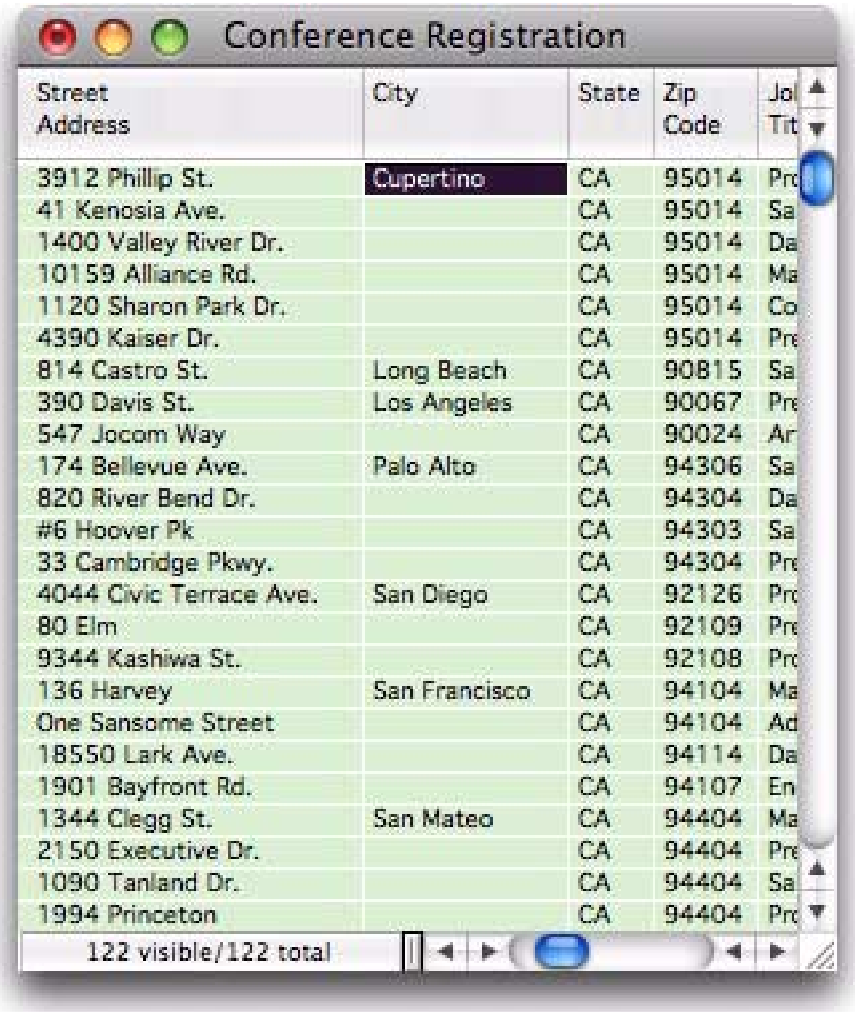
This option performs the exact inverse of **Propagate**. If the same value appears in two or more consecutive data cells, the **Unpropagate** option empties the second and subsequent data cells. Here is a database that has been sorted by city.



Conference Registration

Street Address	City	State	Zip Code	Jo Tit
3912 Phillip St.	Cupertino	CA	95014	Pro
41 Kenosia Ave.	Cupertino	CA	95014	Sa
1400 Valley River Dr.	Cupertino	CA	95014	Da
10159 Alliance Rd.	Cupertino	CA	95014	Ma
1120 Sharon Park Dr.	Cupertino	CA	95014	Co
4390 Kaiser Dr.	Cupertino	CA	95014	Pre
814 Castro St.	Long Beach	CA	90815	Sa
390 Davis St.	Los Angeles	CA	90067	Pre
547 Jocom Way	Los Angeles	CA	90024	Ar
174 Bellevue Ave.	Palo Alto	CA	94306	Sa
820 River Bend Dr.	Palo Alto	CA	94304	Da
#6 Hoover Pk	Palo Alto	CA	94303	Sa
33 Cambridge Pkwy.	Palo Alto	CA	94304	Pre
4044 Civic Terrace Ave.	San Diego	CA	92126	Pro
80 Elm	San Diego	CA	92109	Pre
9344 Kashiwa St.	San Diego	CA	92108	Pro
136 Harvey	San Francisco	CA	94104	Ma
One Sansome Street	San Francisco	CA	94104	Ad
18550 Lark Ave.	San Francisco	CA	94114	Da
1901 Bayfront Rd.	San Francisco	CA	94107	En
1344 Clegg St.	San Mateo	CA	94404	Ma

The **Unpropagate** option eliminates all but the first entry for each city.



Conference Registration

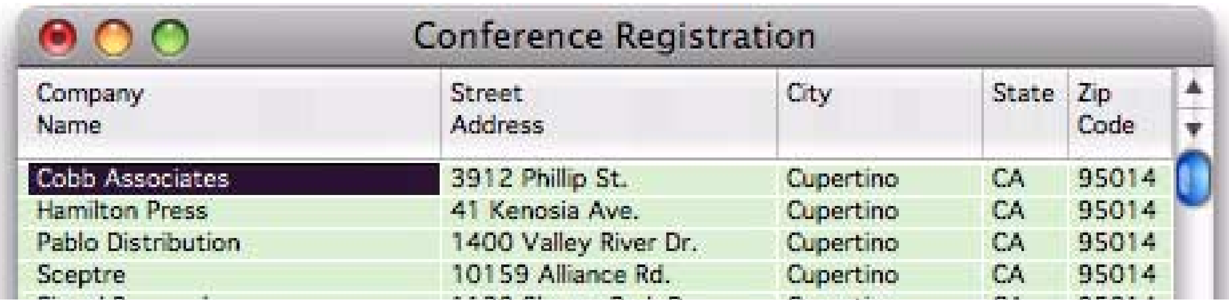
Street Address	City	State	Zip Code	Jo Tit
3912 Phillip St.	Cupertino	CA	95014	Pro
41 Kenosia Ave.		CA	95014	Sa
1400 Valley River Dr.		CA	95014	Da
10159 Alliance Rd.		CA	95014	Ma
1120 Sharon Park Dr.		CA	95014	Co
4390 Kaiser Dr.		CA	95014	Pre
814 Castro St.	Long Beach	CA	90815	Sa
390 Davis St.	Los Angeles	CA	90067	Pre
547 Jocom Way		CA	90024	Ar
174 Bellevue Ave.	Palo Alto	CA	94306	Sa
820 River Bend Dr.		CA	94304	Da
#6 Hoover Pk		CA	94303	Sa
33 Cambridge Pkwy.		CA	94304	Pre
4044 Civic Terrace Ave.	San Diego	CA	92126	Pro
80 Elm		CA	92109	Pre
9344 Kashiwa St.		CA	92108	Pro
136 Harvey	San Francisco	CA	94104	Ma
One Sansome Street		CA	94104	Ad
18550 Lark Ave.		CA	94114	Da
1901 Bayfront Rd.		CA	94107	En
1344 Clegg St.	San Mateo	CA	94404	Ma
2150 Executive Dr.		CA	94404	Pre
1090 Tanland Dr.		CA	94404	Sa
1994 Princeton		CA	94404	Pro

122 visible/122 total

The **Unpropagate Up** option performs the same operation upside down, leaving the last of several duplicate values while clearing the others.

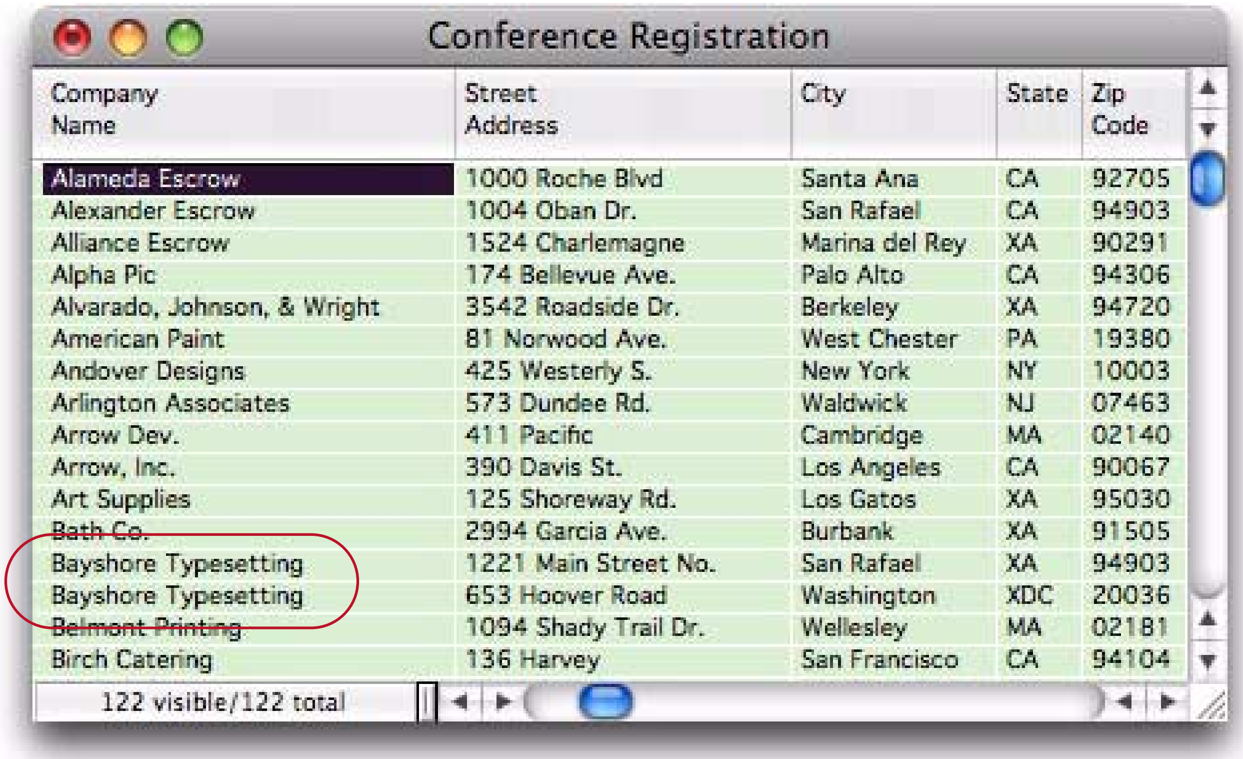
Using UnPropagate to Eliminate Duplicates

The **UnPropagate** command can be used to eliminate duplicate values in a database. The first step is to click on the field that contains the potentially duplicate values, for example Name or Company. If you want to eliminate duplicates over multiple fields (for example an entire address) you must create a new field and use the **Manipulate Data** dialog to combine the data into a single field.



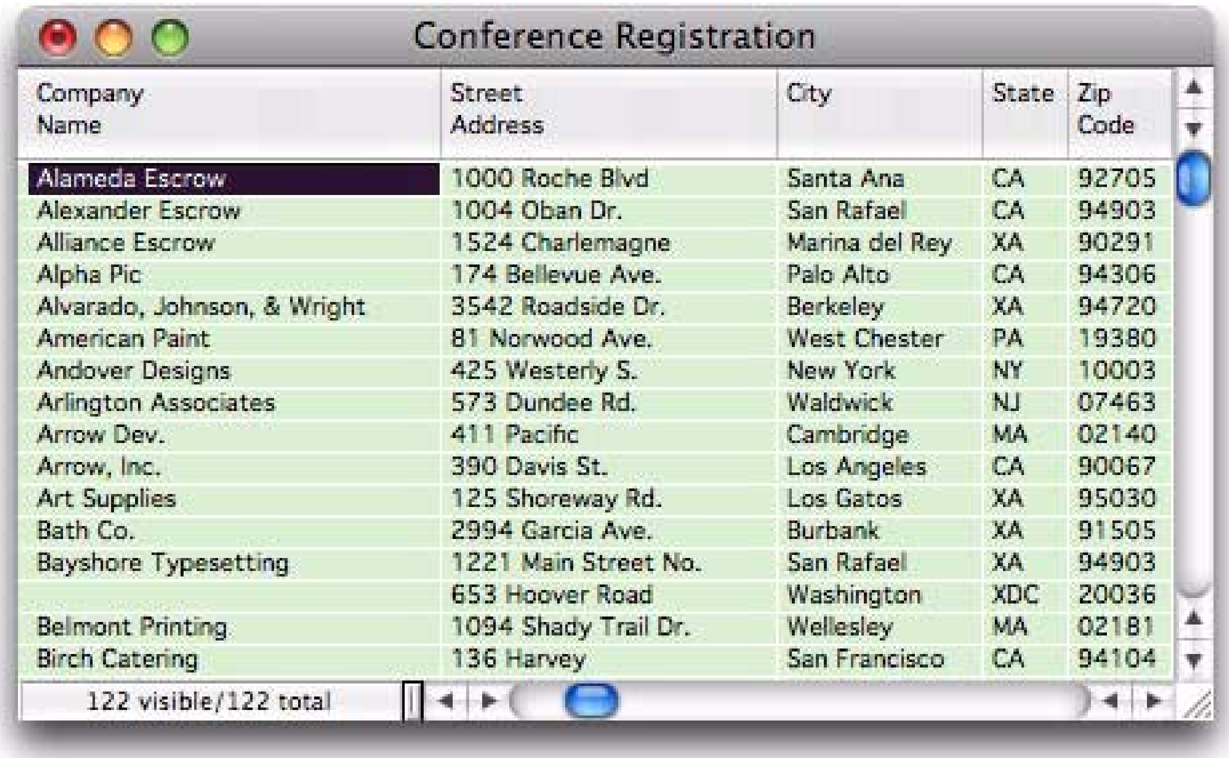
Company Name	Street Address	City	State	Zip Code
Cobb Associates	3912 Phillip St.	Cupertino	CA	95014
Hamilton Press	41 Kenosia Ave.	Cupertino	CA	95014
Pablo Distribution	1400 Valley River Dr.	Cupertino	CA	95014
Sceptre	10159 Alliance Rd.	Cupertino	CA	95014

The next step is **SortUp** the database. This brings all the duplicate values together. For example, there are two Bayshore Typesetting entries in this database.



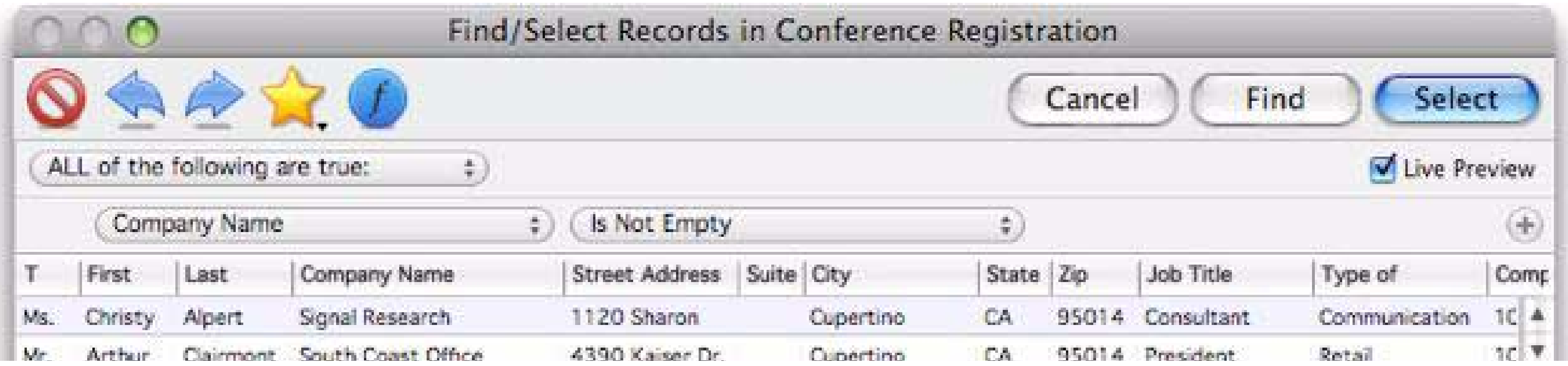
Company Name	Street Address	City	State	Zip Code
Alameda Escrow	1000 Roche Blvd	Santa Ana	CA	92705
Alexander Escrow	1004 Oban Dr.	San Rafael	CA	94903
Alliance Escrow	1524 Charlemagne	Marina del Rey	XA	90291
Alpha Pic	174 Bellevue Ave.	Palo Alto	CA	94306
Alvarado, Johnson, & Wright	3542 Roadside Dr.	Berkeley	XA	94720
American Paint	81 Norwood Ave.	West Chester	PA	19380
Andover Designs	425 Westerly S.	New York	NY	10003
Arlington Associates	573 Dundee Rd.	Waldwick	NJ	07463
Arrow Dev.	411 Pacific	Cambridge	MA	02140
Arrow, Inc.	390 Davis St.	Los Angeles	CA	90067
Art Supplies	125 Shoreway Rd.	Los Gatos	XA	95030
Bath Co.	2994 Garcia Ave.	Burbank	XA	91505
Bayshore Typesetting	1221 Main Street No.	San Rafael	XA	94903
Bayshore Typesetting	653 Hoover Road	Washington	XDC	20036
Belmont Printing	1094 Shady Trail Dr.	Wellesley	MA	02181
Birch Catering	136 Harvey	San Francisco	CA	94104

The next step is to UnPropagate with the **Vertical Data Tabulation** dialog. Wherever a duplicate value appears in the data cell, the UnPropagate option clears the cell.



Company Name	Street Address	City	State	Zip Code
Alameda Escrow	1000 Roche Blvd	Santa Ana	CA	92705
Alexander Escrow	1004 Oban Dr.	San Rafael	CA	94903
Alliance Escrow	1524 Charlemagne	Marina del Rey	XA	90291
Alpha Pic	174 Bellevue Ave.	Palo Alto	CA	94306
Alvarado, Johnson, & Wright	3542 Roadside Dr.	Berkeley	XA	94720
American Paint	81 Norwood Ave.	West Chester	PA	19380
Andover Designs	425 Westerly S.	New York	NY	10003
Arlington Associates	573 Dundee Rd.	Waldwick	NJ	07463
Arrow Dev.	411 Pacific	Cambridge	MA	02140
Arrow, Inc.	390 Davis St.	Los Angeles	CA	90067
Art Supplies	125 Shoreway Rd.	Los Gatos	XA	95030
Bath Co.	2994 Garcia Ave.	Burbank	XA	91505
Bayshore Typesetting	1221 Main Street No.	San Rafael	XA	94903
	653 Hoover Road	Washington	XDC	20036
Belmont Printing	1094 Shady Trail Dr.	Wellesley	MA	02181
Birch Catering	136 Harvey	San Francisco	CA	94104

Now use the **Find/Select** dialog to select the non-empty data cells.

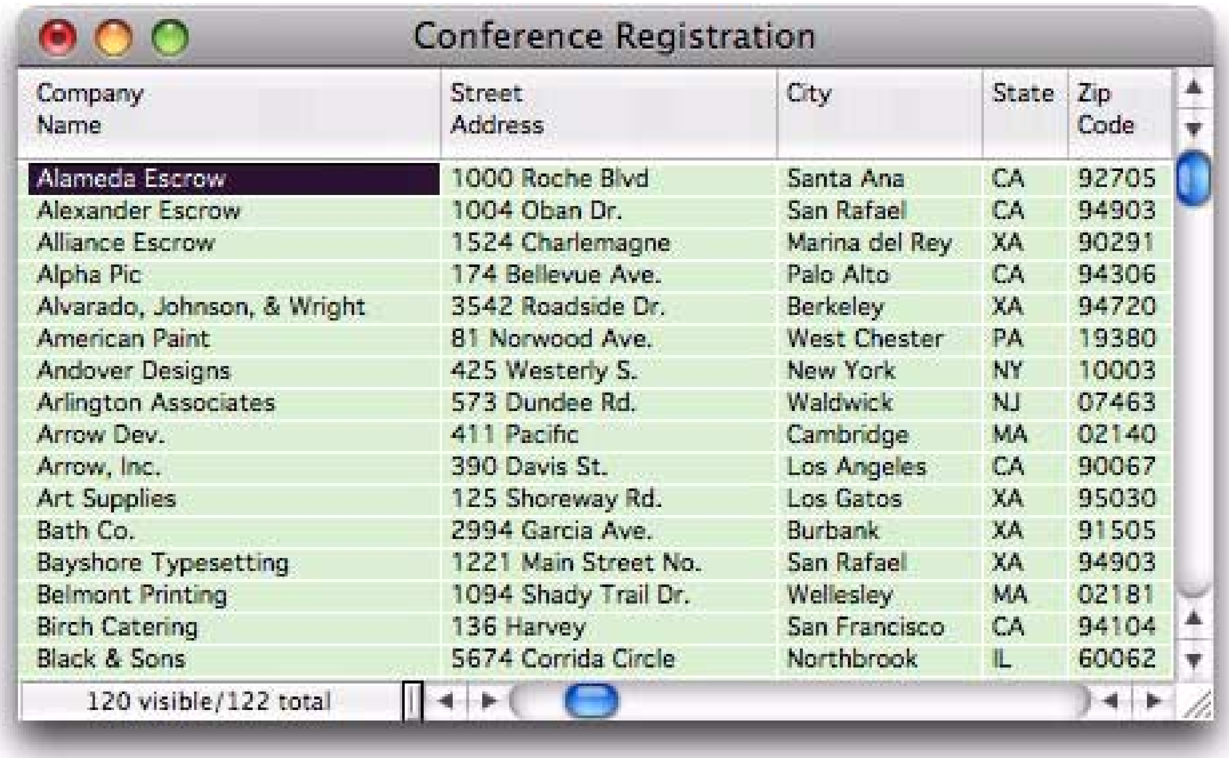


ALL of the following are true: ☑ Live Preview

Company Name | Is Not Empty

T	First	Last	Company Name	Street Address	Suite	City	State	Zip	Job Title	Type of	Comp
Ms.	Christy	Alpert	Signal Research	1120 Sharon		Cupertino	CA	95014	Consultant	Communication	10
Mr.	Arthur	Clairmont	South Coast Office	4390 Kaiser Dr.		Cupertino	CA	95014	President	Retail	10

All of the duplicate records will disappear when you press the **Select** button. In this database there were two duplicate companies, so there are now 120 selected (non-duplicate) records.

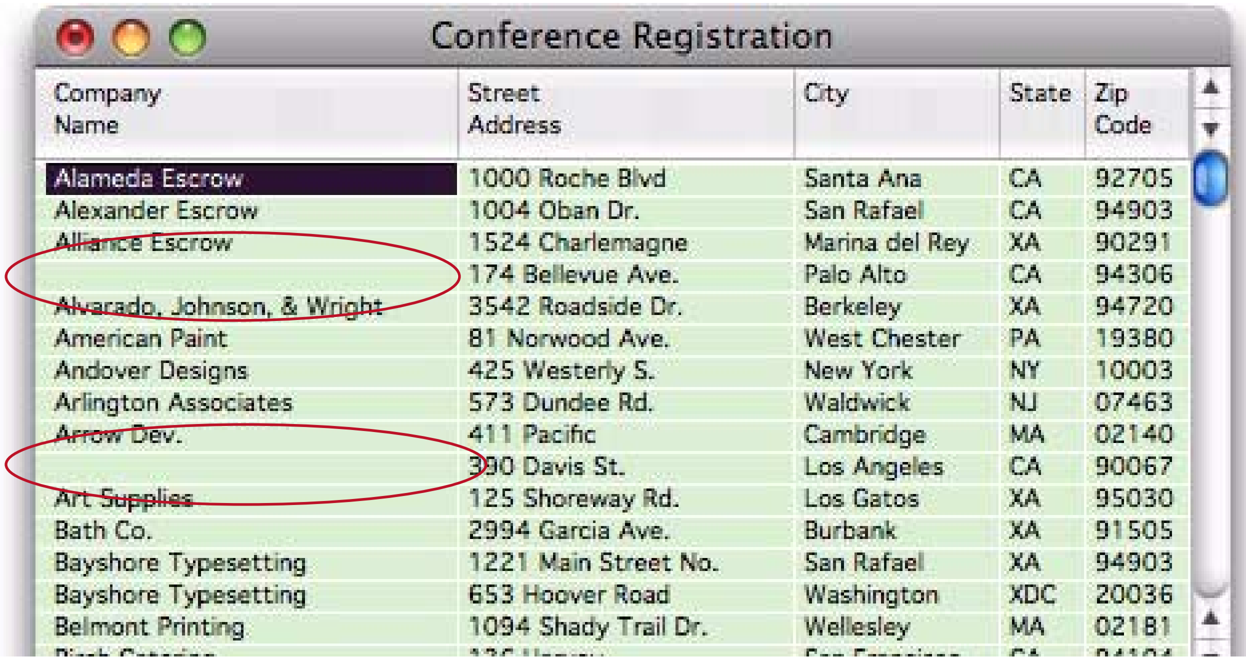


Company Name	Street Address	City	State	Zip Code
Alameda Escrow	1000 Roche Blvd	Santa Ana	CA	92705
Alexander Escrow	1004 Oban Dr.	San Rafael	CA	94903
Alliance Escrow	1524 Charlemagne	Marina del Rey	XA	90291
Alpha Pic	174 Bellevue Ave.	Palo Alto	CA	94306
Alvarado, Johnson, & Wright	3542 Roadside Dr.	Berkeley	XA	94720
American Paint	81 Norwood Ave.	West Chester	PA	19380
Andover Designs	425 Westerly S.	New York	NY	10003
Arlington Associates	573 Dundee Rd.	Waldwick	NJ	07463
Arrow Dev.	411 Pacific	Cambridge	MA	02140
Arrow, Inc.	390 Davis St.	Los Angeles	CA	90067
Art Supplies	125 Shoreway Rd.	Los Gatos	XA	95030
Bath Co.	2994 Garcia Ave.	Burbank	XA	91505
Bayshore Typesetting	1221 Main Street No.	San Rafael	XA	94903
Belmont Printing	1094 Shady Trail Dr.	Wellesley	MA	02181
Birch Catering	136 Harvey	San Francisco	CA	94104
Black & Sons	5674 Corrida Circle	Northbrook	IL	60062

120 visible/122 total

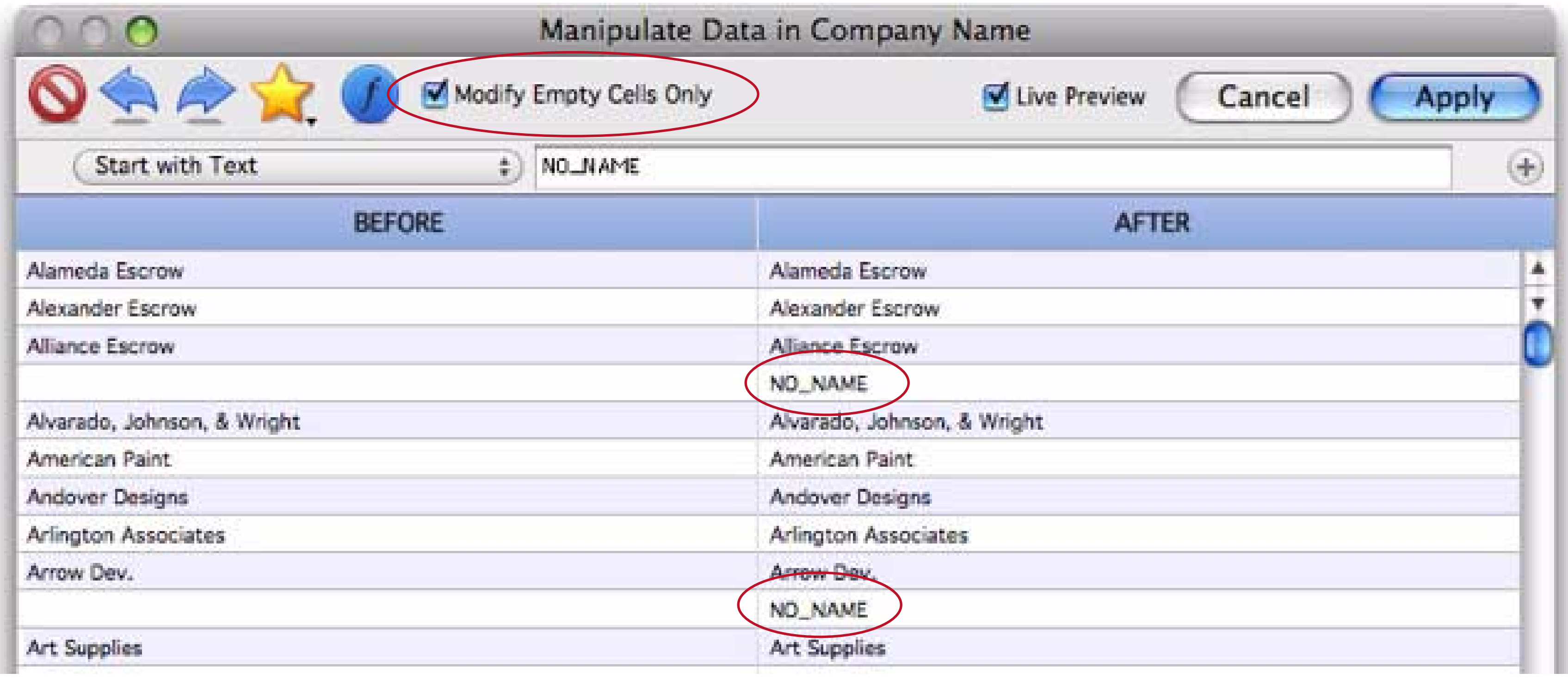
The final step is to permanently remove the duplicate records with the **Remove Unselected** command.

Tip: One possible problem with this technique is that all cells that start out empty will be removed. For example if you are removing duplicate company names but some records don't contain company names, the records without company names will be removed.



Company Name	Street Address	City	State	Zip Code
Alameda Escrow	1000 Roche Blvd	Santa Ana	CA	92705
Alexander Escrow	1004 Oban Dr.	San Rafael	CA	94903
Alliance Escrow	1524 Charlemagne	Marina del Rey	XA	90291
	174 Bellevue Ave.	Palo Alto	CA	94306
Alvarado, Johnson, & Wright	3542 Roadside Dr.	Berkeley	XA	94720
American Paint	81 Norwood Ave.	West Chester	PA	19380
Andover Designs	425 Westerly S.	New York	NY	10003
Arlington Associates	573 Dundee Rd.	Waldwick	NJ	07463
Arrow Dev.	411 Pacific	Cambridge	MA	02140
	390 Davis St.	Los Angeles	CA	90067
Art Supplies	125 Shoreway Rd.	Los Gatos	XA	95030
Bath Co.	2994 Garcia Ave.	Burbank	XA	91505
Bayshore Typesetting	1221 Main Street No.	San Rafael	XA	94903
Bayshore Typesetting	653 Hoover Road	Washington	XDC	20036
Belmont Printing	1094 Shady Trail Dr.	Wellesley	MA	02181
Birch Catering	136 Harvey	San Francisco	CA	94104

To fix this problem, use the **Manipulate Data in Field** command to fill the empty names with a unique value like NO_NAME before you start. Be sure to pick a value that doesn't occur in the database. Since you only want blank names to be affected, check the Modify Empty Cells Only option.

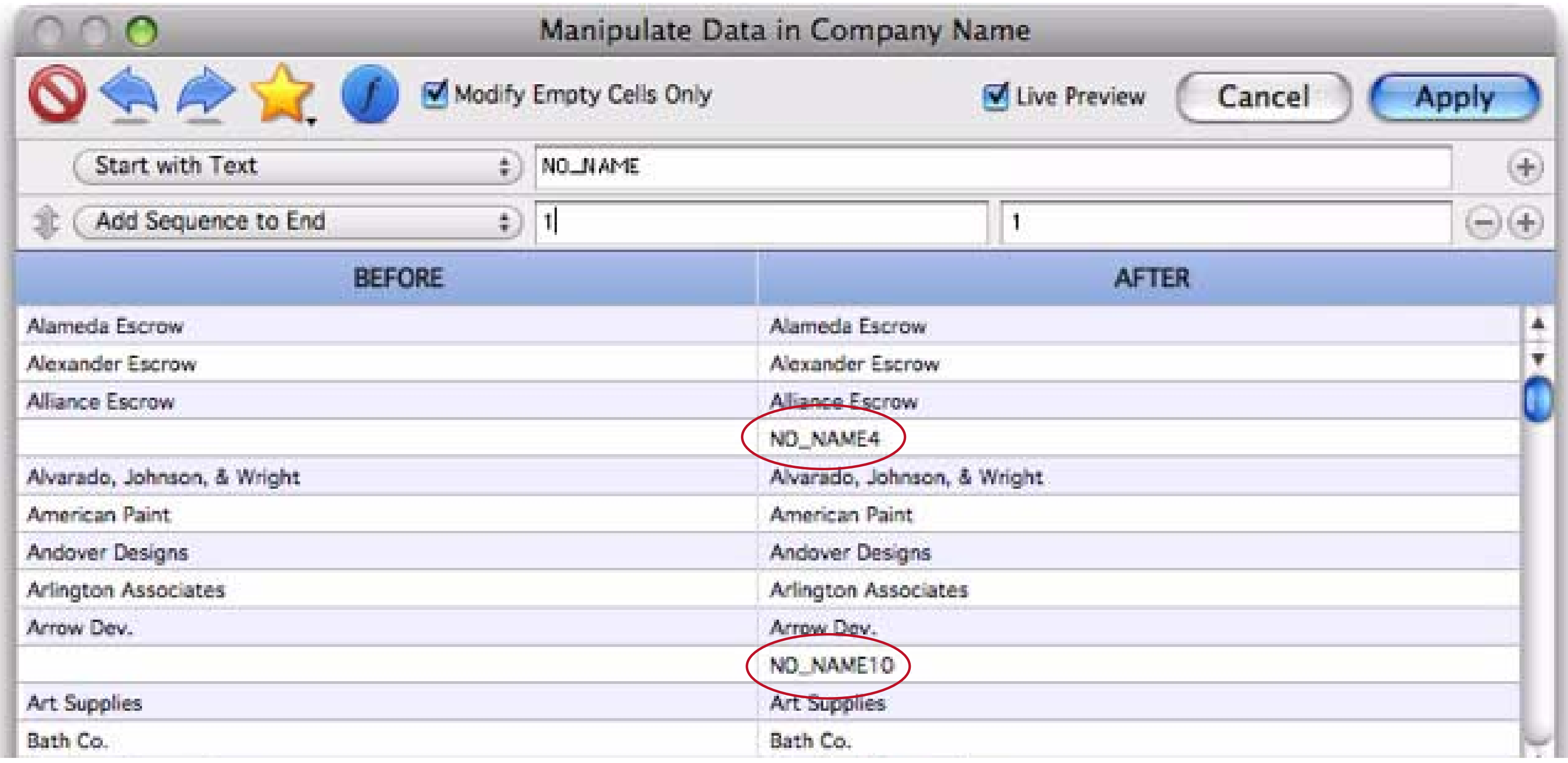


☑ Modify Empty Cells Only ☑ Live Preview

Start with Text: NO_NAME

BEFORE	AFTER
Alameda Escrow	Alameda Escrow
Alexander Escrow	Alexander Escrow
Alliance Escrow	Alliance Escrow
	NO_NAME
Alvarado, Johnson, & Wright	Alvarado, Johnson, & Wright
American Paint	American Paint
Andover Designs	Andover Designs
Arlington Associates	Arlington Associates
Arrow Dev.	Arrow Dev.
	NO_NAME
Art Supplies	Art Supplies

Since we don't want the empty cells to be flagged as duplicates, add a numeric sequence to the end of the inserted text.



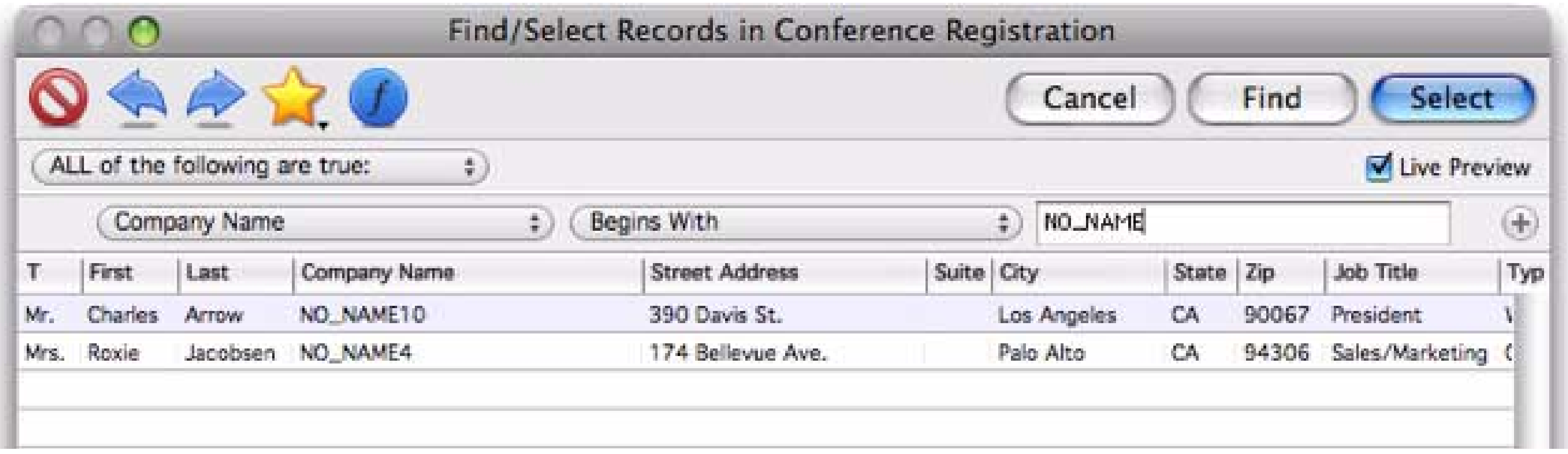
☑ Modify Empty Cells Only ☑ Live Preview

Start with Text: NO_NAME

Add Sequence to End: 1 1

BEFORE	AFTER
Alameda Escrow	Alameda Escrow
Alexander Escrow	Alexander Escrow
Alliance Escrow	Alliance Escrow
	NO_NAME4
Alvarado, Johnson, & Wright	Alvarado, Johnson, & Wright
American Paint	American Paint
Andover Designs	Andover Designs
Arlington Associates	Arlington Associates
Arrow Dev.	Arrow Dev.
	NO_NAME10
Art Supplies	Art Supplies
Bath Co.	Bath Co.

Press the **Apply** button, then remove the duplicates using the technique described earlier — sort up, unpropagate (using **Vertical Data Tabulation**), then select non-blanks and remove unselected. At this point, the duplicates are removed but the originally blank fields still contains NO_NAME. To fix this, use the **Find/ Select** dialog to select all fields that start with NO_NAME.



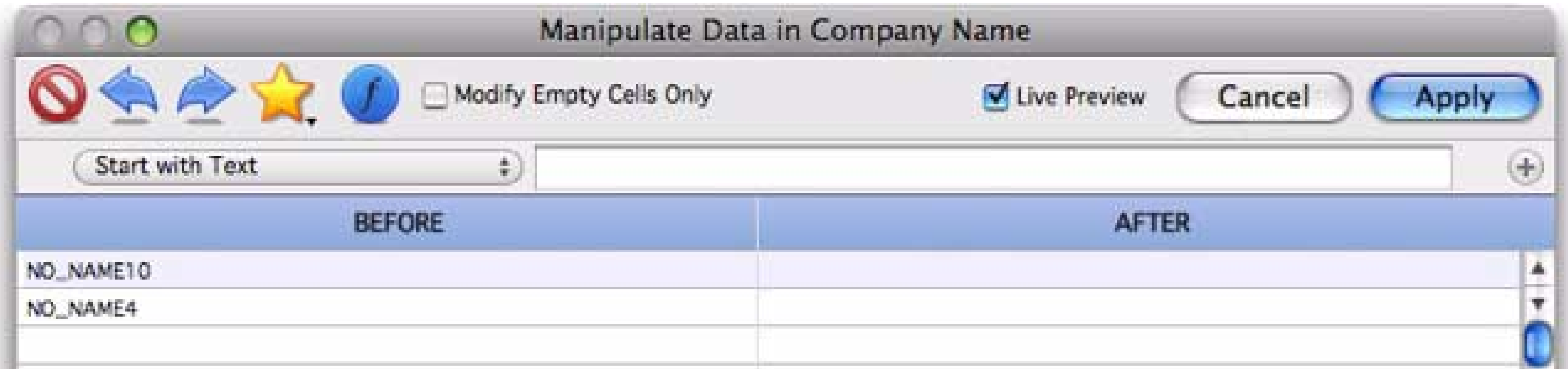
ALL of the following are true:

☑ Live Preview

Company Name | Begins With | NO_NAME

T	First	Last	Company Name	Street Address	Suite	City	State	Zip	Job Title	Typ
Mr.	Charles	Arrow	NO_NAME10	390 Davis St.		Los Angeles	CA	90067	President	V
Mrs.	Roxie	Jacobsen	NO_NAME4	174 Bellevue Ave.		Palo Alto	CA	94306	Sales/Marketing	C

Press the **Select** button, then use **Manipulate Data in Field** to fill these cells with blanks again.



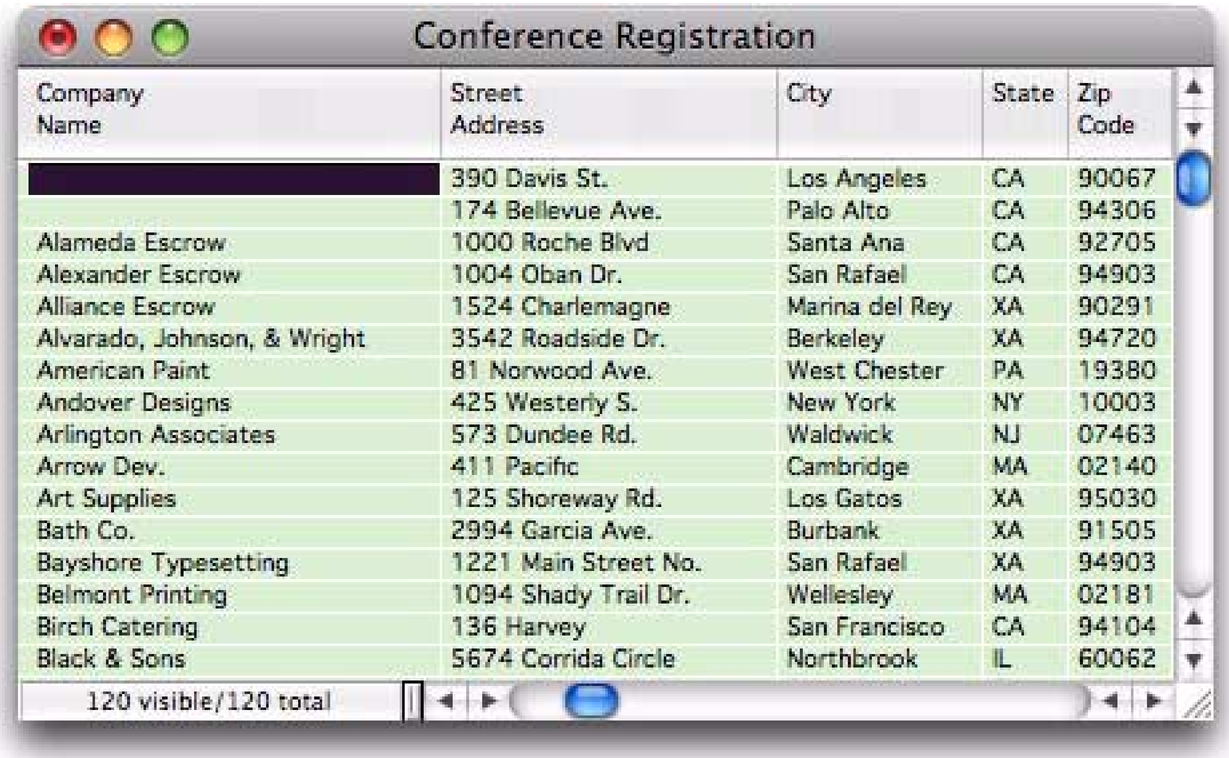
□ Modify Empty Cells Only

☑ Live Preview

Start with Text

BEFORE	AFTER
NO_NAME10	
NO_NAME4	

The duplicate company names have been removed from the database, but the records without any company names have been preserved.



Company Name	Street Address	City	State	Zip Code
	390 Davis St.	Los Angeles	CA	90067
	174 Bellevue Ave.	Palo Alto	CA	94306
Alameda Escrow	1000 Roche Blvd	Santa Ana	CA	92705
Alexander Escrow	1004 Oban Dr.	San Rafael	CA	94903
Alliance Escrow	1524 Charlemagne	Marina del Rey	XA	90291
Alvarado, Johnson, & Wright	3542 Roadside Dr.	Berkeley	XA	94720
American Paint	81 Norwood Ave.	West Chester	PA	19380
Andover Designs	425 Westerly S.	New York	NY	10003
Arlington Associates	573 Dundee Rd.	Waldwick	NJ	07463
Arrow Dev.	411 Pacific	Cambridge	MA	02140
Art Supplies	125 Shoreway Rd.	Los Gatos	XA	95030
Bath Co.	2994 Garcia Ave.	Burbank	XA	91505
Bayshore Typesetting	1221 Main Street No.	San Rafael	XA	94903
Belmont Printing	1094 Shady Trail Dr.	Wellesley	MA	02181
Birch Catering	136 Harvey	San Francisco	CA	94104
Black & Sons	5674 Corrida Circle	Northbrook	IL	60062

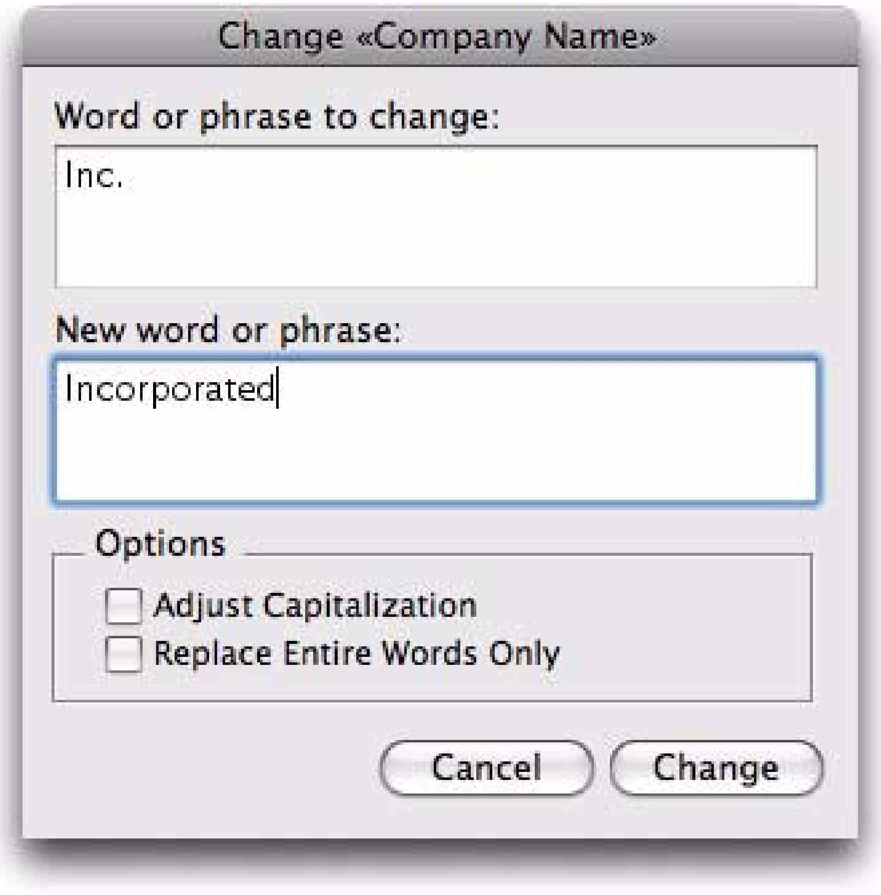
120 visible/120 total

Warning: Keep in mind that all of these techniques will blindly remove all but the first duplicate entry. In this example, there were two entries for Bayshore Typesetting. However, they were probably not really duplicates, since one was in Washington, DC and the other in San Rafael, CA. There is no way for an automatic technique like this to know which of these is really correct, or even if they are really duplicates at all. If you want to manually examine duplicate records instead of blindly deleting them, use the **Select Duplicates** command in the Search Menu. See "Select Duplicates" on page 166 for more information on this command.

Change (Find and Replace)

The **Change** command (in the Search menu) finds and replaces a word or phrase in the current field. For example, you can use the **Change** command to replace every occurrence of Inc. to Incorporated, or every occurrence of Purchase Order to P.O.

The **Change** dialog allows you to specify the original (From) and the new (To) word or phrase.



Change «Company Name»

Word or phrase to change:

Inc.

New word or phrase:

Incorporated

Options

□ Adjust Capitalization

□ Replace Entire Words Only

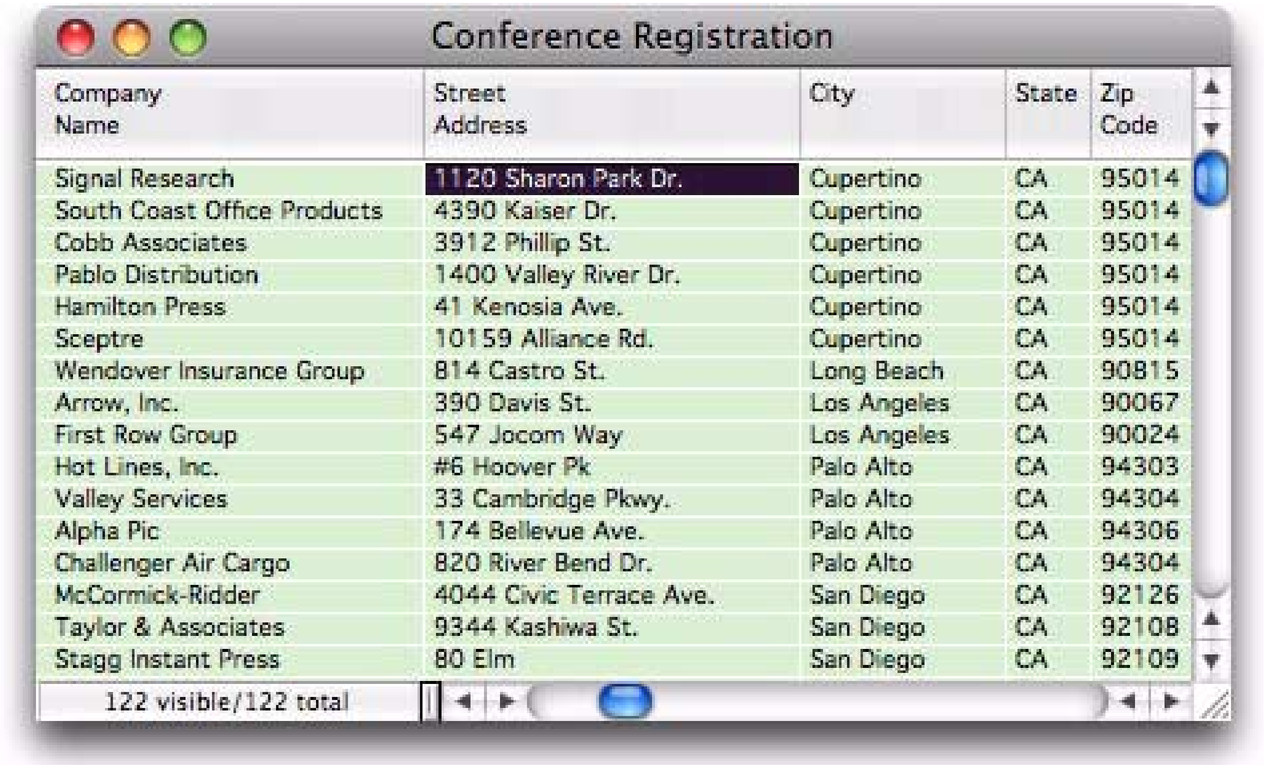
The Adjust Capitalization option allows you to specify whether you want capitalization to be adjusted as the word or phrase is replaced. If you check this option, Panorama will automatically adjust the capitalization of the new word or phrase as it is inserted into the database. If you leave this option off, capitalization is not adjusted. In fact, if the Adjust Capitalization option is off, only words or phrases that exactly match the capitalization typed into the dialog will be replaced. The table below shows the result of replacing Inc. with Incorporated with Adjust Capitalization both off and on.

Original	Adjust Capitalization OFF	Adjust Capitalization ON
Inc.	Incorporated	Incorporated
INC.	INC.	INCORPORATED
inc.	inc.	incorporated

The Replace Entire Words Only option tells Panorama to replace only entire words, not sections of words. For example, if you ask Panorama to change is to was, it will also change this to thwas. This is, of course, wrong. To prevent this, just check the Replace Entire Words Only option.

Changing with the Replace(Function

The **Change** command is not the only way to replace words or phrases. You can also use the **Manipulate Data in Field** command and the **replace(** or **replacemultiple(** functions (see “String Modification Functions” on page 298). This technique is especially handy if you need to replace several words or phrases at once. For example, consider the addresses in the database below.

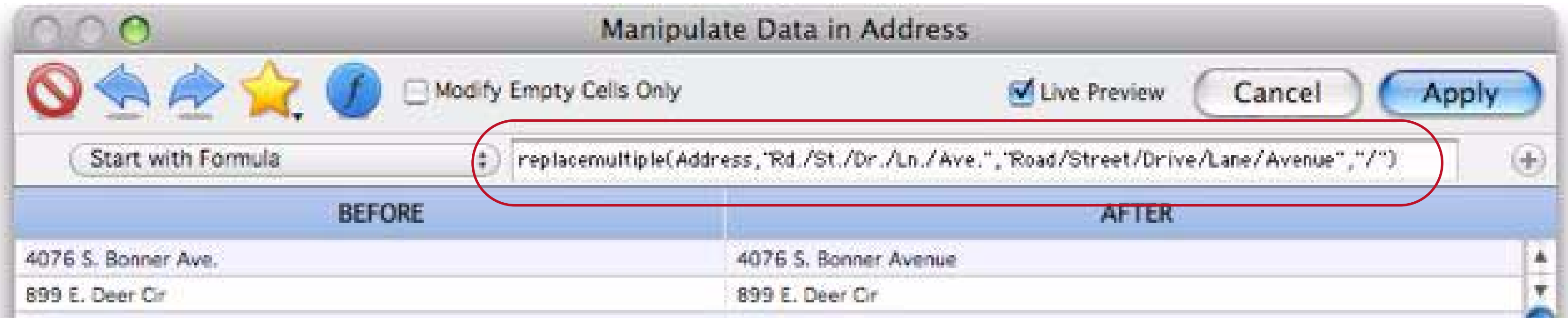


Conference Registration

Company Name	Street Address	City	State	Zip Code
Signal Research	1120 Sharon Park Dr.	Cupertino	CA	95014
South Coast Office Products	4390 Kaiser Dr.	Cupertino	CA	95014
Cobb Associates	3912 Phillip St.	Cupertino	CA	95014
Pablo Distribution	1400 Valley River Dr.	Cupertino	CA	95014
Hamilton Press	41 Kenosia Ave.	Cupertino	CA	95014
Sceptre	10159 Alliance Rd.	Cupertino	CA	95014
Wendover Insurance Group	814 Castro St.	Long Beach	CA	90815
Arrow, Inc.	390 Davis St.	Los Angeles	CA	90067
First Row Group	547 Jocom Way	Los Angeles	CA	90024
Hot Lines, Inc.	#6 Hoover Pk	Palo Alto	CA	94303
Valley Services	33 Cambridge Pkwy.	Palo Alto	CA	94304
Alpha Pic	174 Bellevue Ave.	Palo Alto	CA	94306
Challenger Air Cargo	820 River Bend Dr.	Palo Alto	CA	94304
McCormick-Ridder	4044 Civic Terrace Ave.	San Diego	CA	92126
Taylor & Associates	9344 Kashiwa St.	San Diego	CA	92108
Stagg Instant Press	80 Elm	San Diego	CA	92109

122 visible/122 total

Suppose you wanted to expand the abbreviations in these addresses: St. to Street, Dr. to Drive, etc. You could do this by using the **Change** command over and over again. Or you can simply use the **replacemultiple(** function to replace all of the abbreviations in one fell swoop.



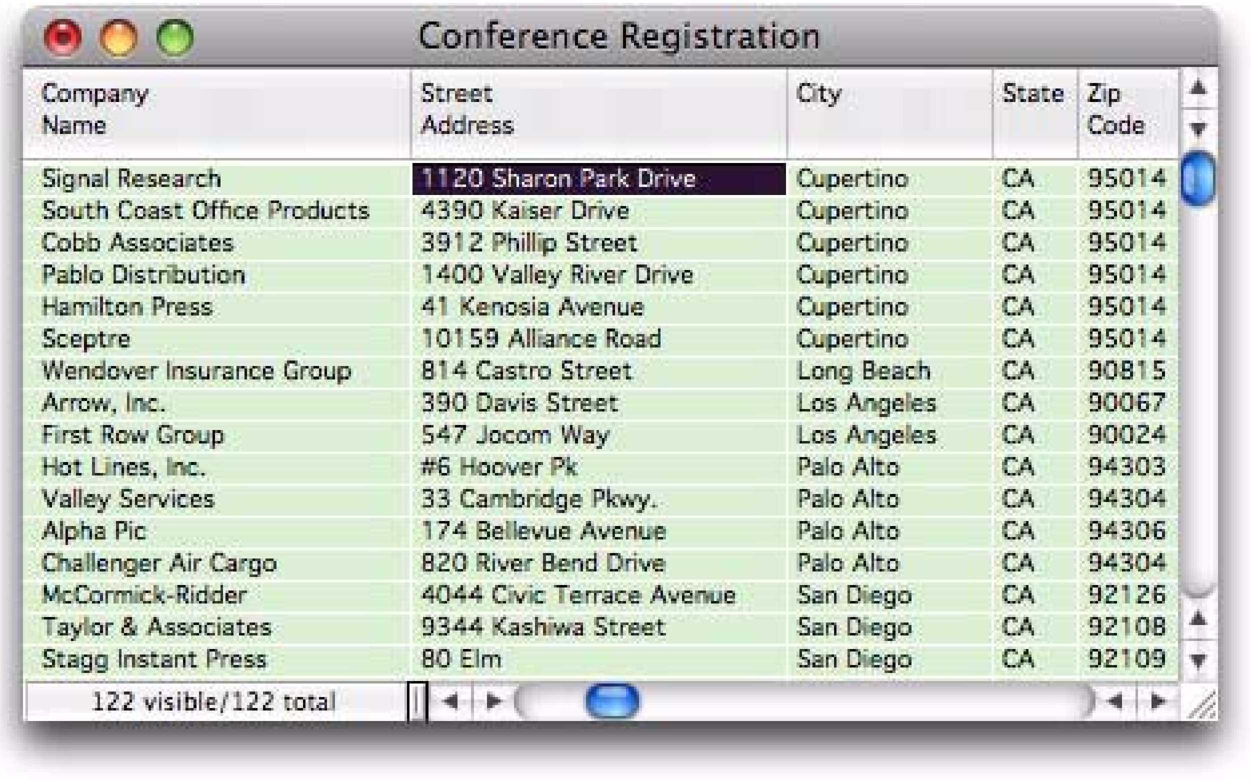
Manipulate Data in Address

☐ Modify Empty Cells Only ☑ Live Preview

```
replacemultiple(Address,"Rd./St./Dr./Ln./Ave.","Road/Street/Drive/Lane/Avenue","/")
```

BEFORE	AFTER
4076 S. Bonner Ave.	4076 S. Bonner Avenue
899 E. Deer Cir	899 E. Deer Cir

Press **Apply** to replace all of the abbreviations at once:



Conference Registration

Company Name	Street Address	City	State	Zip Code
Signal Research	1120 Sharon Park Drive	Cupertino	CA	95014
South Coast Office Products	4390 Kaiser Drive	Cupertino	CA	95014
Cobb Associates	3912 Phillip Street	Cupertino	CA	95014
Pablo Distribution	1400 Valley River Drive	Cupertino	CA	95014
Hamilton Press	41 Kenosia Avenue	Cupertino	CA	95014
Sceptre	10159 Alliance Road	Cupertino	CA	95014
Wendover Insurance Group	814 Castro Street	Long Beach	CA	90815
Arrow, Inc.	390 Davis Street	Los Angeles	CA	90067
First Row Group	547 Jocom Way	Los Angeles	CA	90024
Hot Lines, Inc.	#6 Hoover Pk	Palo Alto	CA	94303
Valley Services	33 Cambridge Pkwy.	Palo Alto	CA	94304
Alpha Pic	174 Bellevue Avenue	Palo Alto	CA	94306
Challenger Air Cargo	820 River Bend Drive	Palo Alto	CA	94304
McCormick-Ridder	4044 Civic Terrace Avenue	San Diego	CA	92126
Taylor & Associates	9344 Kashiwa Street	San Diego	CA	92108
Stagg Instant Press	80 Elm	San Diego	CA	92109

See "Starting with a Formula" on page 236 for more information on using formulas to modify data.

Chapter 8: Calculations & Formulas

The result we proceed to divide, as you see,
by Nine Hundred and Ninety Two:
Then subtract seventeen, and the answer must be
Exactly and perfectly true.

- Lewis Carrol, The Hunting of the Snark

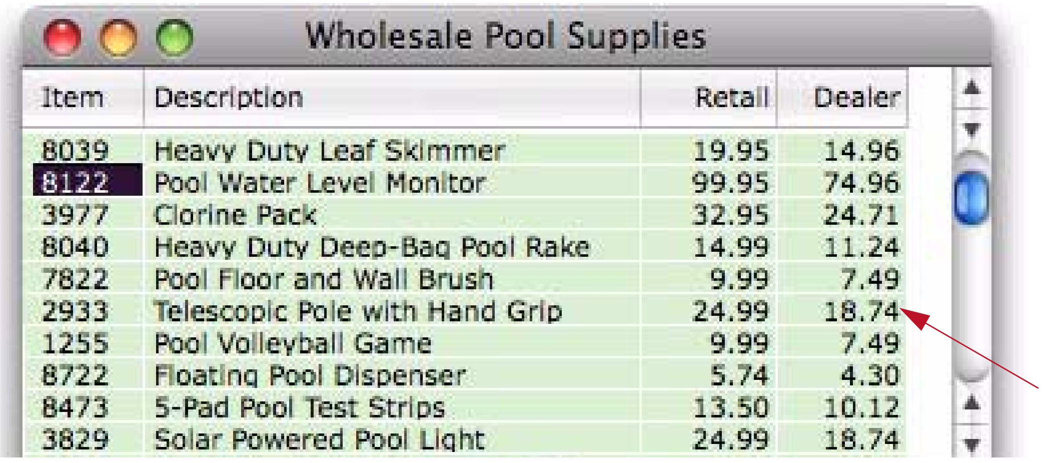
Panorama Sheets can automatically perform calculations for you, ensuring speed and accuracy. You may think of calculations as something that happens with numbers (like 2+2=4), but Panorama calculations can be used with any type of data. In Panorama, any automatic transformation of any type of data is considered a calculation. So Panorama calculations can perform operations like calculating a date 4 weeks in the future, extract the first or last word from a sentence, combine two or more names together into one, or more traditional calculations like addition and multiplication.

Formulas In Action

Panorama Sheets can automatically perform calculations in three situations: 1) One or more calculations can be automatically performed immediately when data is entered into the database, 2) A calculation can be performed one time for all of the cells in a field, or 3) A calculation can be performed for each record in a database to select/unselect data based on the results of the formula. Let's look at each of these three options in more detail.

Automatic Calculations as Data is Entered

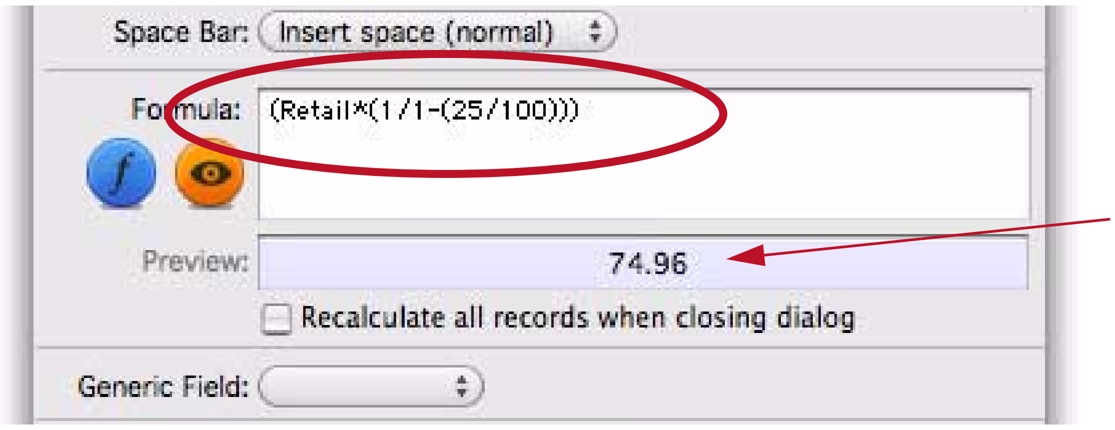
If the value of a field can be calculated with a formula, Panorama can calculate the value for you. For example, in this Product List database the Dealer Price is always equal to the Retail Price multiplied by the discount, which in this example is 25%.


Wholesale Pool Supplies

Item	Description	Retail	Dealer
8039	Heavy Duty Leaf Skimmer	19.95	14.96
8122	Pool Water Level Monitor	99.95	74.96
3977	Clorine Pack	32.95	24.71
8040	Heavy Duty Deep-Bag Pool Rake	14.99	11.24
7822	Pool Floor and Wall Brush	9.99	7.49
2933	Telescopic Pole with Hand Grip	24.99	18.74
1255	Pool Volleyball Game	9.99	7.49
8722	Floating Pool Dispenser	5.74	4.30
8473	5-Pad Pool Test Strips	13.50	10.12
3829	Solar Powered Pool Light	24.99	18.74

Dealer Price = Retail Price times Discount

To set up this calculation, click anywhere in the Dealer field and choose **Setup>Field Properties** (or double click on the Dealer field title. Then type in the calculation formula.



Space Bar: Insert space (normal)

Formula: (Retail*(1/1-(25/100)))

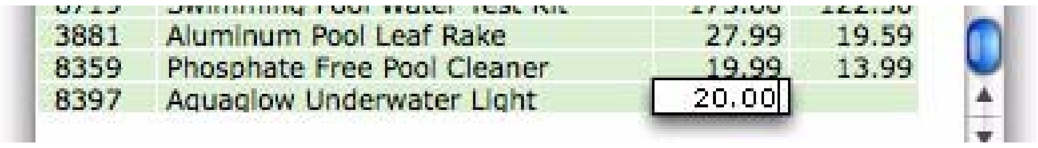
Preview: 74.96

☐ Recalculate all records when closing dialog

Generic Field:

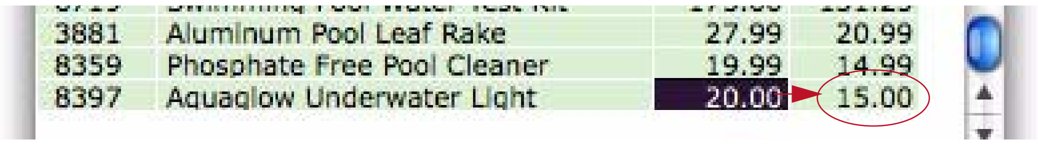
preview of formula result

The light blue area below the formula shows a preview of the formula results. This value is the result of the formula when applied to the current record in the database. When the formula is set up correctly, close the **Field Properties** dialog by pressing the **Ok** button. From now on, Panorama will automatically calculate the value of the Dealer field whenever the Retail or Discount fields are modified. So when a new retail price is entered…



3881	Aluminum Pool Leaf Rake	27.99	19.59
8359	Phosphate Free Pool Cleaner	19.99	13.99
8397	Aquaglow Underwater Light	20.00	

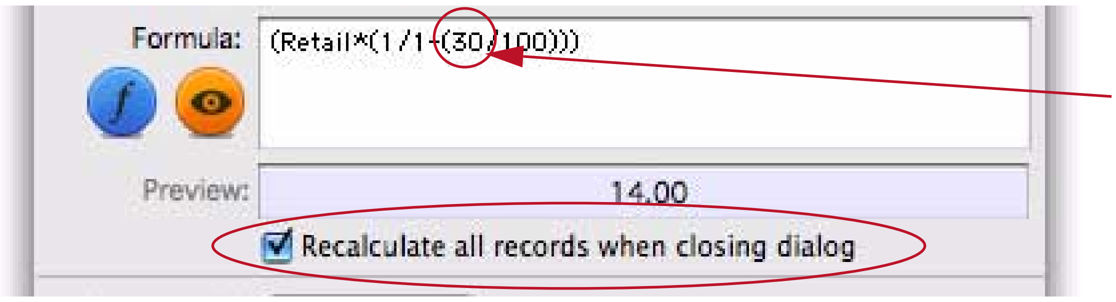
the Dealer price is automatically calculated when the **Return** or **Enter** key is pressed.



3881	Aluminum Pool Leaf Rake	27.99	20.99
8359	Phosphate Free Pool Cleaner	19.99	14.99
8397	Aquaglow Underwater Light	20.00	15.00

It's possible to edit the Dealer price (or any calculated field) directly and override the calculation. Just double click and edit it like any other data cell. However, if you later edit the Retail fields, the Dealer price will be recalculated and your edited price will be forgotten.

If you later decide to change the discount percentage, simply re-open the **Field Properties** dialog for the Dealer field and edit the formula. When you change the formula, you need to decide whether you want the formula to apply to just new data that is entered, or if you also want the formula to apply to all of the previously entered data as well. If the later is what you want, check the Recalculate all records when closing dialog option.



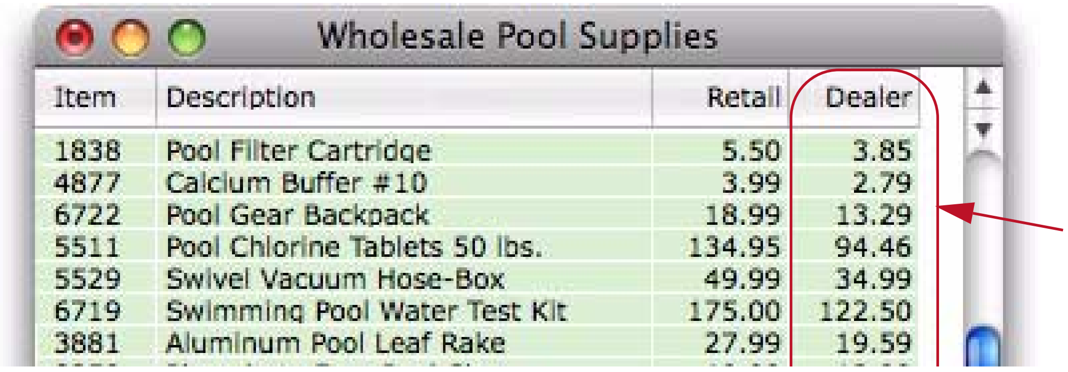
Formula: (Retail*(1/1-(30/100)))

Preview: 14.00

☑ Recalculate all records when closing dialog

new discount

Press the **Ok** button to close the **Field Properties** dialog and recalculate all of the dealer prices.



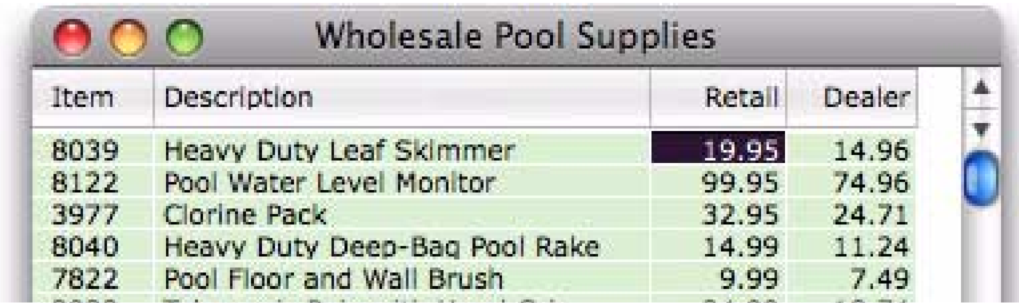
Wholesale Pool Supplies

Item	Description	Retail	Dealer
1838	Pool Filter Cartridge	5.50	3.85
4877	Calcium Buffer #10	3.99	2.79
6722	Pool Gear Backpack	18.99	13.29
5511	Pool Chlorine Tablets 50 lbs.	134.95	94.46
5529	Swivel Vacuum Hose-Box	49.99	34.99
6719	Swimming Pool Water Test Kit	175.00	122.50
3881	Aluminum Pool Leaf Rake	27.99	19.59

Discount changed to 30%

One Time Calculations (Manipulate Data in Field)

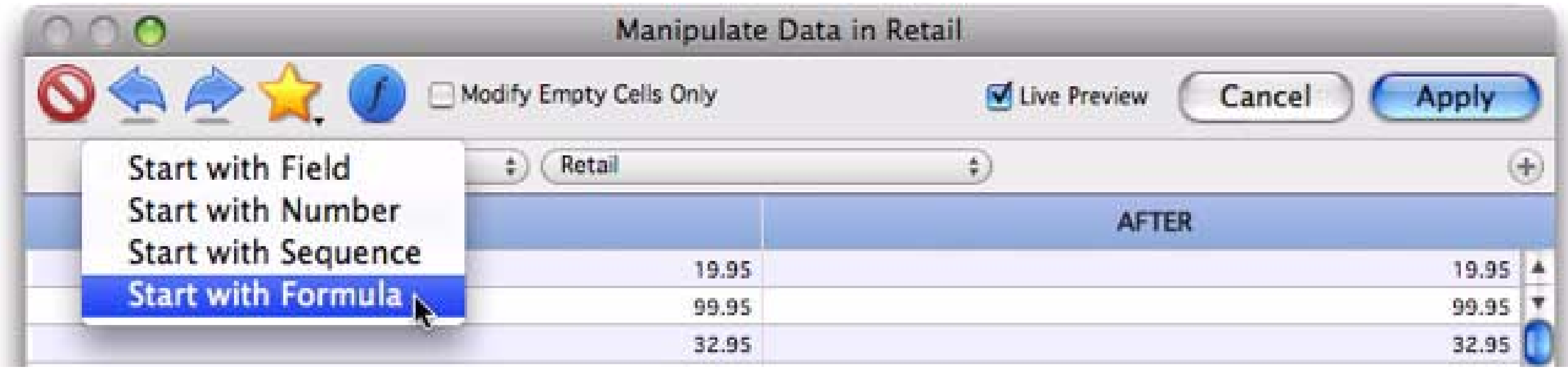
Sometimes you'll want to perform a calculation just one time, rather than over and over again each time data is entered. For example, suppose that due to inflation you need to increase everything in your price list by 8%. Start by clicking in any cell in the field you want to recalculate (in this case, Retail).



Wholesale Pool Supplies

Item	Description	Retail	Dealer
8039	Heavy Duty Leaf Skimmer	19.95	14.96
8122	Pool Water Level Monitor	99.95	74.96
3977	Clorine Pack	32.95	24.71
8040	Heavy Duty Deep-Bag Pool Rake	14.99	11.24
7822	Pool Floor and Wall Brush	9.99	7.49

Now choose **Field>Manipulate Data in Field**, then use the pop-up menu to switch from **Start with Field** to **Start with Formula**.

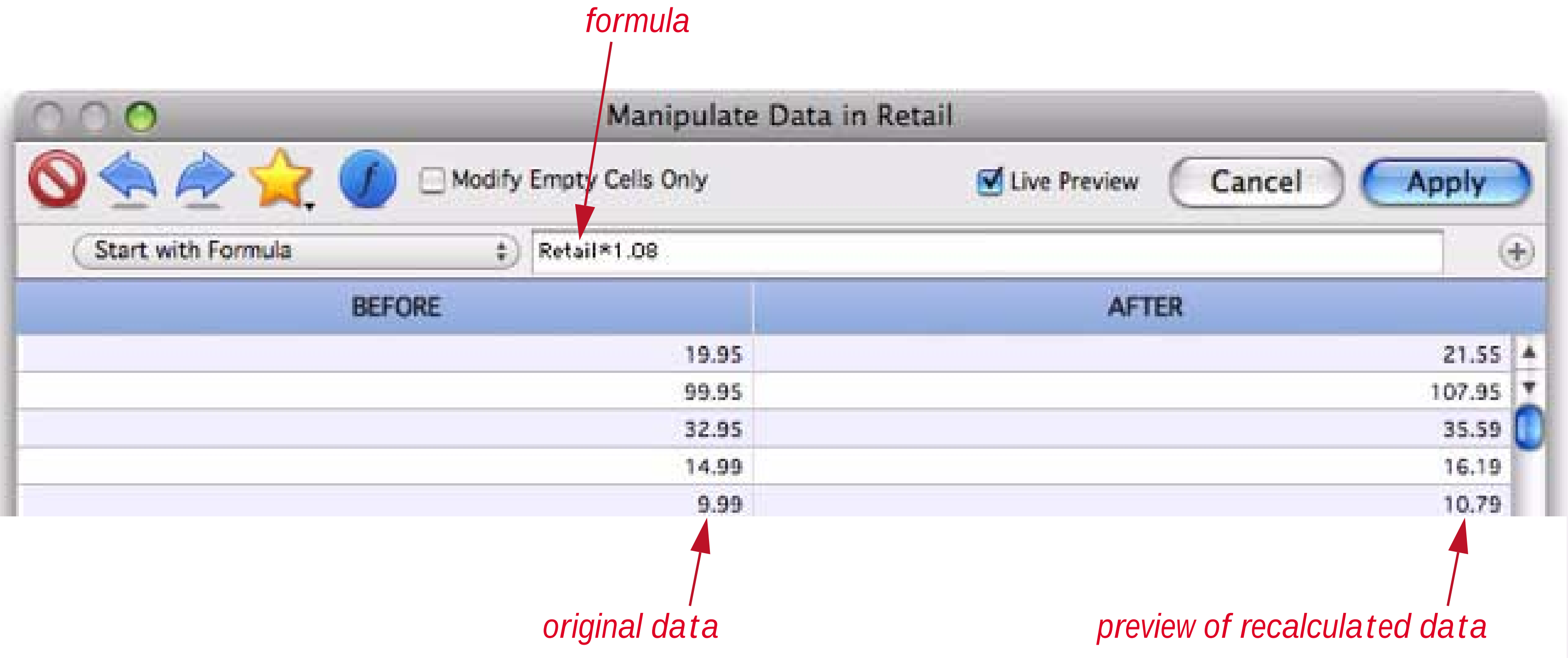


Manipulate Data in Retail

☐ Modify Empty Cells Only ☑ Live Preview

	AFTER
19.95	19.95
99.95	99.95
32.95	32.95

Now type in the formula. As you modify the formula the dialog shows a live preview of what the new calculated values will be. In this example you could change the percentage and instantly see what the new prices will be.



Start with Formula: Retail*1.08

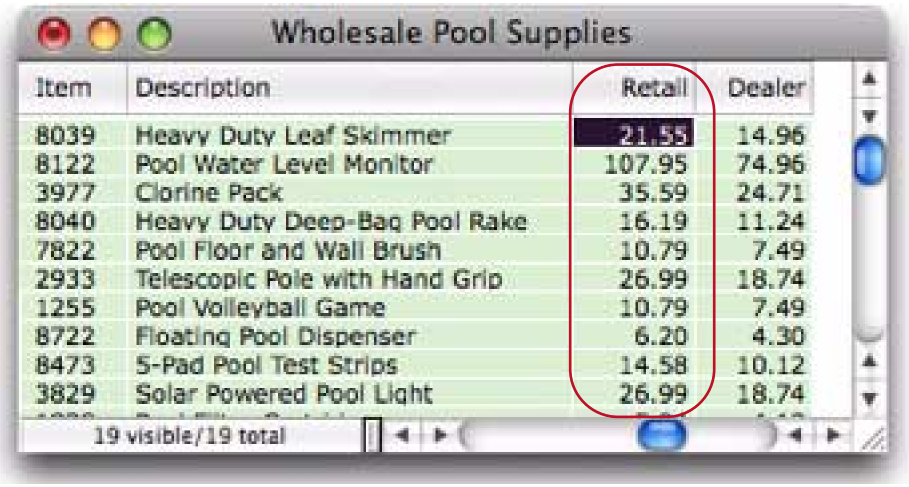
BEFORE	AFTER
19.95	21.55
99.95	107.95
32.95	35.59
14.99	16.19
9.99	10.79

formula

original data

preview of recalculated data

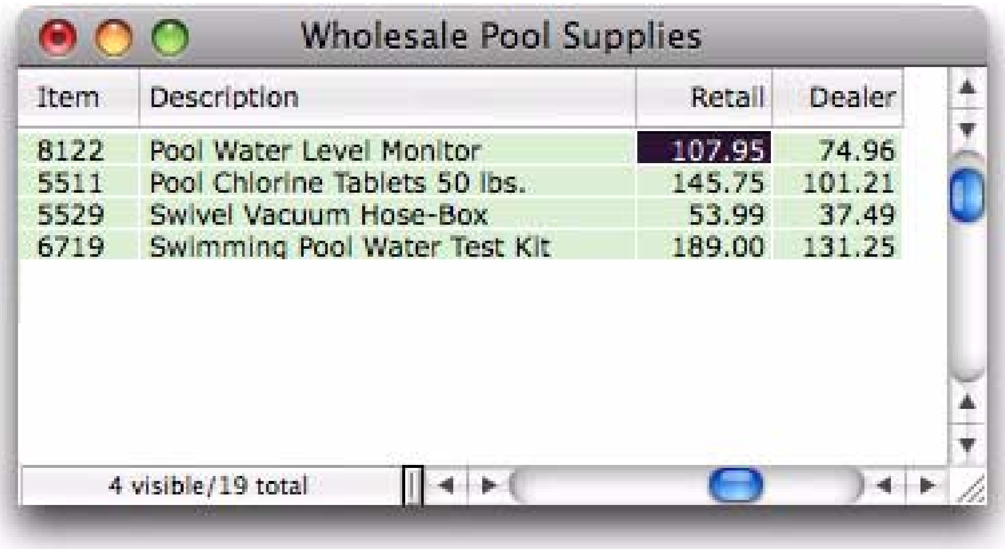
Once the formula is complete and double checked, press the **Apply** button. Panorama will re-calculate all of the retail prices.



Item	Description	Retail	Dealer
8039	Heavy Duty Leaf Skimmer	21.55	14.96
8122	Pool Water Level Monitor	107.95	74.96
3977	Clorine Pack	35.59	24.71
8040	Heavy Duty Deep-Bag Pool Rake	16.19	11.24
7822	Pool Floor and Wall Brush	10.79	7.49
2933	Telescopic Pole with Hand Grip	26.99	18.74
1255	Pool Volleyball Game	10.79	7.49
8722	Floating Pool Dispenser	6.20	4.30
8473	5-Pad Pool Test Strips	14.58	10.12
3829	Solar Powered Pool Light	26.99	18.74

19 visible/19 total

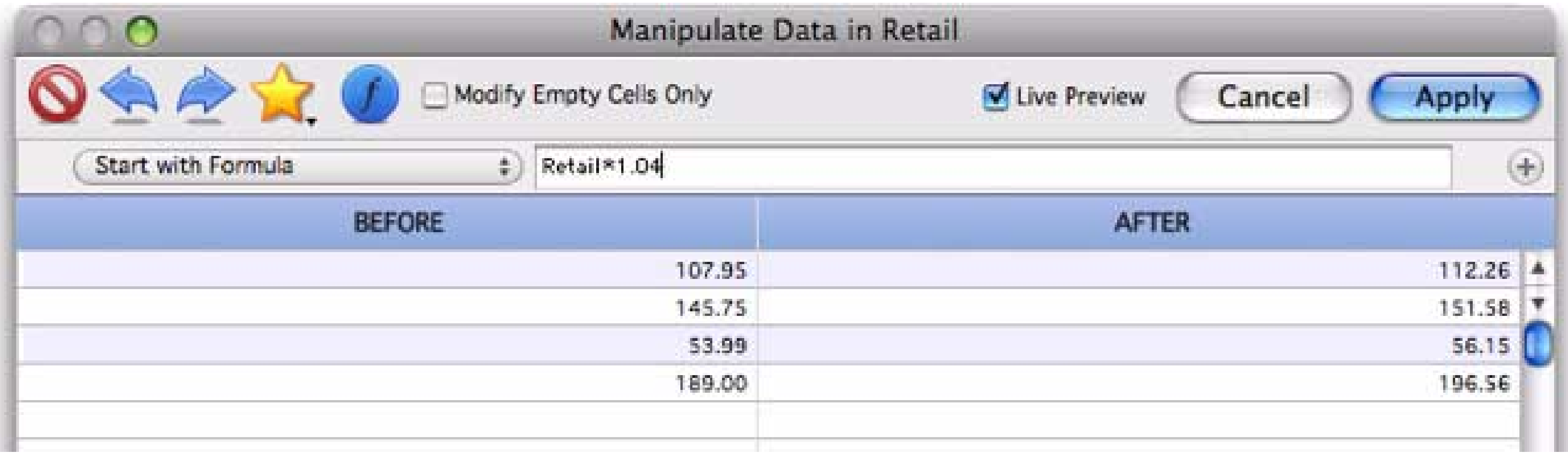
It’s also possible to recalculate only a selected portion instead of the entire database. Start by selecting only the data you want to modify, in this case items with retail prices greater than fifty dollars.



Item	Description	Retail	Dealer
8122	Pool Water Level Monitor	107.95	74.96
5511	Pool Chlorine Tablets 50 lbs.	145.75	101.21
5529	Swivel Vacuum Hose-Box	53.99	37.49
6719	Swimming Pool Water Test Kit	189.00	131.25

4 visible/19 total

Now we'll increase the price of just these items by an additional 4%.



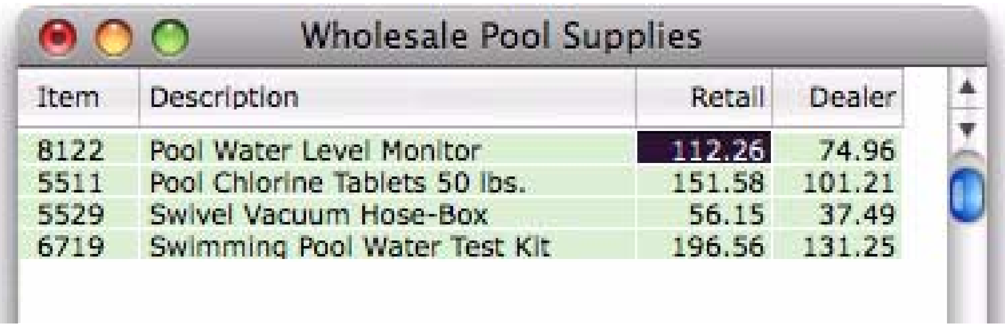
☐ Modify Empty Cells Only

☑ Live Preview

Start with Formula: Retail*1.04

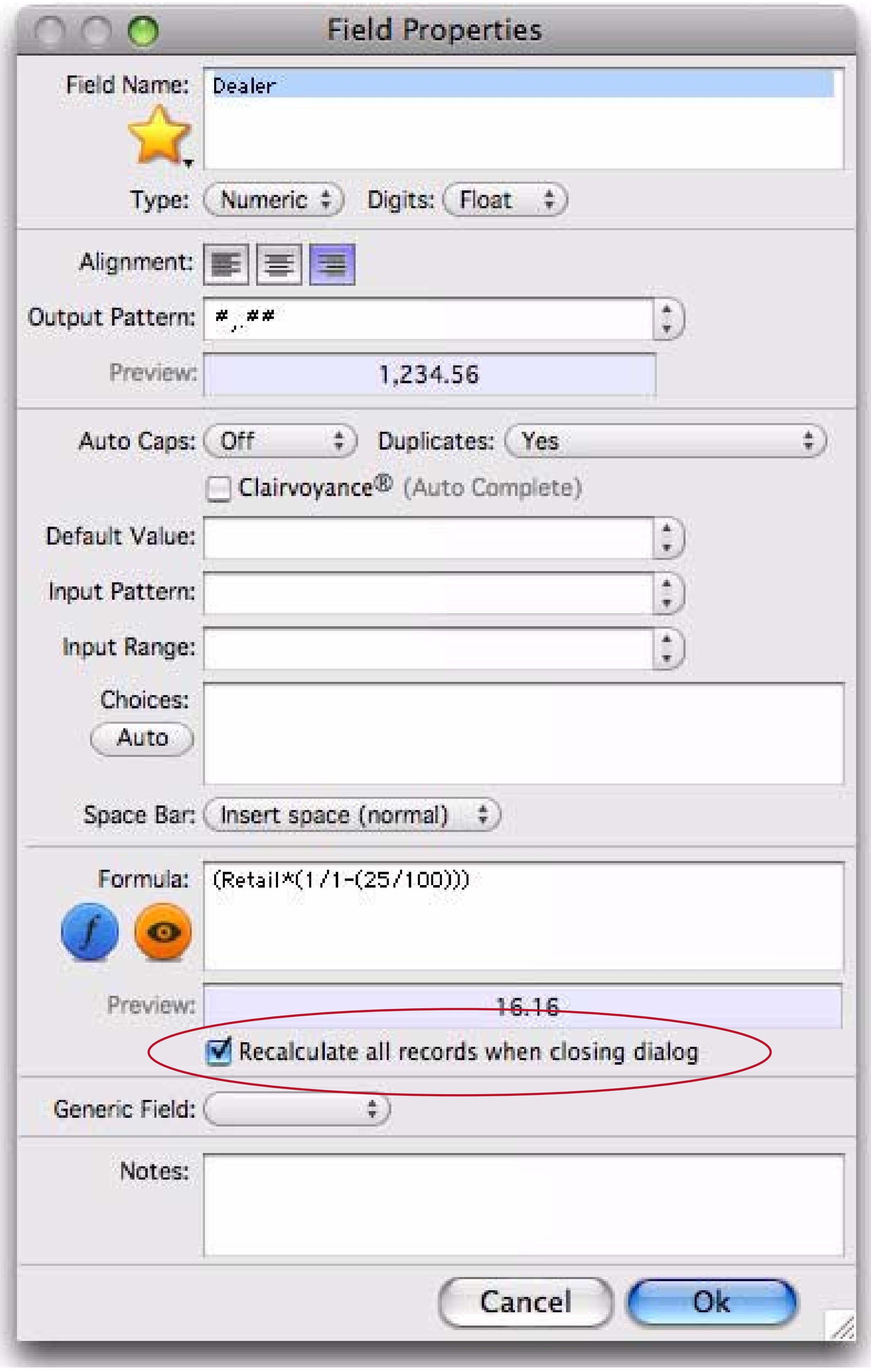
BEFORE	AFTER
107.95	112.26
145.75	151.58
53.99	56.15
189.00	196.56

Press **Apply** to recalculate just these four prices.



Item	Description	Retail	Dealer
8122	Pool Water Level Monitor	112.26	74.96
5511	Pool Chlorine Tablets 50 lbs.	151.58	101.21
5529	Swivel Vacuum Hose-Box	56.15	37.49
6719	Swimming Pool Water Test Kit	196.56	131.25

All of these prices increases have affected the retail price only, not the dealer price. If you want the dealer prices to be updated you must manually tell Panorama to update them. The easiest way to do that is to double click on the field title (in this case Dealer) to open the **Field Preferences** dialog, then check the Recalculate all records when closing dialog option.



Field Properties

Field Name: Dealer

Type: Numeric Digits: Float

Alignment:

Output Pattern: #,.##

Preview: 1,234.56

Auto Caps: Off Duplicates: Yes

□ Clairvoyance® (Auto Complete)

Default Value:

Input Pattern:

Input Range:

Choices:

Space Bar: Insert space (normal)

Formula: (Retail*(1/1-(25/100)))

Preview: 16.16

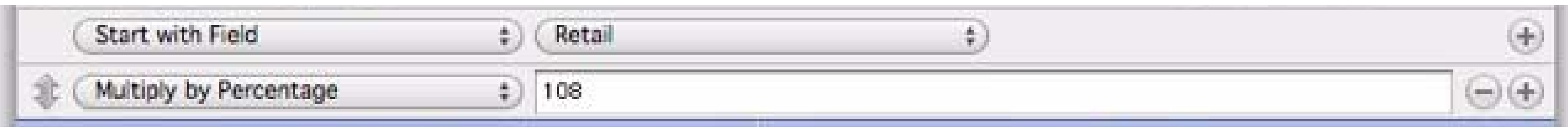
☑ Recalculate all records when closing dialog

Generic Field:

Notes:

Then press the **Ok** button to recalculate the dealer prices, in this case with a 25% discount from the revised retail prices.

Note: If you've used the **Manipulate Data in Field** dialog before, you may realize that the simple calculations performed in this example can be performed without a formula.



Start with Field: Retail

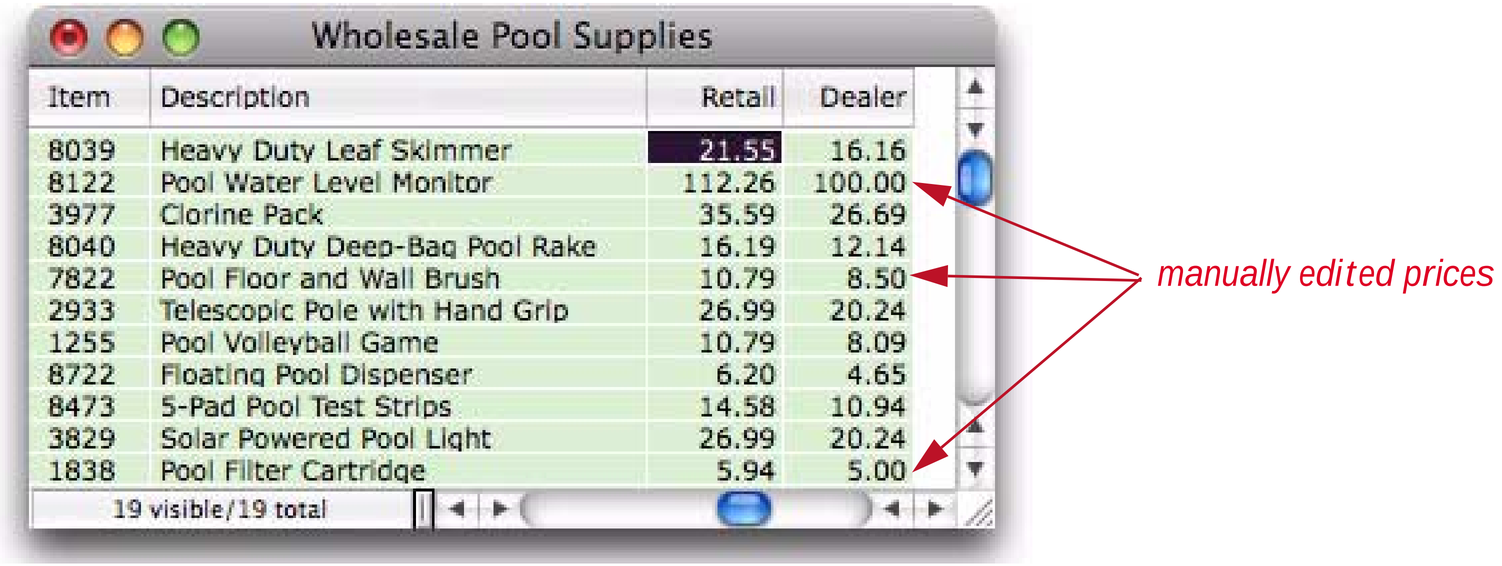
Multiply by Percentage: 108

The real benefit of the formula option kicks in for complex calculations. By using a formula, you can perform even the most complicated calculations instantly.

Using Calculations to Find or Select Data

Calculations aren't just for modifying data, they can also be used to locate specific data. To do that you need to construct a formula that can be true or false. Panorama will then scan the database, calculate the formula for each record, and show the records for which the formula is true.

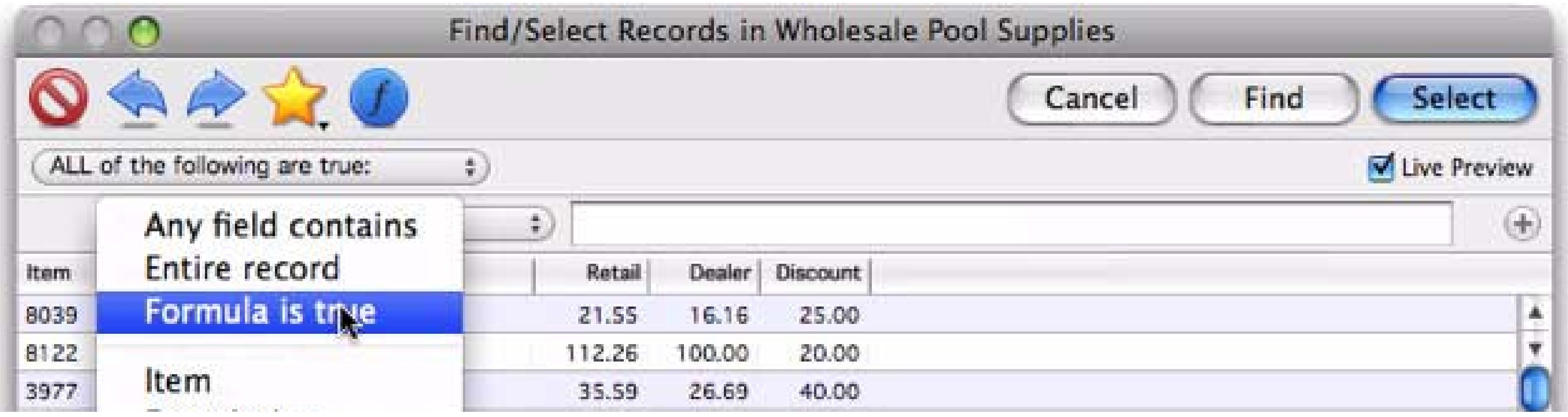
To illustrate this we'll use the same price list database used for previous calculations. In this case the dealer discount has automatically be set to 25%, but for some items the dealer price has been manually edited to a higher or lower discount.



Item	Description	Retail	Dealer
8039	Heavy Duty Leaf Skimmer	21.55	16.16
8122	Pool Water Level Monitor	112.26	100.00
3977	Clorine Pack	35.59	26.69
8040	Heavy Duty Deep-Bag Pool Rake	16.19	12.14
7822	Pool Floor and Wall Brush	10.79	8.50
2933	Telescopic Pole with Hand Grip	26.99	20.24
1255	Pool Volleyball Game	10.79	8.09
8722	Floating Pool Dispenser	6.20	4.65
8473	5-Pad Pool Test Strips	14.58	10.94
3829	Solar Powered Pool Light	26.99	20.24
1838	Pool Filter Cartridge	5.94	5.00

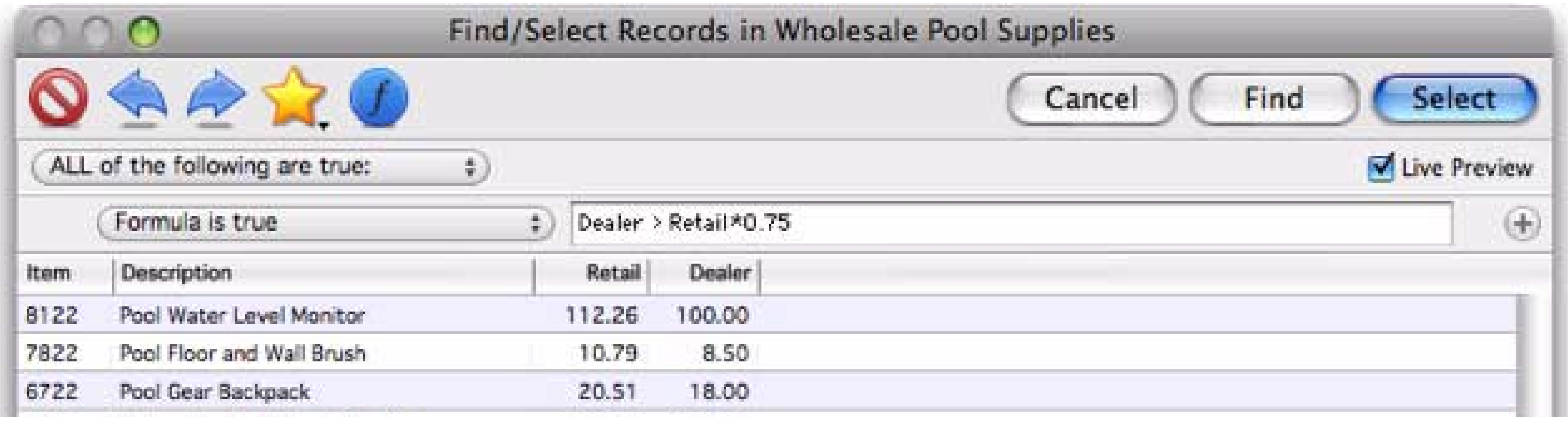
manually edited prices

If the database is small you may be able to spot these edited prices by eye, but Panorama can use a formula to quickly and accurately find every instance, even if there are only a few out of thousands of records. The first step is to open the **Records>Search>Find/Select** dialog, then use the pop-up menu to switch to **Formula is true** mode.



Item	Retail	Dealer	Discount
8039	21.55	16.16	25.00
8122	112.26	100.00	20.00
3977	35.59	26.69	40.00

Now type in the formula that specifies the information you want to locate, in this case records where the dealer prices is more than 75% as much as the retail price. The dialog shows a preview of the records that match.


Find/Select Records in Wholesale Pool Supplies
Cancel
Find
Select
ALL of the following are true:
☑ Live Preview

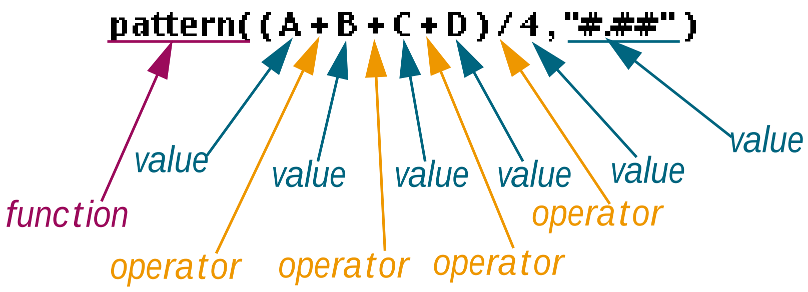
Formula is true: Dealer > Retail*0.75

Item	Description	Retail	Dealer
8122	Pool Water Level Monitor	112.26	100.00
7822	Pool Floor and Wall Brush	10.79	8.50
6722	Pool Gear Backpack	20.51	18.00

To actually find or select these records in the database itself, press the **Find** or **Select** button. With a bit of ingenuity you can almost come up with a formula to locate or select even the most obscure information.

Formula Components

Just as a sentence is constructed from basic words, a formula is created by combining simple elements — **values** (also called **operands**), **operators** and **functions**. Values (operands) are roughly equivalent to nouns, while operators and functions act as verbs. This illustration show the components that go into a typical formula.



Formula Grammar

Panorama formulas have grammar rules just as languages like English and Spanish do. These rules tell how values, operands and functions can be combined to make a valid formula.

The simplest formula is a single data value. Here are four examples of such simple formulas.

```
A

47

"Oregami"

ShippingMethod
```

Two values can be combined with an operator in between. The first example below adds two numbers together. The second example multiplies two numbers together. The third example appends two text values together (to produce a value like Mr. Jones).

```
2 + 2

Total * TaxRate

"Mr. " + LastName
```

The values must be the appropriate type for the operator. For example, you can multiply two numbers together like this

```
2 * 2
```

but you cannot multiply two text values together like this (see "Grammar Errors" on page 284).

```
"Mr. " * LastName
```

You can combine three or more data values with an operator between each pair of values.

```
7 + 3 * 4 / 2

FirstName + " " + MiddleInitial + " " + LastName
```

Calculation Order and Parentheses

When a formula contains more than one operator, the calculations are performed from left to right unless one of the operators has a higher precedence (priority). This is the natural arithmetic order—multiply and division first, then addition and subtraction. This table lists the order of precedence for all operators.

1. Unary minus (example: -12)
2. Raise to power (example: 10^5)
3. Multiply and Divide
4. Integer Divide
5. MOD (remainder)
6. Add and Subtract
7. Comparisons (=, <>, <, >, …)
8. NOT
9. AND
10. OR and XOR

For example, consider the formula below.

```
7 + 3 * 4 / 2
```

Panorama first multiplies 3 * 4 to get 12, then divides this by 2 to get 6. Finally it adds 7 (addition is last because of its low precedence) to get the final result, 13.

You can override the natural calculation order with parentheses. For example, the parentheses in the formula below force the addition to be calculated first, then the multiplication and division.

```
(7 + 3) * 4 / 2
```

Now the final result is 20 instead of 13. When in doubt you can always add parentheses to force Panorama to calculate the formula in any order you want.

Functions

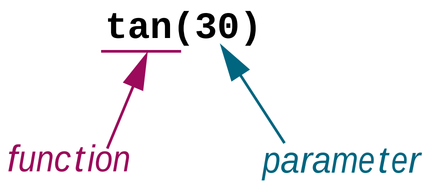
A function is a formula component that calculates a value. It may calculate the value out of thin air (for example, calculating the value of the current date or time) or it can calculate the value from other values (for example trigonometry functions calculate values from angles). Panorama has several hundred functions available. Each function has a name, and is always followed by parentheses. For example, the **tan(** function calculates the tangent (a trigonometry function) of an angle.

```
tan(30)
```

A function can be used in a formula anywhere a regular value can be used. Just as with ordinary values, you can use operators to combine functions with other values (and functions).

```
3 + tan(30)
```

The value operated on by the function is called a **parameter**.



A function takes the parameter value (in this case 30) and transforms it into another value (in this case -6.4053, the tangent of 30). The parameter can be a formula itself, like this.

```
   tan( A + B )
```

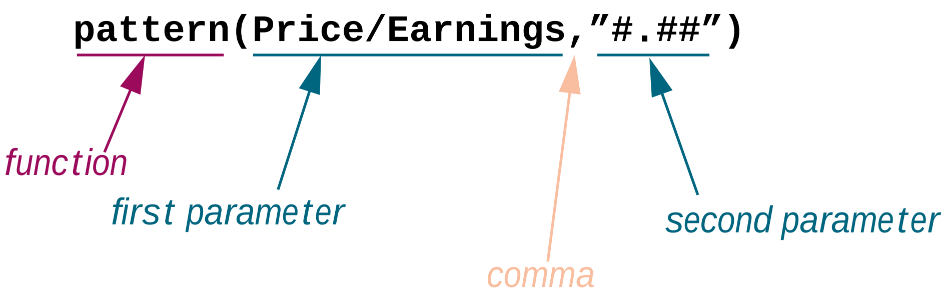
In this case Panorama first calculates the value A+B, then computes the tangent of that sum. A parameter may be as complex a formula as you need, with additional parentheses and even other functions nested inside the first function.

```
   tan( sqr( A + B ) + 1 )
```

The parameter to the **sqr(** function is A+B, while the parameter to the **tan(** function is sqr(A+B)+1. (The **sqr(** function, by the way, calculates square roots.) Panorama will always calculate the formula from the inside out until the entire formula has been computed.

Multi-Parameter Functions

Many functions use more than one parameter. When more than one parameter is required each parameter is separated from the next by a comma. All of the parameters are surrounded by parentheses, just as with single parameter functions. For example, the **pattern(** function (shown below) requires two parameters. The first parameter must be a numeric value (in this case a calculated average) and the second parameter must be a text value containing a pattern for formatting the number (see "Numeric Output Patterns" on page 196).



```
pattern(Price/Earnings,”#.##”)
```

Some functions require as many as six parameters. You must always supply every parameter — you cannot leave one out (see "Grammar Errors" on page 284).

Zero Parameter Functions

A small handful of functions don't require any parameters at all. These functions generate a value all by themselves, either by consulting the computer hardware (current date, current time), querying internal Panorama data (line number, imported data) or by generating a completely random number each time the formula is computed.

```
   today()       -- current date

   now()         -- current time

   seq()         -- line number

   import()      -- line of text from import file

   rnd()         -- random number
```

As you can see, these functions simply have both parentheses next to each other, with no parameter in between. You cannot omit the parentheses — you are required to include them as shown in the examples above.

Whitespace

Most of the examples you've seen so far have extra spaces between the components, like these.

```
7 + 3 * 4 / 2

FirstName + " " + MiddleInitial + " " + LastName

tan( sqr( A + B ) + 1 )
```

Panorama ignores spaces between components. You can leave out the spaces, like this.

```
7+3*4/2

FirstName+" "+MiddleInitial+" "+LastName

tan(sqr(A+B)+1)
```

Or you can add extra spaces between components, or even carriage returns, like this. (Note: Some dialogs do not allow you to enter carriage returns, because pressing the **Return** key closes the dialog.)

```
7 + 3   *     4 / 2

FirstName + " " +
  MiddleInitial + " " +
  LastName

tan(   sqr( A + B ) + 1    )
```

Spaces are only ignored **between** components, not within components. A common mistake is to place a space in between the function name and the left parenthesis. This is not allowed. The formula below will not work (see "Grammar Errors" on page 284) because of the spaces after **tan** and **sqr**.

```
tan ( sqr ( A + B ) + 1 )
```

Another common problem is spaces or other punctuation in field names. If your database has fields named First Name, Middle Initial and Last Name you might be tempted to try a formula like this.

```
First Name + " " + Middle Initial + " " + Last Name
```

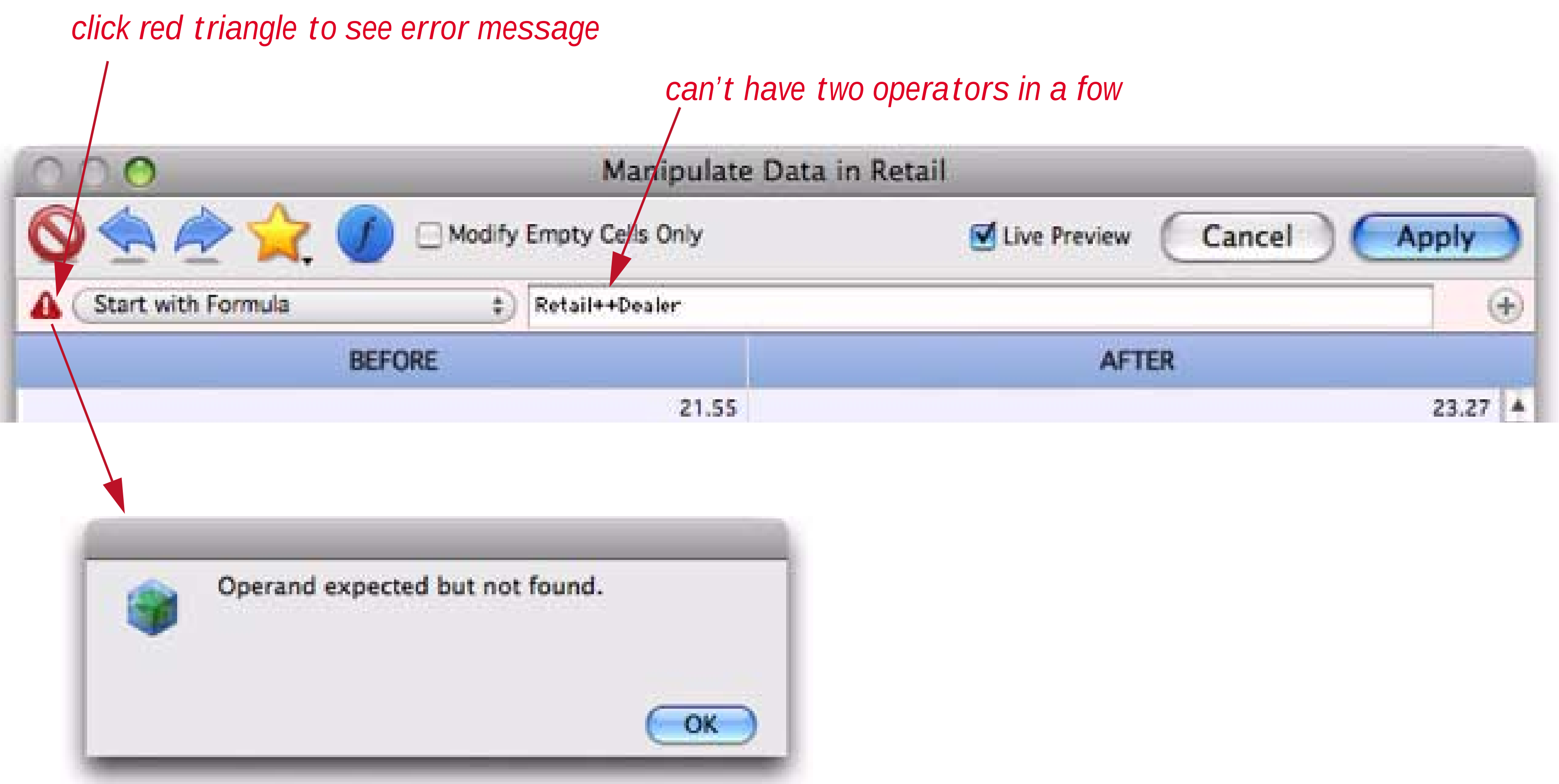
Sorry, but it won't work (see "Grammar Errors" on page 284). Because of the spaces inside the field names, Panorama will think that First and Name, Middle and Initial and Last and Name are separate components. The solution is to place chevron (« and ») characters around the field names. In many cases you can use the **Field** menu to type in the field name with chevrons for you. Otherwise, on the Macintosh press **Option-\** to create the « chevron character and **Shift-Option-\** to create the » chevron character. On Windows systems press **Alt-0171** to create the « chevron character and **Alt-0187** to create the » chevron character. Here's the revised formula, which will work perfectly

```
«First Name» + " " + «Middle Initial» + " " + «Last Name»
```

You'll also need to put chevrons around a field or variable name that contains punctuation, for example «P/E Ratio». Without the chevrons Panorama will think that this is four separate components — P, /, E and Ratio.

Grammar Errors

Unlike a human listener, Panorama is not able to tolerate incorrect or sloppy grammar. If you ask Panorama to calculate a formula that has incorrect grammar it will refuse to comply until you correct the mistake. A red triangle with an exclamation point appears on the left to indicate that the formula contains one or more grammar errors. Click on the red triangle to see a description of the error.


click red triangle to see error message

can't have two operators in a fow

Manipulate Data in Retail

Start with Formula: Retail++Dealer

Operand expected but not found.

The error message tells you that Panorama expected an operand (value) after the + operator. The solution is either to remove the extra + operator or add another value in between the two + symbols. Once the error is corrected you can press the **Apply** button (or **Ok**, **Find** or **Select**, depending on the dialog) to calculate the formula.

Values

Values are the raw material that formulas work with—numbers and text. A value may be embedded in the formula itself (a constant), or it may be stored in a database field.

Constants

When a value is embedded in the database itself it is called a **constant**. A numeric constant may be in fixed point format, like the numbers in this example (the numeric constants are highlighted in purple).

```
x + 2
```

```
today() - 90
```

```
Total * 0.0625
```

A numeric constant may also be in floating point format, which consists of the mantissa followed by the letter **e** followed by the exponent. The example below is equivalent to the mathematical formula $x \bullet 6.02^{23}$.

```
x * 6.02e23
```

A formula may also contain **text constants**. A text constant is a series of characters surrounded by quotes. When writing a text constant you may choose from five different types of quotes, as shown in this table.

<table>
<tr><th>Type</th><th>Open</th><th>Close</th><th>Example</th></tr>
<tr><td>Double Quote</td><td>"</td><td>"</td><td>"January"</td></tr>
<tr><td>Single Quote</td><td>'</td><td>'</td><td>'Tuesday'</td></tr>
<tr><td>Curly Braces</td><td>{</td><td>}</td><td>{San Francisco}</td></tr>
<tr><td>Smart Double Quote</td><td>“</td><td>”</td><td>“Gothic”</td></tr>
<tr><td>Smart Single Quote</td><td>‘</td><td>’</td><td>‘Bohemian’</td></tr>
<tr><td>Pipes</td><td>|, ||,
|||
etc.</td><td>|, ||,
|||
etc.</td><td>|||abc|||</td></tr>
</table>

The primary reason for different types is to allow quotes themselves to be used in a text constant. Suppose that you needed to use the text The shim was 6" high in a formula. Using double quotes around the constant will cause a grammar error, because Panorama won’t know what to do with the text after 6" (shown in red below).

```
"The shim was 6" high"
```

One possible solution is to use a different quote character around the constant. Any of the examples shown below will work.

```
'The shim was 6" high'

{The shim was 6" high}

“The shim was 6" high”

‘The shim was 6" high’
```

Another solution is put two double quotes in a row (as highlighted dark blue in the example below). Panorama will convert these into a single quote and continue with the text constant.

```
"The shim was 6"" high"
```

Build in Constants: Pi, Carriage Return and Tab

Panorama has one built in numeric constant—**pi**. Use the Greek π symbol to access this value. For example the area of a circle can be calculated with this formula.

```
π * radius^2
```

To create the π symbol on the Macintosh press **Option-P**. On the PC, type **Alt-0254**. You can also use the **pi()** function.

Panorama has two built in text constants—¶ (Carriage Return) and¬ (Tab). For example three line address can be included in a formula like this.

```
"Suzette Elliot"+¶+892 Melody Lane"+¶+"Fullerton, CA 92831"
```

To create the ¶ symbol on the Macintosh press **Option-7**. On the PC, type **Alt-0182**. You can also use the **cr()** function.

To create the ¬ symbol on the Macintosh press **Option-L**. On the PC, type **Alt-0172**. You can also use the **tab()** function.

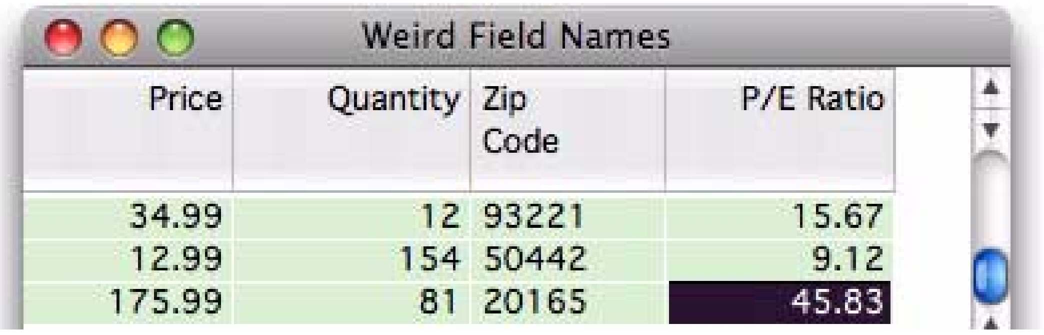
Fields

To use a field within a formula, type the name of the field into the formula. This formula adds up the sum of three fields.

```
SubTotal+Shipping+Tax
```

When a field is used in a formula it always refers to the value of that field in the current record in the current database (the database belonging to the topmost window). As you move from record to record the result of the computation will change depending on the values in that particular record. (The only exception to this rule is the **`lookup(`** and **`grabdata(`** functions, which may refer to fields in other records or even other databases.)

If a field name contains spaces, numbers, or punctuation marks in it, you must surround the name with chevron characters (« and »). (On the Macintosh press **Option-\** to create the « chevron character and **Shift-Option-\** to create the » chevron character. On Windows systems press **Alt-0171** to create the « chevron character and **Alt-0187** to create the » chevron character.) If the field name contains carriage returns, they must be represented with spaces. Here is a database with some unusual field names.

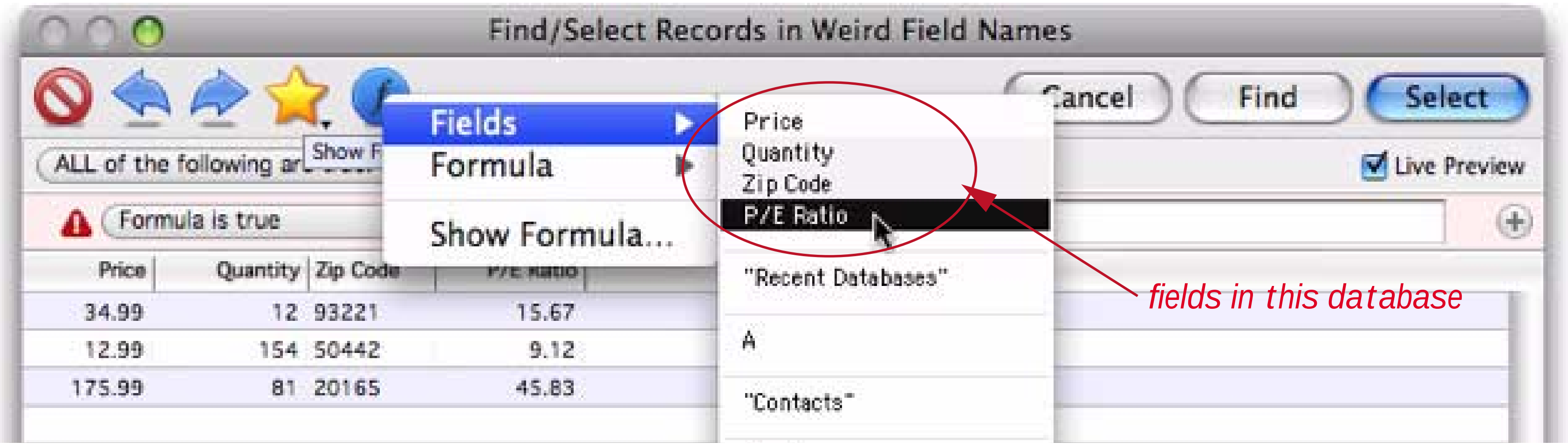


Price	Quantity	Zip Code	P/E Ratio
34.99	12	93221	15.67
12.99	154	50442	9.12
175.99	81	20165	45.83

The first two names can be used without chevrons, but the last two require chevrons because of spaces and punctuation in the names.

```
Price

Quantity

«Zip Code»

«P/E Ratio»
```

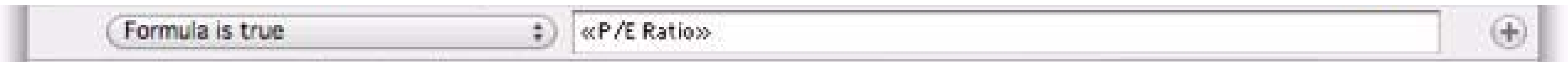
Formulas require field names to be spelled exactly as they appear in the database, with no typos allowed. Fortunately, Panorama can help you out with this. Start by positioning the insertion point where you want the field to appear, then click on the blue *f* icon. This displays a pop-up menu — the first submenu lists all of the fields in every open database, starting with the current database.



Price	Quantity	Zip Code	P/E Ratio
34.99	12	93221	15.67
12.99	154	50442	9.12
175.99	81	20165	45.83

fields in this database

Choose the field you want to use and it will be inserted into the formula, including chevron characters if necessary.



Formula is true «P/E Ratio»

If the chevrons are not necessary (for example for Price or Quantity) Panorama will not include them.

Using the Current Field

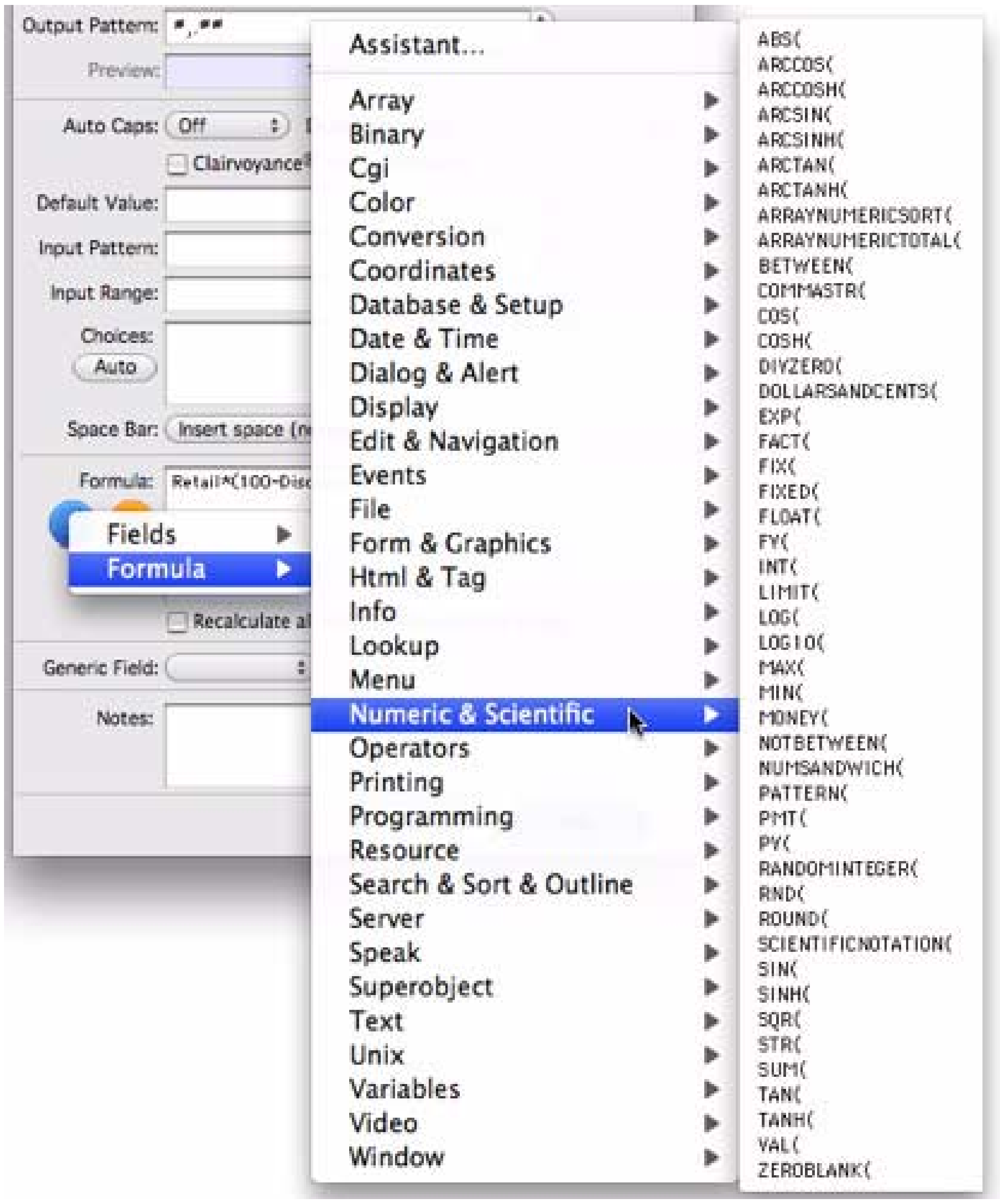
A formula may use «» (see “Special Characters” on page 288) to refer to the current field without having to know what the current field is. For example, this formula converts the current cell to upper case.

```
upper(«»)
```

If necessary, a formula can find out what the current field name is with the **info("fieldname")** function.

Help Typing Functions and Operators

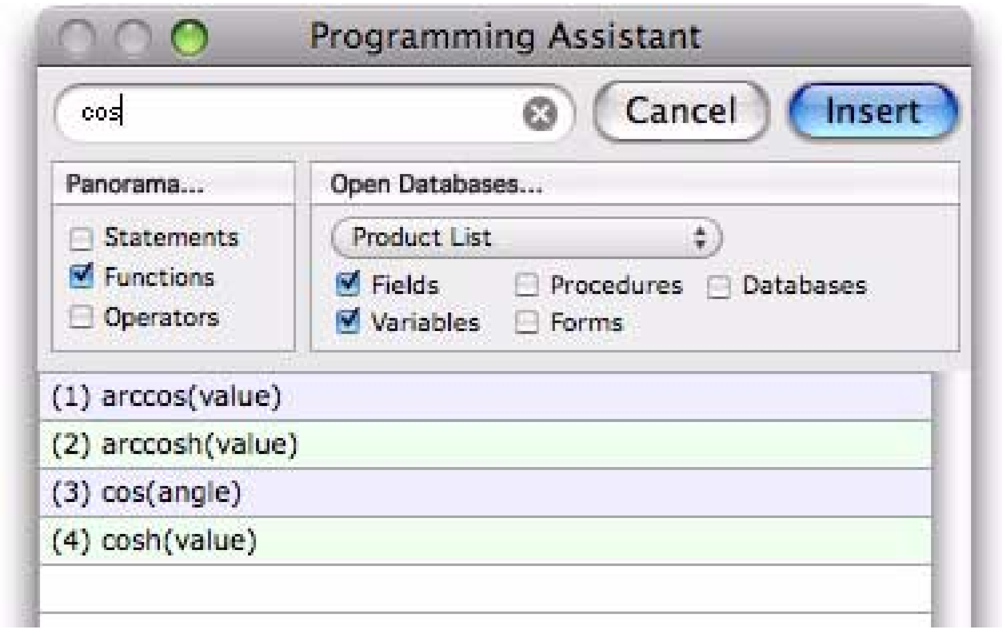
If you’re not sure how a function or operator is spelled, Panorama can type it for you. To do this, click on the blue *f* icon. This displays a pop-up menu — the second submenu of this menu, **Formula**, has submenus that list all of the functions and operators available to be used in a formula. As you can see, there is a wide selection of available functions and operators.



Output Pattern: #,##
Auto Caps: Off
Space Bar: Insert space (n
Formula: Retail*(100-Dis

You can choose any function or operator you want to insert it into your formula.

The first option in the **Formula** menu, **Assistant…**, opens a dialog that allows you to search for the function or operator you need.



cos

□ Statements
☑ Functions
□ Operators

Product List

☑ Fields □ Procedures □ Databases
☑ Variables □ Forms

(1) arccos(value)
(2) arccosh(value)
(3) cos(angle)
(4) cosh(value)

Simply type in a few characters from the function or operator you are looking for, then double click on the exact function you need to insert it into the formula.

Special Characters

Formulas are very picky about special characters. You’ve got to use the right special character in the right spot—no substitutes are allowed.

For example, some people mistake the bracket [] characters for the parentheses (). On your keyboard, the parentheses are created by pressing **Shift** and the **9** or **0** keys. Another common mistake is using the \ (backslash) instead of the **/** (slash) for divide. The table below lists all the special characters used by formulas and shows how to type them.

Character	Name	Mac	PC
(	left parenthesis	Shift-9	Shift-9
)	right parenthesis	Shift-0	Shift-0
[	left bracket	[	[
]	right bracket	]	]
{	left curly brace	Shift-[	Shift-]
}	right curly brace	Shift-]	Shift-]
«	left chevron	Option-\\	Alt-0171
»	right chevron	Shift-Option-\\	Alt-0187
^	caret (raise to power)	Shift-6	Shift-6
*	asterisk (multiply)	Shift-8	Shift-8
÷	divide	Option-/	not available, use /
=	equal	=	=
≠	not equal	Option-=	not available, use <>
<	less than	<	<
>	greater than	>	>
≤	less than or equal	Option-<	not available, use <=

Character	Name	Mac	PC
≥	greater than or equal	Option->	not available, use >=
¶	paragraph	Option-7	Alt-0182
¬	export tab	Option-L	Alt-0172
§	section mark	Option-6	Alt-0167
¢	cents	Option-4	Alt-0162
‘	left smart quote	Option-]	Alt-0145
’	right smart quote	Shift-Option-]	Alt-0146
“	left smart double quote	Option-[	Alt-0147
”	right smart double quote	Shift-Option-]	Alt-0148
Ω	omega (line items)	Option-Z	Alt-0166
π	pi	Option-P	Alt-0254

To use the **Alt** key on the PC you must hold down the **Alt** key, then press the numeric digits (for example **0182**) then release the **Alt** key. When you release the **Alt** key the special symbol will appear.

Arithmetic Formulas

Panorama formulas are very adept at performing arithmetic—from simple addition to complex financial calculations. Arithmetic formulas usually work just like the ones you learned about in high school. Panorama has seven arithmetic operators, as shown in this table.

symbol	operator
+	add
-	subtract
*	multiply
/ or ÷	divide
^	raise to power
\	integer divide
mod	modulo (remainder)

The ^ operator (press **Shift-6**) raises the operand on the left to the power specified on the right. For example the formula

```
2^3
```

means raise 2 to the third power (equivalent to the mathematical formula 2^3).

Dividing by Zero

Dividing by zero is, of course, a no-no. If you do attempt to divide by zero, Panorama will display an alert reminding you of this arithmetical impossibility. Sometimes, however, you may want to defy mathematical reality and divide by zero without getting slapped on the wrist. For example, since formulas treat empty data cells as zeros, attempting to divide by a cell that hasn't been entered yet will result in a divide by zero error. To bypass the error message, use the **divzero(** function instead of the / operator. The **divzero(** function returns zero if you attempt to divide by zero. For example, using the formula

```
Price/Qty
```

can result in a divide by zero error if Qty field is empty, but

```
divzero(Price,Qty)
```

will not.

Overflow/Underflow Problems

A number is a number, right? Well, not quite. You may remember that Panorama actually stores two different kinds of numbers—fixed digit and floating point, with fixed digit numbers being further divided into 0, 1, 2, 3, and 4 digit precision. In a formula these differences may be important, since some numbers are too big or too small to be represented in some of the fixed point formats.

Formulas try to perform arithmetic using the final numeric type required for the answer. For example, if the result of a formula will be placed in a fixed 2 digit field, calculations will be performed in a fixed 2 digit format unless you force the formula to use another format. If the final destination is not a numeric field, arithmetic will be performed using floating point. Floating point is also used when the answer is not going to be stored in a field—for example formulas that are merged into auto-wrap text object or Text Display SuperObject.

Since the internal format used for arithmetic can vary depending on the final destination of the answer, the same formula can give different results depending on where it is used. For example, the formula

```
1/4
```

gives the result 0.25 if the result is a floating point field, but 0 if the result is a fixed 0 digit field.

A more subtle problem can occur if an intermediate calculation causes an overflow, underflow, or loss of precision. Often this can be fixed by re-arranging the formula. For example, this formula for computing sales tax can have problems if the result will be stored in a 2-digit fixed field.

```
total*taxrate/100
```

If the tax rate is 6.5%, the intermediate result of the division is 0.065. But since 2-digit fixed point arithmetic is being used, this intermediate result will be rounded to 0.07, resulting in an incorrect calculation. You can fix this formula by doing the multiplication first.

```
(total*taxrate)/100
```

You can also fix this formula by forcing all the numbers to floating point using the float(function.

```
float(total)*float(taxrate)/float(100)
```

If all the operands are in the same numeric format, the formula will calculate the result using that format, in this case floating point.

If you don't want to worry about overflow / underflow problems one solution is simply to make all numeric fields floating point. Floating point fields take up slightly more RAM than fixed point fields, but for most databases the difference isn't critical.

Basic Numeric Functions

These functions perform various mathematical operations. Each of these functions takes one or more numeric parameters and returns a numeric result.

Function	Description
abs(number)	This function returns the absolute (positive) value of the numeric parameter. In other words, negative numbers are converted to positive numbers while positive numbers remain positive.
divzero(numerator,denominator)	This function divides two numbers. However, unlike the / operator, the divzero(function does not care if you attempt to divide by zero. If you attempt to divide by zero, this function simply returns zero.
fix(number)	This function truncates a number to an integer. It always truncates towards zero. For example fix(-4.6) is -4, while int(-4.6) is -5. For positive numbers the int(and fix(functions are identical. Don't confuse this function with the fixed(function, which converts numbers from floating to fixed point format.
fixed(number)	This function forces a number to fixed point format, using the least number of digits possible. Since formulas usually perform this conversion automatically, you probably won't ever need this function. Don't confuse this function with the fix(function, which truncates a number to an integer but does not change the type of the data.
float(number)	This function forces a number to a floating point format. You may need to use floating point to get around overflow, underflow, and accuracy problems that can occur when using fixed point arithmetic.
int(number)	This function truncates a number to an integer. It always truncates towards negative infinity. For example int(-4.6) is -5, while fix(-4.6) is -4. For positive numbers the int(and fix(functions are identical.
max(number,number)	This function compares two numbers and returns the larger value. If you need to compare more than two numbers, you can nest this function within itself, for example max(a,max(b,c)).
min(number,number)	This function compares two numbers and returns the smaller value. If you need to compare more than two numbers, you can nest this function within itself, for example min(a,min(b,c)).
randominteger(startnum,endnum)	Returns a random integer value greater than or equal to the startnumber and less than or equal to the end number.
round(number,step)	This function rounds a number to the nearest step. You can use any value you want for the step: 1, 10, 0.5, whatever. For example, you could use the formula round(Quantity,12) to round the quantity to the nearest dozen. The quantity 16 will be rounded to 12; the quantity 20 will be rounded to 24.
zeroblank(number)	This function tells Panorama to store zero as an empty space. If the final formula result is not zero, this function has no effect. The zeroblank(function is handy when you want to leave the result of a calculation blank if one of the operands are blank. For example, if you use the formula zeroblank(Qty*Price), the result will be empty if either the quantity or price is empty.

Scientific Functions

These functions perform various log, trig, and exponential calculations. Each of these functions takes one or more numeric parameters and returns a numeric result.

The trig functions listed in this table use radians to measure angles (1 radian = 180/π degrees). If you need to convert degrees into radians you can use the **degreestoradians(** function. For example to calculate the tangent of 30 degrees, use this formula:

```
tan(degreestoradians(30))
```

To convert radians into degrees, use the **radianstodegrees(** function.

Function	Description
arccos(number)	This function calculates the inverse cosine of a number. The number must be between -1 and +1.
arccosh(number)	This function calculates the inverse hyperbolic cosine of a number. The number must be between 1 and ∞.
arcsin(number)	This function calculates the inverse sine of a number. The number must be between -1 and +1.
arcsinh(number)	This function calculates the inverse hyperbolic sine of a number.
arctan(number)	This function calculates the inverse tangent of a number. The result is in radians,
arctanh(number)	This function calculates the inverse hyperbolic tangent of a number. The number must be between -1 and +1.
cos(number)	This function calculates the cosine of an angle. The angle is specified in radians, not degrees (see above).
cosh(number)	This function calculates the hyperbolic cosine of a number. The result will be a value between 1 and ∞.
exp(number)	This function raises **e** to a number. For example, the formula exp(10.2) is equivalent to $e^{10.2}$. Incidentally, e is a constant that is used in many mathematical formulas. Its approximate value is 2.71828.
fact(number)	This function calculates the factorial of a number. For example, the formula fact(4) is equivalent to 4! or 4*3*2*1. You can calculate the factorial of any integer from 0 to 170.
log(number)	This function calculates the natural logarithm (base e) of a number.
log10(number)	This function calculates the common logarithm (base 10) of a number.
sin(angle)	This function calculates the sine of an angle. The angle is specified in radians, not degrees (see above).
sinh(angle)	This function calculates the hyperbolic sine of a number.
sqr(angle)	This function returns the square root of the number.
tan(angle)	This function calculates the tangent of an angle. The angle is specified in radians, not degrees (see above).
tanh(number)	This function calculates the hyperbolic tangent of a number. The result will be a value between -1 and +1.

Financial Functions

These functions calculate financial data, including loan payments, future value, and present value. They are designed to be compatible with the same functions in Microsoft Excel®. The financial functions are based on the following formula.

```
pv(1+rate)periods+payment(1+rate ×begin)×((1+rate)periods-1)/rate+fv=0
```

Function	Description
pmt(rate,periods,amount,fv,begin)	This function calculates the periodic payment required to pay off a loan. The rate is the interest rate of the loan per period. Periods is the term of the loan expressed in payment periods, for example 36 months for a three year loan that is paid monthly. Amount is the amount being borrowed. The fv (future value) and begin values are optional, and should usually be set to zero. For example, suppose you are taking out a 36 month loan of $20,000 to buy a car. If the annual interest rate is 13.5% (1.125% compounded monthly), what would the monthly payment be? `pmt( 0.135/12 , 36 , 20000 , 0 , 0 )` The monthly payment is $678.71.

fv(rate,periods,payment,pv,begin)	This function calculates the future value of an investment. Rate is the interest rate per period. Periods is the term of the investment, for example ten years or 48 months. The pv is the present value of the investment, for example the starting balance in a savings account. Begin should be either 1 or 0; 1 if the payments occur at the beginning of the period, 0 if the payments occur at the end of the period.
	For example, to calculate the final balance in a savings plan when you invest $500 per year for 10 years at 9% annual interest use the formula—
	`fv( 0.09 , 10 , -500 , 0 , 1 )`
	At the end of ten years you would have $8280.15. What if this savings plan already has $2000 in it at the time you start this 10 year savings program? The new formula would be—
	`fv( 0.09 , 10 , -500 , -2000 , 1 )`
	At the end of 10 years you would have $13,014.87.

pv(rate,periods,payment,fv,begin)	This function calculates the present value of an investment. Rate is the discount rate, periods is the periodic investment, and payment is the periodic payment. The fv is an optional lump sum at the end of the final period; use zero if there is no lump sum. Begin specifies whether payments are received at the beginning or end of each period—1 for beginning or 0 for end. Present value is a variation of the old theme that a bird in the hand is worth two…well, you know. It's better to get $1000 now instead of $1000 next year, but how much better? The present value computation puts a numeric value on time and money. For example, suppose you find an investment opportunity that promises to pay you $1,000 per year for the next 3 years. Assuming the current interest rate is 10% per year, how much are these payments worth right now? `pv( 0.1 , 3 , 1000 , 0 , 0 )` The computation shows that $3000 paid over 3 years is worth $2486 right now (assuming 10% interest).

Text Formulas

Formulas can work on text as well as numbers. Formulas can combine two or more pieces of text, extract a portion of a piece of text (for example the area code or last name), or even re-arrange the text. Formulas can also convert numbers into text and back again.

Programmers call a piece of text a **string**, referring to the fact that the text is made up of a string of characters. Since this is such a handy term we'll use it ourselves. So whenever you see the word **string** think "piece of text."

Where do strings come from? Most strings come from the database itself. Any text or choice field can be used as a string. You can also put a string right into the formula itself (see "Constants" on page 284).

Gluing Strings Together

The simplest operation that can be performed on two strings is sticking them together, also called **concatenation**. To glue strings together use the + operator. This operator attaches the string on the right to the end of the string on the left. For example the formula

```
"abc"+"def"
```

produces the result abcdef. To attach the word Mr. to the beginning of a last name field use the formula

```
"Mr. "+«Last Name»
```

(Of course, you better be sure everyone in the database is a man!).

You can use more than one + operator to stick several strings together at once. For example to combine separate first and last names into a single string using the format Last, First use this formula:

```
«Last Name»+", "+«First Name»
```

Another way to glue strings together is with the **sandwich(** function. This function combines up to three items of text: a prefix, a suffix, and the root text. The prefix and suffix are slapped on the ends of the root, just like a sandwich. However, if the root is empty (sort of like a sandwich with no meat!) the prefix and suffix are also left off, just as you wouldn't bother to make a sandwich without any meat.

Let's revisit our previous example with the **sandwich(** function. The previous formula will work fine as long as there is a first name. But if the first name is empty, the formula will produce an extra comma, for example Jones, . The sandwich function can solve this problem:

```
«Last Name»+sandwich(", ",«First Name»,"")
```

If the First Name field contains a name, the **sandwich(** function will slap the prefix in front of the name (in this case the prefix is a comma and a space). But if the First Name field is empty, the sandwich(function will also leave off the prefix. All the formula will produce is the Last Name, with no extra comma and space.

Functions for Taking Strings Apart

These functions return portions of a string. See also “Taking Strings Apart (Text Funnels)” on page 296, “String Modification Functions” on page 298, “Text Arrays” on page 302 and “Date Arithmetic” on page 307.

Function	Description
after(text,tag)	This function extracts all of text after a specified tag (sequence of characters. If the tag doesn’t exist within the text the function returns "".
before(text,tag)	This function extracts all of text before a specified tag (sequence of characters. If the tag doesn’t exist within the text the function returns "".
firstline(string)	This function extracts the first line from the text.
firstword(string)	This function extracts the first word from the text (the text up to the first space).
lastline(string)	This function extracts the last line from the text.
lastword(string)	This function extracts the last word from the text (the text from the last space to the end).
left(string,len)	Extracts characters from the left edge of the text. For example left(text,2) extracts the leftmost two characters.
mid(string,len)	Extracts characters from the middle of the text. For example mid(text,6,4) extracts four characters starting with the sixth character.
nthline(string,num)	This function extracts the nth line from the text. For example nthline(text,4) extracts fourth line.
nthword(string,num)	This function extracts the nth word from the text. For example nthword(text,7) extracts seventh word.
removeprefix(text,prefix)	This function checks to see if a text item starts with a prefix. If it does, the prefix is removed.
removesuffix(text,suffix)	This function checks to see if a text item starts with a suffix. If it does, the suffix is removed .
right(string,len)	Extracts characters from the right edge of the text. For example right(text,7) extracts the rightmost seven characters from the text.
snip(string,startposition,count)	This function removes (snips!) one or more characters from the middle of an item of text. The startposition specifies the first character removed, the count is the number of characters to remove. (Note: This function requires the startposition to be a positive number.) If count is -1 then all the text from the start position to the end of the text is snipped, otherwise the count must be a positive number.
textafter(string,tag)	This function extracts the text after the tag. The tag many be one or more characters long. If the tag doesn't occur in the text then the entire original string is returned. For example textafter("someone@isp.net","@") will return isp.net.
textbefore(string,tag)	This function extracts the text before the tag. The tag many be one or more characters long. For example textbefore("someone@isp.net","@") will return someone. If the tag doesn't occur in the text then the entire original string is returned.
trim(string,len)	This function removes characters from the right edge of the text. For example trim(text,4) removes the last four characters from the text.
trimleft(string,len)	This function removes characters from the left edge of the text. For example trimleft(text,2) removes the first two characters from the text.

Taking Strings Apart (Text Funnels)

Sometimes you may have an item of text where you only need a portion of the text and want to strip off the beginning and or the end of the text. In addition to the functions in the previous section Panorama has a special tool for stripping off the ends of a text item. This tool is called a **text funnel**. Text funnels are powerful tools, however, many users find them a bit difficult to figure out. In recent years we've added many functions that can perform most of the operations that a text tool can perform. Before deciding to use a text funnel you may want to check out "Functions for Taking Strings Apart" on page 295, "String Modification Functions" on page 298, "Text Arrays" on page 302 and "Date Arithmetic" on page 307.

A text funnel is used a bit differently than other Panorama functions and operators. The text funnel always follows the text item that is being "stripped." In a sense a text funnel has three parameters, the text item, start, and end. But as you can see below, these parameters are arranged quite differently than they are for other functions:

```
<text item>[<start>,<end>]
```

The first parameter, text item, is the item of text which will be stripped to get the final result. This may be a field, a variable, or an entire formula (as long as it produces a text item as its final result). If you use an entire formula you should put parentheses around the formula.

The second parameter, start, specifies the first character you want to include in the final output. For example if you want to strip off the first three characters the start should be 4 (because the 4th character is the first one we want to keep). If the starting position is past the end of the text all the text will be stripped out and the formula is left with an empty text item.

The third parameter, end, specifies the last character you want to include. For example, if you want to strip off everything after the 12th character, the end should be 12. If the starting position is after the ending position, all the text will be stripped and the formula is left with an empty text item.

The real trick in setting up text funnels is deciding what the start and end parameters should be. The following sections will describe several techniques for setting up these parameters.

Numeric Start and End Positions

The simplest way to specify starting and ending positions is with a number. Positive numbers are counted from the beginning of the original text item (1 is the first character in the original text item). Negative numbers are counted from the last character of the original text item (-1 is the last character).

Our first example removes the first character from the Notes field.

```
Notes[2,-1]
```

The next example does the exact opposite—it removes the last character from the Notes field.

```
Notes[1,-2]
```

By using the same number for the start and end a text funnel can strip out a single character. The procedure below uses the text funnel **[1,1]** to check to see if the first character of the phone number is a (. If so, it uses another text funnel to strip out the area code.

```
if Phone[1,1]="("
   AreaCode=Phone[2,4]
endif
```

A procedure can use a variable to pre-load the start and end positions. The procedure below will strip out everything starting with the phrase Private Notes Below ---.

```
local X
X=search(Notes,"Private Notes Below ---")
if X≠0
   PublicNotes=Notes[1,X-1]
else
   PublicNotes=Notes
endif
```

Specifying Numeric Length Instead of Position

An alternate form of text funnel allows you to specify the length of the text to be stripped out, instead of the ending position. This alternate form simply uses a semicolon instead of a comma:

```
<text item>[<start>;<length>]
```

The length specifies the number of characters from the starting position. A positive length means that the stripped text begins at the starting position and extends to the right. A negative length means that the stripped text begins at the starting position and extends to the left. The character at the starting position is always included (unless the length is zero).

Let’s look at two examples of this technique. The first extracts the area code from a long distance phone number.

```
Phone[2;3]
```

The next example strips out the local phone number (the last 8 characters).

```
Phone[-1;-8]
```

If the original text item is too short to fulfill the request the text funnel will take whatever it can get. For example, if the phone number is only 3 characters long, the value in LocalNumber will be 3 characters long.

String Testing Functions

These functions return information about the content of a string.

Function	Description
length(string)	This function counts the number of characters in a string. The result is an integer. If the string is empty, the result will be zero.
linecount(string)	This function counts the number of lines in the text.
rangecontains(thetext,therange)	This function checks to see if the text contains any characters in the specified range. The range must be a series of character pairs, for example AZ for upper case alphabetic characters, AZaz for upper and lower case, 09 for numeric digits, etc. If the text contains any characters in the specified range the function returns true, otherwise it returns false. For example, rangecontains(Company,"09") will return true if the company name contains any numeric digits, false if it doesn't..
rangematch(string,range)	This function checks text to see if the text matches the specified range. The range must be a series of character pairs, for example AZ for upper case alphabetic characters, AZaz for upper and lower case, 09 for numeric digits, etc. If it matches the function returns true, if it doesn't match, it returns false. For example, rangematch(Address,"AZaz09 ") will return true if the address contains only letters, numbers and spaces, false if it contains any other characters.

Function	Description
search(string,phrase)	This function searches through a string looking for a word or phrase. If the search is successful, the function returns the position of the phrase within the string, otherwise the function returns zero. For example, the formula search(Name,"Dr.") will return a non-zero value (usually 1) if the name contains Dr., or zero if it does not.

sizeof(name)	This function calculates the amount of memory used by a field cell or a variable. Name is the name of the field or variable that you want to calculate the size of. The function returns the number of bytes of memory used by the variable or field cell.
	The sizeof(function can be used to decide if a numeric or date field is empty or not. The example procedure shown below selects all the records with no price (not the same as records with a price of zero).
	`select sizeof(Price)=0`
	Another use for the sizeof(function is to check if a variable is taking up too much scratch memory. This example checks to see if the variable importLetter is more than 500 bytes long. If it is, the procedure clears the variable.
	`if sizeof(importLetter)>500`
	`   importLetter=""`
	`endif`

wordcount(string)	This function counts the number of words in the text.

String Modification Functions

These functions modify the contents of a string. Usually the string is actually a database field. Remember, to use a database field as a string parameter simply use the name of the field, for example upper(Name).You'll often want to use these functions to modify the existing data in a field. For example, you might want to convert all company names to upper case. To convert existing data use the **Manipulate Data in Field** command in the **Fields** menu (see "The Manipulate Data Dialog" on page 230). This command calculates the formula over and over again—once for each selected record.. Note: In addition to the functions listed here you will also find methods for modifying strings in "Functions for Taking Strings Apart" on page 295, "Taking Strings Apart (Text Funnels)" on page 296, "Text Arrays" on page 302 and "Date Arithmetic" on page 307.

Function	Description
connect(prefix,connector,suffix)	This function appends a prefix and suffix together with a connector in between. If either the prefix or the suffix is missing then the connector will also be left out. For example, connect(City,", ",State) combines the city and state with a comma and space in between, but if either the city or state is missing then the comma and space will also be left out. See also the sandwich(and yoke(functions in this table.
defaulttext(text,default)	This function returns the text value supplied in the first parameter. However, if this text value is empty ("") the function will return the specified default value.
fixedwidth(string,width)	This function makes the text a fixed width. If the text is shorter than the specified width, it is padded with spaces. If it is longer than the specified width, it is cut off.
fixedwidthright(string,width)	This function makes the text a fixed width. If the text is shorter than the specified width, it is padded with spaces on the left (i.e. the text is right justified). If it is longer than the specified width, it is cut off on the left.
linestrip(text)	This function removes any blank lines from the text.
lower(string)	This function converts all of the letters in the string to lower case. For example, the formula lower(Terms) will convert NET 30 to net 30, or C.O.D. to c.o.d. See also the upper and upperword functions.

Function	Description
obscuredigits(number,count)	This function obscures digits (usually a credit card number) with X's. The first parameter is the text that contains the digits. The second parameter is the number of digits on the end that will NOT be obscured. For example the formula obscuredigits("1234-5678-9876-5432",4) will produce the value XXXX-XXXX-XXXX-5432. Notice that the function retains any additional formatting in the text, in this case dashes.
onespace(string)	This function removes any extra spaces between words, so that there is exactly one and only one space between each word.
onewhitespace(string)	This function removes any extra whitespace between words, making sure that there is one and only one space between each word. Other whitespace characters (carriage returns, tabs) are converted to spaces and removed if there is more than one between words.
padzero(text,width)	This function makes the text a fixed width. If the text is shorter than the specified width, it is padded with 0's on the left (i.e. the text is right justified). If it is longer than the specified width, it is cut off on the left..
rep(string,count)	This function replicates a string over and over. The number of replications is specified by the count (a number). This function is handy for creating a long repeating string. For example to create a string containing twenty asterisks in a row, use the formula rep("*",20). The count does not have to be a constant, but it must be an integer.
replace(string,search,replace)	This function searches for a word or phrase within a string and if found, replaces it with a new word or phrase. The first parameter is the string that may contain the word or phrase. Usually this parameter is a database field. The second parameter is the word or phrase to search for. The third parameter is the new word or phrase. For example, to replace Corporation with Corp. in the Client field, use the formula replace(Client,"Corporation","Corp."). To use this formula to replace the data in the database, use the **Formula Fill** command. (For a simple replace case like this, however, it is easier to use the **Change** command. The replace(function is useful when you want to perform other transformations in addition to the replace.)
sandwich(prefix,root,suffix)	The sandwich(function assembles a text item from three smaller text items. The prefix and suffix are slapped on the ends of the root, just like a sandwich. However, if the root is empty, the prefix and suffix are also left off (the result is an empty text item), just as you wouldn't make a sandwich without any meat. Suppose you have a database with names and titles, and you want to display this information in a report with the titles surrounded by parentheses. The formula below could be used with an auto-wrap text object or Text Display SuperObject. `Name+sandwich(" (",Title,")")` If the person has a title it will appear in parentheses like this: Steve Johnson (Sales Mgr). If they don't have a title then no parentheses will appear. The sandwich(function is useful any time you have optional data items combined together with punctuation in between. See also the connect(and yoke(functions in this table.
strip(text)	This function strips off leading and trailing blanks and other whitespace (carriage returns, tabs, etc.) This function has one parameter, the item of text that you want to strip. The function removes blanks at the beginning or end of the text, but does not affect blanks in the middle of the text. It also removes carriage returns, tabs, or any character with an ASCII value less than 32.

Function	Description
stripchar(text,range)	This function removes characters you don’t want from a text item. You specify exactly what kinds of characters you want and don’t want included in the final output. Text is the item of text that you want to strip. Range specifies what kinds of characters you want to keep and what kinds of characters you want to strip away. The range consists of one or more pairs of characters. Each pair specifies a set of characters you want to keep. For example, the pair AZ means that you want to keep the characters from A to Z. For alphanumeric characters the set is pretty obvious. For other types of characters you should check an ASCII chart (see “ASCII Character Constant Functions” on page 301). For example the pair #& specifies a set of four characters: #, $, % and &. You can use the **ASCII Chart** wizard to try out your character ranges. If a pair consists of the same character repeated twice in a row, the set is just that single character. For instance the pair ## means you want to keep one character: #. The range may consist of several pairs put together. For example the range AZaz09.. consists of four pairs, and specifies that all letters, numbers, and periods will be kept, with all other characters stripped away. One handy use for this function is to quickly check if a field or variable contains any inappropriate characters. If a field or variable changes when you run it through the stripchar(function it must contain characters that are not part of the specified range.
striphtmltags(text)	This function removes all HTML tags from the text.
stripprintable(text)	This function removes any non-displayable characters from the text.
striptoalpha(text)	This function removes everything but alphabetic letters from a text item. Everything else (numbers, spaces, punctuation, non-English letters, etc.) will by removed from the text. One handy use for this function is to quickly check if a field or variable contains all alphabetic characters. If a field or variable changes when you run it through the striptoalpha(function it must contain non-alphabetic characters.
striptonum(text)	This function removes everything but numeric digits from a text item. Everything else (letters, spaces, punctuation, non-English letters, etc.) will by removed from the text. One handy use for this function is to quickly check if a field or variable contains all numeric digits. If a field or variable changes when you run it through the striptonum(function it must contain non-numeric characters.
upper(string)	This function converts all of the letters in the string to upper case. For example, the formula upper(Terms) will convert net 30 to NET 30, or c.o.d. to C.O.D. See also the lower(and upperword(functions.
upperword(string)	The upperword(function converts the first letter of each word in the string to upper case, and all other letters to lower case. For example the formula upperword(State) will convert new york to New York, or will convert VERMONT to Vermont. See also the lower and upper functions.
yoke(prefix,joiner,suffix)	This function appends two text items (prefix and suffix) together. If both are non-blank, a joiner is placed in between. If either (or both) is blank, the joiner is not used. In some ways this is the reverse of the sandwich(function.

Converting Between Numbers and Strings

These functions convert numbers into strings and strings into numbers.

Function	Description
asc(string)	This function converts the first character of the string into a number based on the ASCII value of the character. For example the formula asc("Y") returns the value 89, while asc("Z") returns the value 90. See also the chr(function.
chr(number)	This function converts a number into a single character of text based on the ASCII value of the number. The number should be an integer between 0 and 255. For example, the letter A has an ASCII value of 65, while the letter B is 66. You can create special characters with this function; TAB is 9 and RETURN is 13. See also the asc(function.
dollarsandcents(number)	This function converts a number to text formatted as dollars and cents (for example 98123.45 becomes Ninety eight thousand one hundred twenty three dollars and 45 cents).
money(number)	Converts a number to text, formatted with commas every three digits and two digits after the decimal point (for example 98,123.45).
nth(number)	This function converts a number into an ordinal, i.e. 1=1st, 2=2nd, 3=3rd, 4=4th, etc.
pattern(number,string)	This function converts a number into text, using the string as an output pattern. For example the formula pattern(Price,"$#.,##") will convert the price 3458.23 into the string $3,458.23. The pattern adds the $ and the comma. For more information on numeric output patterns see “Numeric Output Patterns” on page 196.
str(number)	This function converts a number into text without any special formatting. If you want to format the number (add commas, set # of digits, etc.) use the pattern(function.
val(string)	This function converts a string into a number. The string must start with one or more numeric digits. Everything after the first non-numeric character will be ignored. For example, the formula val(Address) will return the number 731 if the address is 731 N. Miller St.
zbpattern(number,pattern)	This function displays a number using a pattern. Unlike the normal pattern(function, the zbpattern(function will output "" if the number is zero. (Note: zb is short for zeroblank.)

ASCII Character Constant Functions

These functions return common ASCII characters.

Function	Description
info("lineseparator")	This function returns the line separator character on the current platform. On Macintosh systems this is a carriage return. On Windows PC systems this is a carriage return followed by a linefeed (CR-LF).
cr()	This function generates a carriage return. This is equivalent to chr(13) and is also the same as ¶.
crlf()	This function generates a carriage return line feed. This is equivalent to chr(13)+chr(10).
lf()	This function generates a line feed. This is equivalent to chr(10).
tab()	This function generates a tab character. This is equivalent to chr(9) and is also the same as ¬.
vtab()	This function generates a vertical tab character. This is equivalent to chr(11).

Text Arrays

An array is a numbered collection of data items. Panorama includes a number of functions and statements that treat a single text data item as if it were a numbered collection of smaller items. The smaller text data items must be separated from each other by a delimiter, for instance a comma or carriage return.

Consider the text data item shown below. Panorama would normally treat this as a single item with a length of 40 characters. The functions described in this section, however, can treat this text as a collection of 7 elements separated by semicolons.

```
white;red;orange;yellow;green;blue;black
```

In this example, the ; is the separator character. You can use any character you want for a separator character, in fact, you can use different separator characters at different times. You could even build a multi-level array by using two different separator characters.

Using the array functions and statements provided by Panorama you can extract elements from an array, change array elements, even sort an array. Since arrays are really text, they can be stored in any variable or any text field, and they can be edited with the data sheet, a data cell, or a Text Editor SuperObject.

There are many statements and user interface elements that work with text arrays, including lists and pop-up menus. There are also a number of functions that generate text arrays, including functions for building lists of files, windows, fields, choices, and data. Most of these statements, user interface elements, and functions require that carriage returns be used as separators, so that each array element is on a separate line.

It is up to you to keep track of the fact that you are using an array and what the separator character is. Panorama won't stop you from trying to access the array of colors above as if it were delimited with commas instead of semicolons, but you probably won't get the results you wanted unless you use the correct separator character.

(If you are familiar with the arrays in C or Pascal, Panorama text arrays are quite a bit different, although both are a numbered collection of items. As with anything unfamiliar, Panorama text arrays probably won't look as good as the ones you are used to at first. Panorama arrays do have some significant advantages though: they don't have to be declared in advance, each array element can be of unlimited length without wasting space, and Panorama arrays can be directly edited. It's also very easy to "pre-fill" a Panorama array with a list of values.)

Picking a Separator Character

Any ASCII character can be used as a separator character, so you have 256 possible choices. Common separators include comas, semicolons, slashes, carriage returns, spaces and tabs.

It's important to pick a separator character that will not occur in the data elements of your array. If your data may include commas, don't use the comma as a separator character. If the data might include carriage returns, don't use a carriage return. If you want to be extra sure to avoid conflicts, pick a non-printing character. You can use the **`chr(`** function to generate non-printing characters, for example **`chr(1)`**, **`chr(2)`**, **`chr(3)`**. Most **`chr(`** values below 32 are non-printing except for **`chr(9)`** and **`chr(13)`**, which correspond to tab and carriage return.

Some Panorama user interface elements and functions use text arrays as parameters or to hold a list of values. For these applications the separator character is usually required to be a carriage return. For example, the Pop-Up Menu SuperObject uses a carriage return delimited array to define the list of pop-up menu choices. The **`lookupall(`** function extracts information from another database and places it into an array with whatever separator you specify. Consult the documentation for each individual statement, function or SuperObject to see the exact specifications for any arrays they may use.

Working With Arrays

Panorama has about a dozen functions and procedure statements for working with arrays. These functions are described in this table.

Function	Description

array(text,item,sep)	This function extracts a single data item from a text array. Text is the item of text that contains the data you want to extract. Item is the number of the data item you want to extract. The first item is item 1, the second is item 2, the third item is 3, etc. Separator is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see "Special Characters" on page 288). For tab delimited arrays use the ¬ character.
	The array(function returns a single item of text from the array. Only the item itself is returned, the separator characters on each end are not included. If the item does not exist (for example if you ask for item 12 from a 7 item array) the function will return empty text ("").
	There are 7 VHF television stations in Los Angeles. The example procedure below will convert channel numbers into the names of the stations. For example, the procedure converts Channel 7 into KABC.
	`Stations=",KCBS,,KNBC,KTLA,,KABC,,KCAL,,KTTV,,KCOP"`
	`«Channel Name»=array(Stations,7,",")`
	The example uses an array called Stations. This array uses commas as a separator character.

arrayboth(a1,a2,sep)	This statement compares two arrays. The result is a list of elements that are included in both arrays. Note: Empty array elements, if any, will be ignored. Both arrays must use the same separator.
arraychange(text,value,item,sep)	This function changes a single value inside a text array. Only the one item is changed, all the other items in the array remain the same. Text is the text array that contains the data you want to change. Value is the new value of the data item. Item is the number of the data item you want to change. Items are numbered starting from 1 (1,2, 3,...). This item must already exist in the array. The arraychange(function will not add the item if it does not exist. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see "Special Characters" on page 288). For tab delimited arrays use the ¬ character. This function returns a copy of the text array, with the data item changed. If you want to change the original array you should use an assignment statement (see below). The example procedure below will change the 5th item of the array to Navajo White. `Colors=arraychange(Colors,"Navajo White",5,";")` This example assumes that a field or variable named Colors already exists.
arraycontains(text,item,sep)	This function checks to see if any element of an array matches the specified text. For the result to be true, the array element must match the specified text exactly, including upper and lower case. Otherwise the function will return false. So checking for "Green" will only match that exact array element, not "green" or "Olive Green". (Note that this is quite different from the contains operator, which ignores upper and lower case and allows a submatch.)
arraydeduplicate(text,separator)	This function removes duplicate values from an array. As a byproduct it also sorts the array.

Function	Description
arraydelete(text,item,count,sep)	This function deletes one or more elements from the middle of a text array. Text is the text array that you want to insert elements into. Item is the spot where you want the elements to be deleted. Count is the number of elements you want to delete from the array. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see "Special Characters" on page 288). For tab delimited arrays use the ¬ character. This function returns a copy of the original text array, with the specified elements deleted from the middle. The example procedure below will delete the 3rd item from the SpeedDial array: `SpeedDial=arraydelete(SpeedDial),3,1,¶)`
arraydeletevalue(text,value,sep)	This function deletes any array elements that match the value parameter. This mush be an exact match, including upper and lower case. If the value occurs multiple times in the array, every occurrence of the value will be removed, with one exception: If the value occurs in two consecutive array elements, only the first occurrence will be deleted.
arraydifference(a1,a2,sep)	This statement compares two arrays. The result is a list of elements that are in the first array but not the second. (Note: Empty array elements, if any, will be ignored.) Both arrays must use the same separator.
arrayfirst(text,sep)	This function extracts the first element of an array.
arrayinsert(text,item,count,sep)	This function inserts one or more elements into the middle of a text array. Text is the text array that you want to insert elements into. Item is the spot where you want the new elements to be inserted. Count is the number of blank elements you want to insert into the array. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see "Special Characters" on page 288). For tab delimited arrays use the ¬ character. This function returns a copy of the original text array, with the new blank array elements inserted into the middle. The example procedure below will add 5 new array items to the SpeedDial array between the 2nd and 3rd array items: `SpeedDial=arrayinsert(SpeedDial),¶,3,5)` The new array items created by arrayinsert(are blank (empty). You can fill them in with the arraychange(function.
arraylast(text,sep)	This function extracts the last element of an array.
arraylefttrim(text,count,sep)	Removes the first elements of an array. For example arraylefttrim(text,2,",") removes the first two elements from a comma separated array.
arraynotcontains(text,item,sep)	This function is the reverse of the arraycontains(function.

Function	Description

arrayrange(text,start,end,sep)	This function extracts a series of data item from a text array. Text is the item of text that contains the data you want to extract. Start is the number of the first data item you want to extract. Items are numbered starting from 1 (1, 2, 3,…). End is the number of the last data item you want to extract. Items are numbered starting from 1 (1, 2, 3,…). Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see “Special Characters” on page 288). For tab delimited arrays use the ¬ character.
	This function returns a series of items from the array. It returns the first item, the last item, and everything in between (including any separators that are in between). If the last item does not exist (for example if you ask for item 12 from a 7 item array) the function will return up to the actual last item in the array. If both requested items do not exist, the function will return empty text ("").
	This example procedure will fill the variable WeekDays with the text Mon,Tue,Wed,Thu,Fri.
	`Days="Sun,Mon,Tue,Wed,Thu,Fri,Sat"`
	`WeekDays=arrayrange(Days,2,6,",")`

arrayreplacevalue(text, oldvalue,newvalue,sep)	This function replaces any array elements that match the value parameter. This must be an exact match, including upper and lower case. If the value occurs multiple times in the array, every occurrence of the value will be replaced, with one exception. If the value occurs in two consecutive array elements, only the first occurrence will be replaced.
arrayreverse(text,sep)	This function reverses the order of the elements in a text array. In other words, the first element becomes the last element, the second element becomes the second to last, etc. Text is the text array that you want to modify. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see “Special Characters” on page 288). For tab delimited arrays use the ¬ character. The arrayreverse(function reverses the order of the elements of an array. For example, the formula: `arrayreverse("1;2;3;4",";")` will produce the array 4;3;2;1.
arraysearch(array,text,start,sep)	This function searches a text array to see if it contains a specific value. Array is the text array that you want to search. Text is the text that you want to search for. This parameter may contain the wildcard characters ? and * . For example, to search for array items that start with John use John* . To search for any array item containing Pacific use *Pacific*. The array item must match the text exactly, including upper/lower case. For more information on wildcard characters, see “A match B” on page 316. Start is the spot in the array where you want the search to begin from. If you want to search the entire array, this parameter should be one. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see “Special Characters” on page 288). For tab delimited arrays use the ¬ character. If the arraysearch(function finds an array element that matches what you are searching for it returns the number of that array element (1, 2, 3, etc.). If there is no matching element, the function returns 0.

Function	Description

arraysize(text,sep)	This function counts the number of items in a text array. Text is the text array that you want to count. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see "Special Characters" on page 288). For tab delimited arrays use the ¬ character.
	This function returns a number. This is the number of elements in the array. If there is no text in the array, the function will return one. If you need a function that returns zero if there is no text you can use the extract function with the last parameter set to -1 (see "String Modification Functions" on page 298).
	This example uses the arraysize(function to display the number of forms in the current database. (The dbinfo("forms,"") function creates an array listing all the forms in the current database, separated by carriage returns.)
	`message "This database contains "+`
	`  str(arraysize(dbinfo("forms",""),¶))+" forms"`

arraysort(text,separator)	This function sorts an array in alphabetical order.
arraystrip(text,sep)	This function removes any blank elements from a text array. Text is the text array that you want to strip the blank elements from. Sep is the separator character for this array. This should be a single character. For carriage return delimited arrays, use the ¶ character (see "Special Characters" on page 288). For tab delimited arrays use the ¬ character. This function returns a copy of the original text array, with any blank array elements removed from the array.
arraytrim(text,count,sep)	This function removes the last elements of an array. For example arraytrim(text,2,",") removes the last two elements from a comma separated array.
makenumberedarray(sep,start,end)	This function generates a numeric sequenced array, for example 1, 2, 3, 4, 5. You can specify the starting and ending number of the sequence.

Date Arithmetic

Formulas can perform several useful calculations on dates. For example, you can calculate the number of days between two dates, or you can add or subtract a certain number of days to a date. You can also convert a date to text using a wide variety of formats.

Usually we think of a date in terms of years, months, and days. Formulas, however, treat dates as a certain number of days—specifically, the number of days between that date and January 1, 4713 B.C., adjusted for the Gregorian calendar correction in October 1582. (The date 4713 B.C. is chosen for obscure astronomical reasons). For example, to a formula the date August 7, 1991 is day number 2,448,476.

Fortunately you should never have to worry about numbers like 2,448,476. The formula will automatically convert a date field into the number of days, perform the calculation, and then convert back into a regular date again.

Since formulas handle dates as numbers, you can use any numeric operator or function to manipulate dates. However it doesn't make much sense to take the square root of a date (although Panorama will let you). There are really only two numeric operations that make sense on dates—subtracting two dates to find the number of days in between and adding or subtracting a number of days to a date.

To calculate the number of days between two dates, just subtract one from the other. For example, the formula

```
«Ship Date»-«Order Date»
```

will calculate the number of days required to process an order.

To calculate an offset from a given date, just add the number to the date. For example the formula

```
«Ship Date»+30
```

calculates the normal due date 30 days after the ship date.

Today's Date

The **`today()`** function returns the number corresponding to today's date, allowing you to use today's date in a formula. For example, to calculate the age of an invoice use a formula like this.

```
today()-«Ship Date»
```

To calculate the due date for a library book, use the formula like this.

```
today()+14
```

This formula assumes that books are checked out for two weeks.

Converting Between Dates and Text

These functions allow you to convert a date into text, or text into a date. You should only use these functions if you want to store the result of a date calculation in a text field instead of a date field, or if you want to access a date that has been stored as text.

Note: Remember, formulas handle dates as numbers, so these functions actually convert numbers into text and vice versa. It's up to you to make sure that these numbers actually represent the correct dates.

Function	Description
completedatestr(number)	Convert a date to text, including the day of the week (for example Sunday, April 20th, 2003).
date(text)	This function converts a text string in a date format into the number representing that date. Use this function to include a constant date in your formula, for example date("12/9/1979"). You should also use this function to access dates that have been stored in text fields (but why are you doing that in the first place?). Several formats are supported, including mm/dd/yy, mm/dd/yyyy, Month dd, yyyy, and Mon dd, yyyy. Dates in the current week can be represented by the name of the day, for instance Tuesday or Fri. Dates in the previous or upcoming week can be represented by adding the words last or next, for example last friday or next wed.
datepattern(number,pattern)	This function converts a number representing a date into a formatted text string. The pattern parameter is an output pattern telling the function how to format the date. For more information on date output patterns, see "Date Output Patterns" on page 200. Use the datepattern(function to store a date in a text field, or to display a formatted date in an auto-wrap text object or Text Display SuperObject. For example, the formula: `datepattern(«Ship Date»,"Month ddnth, yyyy")` can be used to display the date an order was shipped in the format May 12th, 2003.
datestr(number)	Convert a date to text using format mm/dd/yy (for example 4/20/03).
daystr(number)	Convert a date to the day of the week (for example Sunday).
eurodatestr(number)	Convert a date to text in European format (for example 20-APR-2003).
exportcell(field)	This function takes any database field and converts it to text, using the appropriate pattern if one has been defined in the Field Properties dialog. Field is the name of the field to be converted to text. The function always returns a text type data item. The power of the exportcell(function is that it does not require you to know what type of data you are exporting. It simply takes whatever kind of data is in the field (text, number, date, whatever) and converts it into text.
longdatestr(number)	Convert a date to text with format Month ddnth, yyyy (for example April 20th, 2003).
naturaldata(date)	This function converts a date to text in a natural format similar to how people would refer to the date, for example Today, Tue, Apr 4. If the date is more than 180 days in the past or is in the future the pattern mm/dd/yy is used. This is similar to how the Apple Finder displays dates..

Date Functions

These functions perform various calculations and conversions on date values. Unless specified otherwise the date is always processed as a numeric value.

Function	Description
datevalue(year,month,day)	This function converts three integers into a date. The three integers are the year, month and date. This function provides a way to create a date that is independent of the system date settings (the date(function, which can also create dates, will produce different values in different countries depending on the date formats used in those countries).

dayofweek(date)	This function computes the day of the week (0-6) of a date, with Sunday being 0, Monday 1, etc. The function returns a number from 0 to 6. The days of the week are:
	`0  Sunday`
	`1  Monday`
	`2  Tuesday`
	`3  Wednesday`
	`4  Thursday`
	`5  Friday`
	`6  Saturday`
	The procedure below uses the dayofweek(function to select all weekday records (monday through friday).
	`select dayofweek(Date)≥1 and dayofweek(Date)≤5`

dayvalue(date)	This function extracts the day of the month from a date as a numeric value (1 to 31).

month1st(date)	This function computes the first day of a month. For example, if the date passed to this function is October 18, 1997, this function will return the date October 1, 1997. The date is returned as a number.
	The example procedure below uses this function to select the orders placed this month, then displays the count.
	`select OrderDate≥month1st( today()) and`
	`   OrderDate<month1st(today())+monthlength(today())`
	`message str(info("records"))+" orders this month"`

monthlength(date)	This function computes the length (number of days) of a month. For example, if the date passed to this function is October 18, 1997, this function will return 31, the number of days in October. This function knows about leap years and adjusts the length of February accordingly.
	The example procedure below uses this function to select the orders placed this month, then displays the count.
	`select OrderDate≥month1st( today()) and`
	`   OrderDate<month1st(today())+monthlength(today())`
	`message str(info("records"))+" orders this month"`

Function	Description
monthmath(date,offset)	This function takes a date and computes another date that is one or months before or after the original date. Date is a number representing the original date. Offset is the number of months that you want to add or subtract to the original date. Use a positive number to move forward in time, a negative number to go backwards. For example, if you offset the date May 12, 1997 by 2 (two months forward) the result is July 12, 1997. If you offset the same original date by -2 (two months backward) the result is March 12, 1997. If the new date does not exist because a month does not have enough days in it, the monthmath(function will pick the last day of the month. For example, if you offset March 31 by 1 month the result is April 30. If the new month lands in February the function knows about leap years and adjusts accordingly. This example calculates a renewal date exactly one year from today. `monthmath(today(),12)`
monthvalue(date)	This function extracts the month from a date as a numeric value (1 to 12).
quarter1st(date)	This function computes the first day of a quarter. For example, if the date passed to this function is August 18, 1997, this function will return the date July 1, 1997. The date is returned as a number.
quartervalue(date)	This function extracts the quarter within a year from a date as a numeric value (1 to 4).
today()	This function returns today's date (assuming, of course, that your computer clock has been set correctly).
week1st(date)	This function computes the first day of a week (Sunday). For example, if the date passed to this function is July 12, 1995 (a Wednesday), this function will return the date July 9, 1997 (a Sunday). The date is returned as a number.
year1st(date)	This function computes the first day of a year. For example, if the date passed to this function is July 12, 1995, this function will return the date January 1, 1995. The date is returned as a number. The example below calculates the number of days remaining in the current year. `yearfirst(year1st( today( ))+366)-today()`
weekvalue(date)	This function extracts the week from a date as a numeric value (this is the number of weeks since the start of the year, 1 to 52).
yearvalue(date)	This function extracts the year from a date as a numeric value.

Time Arithmetic

To Panorama, time is not hours, minutes, and seconds, but simply seconds. To be precise, a time is the number of seconds since midnight. For example, the time 4:32 AM is 16,320 seconds after midnight. As you can see, a Panorama time is really a number in disguise. Since times are numbers, it's easy to compare them, sort them, or find the difference between them (number of seconds).

Converting Between Times and Text

Unlike dates, Panorama does not automatically provide a time data type that automatically converts a date in text format into a number. You must use a function to convert time in text format into seconds before you can do math calculations with the time, and use another function to convert back.

Function	Description
now()	This function returns the current time (number of seconds since midnight). Of course the clock on your computer must be set correctly!

seconds(text)	This function converts text into a number representing a time. The function has one parameter — the text that you want to convert to a number representing a time. If the text includes and AM or PM suffix, the number of seconds is calculated from midnight (12 A.M.), otherwise it is calculated from 0:00:00 (elapsed time). The text must contain a valid time. Here are some examples of valid times:
	`4:13 PM`
	`11:00 AM`
	`2:30`
	`18:45`
	This function returns a number representing the time. The number is the number of seconds since midnight. For example, if the time is 10:23 AM this function will return the number 37,380.

timepattern(number,pattern)	This function converts a number representing a time into text. The function uses a pattern to control how the date is formatted.
	The function has two parameters: number and pattern. Number is the number that you want to convert to text. This number must be the number of seconds since midnight. Pattern is text that contains a pattern for formatting the date. The pattern is assembled from four components: hh (hours), mm (minutes) ss (seconds), and am/pm. Some of the more common time patterns are listed here:
	`Pattern              Converted Text`
	`"hh:mm:ss am/pm"     4:32:17 pm`
	`"hh:mm am/pm"        4:32 pm`
	`"hh:mm:ss"           16:32:17`
	If am/pm is left off the pattern the time will be formatted in 24 hour format, as shown on the last line of the table above. You should also leave off am/pm for converting elapsed times.

Function	Description

time(text)	This function converts text into a number representing a time. The function has one parameter — the text that you want to convert to a number representing a time. The time function allows you to leave out the colons in the time, and also allows you to leave off the am / pm. Here are some examples of valid times:
	`4:13 PM`
	`11:00 AM`
	`2:30`
	`18:45`
	`230`
	`4p`
	`midnight`
	`noon`
	`afternoon`
	`evening`
	`night`
	`nite`
	The time(function is very lenient about the format you use to enter the time. It will accept a time without colons, for example 425 pm instead of 4:25 pm. If there is no am or pm the time function will try to make an intelligent guess. For example, 230 is almost certainly 2:30 pm, not 2:30 am. By default, the time(function assumes that any time from 6:00 to 11:59 is AM, and any time from 12:00 to 5:59 is PM, but you can change these assumptions with the timedefaults statement.
	The time(function will also convert “named” times: noon, midnight, morning, afternoon, evening, and night. This function assumes that morning is 9:00 am, afternoon is 1:00 pm, evening is 6:00 pm, and night is 10:00 pm. These assumptions can be changed with the timedefaults statement.

timestr(number)	Convert a number to text in am / pm time format (for example 9:34 AM).

Time Calculations

Once time has been converted into seconds you can perform arithmetic on it. For example, to calculate the number of hours worked from a time card use a formula like this (this formula assumes that In and Out are text fields containing times).

```
(seconds(Out)-seconds(In))/3600
```

(The division by 3600 converts the result into hours.)

To find out when a task will be finished that takes 2 1⁄2 hours to complete, use the formula

```
seconds(«Start Time»)+seconds("2:30")
```

Simple addition and subtraction does not compensate for time wrapping around midnight. For example, if you want to calculate the length of a shift that begins at 11 P.M. and ends at 7 A.M., you must add 24 hours to 7AM before subtracting the times. To solve this problem you can use one of the functions described below, or you can use a SuperDate, which combines time and date into a single number (see “True/False Formulas” on page 315).

Function	Description

time24(time)	This function takes a time and makes sure it falls within a 24 hour period. If the time is less than 24 hours, it is unchanged. If the time is greater than 24 hours, it is converted to the equivalent time in a 24 hour period (for example 30:00:00 is converted to 6:00:00).
	The time24(function can help with calculations of an ending time from a start time and duration. The basic formula for such a calculation is shown here.
	`EndTime=StartTime+Duration`
	This formula works fine unless the interval extends over midnight. The time24(function adjusts the result to make sure it starts over at zero as it crosses midnight.
	`EndTime=time24(StartTime+Duration)`
	This formula will correctly calculate that 10:30 PM + 4 hours is 2:30 AM.

timedifference(start,end)	This function calculates the difference between two times. It works correctly even if the interval between the two times crosses over midnight. This function returns a time interval between -12 and +12 hours. See also the timeinterval(function, which returns a time interval between 0 and 24 hours. There are two parameters, start and end. Start is a number (number of seconds) representing the starting point of the time interval. End is a number (number of seconds) representing the ending point of the time interval. This function returns the number of seconds between the two times. For example, if the start time is 9:30 PM and the end time is 2:05 AM, the difference would be 4:35. But if the parameters are reversed and the start is 2:05 AM and the end is 9:30 PM, the difference is -4:35. If the result is positive, the end is after the start. But if the result is negative, the start is after the end.
timeinterval(start,end)	This function calculates the time interval between two times. It works correctly even if the interval between the two times crosses over midnight. This function returns a time interval between 0 and 24 hours. See also the timedifference(function, which returns a time interval between -12 and +12 hours. There are two parameters, start and end. Start is a number (number of seconds) representing the starting point of the time interval. End is a number (number of seconds) representing the ending point of the time interval. This function returns the number of seconds between the two times. For example, if the start tine is 9:30 PM and the end time is 2:05 AM, the interval would be 4:35. But if the parameters are reversed and the start time is 2:05 AM and the end time is 9:30 PM, the interval is 19:25.

Time Calculations with Text

Unlike the functions in the previous sections, these functions operate with time values in strings. There aren't as many functions available as for times expressed as numbers, but if your input and output values will be in strings using these function saves the intermediate conversion steps.

Function	Reference Page	Description
texttimedifference(start,end)		This function calculates the difference between two times. Instead of being expressed as numbers, the input output times are expressed as text (for example 12:45 pm). This function works correctly even if the interval between the two times crosses over midnight. This function returns a time interval between -12 and +12 hours. See also the timeinterval(function, which returns a time interval between 0 and 24 hours. There are two parameters, start and end. Start is a string representing the starting point of the time interval. End is a string representing the ending point of the time interval. This function returns the time difference between the start and end. For example, if the start time is 9:30 PM and the end time is 2:05 AM, the difference would be 4:35. But if the parameters are reversed and the start is 2:05 AM and the end is 9:30 PM, the difference is -4:35. If the result is positive, the end is after the start. But if the result is negative, the start is after the end.
texttimeinterval(start,end)		This function calculates the time interval between two times. It works correctly even if the interval between the two times crosses over midnight. This function returns a time interval between 0 and 24 hours. See also the timedifference(function, which returns a time interval between -12 and +12 hours. There are two parameters, start and end. Start is a string representing the starting point of the time interval. End is a string representing the ending point of the time interval. This function returns the time between the start and end. For example, if the start tine is 9:30 PM and the end time is 2:05 AM, the interval would be 4:35. But if the parameters are reversed and the start time is 2:05 AM and the end time is 9:30 PM, the interval is 19:25.

True/False Formulas

In Panorama as in most programming languages, control flow decisions are made on the basis of formulas that are either true or false. The most basic true / false formula compares two values to see if they are equal.

```
PaymentMethod="C.O.D."
```

This formula will compare the value in the field PaymentMethod with C.O.D. The result will be true if PaymentMethod is C.O.D., and false if it contains anything else (for example Check, Cash, Visa, etc.).

Comparison Operators

Panorama has about a dozen different operators that can compare two values and produce a true false result. You can type these operators in yourself (see “Special Characters” on page 288), or you can use the **Operator** sub-menu in the Function menu to type in the symbols for you. The table below lists the universal comparison operators. These comparison operators will work with any type of data: text, numeric, or date.

Operator	Example	True / False Meaning	Notes
=	A=B	is A equal to B?	
≠	A≠B	is A not equal to B?	Not available on PC
<>	A<>B	is A not equal to B?	
>	A>B	is A greater than B?	
≥	A≥B	is A greater than or equal to B?	Not available on PC
>=	A>=B	is A greater than or equal to B?	
<	A<B	is A less than B?	
≤	A≤B	is A less than or equal to B?	Not available on PC
<=	A<=B	is A less than or equal to B?	

All of the above operators require that A and B be the same data type. In other words, you cannot directly compare numbers to text, or text to dates. If A and B are different types you must convert them to the same type before comparing them, using the str(, val(, pattern(, date(or datepattern(functions. See “Converting Between Numbers and Strings” on page 301 and “Converting Between Dates and Text” on page 308 for more information on these functions.

Panorama also has a number of specialized comparison operators that work only with the text data type.

Operator	Example	True / False Meaning
beginswith	A beginswith B	does A begins with B?
endswith	A endswith B	does A end with B?
contains	A contains B	does A contain B?
notcontains	A notcontains B	does A not contain B?
soundslike	A soundslike B	does A sound like B (phonetically)?
match	A match B	does A match the wildcard pattern in B (disregarding upper / lower case)?
matchexact	A matchexact B	does A exactly match the wildcard pattern in B?
notmatch	A notmatch B	does A not match the wildcard pattern in B (disregarding upper / lower case)?
notmatchexact	A notmatch B	does A not exactly match the wildcard pattern in B?

Some of these operators deserves a more complete explanation:.

A soundslike B

This operator checks to see if the text in A "sounds like" the text in B. For example, the formula below will determine if the LastName sounds like the name Smith.

```
LastName soundslike "Smith"
```

This formula will be true if the name is Smith, Smyth or Smythe, and false if the name is Jones or Williams.

The method Panorama uses to determine whether two values sound alike is called "soundex." This technique is not very exact, and often will produce extra matches that you might not think really sound similar. However, it almost never fails to match on names that do sound similar, so it is a good starting point when you are not sure of an exact spelling.

The soundex technique does require that the first letter of the two values match. For example even though we think they sound alike, Christy and Kristy will not match because the first letter is different.

A match B

This operator checks to see if the text in A matches a pattern you specify in B. The pattern allows you to set up very flexible "wildcard" matches where some characters must match and some don't have to.

The pattern should combine normal characters, which must match the text in A, and wildcard characters: **?** and *****. The **?** wildcard character will match any character. The ***** wildcard character (asterisk) will match a variable number of characters. The best way to understand wildcard matches is probably to look at a few examples.

Our first example uses the pattern j*johnson. With this pattern the name must begin with j (or J) and end with johnson (or Johnson, etc.) The characters in between don't matter.

```
Name match "j*johnson"
```

This formula will produce a true result for names like Jim Johnson, Jack Johnson, Joe Johnson, etc. The formula will also be true for names like J346 Ujohnson or J@#opcjohnson.

The second example uses the pattern 926??. With this pattern the zip code must begin with 926 and must be 5 digits long. (Our example assumes that ZipCode is a text field, not a numeric field.)

```
ZipCode match "926??"
```

This formula will produce a true result for zip codes like 92631 or 92685 but a false result for zip codes like 89324 or 92685-0301. Here's a variation that will work with 5 or 9 digit zip codes. The ?? characters mean that there must be at least five digits, while the * means that any extra characters are ok.

```
ZipCode match "926??*"
```

This formula will produce a true result for zip codes like 92631, 92685 or 92685-0301, but a false result for 926 or 9262.

Don't forget that a space is a normal character. The example below checks for people with a middle initial. The pattern looks for any number of characters followed by a space, followed by a single character, followed by a period, followed by another space, followed by any number of characters.

```
Name match "* ?. *"
```

This formula will produce a true result for Robert E. Lee or Winston O. Link, but a false result for Frank Tesh, Billy Martin, or Sara Jessica Parkman.

The match operator can be used to simulate the beginswith, endswith and contains operators. The table below shows the equivalent match formulas for each of these operators.

These formulas…	are the same as these.
`A match B+"*"`	`A beginswith B`
`A match "*"+B`	`A endswith B`
`A match "*"+B+"*"`	`A contains B`

Note: The match operator does not worry about upper or lower case. If upper and lower case are important to you, use the matchexact operator.

A matchexact B

This operator checks to see if the text in A matches a pattern you specify in B. This operator works exactly the same as the match operator, except that the normal characters must match exactly, including upper and lower case. For example, the formula below

```
Name matchexact "J*Johnson"
```

will produce a true result for Jeff Johnson, but a false result for JEFF JOHNSON. (However, JEFF Johnson would produce a true result.)

You can use the matchexact operator instead of beginswith, endswith, or contains if you need an exact upper and lower case match.

A notmatch B

A notmatchexact B

These operators are the exact opposite of match and matchexact.

Combining Comparisons

The basic comparisons described in the previous section can be combined together for more complicated decisions. There are four basic operators that can combine or modify decisions: **and**, **or**, **xor**, and **not**.

Operator	Sample	Description
and	A and B	true if both A and B are true
or	A or B	true if either A or B are true
xor	A xor B	true if A and B are different
not	not A	true if A is false

A and B

The **and** operator combines two true/false formulas together so that the result is only true if both formulas are true. The example procedure below determines if a person is a teenager.

```
if Age≥13 and Age<20
   Status="Teenager"
endif
```

The result of the formula is only true if the person is 13 or older and less than 20.

A or B

The **or** operator combines two true/false formulas together so that the result is true if either one of the two formulas are true. The example below determines if a transaction is being paid with a credit card.

```
if PaymentMethod="Visa" or PaymentMethod="MasterCard"
   Terms="Credit Card"
endif
```

The result of the formula is only true if the payment method is Visa or MasterCard.

Notice that each side of the **or** operator must contain a complete formula. The formula below looks right in English, but will not work in Panorama. The example below is WRONG:

```
if PaymentMethod="Visa" or "MasterCard"      /* WILL NOT WORK !! */
```

There must be a comparison on both sides of the **or**, as shown in the first example.

A xor B

The **xor** (short for exclusive-or) operator is a bit tricky. **Xor** combines two true/false formulas together so that the result is true if one of the two formulas is true, but false if both are true or both are false. Another way to put it is that the result will be true if A and B are different, but false if they are the same. The example below determines if two shoes are a pair.

```
if Shoe1="Left" xor Shoe2="Left"
   message "These shoes are a pair"
endif
```

The result of the formula is only true if one shoe is Left and the other shoe is Right (or to be more precise, not Left).

not A

The not operator reverses a true-false formula. If the result was true, now it will be false. If it was false, now it will be true.

```
if (not (Shoe1="Left" xor Shoe2="Left"))
   message "These shoes are not a pair!"
endif
```

Note: This example shows that if **not** is used as the very first operator in a formula in a procedure, you must surround the entire formula with an extra pair of parentheses. If **not** is in the middle of the formula the extra parentheses are not necessary. The parentheses are also not necessary if the formula is not in a procedure.

Equals Comparison vs. Assignment

If you have skipped ahead to read about procedures you know that the equals sign is used to assign a value to a field or variable. The example formula we used earlier to compare two values:

```
PaymentMethod="C.O.D."
```

would also be the same formula used to assign the value C.O.D. to the field or variable PaymentMethod. At first glance this may appear ambiguous…the same formula is used to compare two values and to assign a value. How do we know when we are assigning and when we are comparing? The answer lies in the context in which the formula is found.

In a procedure, an assignment is always by itself, not part of a larger statement. A true-false formula is always part of another statement, for example **if**, **case**, **until**, **while**, **stoploopif**, **repeatloopif**, **find**, **select**. Here's an example that shows two formulas that look almost the same, but one is a true-false formula and one is an assignment.

```
if PaymentMethod="C.O.D."
   ShippingMethod="UPS"
endif
```

The first formula, **PaymentMethod="C.O.D."**, is part of the **if** statement. This formula means: Is the field (or variable) PaymentMethod equal to C.O.D. (true / false)?

The second formula, **ShippingMethod="UPS"**, is not part of any statement, but stands alone, so this is an assignment. The statement means: Take the value UPS and copy it into the field or variable named ShippingMethod.

If an assignment has more than one equals sign, the first equals sign is for the assignment and the rest are for comparisons. The example assignment below compares B and C. If they are equal (true) the value -1 will be copied into A. If they are not equal (false) the value 0 will be copied into A.

```
A=B=C
```

In other words, **A** becomes the result of the comparison between **B=C**, or **A = (B=C)**.

True/False Values

For purposes of calculation, Panorama treats true and false as numbers: true is -1 and false is zero. Panorama also has two functions that directly generate these values.

Function	Reference Page	Description
true()		This function always returns true (-1).
false()		This function always returns false (0).

Like any other number, you can store a true / false value in a field or variable and then use it later. The example below calculates whether a person is a teenager, then uses that information later.

```
local Teenager
Teenager=Age≥13 and Age<20
...
if Teenager
   Price=4.50
else
   Price=6.00
endif
```

Notice that the **if** statement doesn't need to compare, it simply uses the result of the comparison that was calculated earlier. In fact, the **if** statement (and all other statements that use true / false logic) can use any formula that produces a numeric integer result. The value 0 will be regarded as false, and any non-zero value will be regarded as true. The example below will be true if the length of the name is non-zero.

```
if length(Name)
   yesno "Is this a home address?"
   ...
endif
```

The first line of this example could also have been written **if length(Name)≠0**. The result is the same either way.

The ? Function

The ?(function allows a formula to make a decision. Will it be door number 1 or door number 2? The function uses a true-false value to pick from one of two values. The syntax for this function is like this.

```
?(decision-value,true-value,false-value)
```

The first parameter, decision-value, is used to pick which of the two choices will be returned as the final value, the true-value or the false-value.

For example, the formula below can be used to calculate a 10% discount if the quantity is 100 or more—

```
?( Qty<100 , Price , Price*0.9 )
```

The decision is based on the comparison **Qty<100**. If Qty is less than 100, the ? function picks the second parameter, **Price**. But if the quantity is 100 or more, the ? function will pick the third parameter, **Price*0.9**, for a 10% discount.

If you need to pick from three or more choices you can nest several ? functions together. For example, this formula shows how you can add a third discount level (20% for quantities of 500 or more)—

```
?( Qty<100 , Price , ?(Qty<500 , Price*0.9 , Price*0.8 ))
```

Although these examples have used numeric data, text can also be used for either the true-false logic or the choices. The formula below, for example, could be used by a movie theater to check if a person is a child or an adult.

```
?( Age≤12 , "Child" , "Adult" )
```

Note: The ? function always evaluates all three parameters you give it, even though it really uses only two of the parameters. This means that you cannot use the ? function to avoid errors (for example divide by zero errors) because the error will happen before the ? function decides which parameter to use (use the divzero(function to avoid divide by zero problems).

Converting a Boolean Value to Text

The **boolstr(** function converts a boolean value to text, either true or false. For example

```
message boolstr(Qty<100)
```

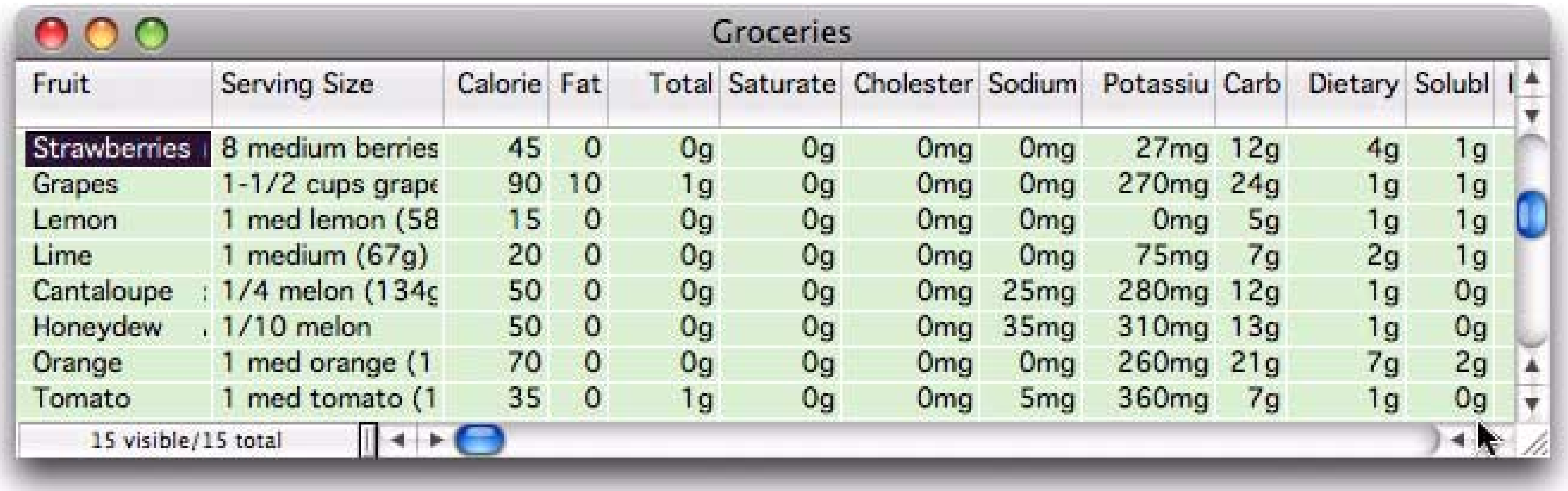
will display true if the Qty is less than 100, or false if it is greater or equal to 100.

Linking With Another Database

Many database applications require multiple database files working together. For example, organizing a company's order entry operations usually requires an invoice file, an inventory / price list file, and possibly a customer file. The primary method for accessing information in other databases is the **lookup(** function (and other related functions). This function can search for and retrieve information from any open database. Need to look up a price or a customer's credit limit? Chances are the lookup(function is the tool for the job.

When you look up information manually (for example, looking up someone's number in the phone book), you are actually performing a multi-step process. You start with one piece of information—a person's name, for example. The first step is to locate the correct phone book. Once you've located the correct book, you must search through it to find the name of the person you are looking for. When you find the name, the final step is to copy down the person's phone number.

Panorama's lookup(function follows a similar process when it looks up data. For example, suppose you want to find out the number of calories in an orange using the database shown here.

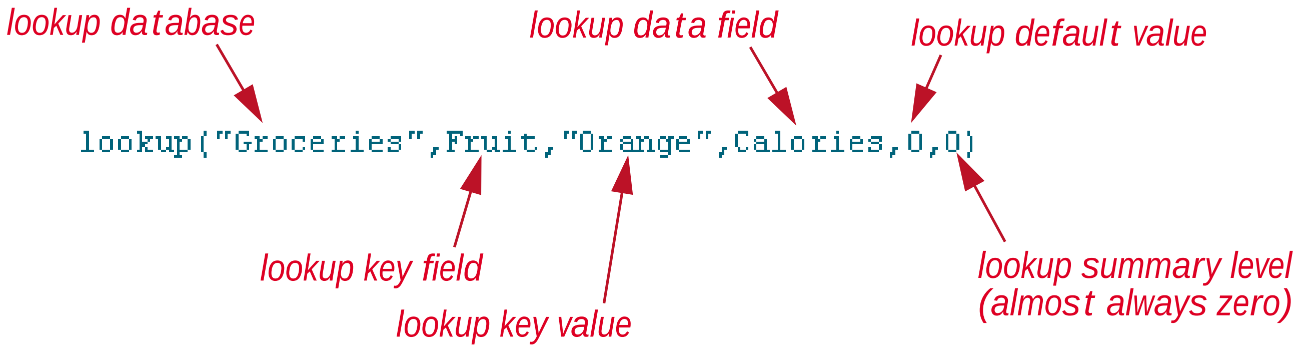


Groceries

Fruit	Serving Size	Calorie	Fat	Total	Saturate	Cholester	Sodium	Potassiu	Carb	Dietary	Solubl
Strawberries	8 medium berries	45	0	0g	0g	0mg	0mg	27mg	12g	4g	1g
Grapes	1-1/2 cups grape	90	10	1g	0g	0mg	0mg	270mg	24g	1g	1g
Lemon	1 med lemon (58	15	0	0g	0g	0mg	0mg	0mg	5g	1g	1g
Lime	1 medium (67g)	20	0	0g	0g	0mg	0mg	75mg	7g	2g	1g
Cantaloupe	1/4 melon (134g	50	0	0g	0g	0mg	25mg	280mg	12g	1g	0g
Honeydew	1/10 melon	50	0	0g	0g	0mg	35mg	310mg	13g	1g	0g
Orange	1 med orange (1	70	0	0g	0g	0mg	0mg	260mg	21g	7g	2g
Tomato	1 med tomato (1	35	0	1g	0g	0mg	5mg	360mg	7g	1g	0g

15 visible/15 total

Here is the formula for looking up the number of calories in an orange. The parameters to the lookup contain all the information necessary to locate the information.



```
lookup("Groceries",Fruit,"Orange",Calories,0,0)
```

The first parameter is called the **lookup database**. It tells Panorama what database to look in for the information, in this case Groceries.

The second and third database tell Panorama how to search for the data you want. In this case Panorama is being told to "search through the Fruit column until you find Orange." The field to look in (in this case Fruit) is called the **lookup key field**. The data to look for (in this case Orange) is called the **lookup data value**. By the way, Panorama is very picky about the lookup data value. It must exactly match the value in the database, or Panorama won't find a match. In this case only Orange will work — not orange or ORANGE or even oRaNGe!

At this point we come to a fork in the road. Perhaps Panorama found Orange in the database, perhaps not. If it did the fourth parameter tells Panorama what to do next. This fourth parameter is called the **lookup data field**, and it may be any field in the lookup database. In this case it is Calories, so Panorama will lookup the value in the Calories field (70) and return it as the result of the function.

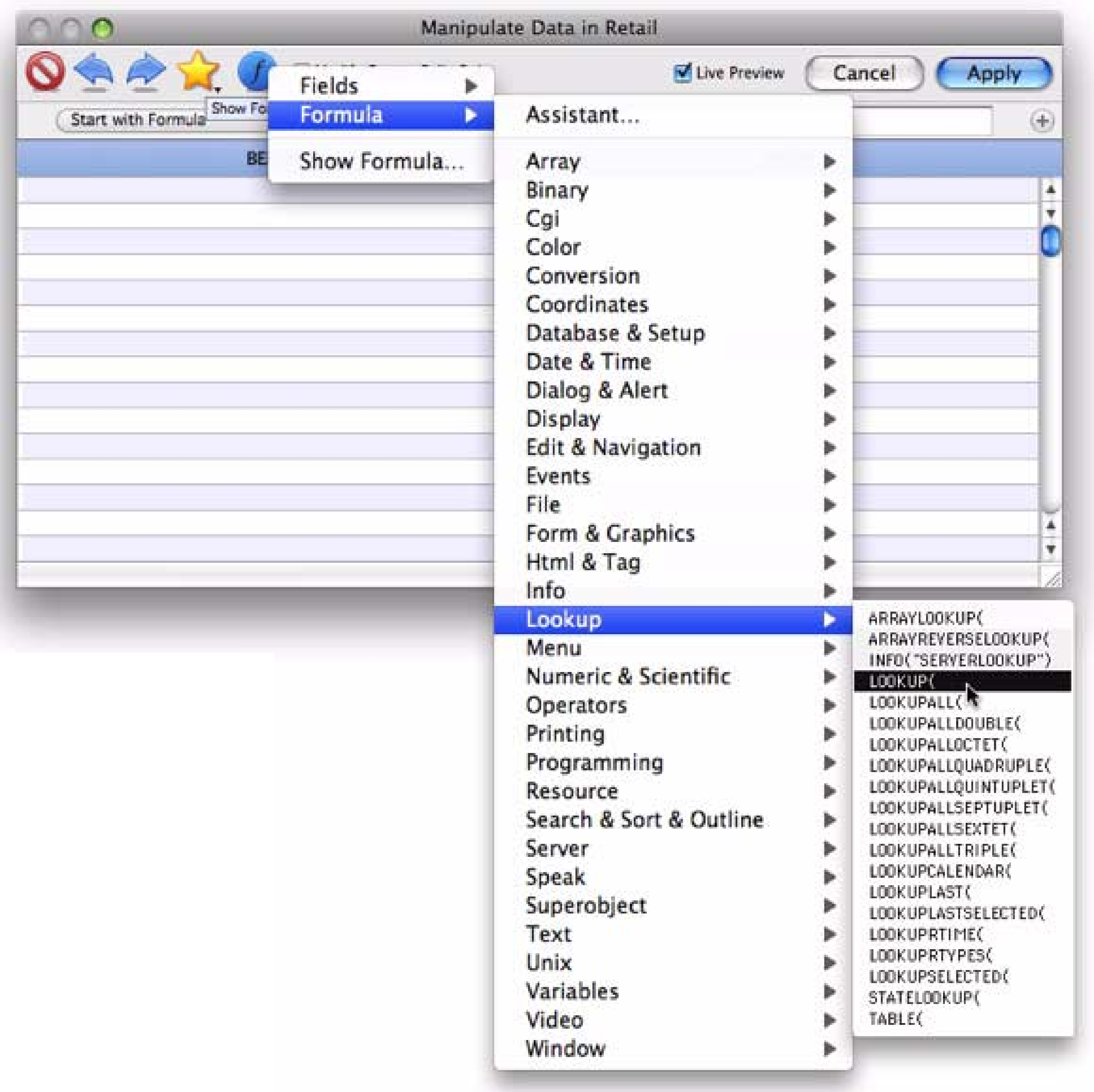
What if Panorama didn't find Orange in the database? In that case Panorama simply returns the value of the fifth parameter, the **lookup default value**. In this case the default value is 0. The default value should match the data type of the lookup data field. Since Calories is a numeric field, the default is also numeric. If the lookup data field had been a text field (for instance Serving Size) the default would need to be text (for example "").

The sixth and final parameter to the lookup function is the **lookup summary level**. This is the minimum summary level to be searched within the lookup database. Usually the lookup summary level is zero so that the entire lookup database will be searched. If the level is set to 1 through 7, only summary records will be searched. This is useful if you want to look up summary information (see "The Summarize & Analyze Dialog" on page 167) while ignoring the raw data.

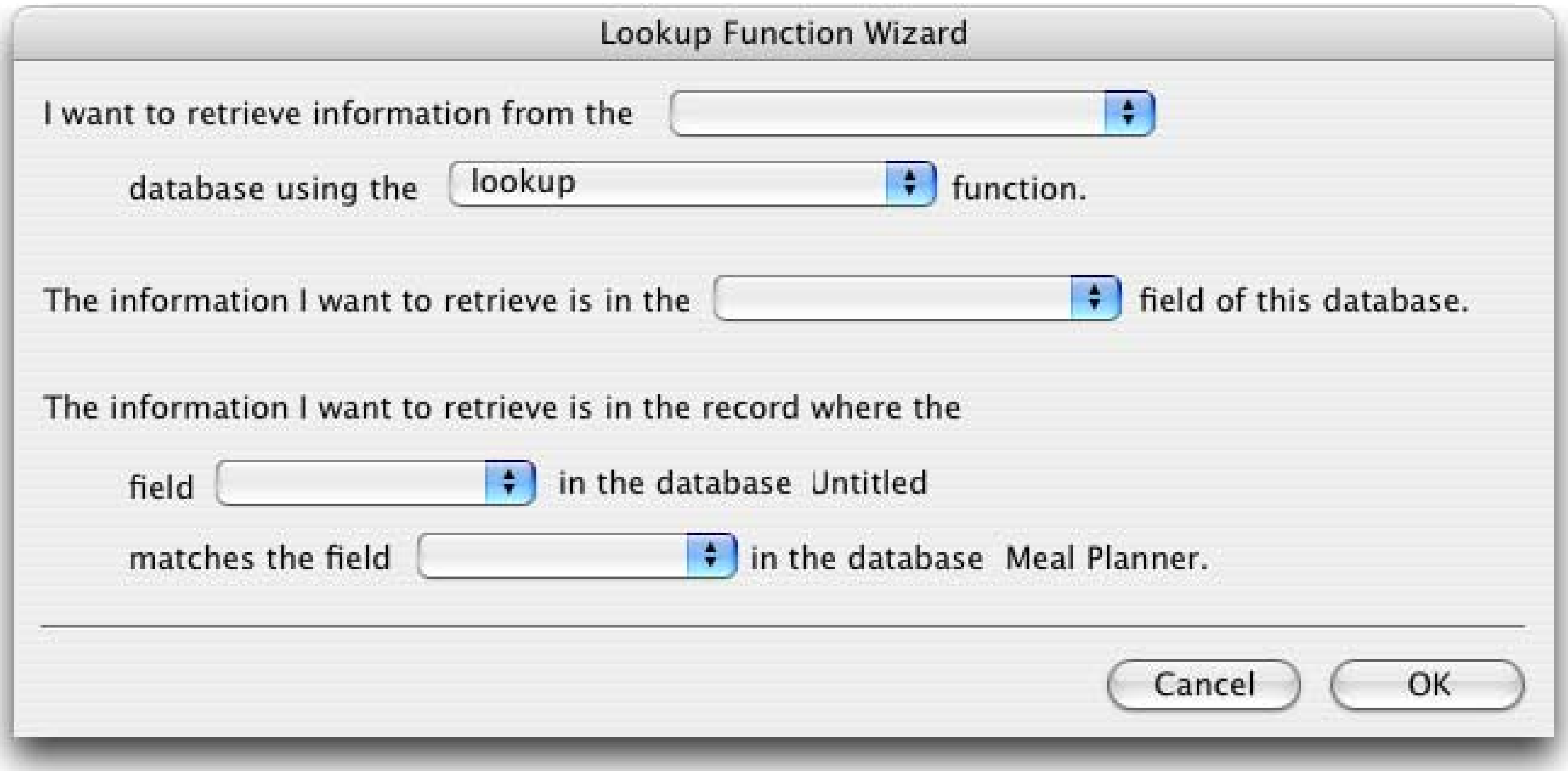
In this example the end result of the lookup is the value 70. The lookup(function is often used by itself, but a more complicated formula can take this value and perform additional computations. If the result of the lookup is a text value then all of the text functions described earlier in this chapter can be used to modify the result.

The Lookup Wizard

Since the lookup(function is kind of picky about all of its parameters we've provided a "fill-in-the-blanks" dialog to help build the function. To open this dialog first click on the blue *f* button, then choose **Formula>Lookup>LOOKUP(**.



Now the lookup wizard dialog appears.



Lookup Function Wizard

I want to retrieve information from the [ ] database using the [lookup] function.

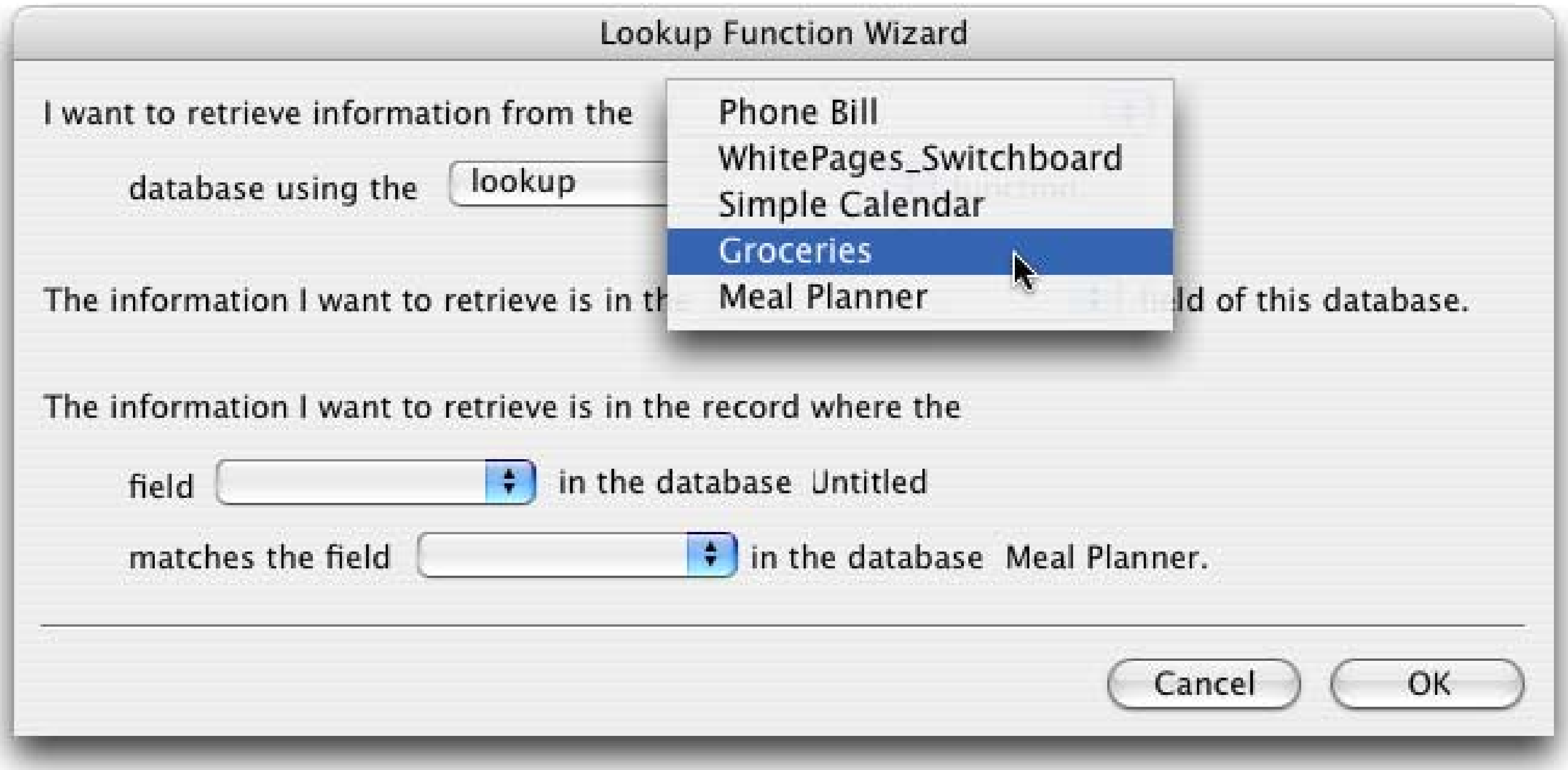
The information I want to retrieve is in the [ ] field of this database.

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

field [ ] in the database Untitled

matches the field [ ] in the database Meal Planner.

To create the lookup function, start at the top of the dialog and work your way down. Start by selecting the database to lookup from (in this case Groceries).



Lookup Function Wizard

I want to retrieve information from the [Groceries] database using the [lookup] function.

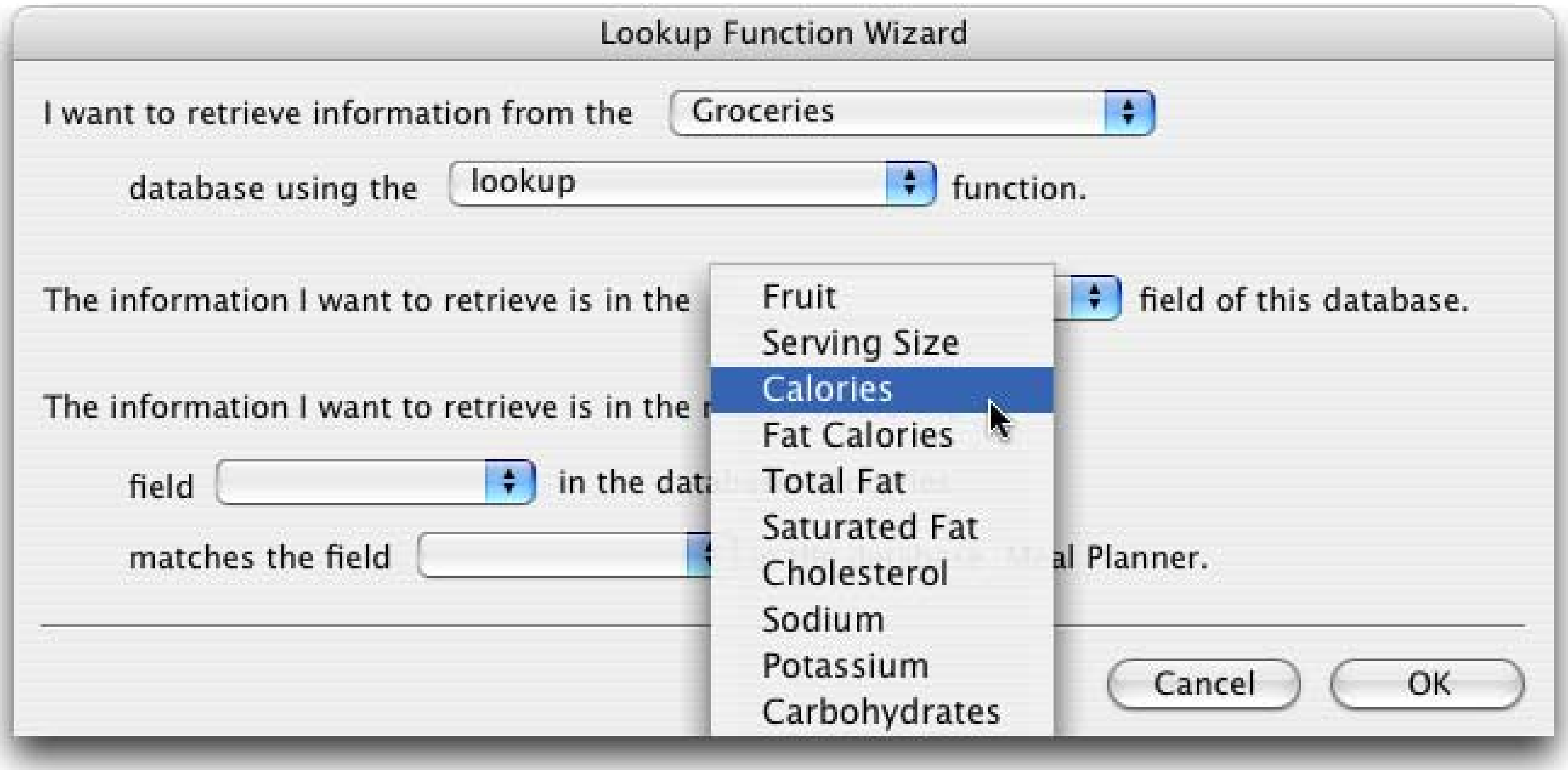
The information I want to retrieve is in the [ ] field of this database.

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

field [ ] in the database Untitled

matches the field [ ] in the database Meal Planner.

Next, choose the data you want to retrieve (the lookup data field, which will become the fourth parameter to the lookup function). In this case we want to retrieve the number of Calories.



Lookup Function Wizard

I want to retrieve information from the Groceries

database using the lookup function.

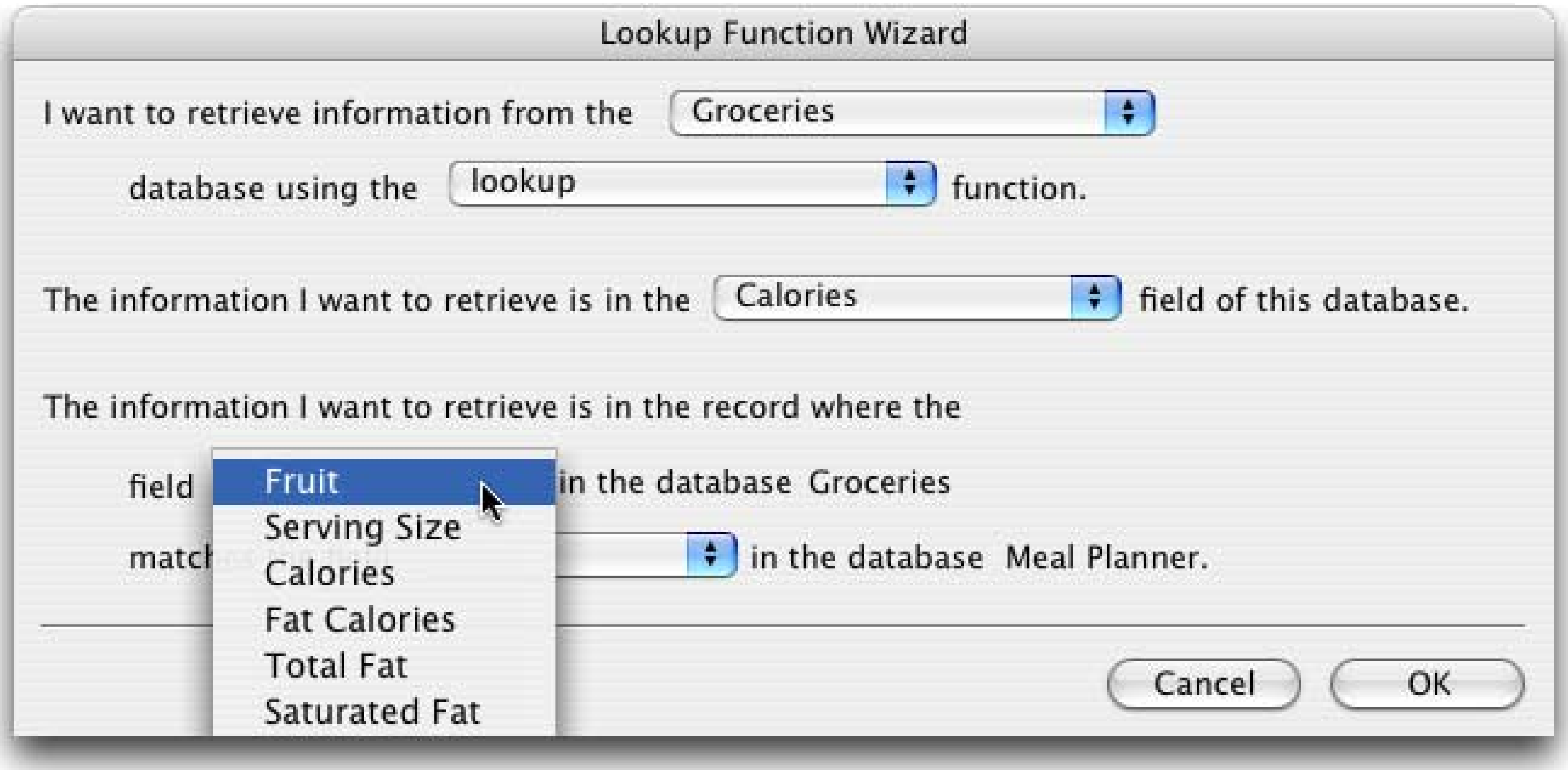
The information I want to retrieve is in the field of this database.

The information I want to retrieve is in the r

field in the dat

matches the field al Planner.

The next step is to choose the lookup key field, which in this case is Fruit.



Lookup Function Wizard

I want to retrieve information from the Groceries

database using the lookup function.

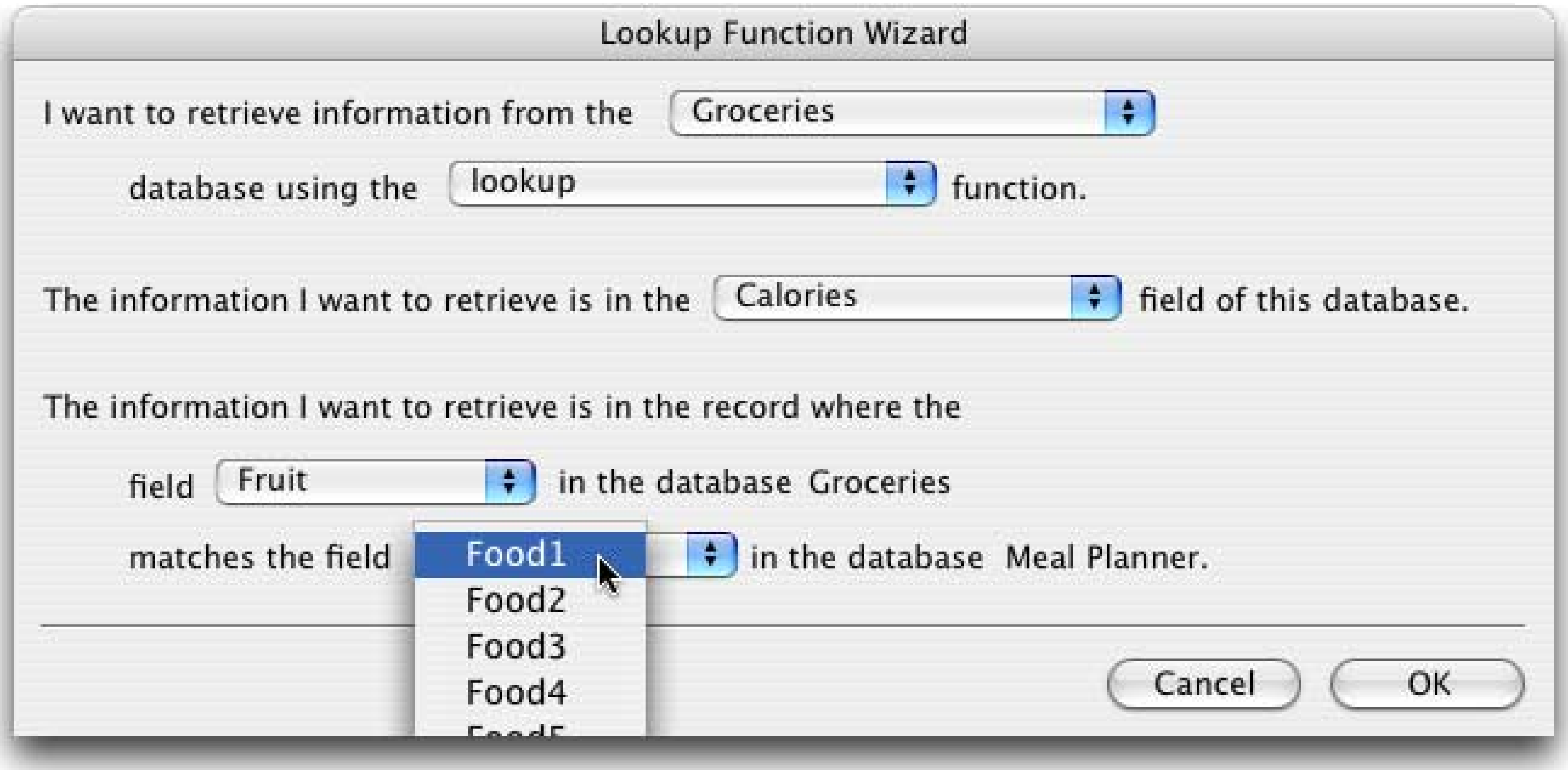
The information I want to retrieve is in the Calories field of this database.

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

field in the database Groceries

match in the database Meal Planner.

Finally, choose the field containing the lookup key value. If there is no such field (perhaps the value is in a variable) then just choose any field and adjust the formula once the wizard is finished.



Lookup Function Wizard

I want to retrieve information from the Groceries database using the lookup function.

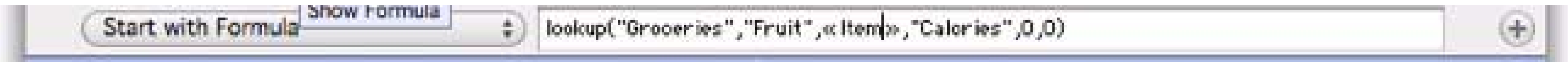
The information I want to retrieve is in the Calories field of this database.

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

field Fruit in the database Groceries

matches the field Food1 in the database Meal Planner.

Once you've made all of the selections press **OK** to generate the finished formula. For example, if you were using the **Manipulate Data in Field** dialog the formula would look like this:



Start with Formula

```
lookup("Groceries","Fruit",«Item»,"Calories",0,0)
```

Type Mismatch Problems

One of the most common problems when setting up a lookup function is type mismatches. With some careful thought, however, you can avoid these problems.

The first source of type mismatch problems is the lookup key field and the lookup key value. The field and value must be the same type of data. In other words, if the lookup key field is numeric, the lookup key value must be numeric also. If necessary, you can convert a text key value into numeric with the **val(** function, or you can convert a numeric key value into text with the **str(** function (see "Converting Between Numbers and Strings" on page 301 for details on both of these functions).

```
lookup("Catalog","Part#",val(Item),"Price",0,0)
```

Another source of type mismatch problems is the lookup data field. This field must have the same type of data as the field you want to store the result in. For example if you look up a price, the result must be stored in a numeric field.

If you need to store a numeric value in a text field, use the str(function to convert the value. The str(function should go outside the entire lookup function, for example

```
str(lookup("Catalog","Item",Desc,"Price",0,0))
```

Another source for type mismatch problems is the lookup default value. The default value should be the same type as the lookup data field. If the lookup data field is numeric, the default should be numeric (for example 0 or 100). If the lookup data field is text, the default should also be text (for example "" or "n/a").

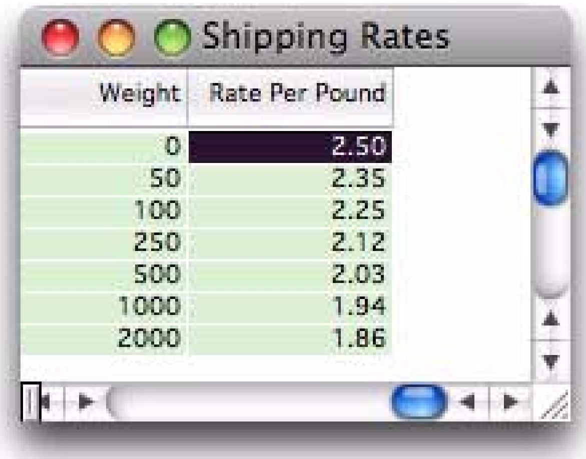
Lookup Variations

There are actually several different variations of the lookup function. All of the variations have the same six parameters. The standard lookup function locates the first occurrence of the key (nearest to the beginning of the file).

Function	Description
lookup(	This function searches for the first occurrence of the value within the lookup database. If there is more than one copy of the value in the database this function will find the one closest to the top.
lookuplast(	This function searches for the last occurrence of the value within the lookup database. If there is more than one copy of the value in the database this function will find the one closest to the bottom. However, there is one exception. If you are looking up within the current database Panorama will skip the current record. If the current record matches the key value then Panorama will skip backwards to the next matching record.
lookupselected(	This function searches for the first occurrence of the value within the selected records in the lookup database. Unselected (invisible) records are ignored. If there is more than one copy of the value within the selected records this function will find the one closest to the top.
lookuplastselected(	This function searches for the last occurrence of the value within the selected records in the lookup database. Unselected (invisible) records are ignored. If there is more than one copy of the value within the selected records this function will find the one closest to the bottom.
table(	The table function allows you to lookup data by an approximate match instead of exact match. If the table function does not find an exact match, it uses the next lower value. A common example is a shipping rate table. Rate tables do not have an entry for every possible weight. Instead, the table only lists weights where the shipping rate changes. For example, suppose a rate table contains entries for 100 pounds and 250 pounds, and you have a 158 pound package. The table function will return the rate for the next lower value, in this case the 100 pound rate.

Looking Up Rates in a Rate Table

The table(function is designed for looking up rates from a table. For example, this function can be used to look up shipping rates, tax rates, discount rates, or any kind of stepped rate where the rate changes according to a sliding scale. To illustrate this function, consider this shipping rate database.



Shipping Rates

Weight	Rate Per Pound
0	2.50
50	2.35
100	2.25
250	2.12
500	2.03
1000	1.94
2000	1.86

For packages from 0 to 49.99 pounds the rate is 2.50 per pound. For packages from 50 to 99.99 pounds the rate is 2.35 per pound, from 100 to 249.99 the rate is 2.25 etc. Suppose we use a regular lookup function to look up the weight, like this.

```
lookup("Shipping Rates",Weight,PackageWeight,«Rate Per Pound»,0,0)
```

This formula will work fine for weights that appear in the table like 50, 100 and 250. But for other weights like 47 or 182 the formula will return the default value, zero. To fix this, use the table function instead of the lookup function.

```
table("Shipping Rates",Weight,PackageWeight,«Rate Per Pound»,0,0)
```

The table function will return the closest lower match. This means that if the PackageWeight is 3, 17 or 42 the formula will return 2.50. If the PackageWeight is 110 or 246 the formula will return 2.25, etc. Here is a complete formula that calculates the shipping cost for any package.

```
PackageWeight*table("Shipping Rates",Weight,PackageWeight,«Rate Per Pound»,0,0)
```

The formula looks up the rate per pound and then multiplies that rate by the package weight.

Looking Up Multiple Fields From One Record

Sometimes you may need to lookup several fields in the same record. For example, when you lookup someone's address you may also want to lookup their city, state, zip code, phone number and recent purchasing history. In a procedure one way to do this is with multiple **lookup(** functions, like this.

```
Address=lookup("Customers",Company,Company,Address,"",0)
City=lookup("Customers",Company,Company,City,"",0)
State=lookup("Customers",Company,Company,State,"",0)
Zip=lookup("Customers",Company,Company,ZipCode,"",0)
Phone=lookup("Customers",Company,Company,"Phone#","",0)
```

When a procedure contains several **lookup(** in a row for the same thing like this Panorama doesn't actually search the database over and over again. Instead it notices that it is searching for the same item and simply grabs the data from the record it has already found.

The GrabData Function

The **grabdata(** function grabs the contents of a field in the current record of any open database. You can grab data from the current database, or from another database. The function has two parameters — the name of the database to grab from and the name of the field within that database. For example here is the formula to look up the number of calories of the currently selected fruit.

```
grabdata("Groceries",Calories)
```

The value returned by this function will change depending on what record is active in the Groceries database.

Looking Up Data in the Current File

You can use the lookuplast(function to look up the previous entry, with the same value, in the same database. For example, in a checkbook database you can automate repetitive payments by looking up the previous payment to the same company. By using the info("database") function to look up the database name you can make sure that the formula will continue to work even if the database is renamed.

```
lookuplast(info("database"),PayTo,PayTo,Amount,0,0)
```

Suppose that your last check to Pacific Mutual was $178.34. Using the formula above you could automatically enter this value the next time you write a check to this company.

Another application for looking up data in the current file is locating summary information further down in the database. To do this, set the lookup summary level to a non-zero value so that only summary records will be located.

US Post Office Abbreviation Functions

These functions return text arrays that contain lists of official US Post Office abbreviations. These functions are designed to be used with the **arraylookup(** and **arrayreverselookup(** functions.

Function	Description
stateabbreviations()	This function returns a list of state abbreviations in this format: AL:ALABAMA;AK:ALASKA; ... This table is designed to be used with the arraylookup(and arraylookupreverse(functions.
statelookup(state)	This function looks up the name of a state from the state abbreviation (for example CALIFORNIA from CA). If the parameter does not match any state then the original value is returned.
uspssecondaryunits()	This function returns a list of USPS secondary suffix designation abbreviations in this format: APT:APARTMENT;RM:ROOM; ... This table is designed to be used with the arraylookup(and arraylookupreverse(functions.
uspsstreetsuffixes()	This function returns a list of USPS street suffix abbreviations in this format: ALY:ALLEY;AVE:AVENUE; ... This table is designed to be used with the arraylookup(and arraylookupreverse(functions.

Database Information

These functions return information about the currently active database.

Function	Description
countsummaries(level)	This function counts the number of summary records in the current database. The level parameter should be from 0 to 7. If 0, all summary records will be counted. If 1 to 7 then only that specific level will be counted.
dbname()	This function returns the name of the current database.
dbpath()	This function returns the path of the folder the current database is located in.
emptydatabase()	This function returns true if the current database is empty, false if it is not.
emptyline()	This function returns true if the current line (all fields) is empty, false if it is not.
getautonumber()	This function returns the automatically generated number for the next record that will be added to the database.
listchoices(field,separator)	This function builds a text array containing a list of all the values stored in a specified field. (Note: this function is not related to the choices data type.) There are two parameters: field and separator. Field is the name of the field that contains the values you want to build a list of. Separator is the separator character for the text array you are building (see “Text Arrays” on page 302). The lischoices(function scans the specified field and builds a list of all the values stored in that field. The list is returned in the format of a text array. Here is a formula that builds a list of the states in the current database. `listchoices(State,¶)`

Function	Description
seq()	This function returns a sequential numbers (1, 2, 3, etc.). This function only works in conjunction with the **formulafill**, **select**, **find** and **arrayfilter** statements. When it is used with the **formulafill**, **find** or **select** statements the seq() function return a sequential number for each record (the first selected record is 1, the second is 2, etc.). When it is used with the **arrayfilter** statement, the seq() function returns a sequential number for each element in the array being processed (the first array element is 1, the second is 2, the third is 3, etc.). When it is used at any other time, the seq() function returns the number 1. This procedure uses the seq() function to select the first 10 records in the database: `select seq()≤10`
info("bof")	This function returns true if the database is currently on the first visible record. (Note: "bof" stands for "beginning of file".)
info("databasename")	This function returns the name of the current database. If the database name has a .pan suffix, that suffix is not included.
info("eof")	This function returns true if the database is currently on the last visible record. (Note: "eof" stands for "end of file".)
info("fieldname")	This function returns the name of the current field. See also the info("modifiedfield") function below.

info("records")	This function returns the total number of records in the current database. To find out the number of selected records, use **info("selected")** (see below).
	This example checks to see if all records are selected. If some records are not selected, the procedure does a selectall statement.
	`if info("selected") <info("records")`
	`  selectall`
	`endif`

info("selected")	This function returns the number of selected records in the current database. To find out the total number of records, use **info("records")** (see above).
info("summary")	This function returns the summary level of the current record, from 0 (data record) to 7 (see “The Summarize & Analyze Dialog” on page 167).
info("visible")	This function returns true/false result based on whether or not the current record is visible. Useful for situations where Panorama may scan invisible records, for example the arraybuild and select statements, also the Scrolling List SuperObject.

Chapter 9: Printing

Since we haven't quite arrived at the age of the totally paperless office, printing is still an important function of any computer program—including Panorama. This chapter covers the basics of printing.

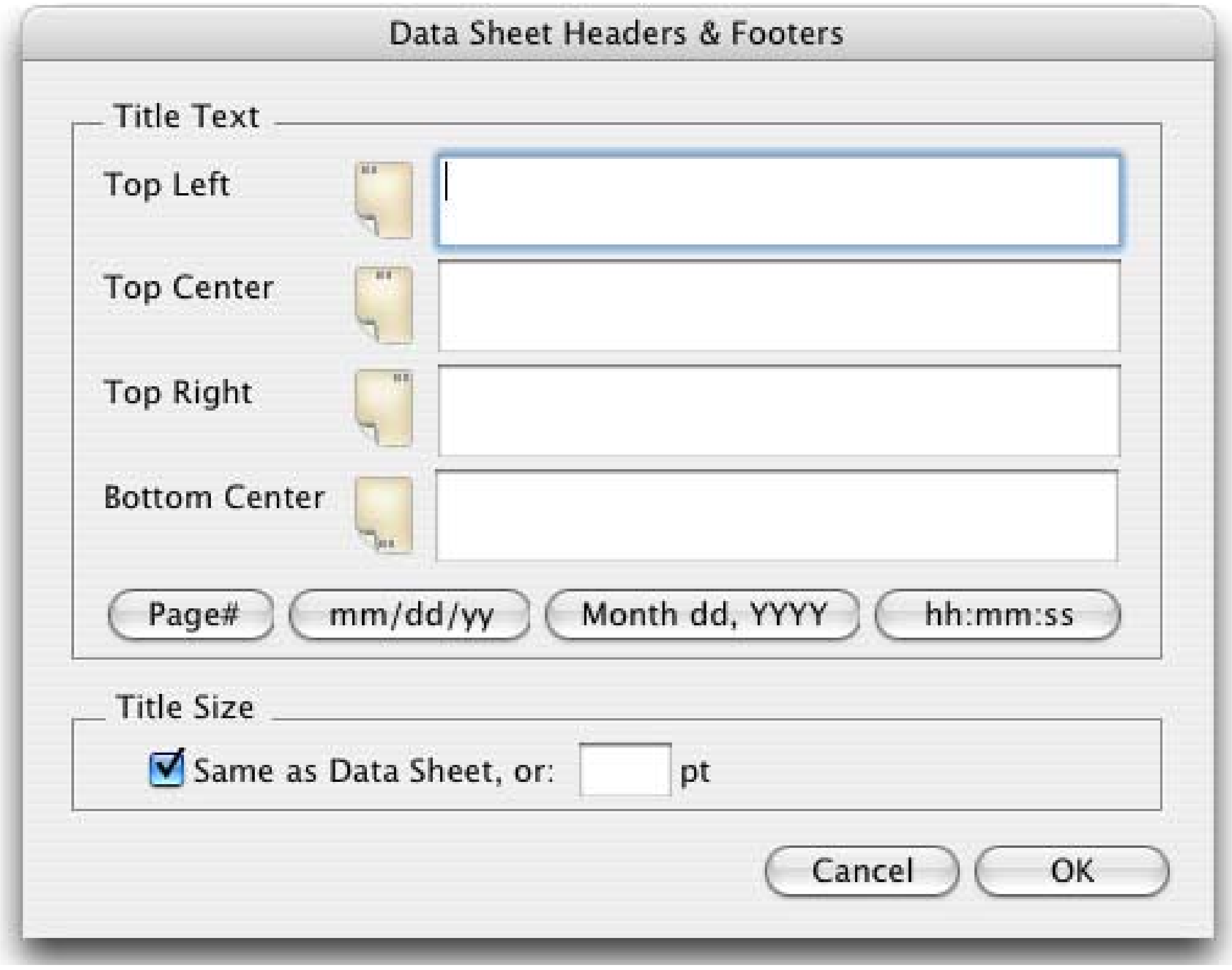
Printing the Data Sheet

Panorama prints the data sheet exactly as it appears on the screen. If the data sheet is too wide to fit on the page, Panorama will print extra pages until all the columns are printed.

You can get more data sheet columns on a page several ways. One method is to use the **Page Setup** dialog to switch to a wide paper orientation (sideways or landscape), or to reduce the printout to a smaller size (Macintosh only). You can also use a smaller font.

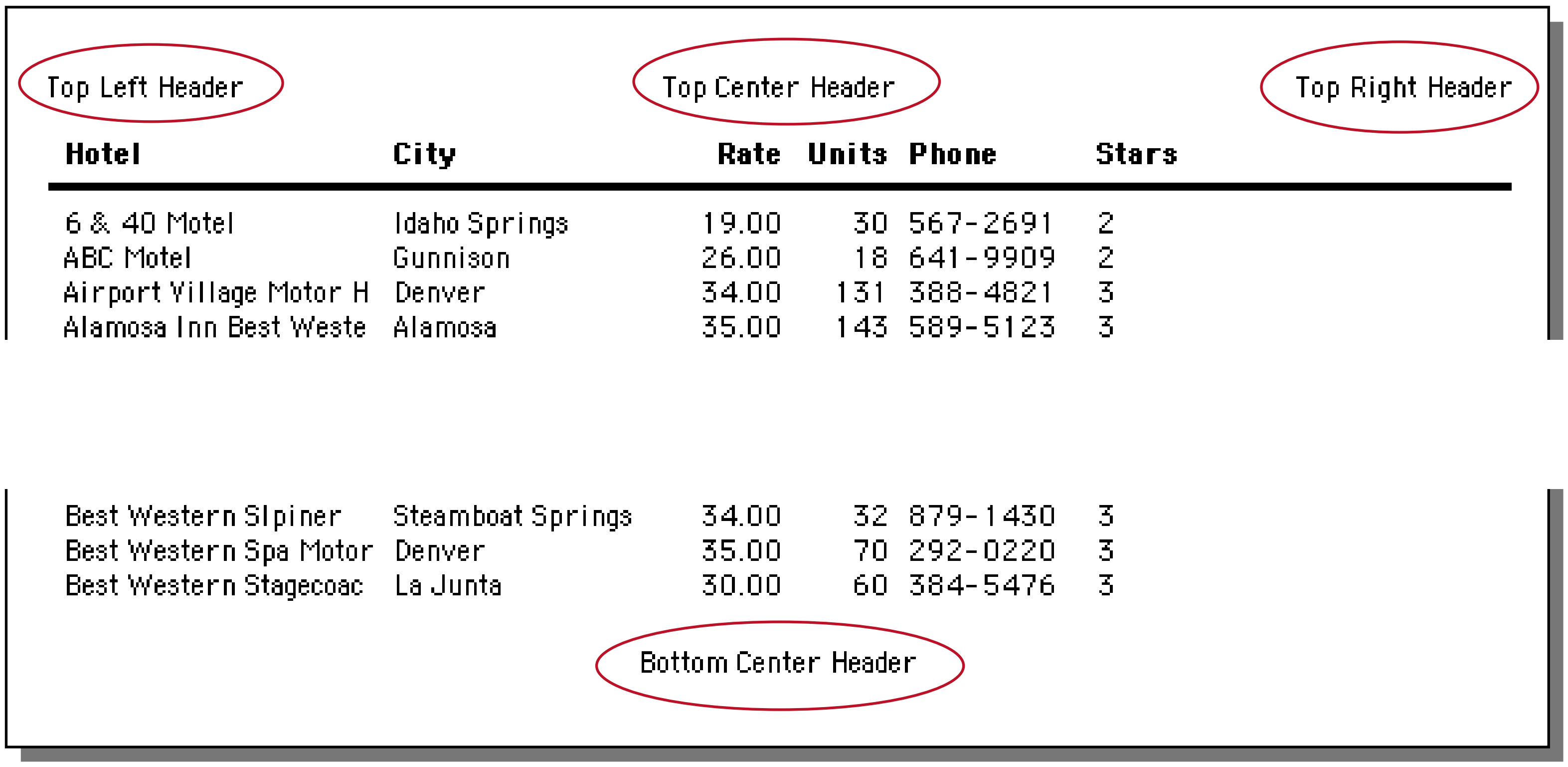
Printing Data Sheet Headers & Footers

The **Headers/Footers** dialog (File Menu) sets up headers and footers for the data sheet, design sheet, or any crosstab. (You can set up separate headers and footers for each of these windows.)



☑ Same as Data Sheet, or: pt

The **Headers/Footers** dialog allows you to position headers and footers in four locations on the printed page: top left, top center, top right, and bottom center.

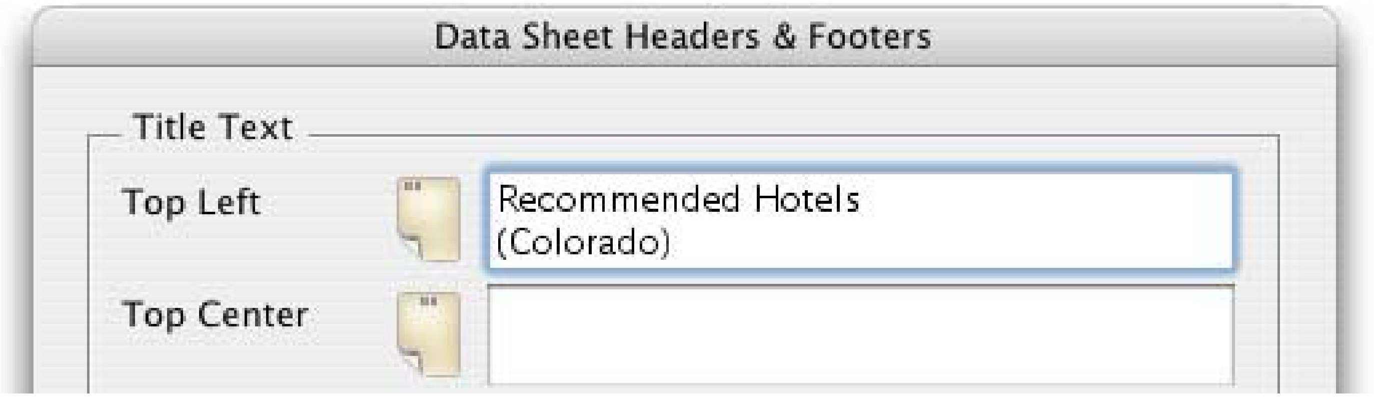


Top Left Header Top Center Header Top Right Header

Hotel	City	Rate	Units	Phone	Stars
6 & 40 Motel	Idaho Springs	19.00	30	567-2691	2
ABC Motel	Gunnison	26.00	18	641-9909	2
Airport Village Motor H	Denver	34.00	131	388-4821	3
Alamosa Inn Best Weste	Alamosa	35.00	143	589-5123	3
Best Western Slpiner	Steamboat Springs	34.00	32	879-1430	3
Best Western Spa Motor	Denver	35.00	70	292-0220	3
Best Western Stagecoac	La Junta	30.00	60	384-5476	3

Bottom Center Header

If you want to create a header or footer that is more than one line high, just press the **Return** key and type in the additional lines, like this.



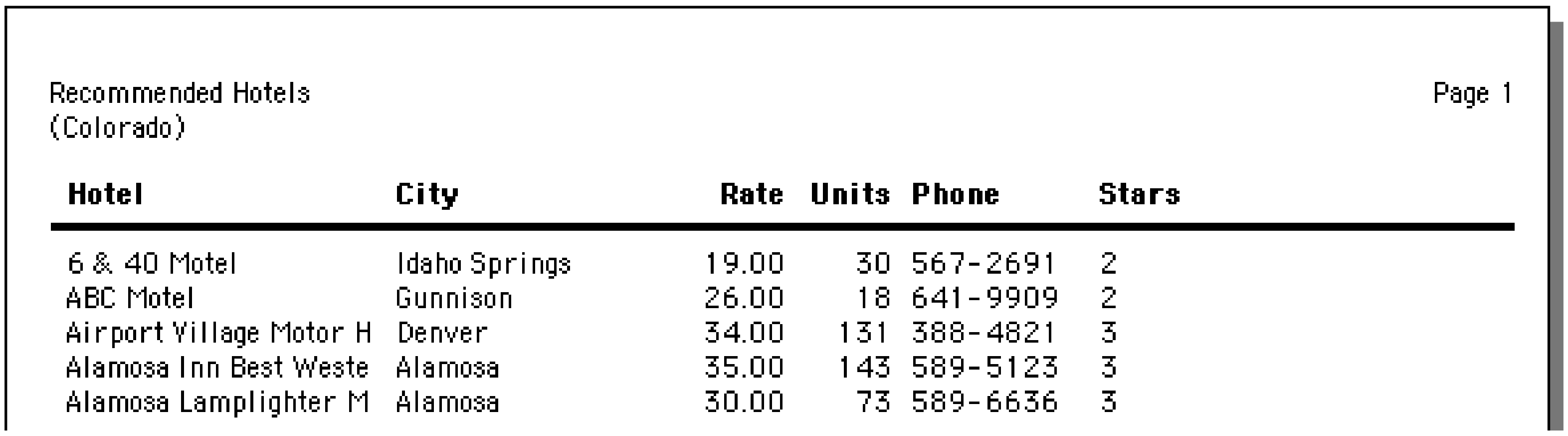
Data Sheet Headers & Footers

Title Text

Top Left: Recommended Hotels
(Colorado)

Top Center:

When printed this header will look like this.

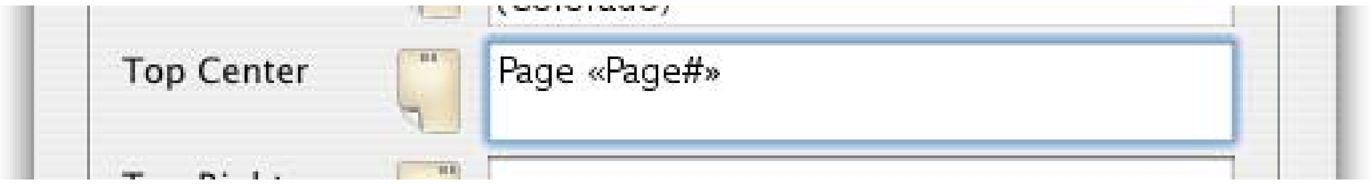


Recommended Hotels
(Colorado)

Page 1

Hotel	City	Rate	Units	Phone	Stars
6 & 40 Motel	Idaho Springs	19.00	30	567-2691	2
ABC Motel	Gunnison	26.00	18	641-9909	2
Airport Village Motor H	Denver	34.00	131	388-4821	3
Alamosa Inn Best Weste	Alamosa	35.00	143	589-5123	3
Alamosa Lamplighter M	Alamosa	30.00	73	589-6636	3

You can insert special codes into the header/footer text to print the page number, date, and time. Here's an example of how to insert the page number (the printed result is shown above). On the Macintosh the « » chevron characters are produced by typing **Option-** and **Shift-Option-**. On PC systems these characters are produced by typing **Alt-0171** and **Alt-0187**.

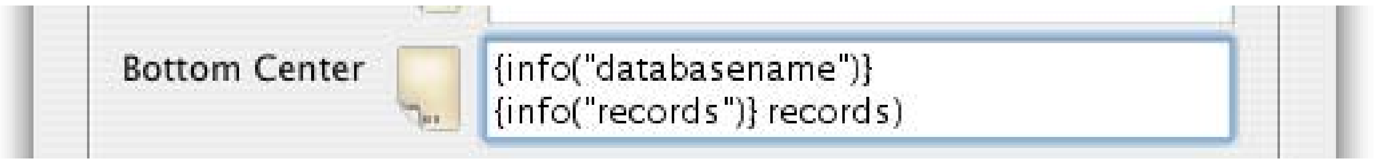


Top Center: Page «Page#»

The table below lists some of the special codes that can be inserted into a header or footer:

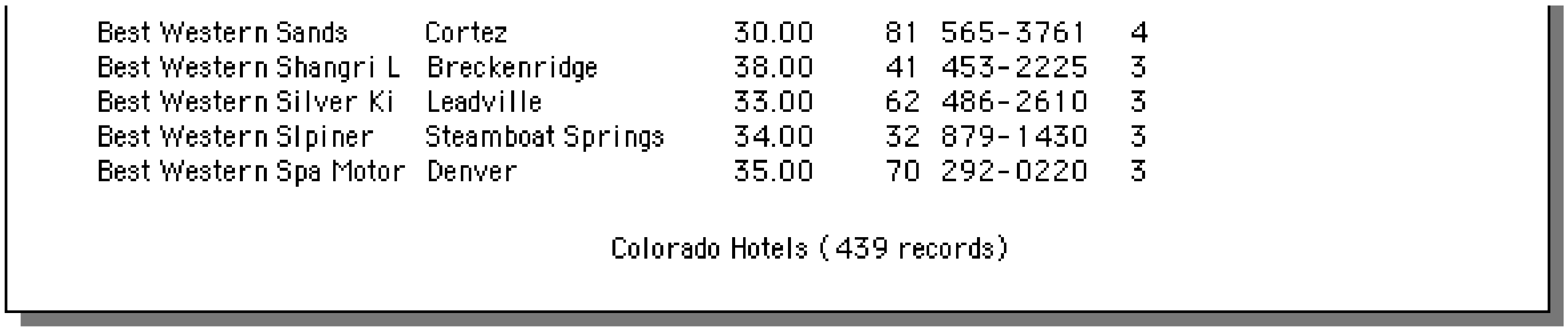
Description	Code	Example
Page Number	«page #»	1
Date	«date:mm/dd/yy»	3/7/02
Date	«date:Month ddnth, yyyy»	April 8th, 2003
Time	{timepattern(now(),"hh:mm:ss am/pm"}	2:23:12 PM
Database Name	{info("databasename")}	Hotels

As the last two entries in this table show, you can actually insert any formula into a header or footer by surrounding the formula with { and }. Here's an example that uses two formulas to display the database name and number of records in the footer.



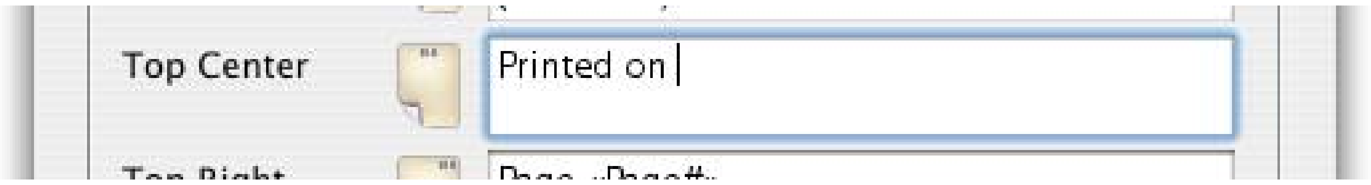
Bottom Center:
```
{info("databasename")}
{info("records")} records)
```

Here's what the finished footer looks like. See "Calculations & Formulas" on page 273 to learn more about formulas.



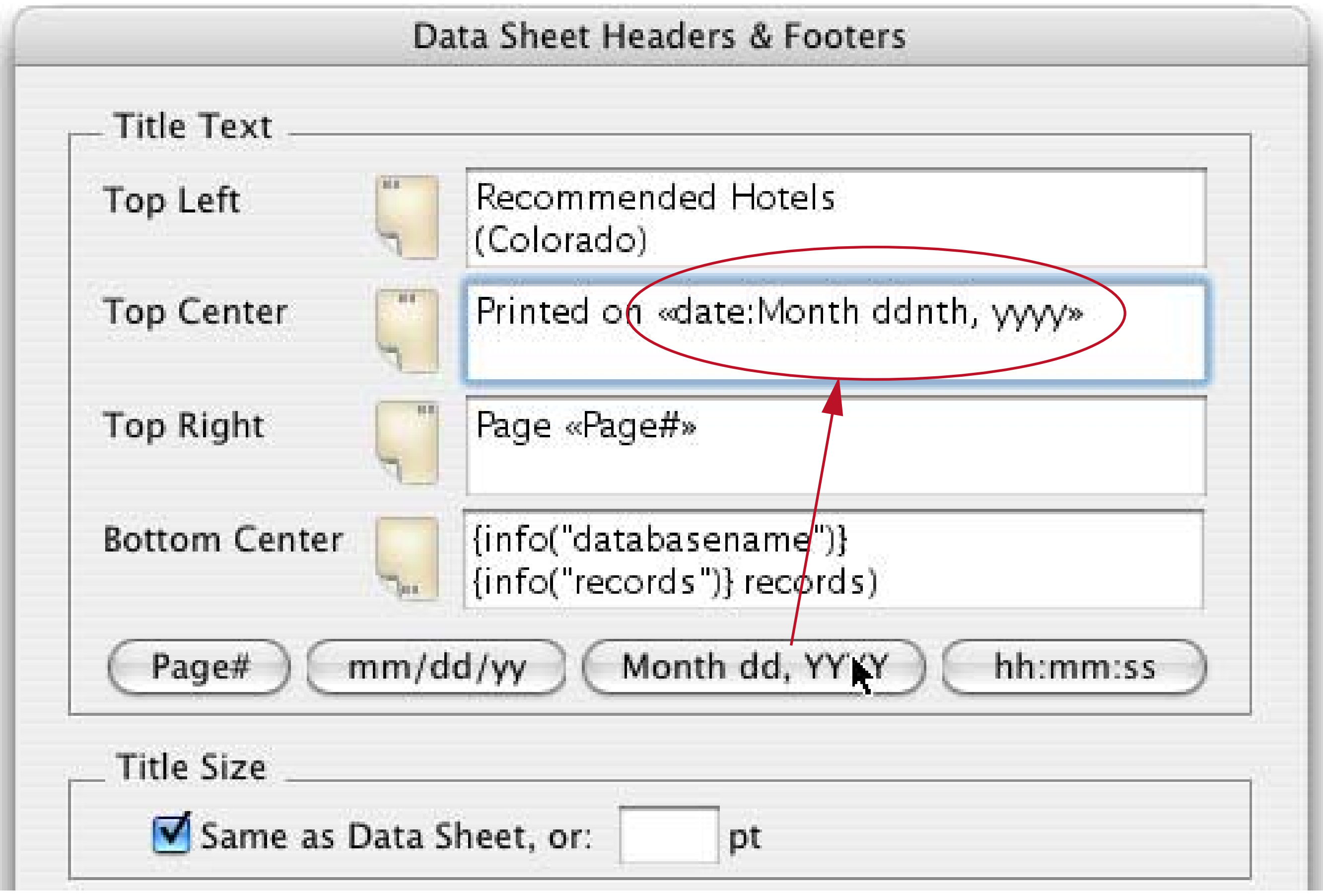
```
Best Western Sands      Cortez              30.00    81  565-3761   4
Best Western Shangri L  Breckenridge        38.00    41  453-2225   3
Best Western Silver Ki  Leadville           33.00    62  486-2610   3
Best Western Slpiner    Steamboat Springs   34.00    32  879-1430   3
Best Western Spa Motor  Denver              35.00    70  292-0220   3

                          Colorado Hotels (439 records)
```

The four buttons just below the header/footer area will insert the most common codes into a header or footer for you. For example, suppose you wanted the top center header to show the time and date the database was printed, like this: Printed on May 23rd, 2000 at 4:21 PM. Start by opening the **Headers/Footers** dialog. Type Printed on into the Top Center header.



Top Center: Printed on

Now press the **Month dd, YYYY** button. Panorama will insert the code for you.



Data Sheet Headers & Footers

Title Text

Top Left: Recommended Hotels (Colorado)

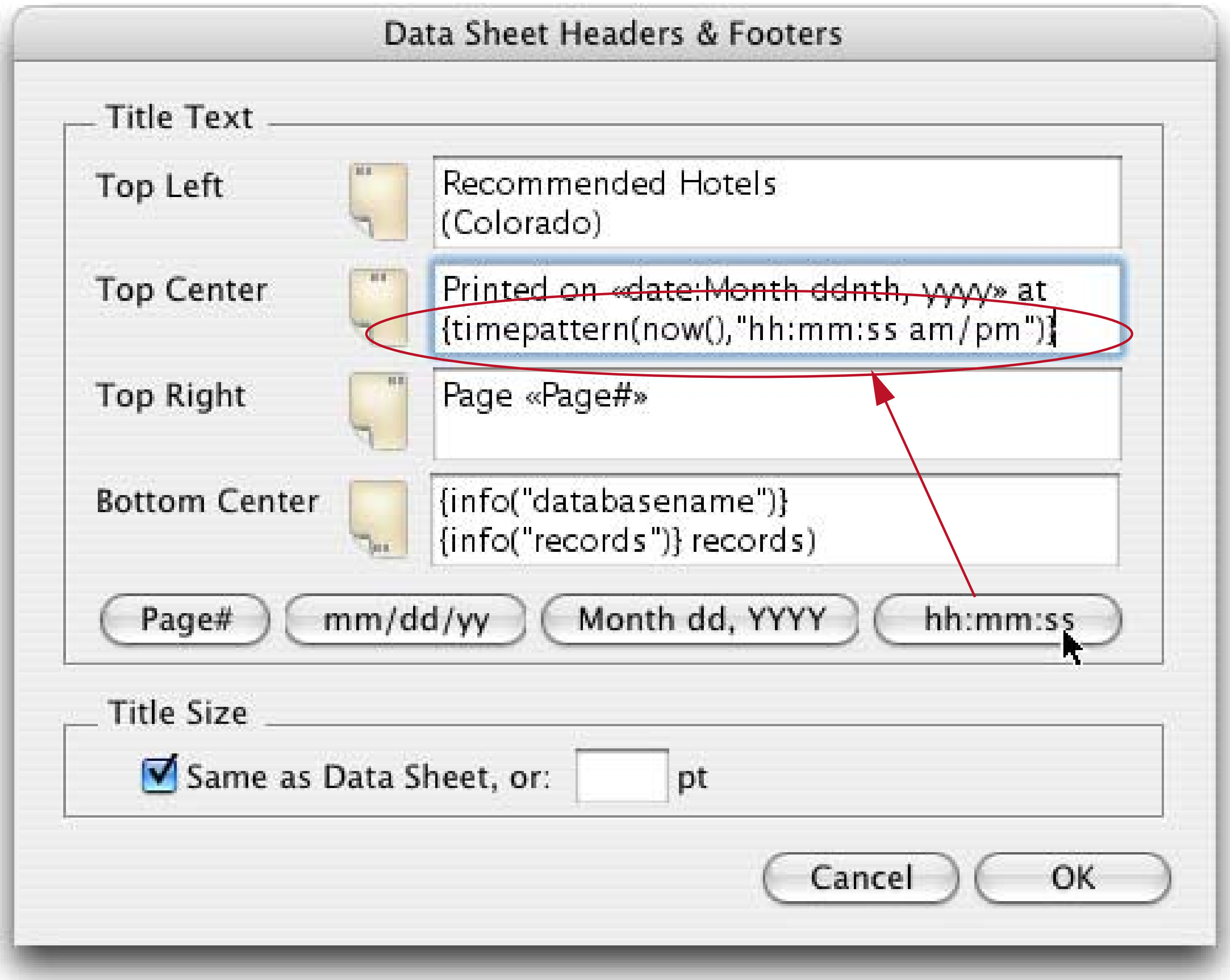
Top Center: Printed on «date:Month ddnth, yyyy»

Top Right: Page «Page#»

Bottom Center: {info("databasename")} {info("records")} records)

☑ Same as Data Sheet, or: pt

Next type in at and press the **hh:mm:ss** button.



Data Sheet Headers & Footers

Title Text

Top Left: Recommended Hotels (Colorado)

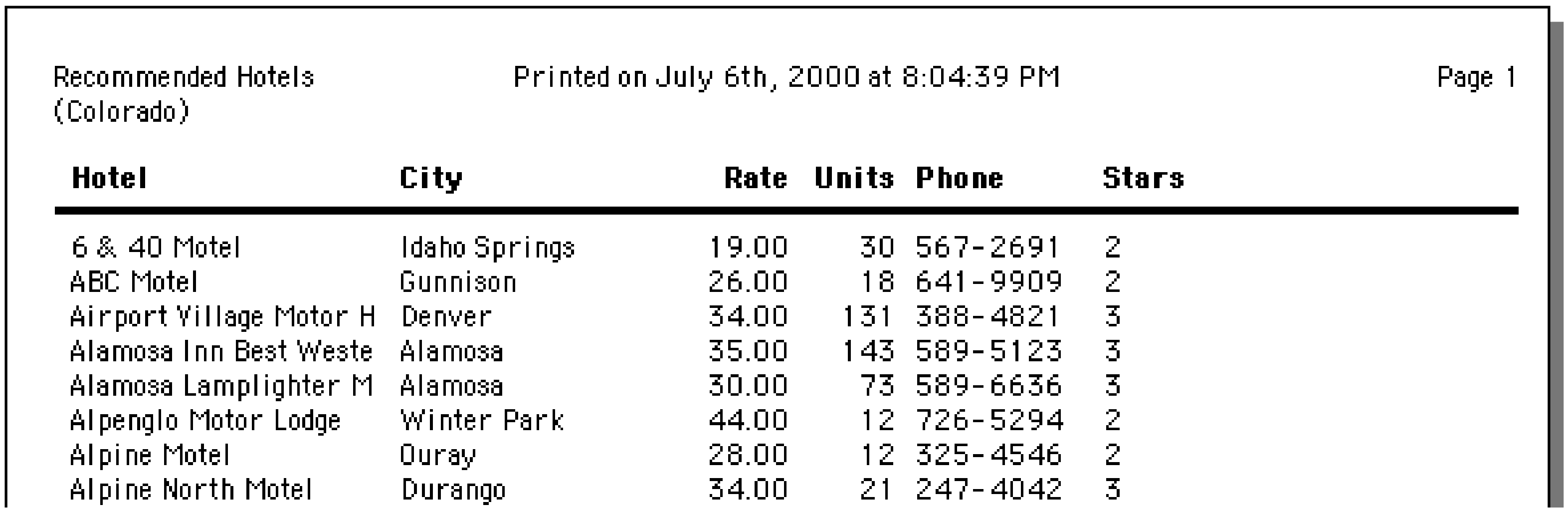
Top Center: Printed on «date:Month ddnth, yyyy» at {timepattern(now(),"hh:mm:ss am/pm")}

Top Right: Page «Page#»

Bottom Center: {info("databasename")} {info("records")} records)

☑ Same as Data Sheet, or: pt

Now press **OK**, and print or preview the data sheet. The top of the printed page will look like this:



Recommended Hotels (Colorado) Printed on July 6th, 2000 at 8:04:39 PM Page 1

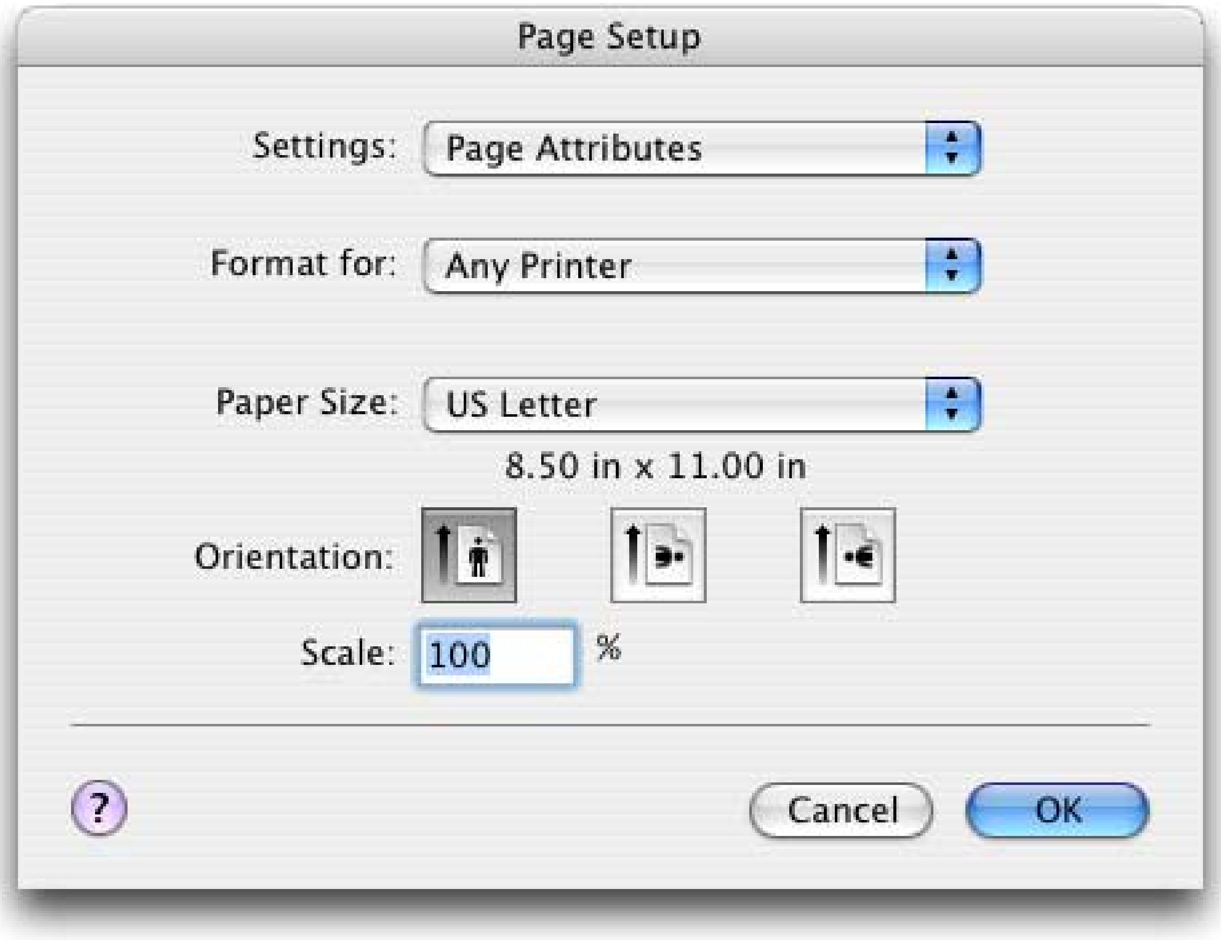
Hotel	City	Rate	Units	Phone	Stars
6 & 40 Motel	Idaho Springs	19.00	30	567-2691	2
ABC Motel	Gunnison	26.00	18	641-9909	2
Airport Village Motor H	Denver	34.00	131	388-4821	3
Alamosa Inn Best Weste	Alamosa	35.00	143	589-5123	3
Alamosa Lamplighter M	Alamosa	30.00	73	589-6636	3
Alpenglo Motor Lodge	Winter Park	44.00	12	726-5294	2
Alpine Motel	Ouray	28.00	12	325-4546	2
Alpine North Motel	Durango	34.00	21	247-4042	3

Preparing Data For Printing

Before you print the database, you may want to prepare it for printing. If you want the data printed in a certain order (for example alphabetical by name), you must sort the database before you print it (see "Sorting" on page 135). If you want to print only a portion of the database (for example, only zip codes in California), you must use the **Find/Select** command to make the rest of the database invisible (see "The Find / Select Dialog" on page 144). If you want to print subtotals or other summary information, you must group and total the database before printing (see "The Summarize & Analyze Dialog" on page 167).

The Page Setup Dialog

The **Page Setup** command in the File Menu displays a dialog that allows you to specify several printing options. The exact options available 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

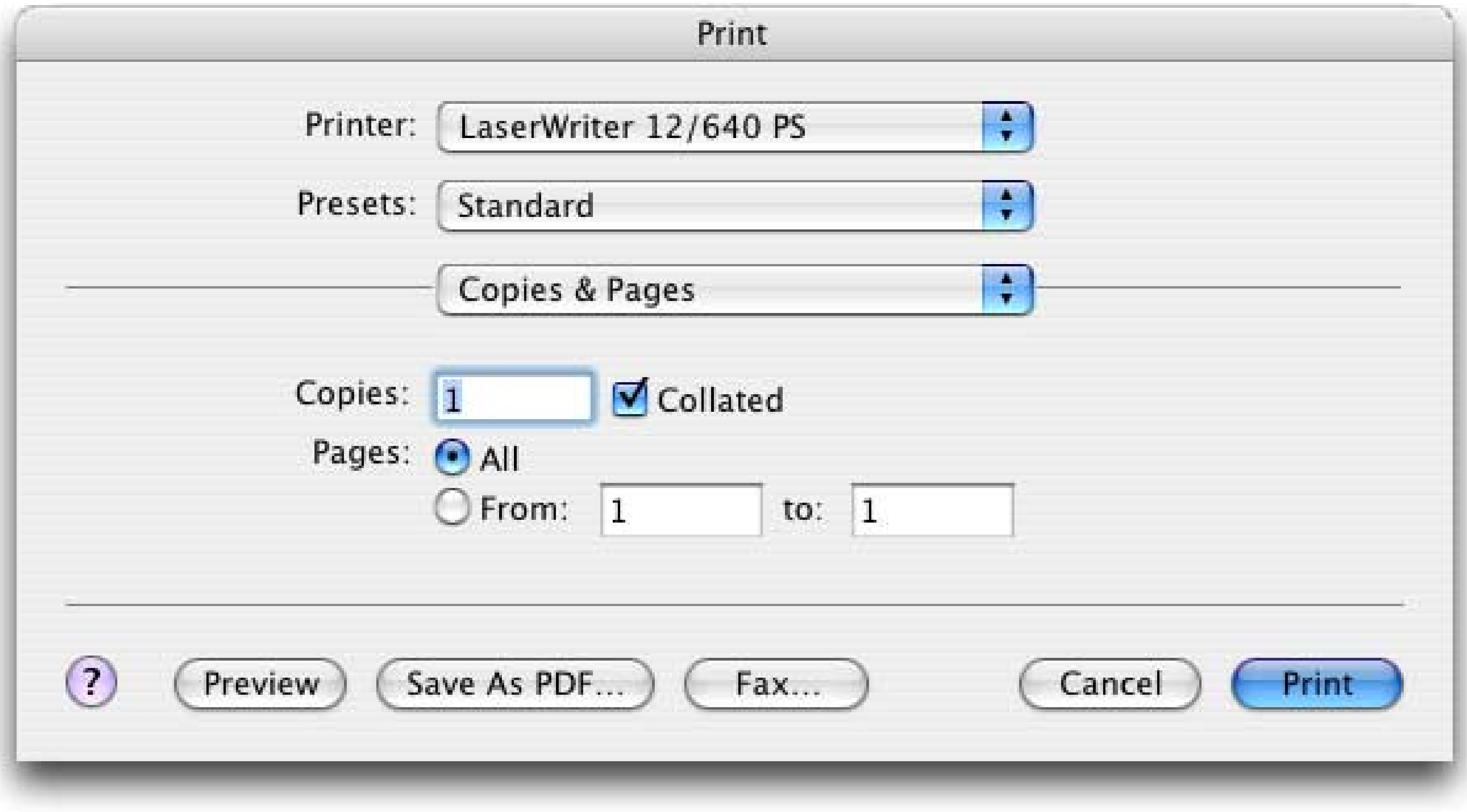
Orientation:

Scale: 100 %

Each form view has its own separate page setup. The page setup is remembered as part of the form. For example, a single database can have an invoice that is printed using the tall orientation, and a report that is printed using the wide orientation (sideways). You don't have to remember to switch the page setup when you switch forms—Panorama will do it for you. Incidentally, be sure to save the file after you change the page setup. If you save the file, Panorama will remember the page setup the next time the file is opened. (However, not all print options are saved as part of the database. The exact options that are saved vary from printer to printer.)

The Print Dialog

The **Print** command also displays a dialog box allowing you to choose printing options. You can choose which pages to print, how many copies to print, and whether you want to manually feed the paper. The exact options will depend on the operating system and printer you are using. Here is a typical **Print** option dialog.



Printer: LaserWriter 12/640 PS

Presets: Standard

Copies & Pages

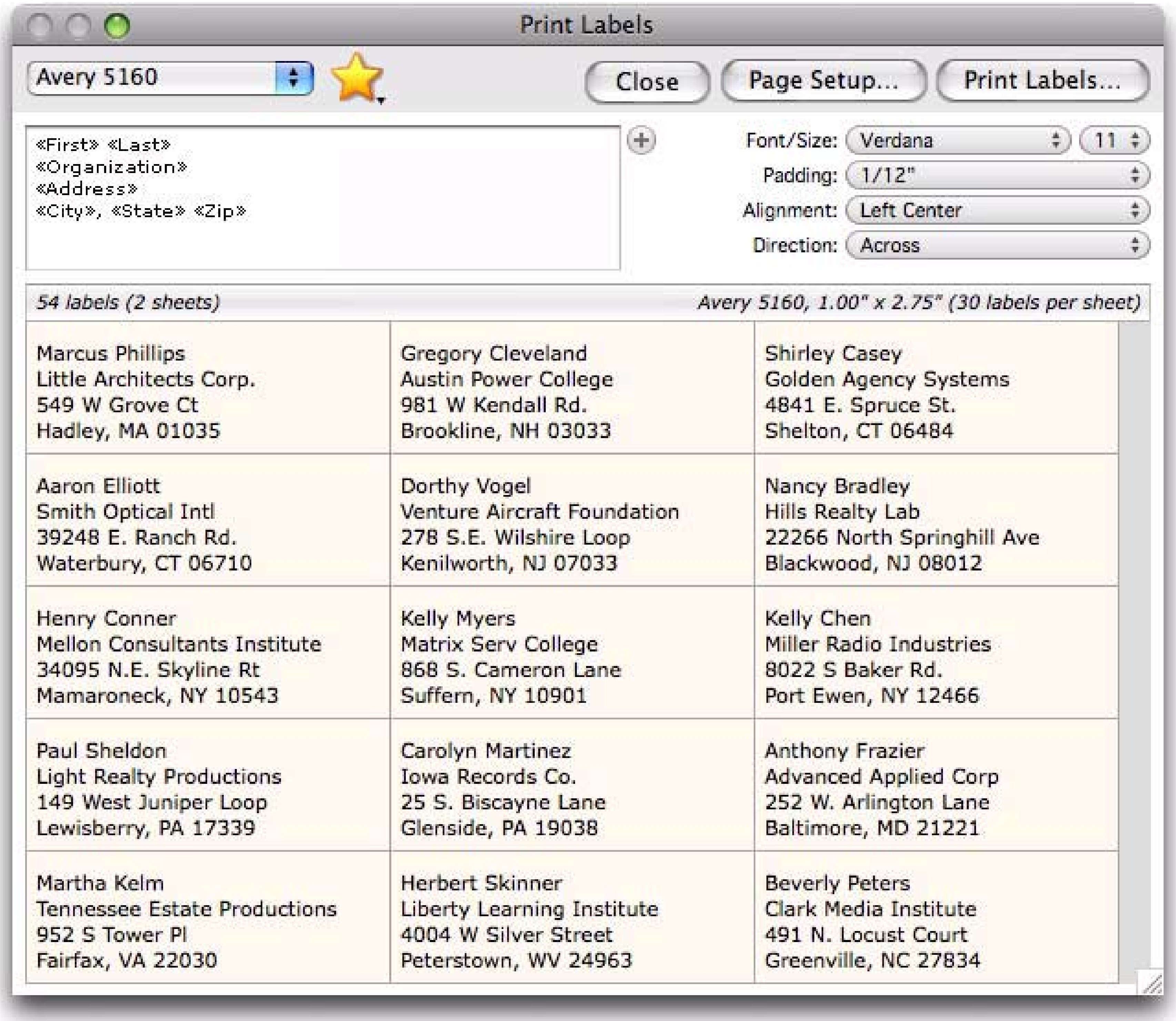
Copies: 1 ☑ Collated

Pages: ● All
○ From: 1 to: 1

For the exact details on the operation of this dialog see the documentation that came with your printer.

Printing Labels

To print labels, choose **File>Print Labels**.



Avery 5160

```
«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»
```

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

54 labels (2 sheets) *Avery 5160, 1.00" x 2.75" (30 labels per sheet)*

Marcus Phillips Little Architects Corp. 549 W Grove Ct Hadley, MA 01035	Gregory Cleveland Austin Power College 981 W Kendall Rd. Brookline, NH 03033	Shirley Casey Golden Agency Systems 4841 E. Spruce St. Shelton, CT 06484
Aaron Elliott Smith Optical Intl 39248 E. Ranch Rd. Waterbury, CT 06710	Dorthy Vogel Venture Aircraft Foundation 278 S.E. Wilshire Loop Kenilworth, NJ 07033	Nancy Bradley Hills Realty Lab 22266 North Springhill Ave Blackwood, NJ 08012
Henry Conner Mellon Consultants Institute 34095 N.E. Skyline Rt Mamaroneck, NY 10543	Kelly Myers Matrix Serv College 868 S. Cameron Lane Suffern, NY 10901	Kelly Chen Miller Radio Industries 8022 S Baker Rd. Port Ewen, NY 12466
Paul Sheldon Light Realty Productions 149 West Juniper Loop Lewisberry, PA 17339	Carolyn Martinez Iowa Records Co. 25 S. Biscayne Lane Glenside, PA 19038	Anthony Frazier Advanced Applied Corp 252 W. Arlington Lane Baltimore, MD 21221
Martha Kelm Tennessee Estate Productions 952 S Tower Pl Fairfax, VA 22030	Herbert Skinner Liberty Learning Institute 4004 W Silver Street Peterstown, WV 24963	Beverly Peters Clark Media Institute 491 N. Locust Court Greenville, NC 27834

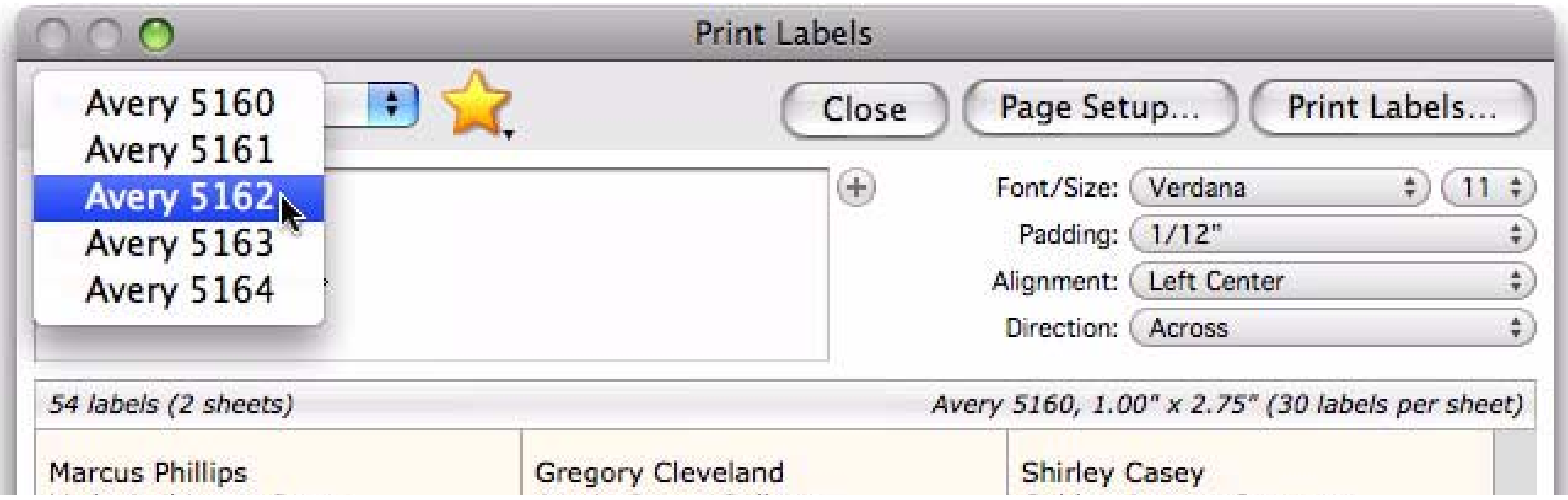
If you've used common field names (*First*, *Last*, *Name*, *Company*, *Address*, *City*, *State*, etc.) Panorama will automatically format the label content for you. Just select the type of label you are using and press the **Print Labels** button. (The Page Setup for labels is kept separately for labels and the data sheet. The first time you print labels you will be asked to set up the Page Setup, or you can change the setup at any time by pressing the **Page Setup** button.) When you are done printing labels press the **Close** button.

Page Setup Options

The dialog allows you to specify various options for printing labels.

Type of Label

Use the pop-up menu to choose the type of label you want to print.

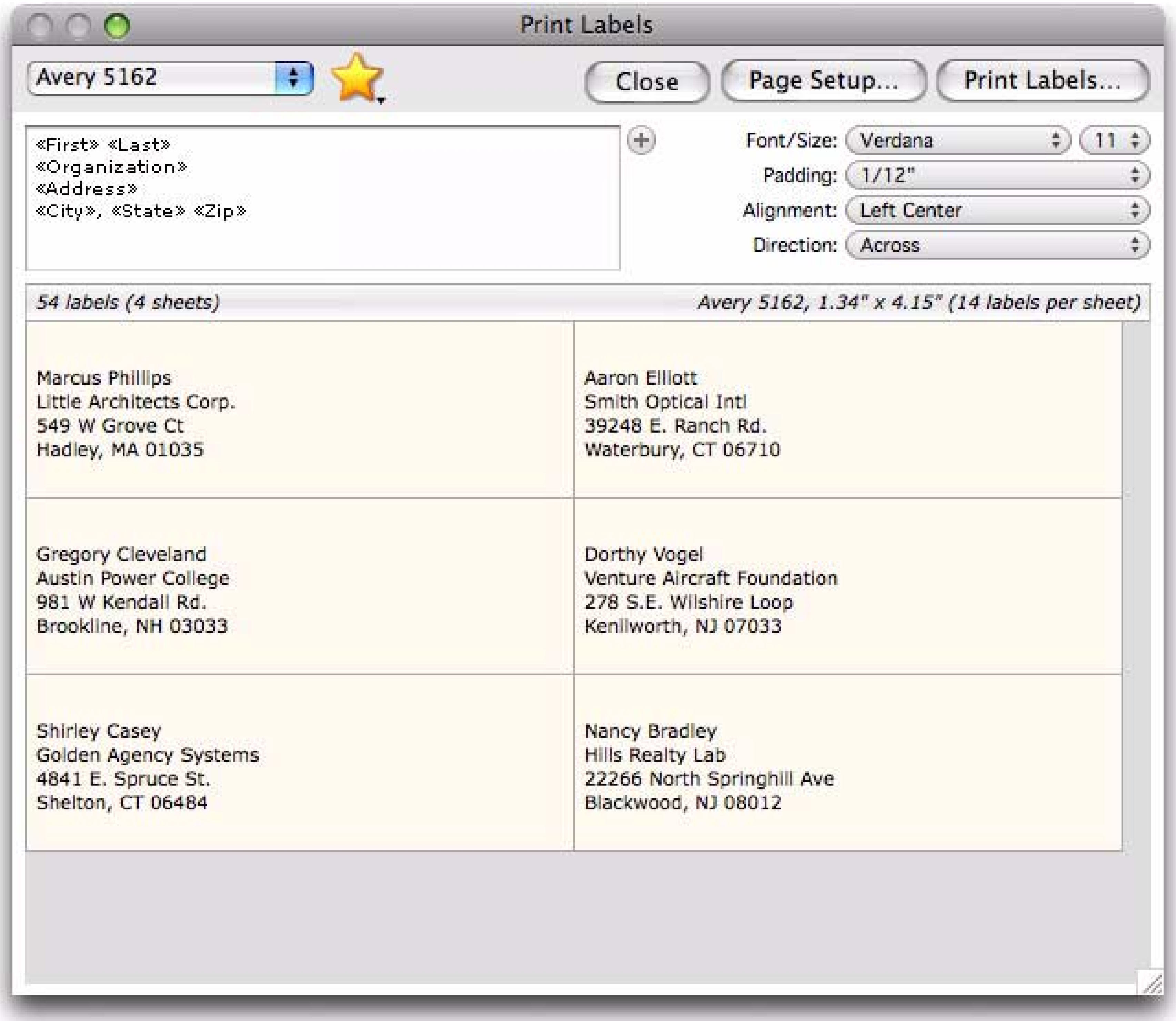


Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

54 labels (2 sheets) *Avery 5160, 1.00" x 2.75" (30 labels per sheet)*

Marcus Phillips	Gregory Cleveland	Shirley Casey

The bottom section of the dialog displays a preview of the selected labels.



Avery 5162

```
«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»
```

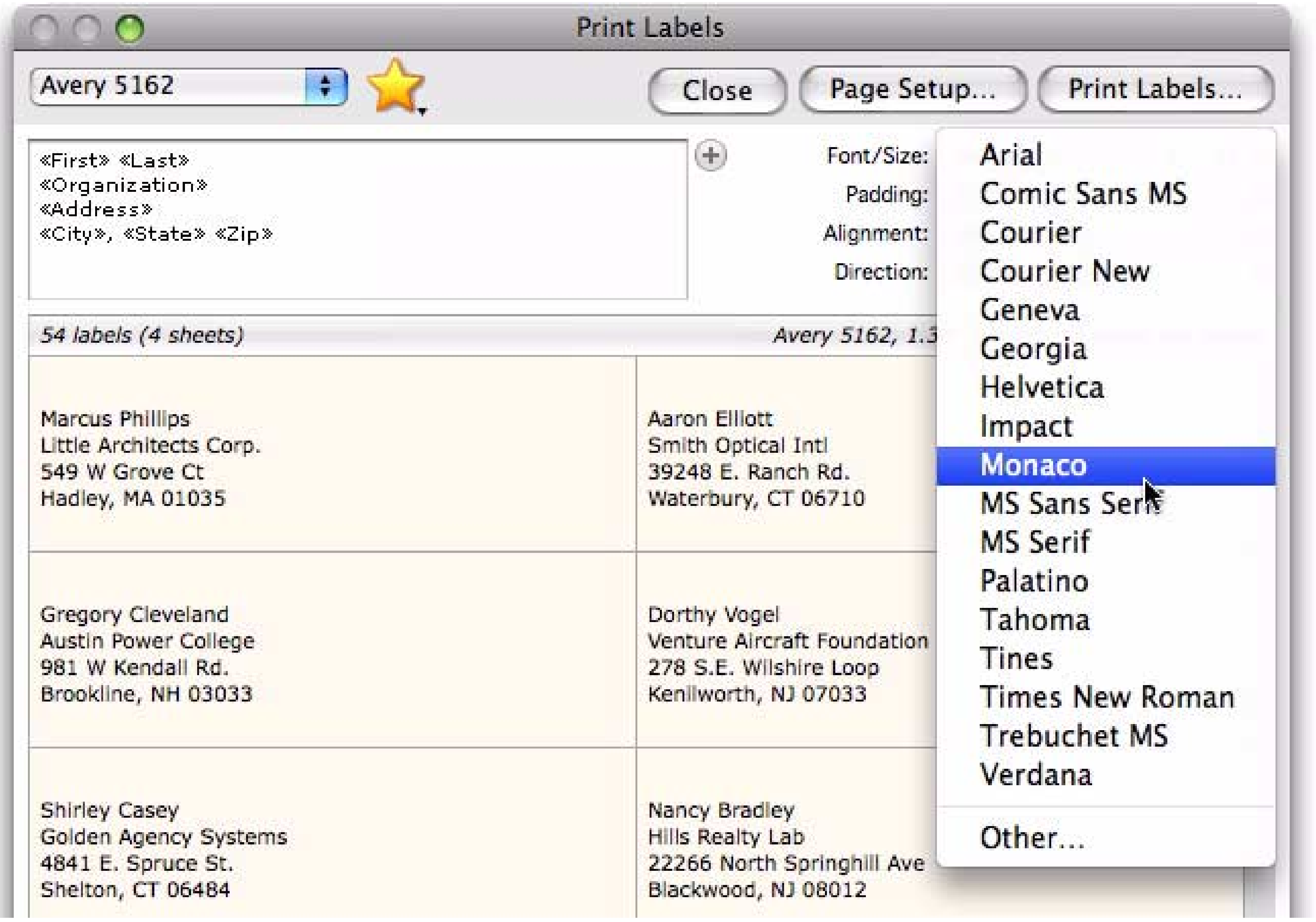
Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

54 labels (4 sheets) *Avery 5162, 1.34" x 4.15" (14 labels per sheet)*

Marcus Phillips Little Architects Corp. 549 W Grove Ct Hadley, MA 01035	Aaron Elliott Smith Optical Intl 39248 E. Ranch Rd. Waterbury, CT 06710
Gregory Cleveland Austin Power College 981 W Kendall Rd. Brookline, NH 03033	Dorthy Vogel Venture Aircraft Foundation 278 S.E. Wilshire Loop Kenilworth, NJ 07033
Shirley Casey Golden Agency Systems 4841 E. Spruce St. Shelton, CT 06484	Nancy Bradley Hills Realty Lab 22266 North Springhill Ave Blackwood, NJ 08012

Label Font and Text Size

Use the pop-up menu to select from a list of common fonts.



«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»

54 labels (4 sheets) *Avery 5162, 1.3*

Marcus Phillips
Little Architects Corp.
549 W Grove Ct
Hadley, MA 01035

Aaron Elliott
Smith Optical Intl
39248 E. Ranch Rd.
Waterbury, CT 06710

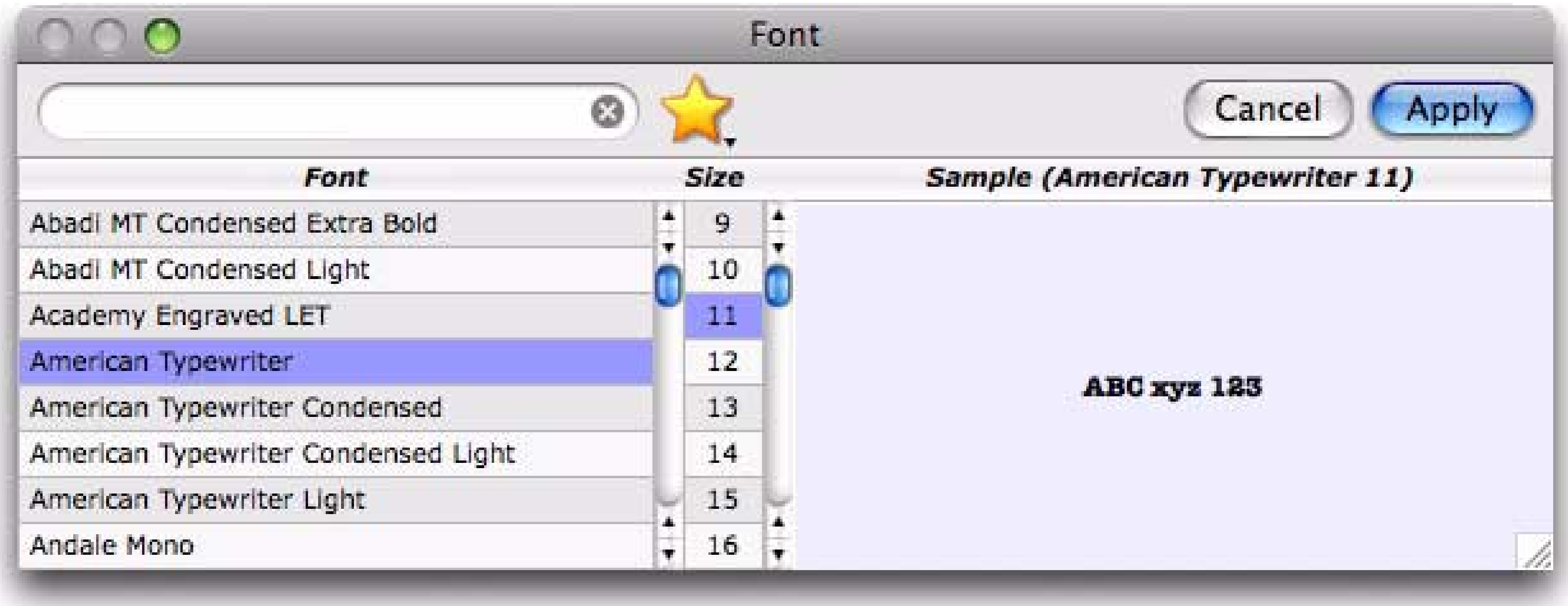
Gregory Cleveland
Austin Power College
981 W Kendall Rd.
Brookline, NH 03033

Dorthy Vogel
Venture Aircraft Foundation
278 S.E. Wilshire Loop
Kenilworth, NJ 07033

Shirley Casey
Golden Agency Systems
4841 E. Spruce St.
Shelton, CT 06484

Nancy Bradley
Hills Realty Lab
22266 North Springhill Ave
Blackwood, NJ 08012

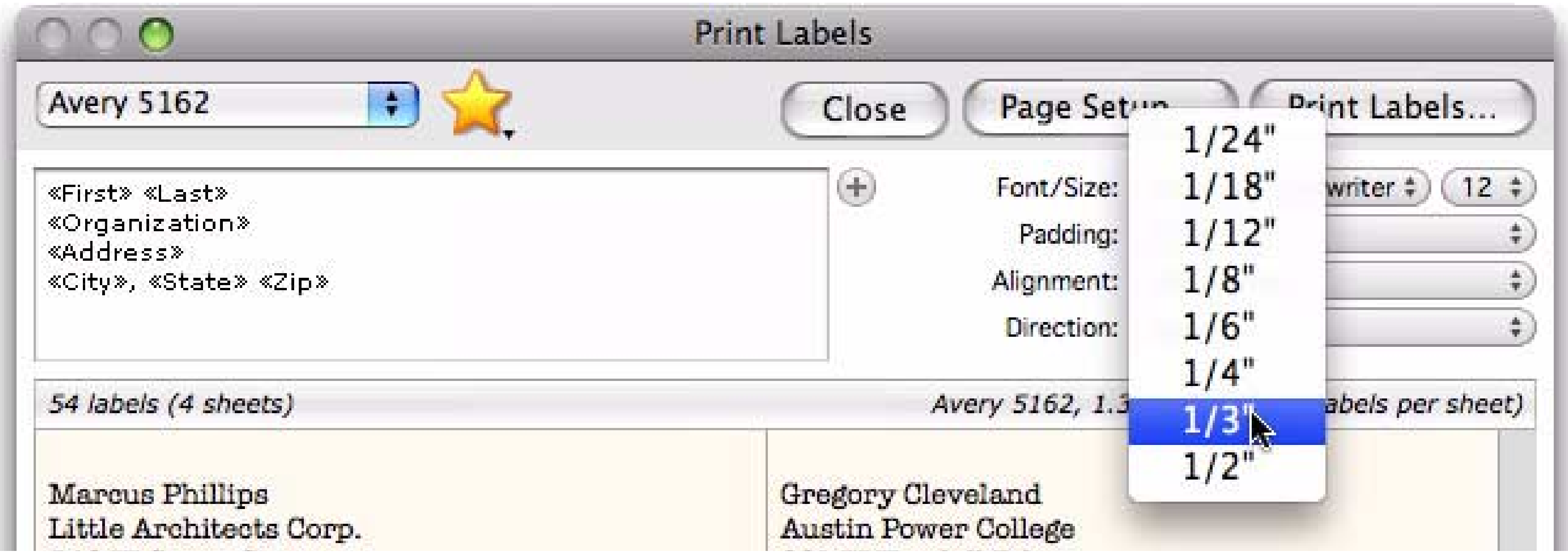
Choose **Other** for a complete list of fonts on your system.



Font	Size	Sample (American Typewriter 11)
Abadi MT Condensed Extra Bold	9	
Abadi MT Condensed Light	10	
Academy Engraved LET	11	
American Typewriter	12	
American Typewriter Condensed	13	
American Typewriter Condensed Light	14	
American Typewriter Light	15	
Andale Mono	16	

Label Padding

Each label has a small padding area (margin) around all four edges. You can increase or decrease this padding.



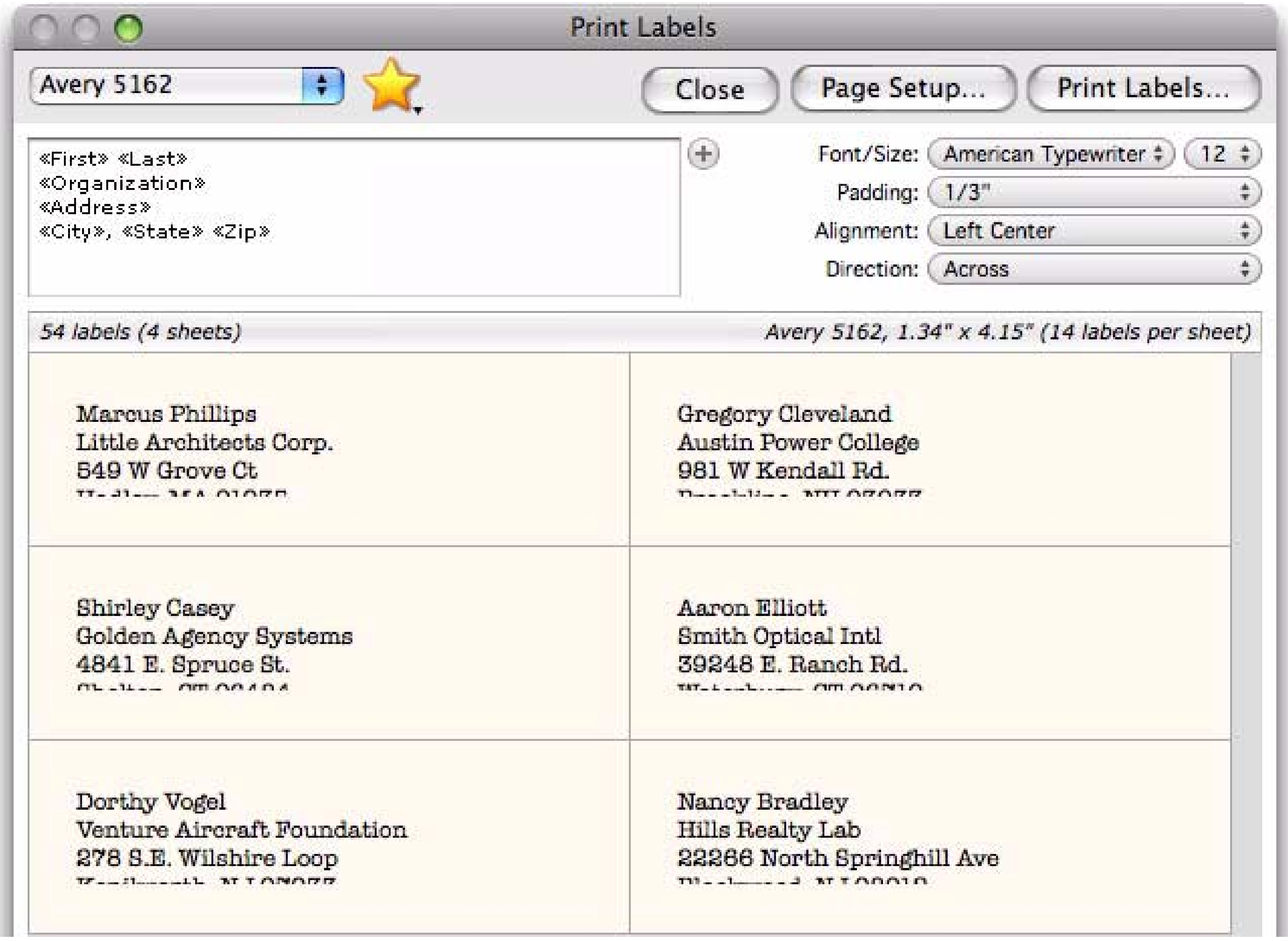
«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»

54 labels (4 sheets) *Avery 5162, 1.3 abels per sheet)*

Marcus Phillips
Little Architects Corp.

Gregory Cleveland
Austin Power College

If you make the padding too large, some of the label text may be cut off.



«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»

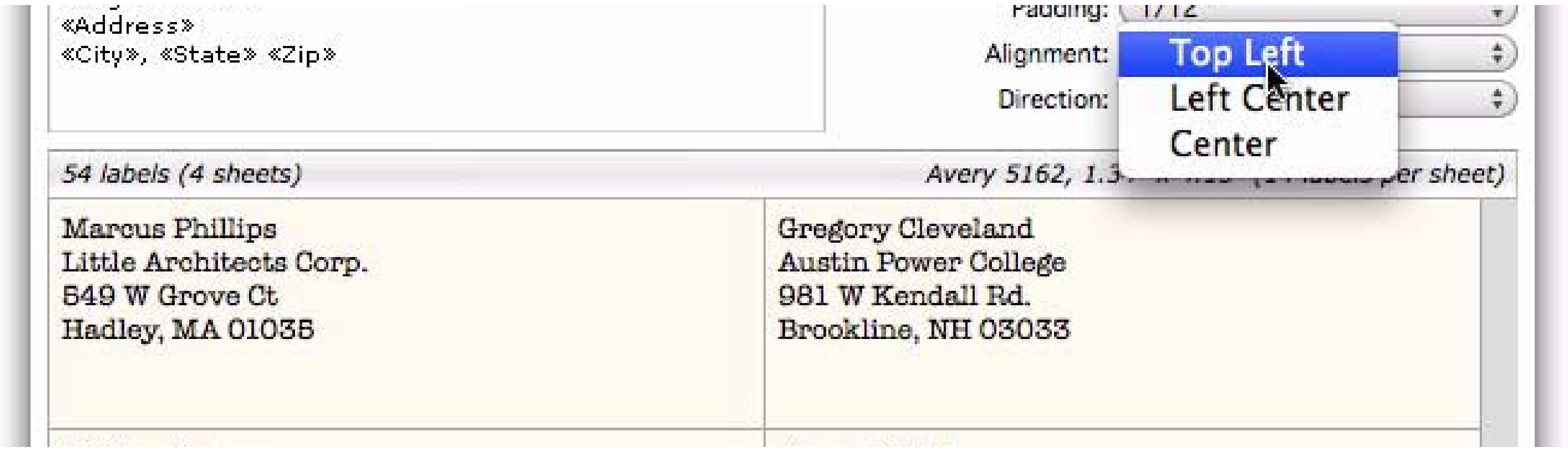
Font/Size: American Typewriter 12
Padding: 1/3"
Alignment: Left Center
Direction: Across

54 labels (4 sheets) *Avery 5162, 1.34" x 4.15" (14 labels per sheet)*

Marcus Phillips Little Architects Corp. 549 W Grove Ct	Gregory Cleveland Austin Power College 981 W Kendall Rd.
Shirley Casey Golden Agency Systems 4841 E. Spruce St.	Aaron Elliott Smith Optical Intl 39248 E. Ranch Rd.
Dorthy Vogel Venture Aircraft Foundation 278 S.E. Wilshire Loop	Nancy Bradley Hills Realty Lab 22266 North Springhill Ave

Alignment

Within each label, the text can appear in the top left corner, or centered in the middle.



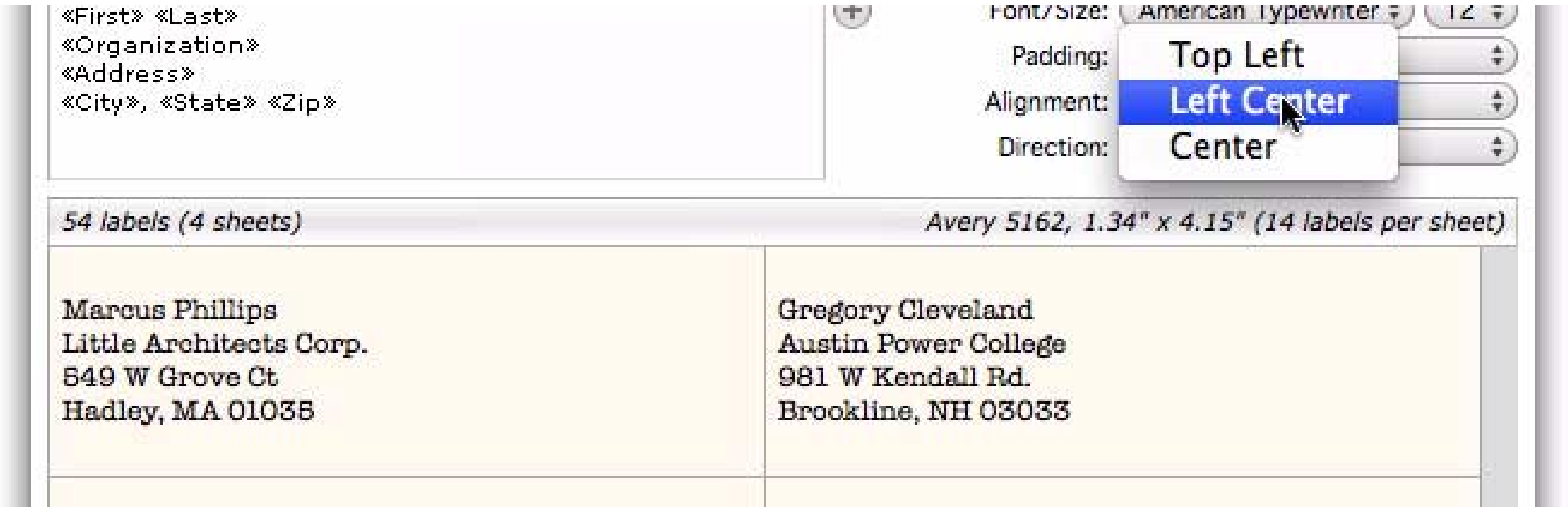
«Address»
«City», «State» «Zip»

54 labels (4 sheets) *Avery 5162, 1.3… per sheet)*

Marcus Phillips
Little Architects Corp.
549 W Grove Ct
Hadley, MA 01035

Gregory Cleveland
Austin Power College
981 W Kendall Rd.
Brookline, NH 03033

centered on the left,



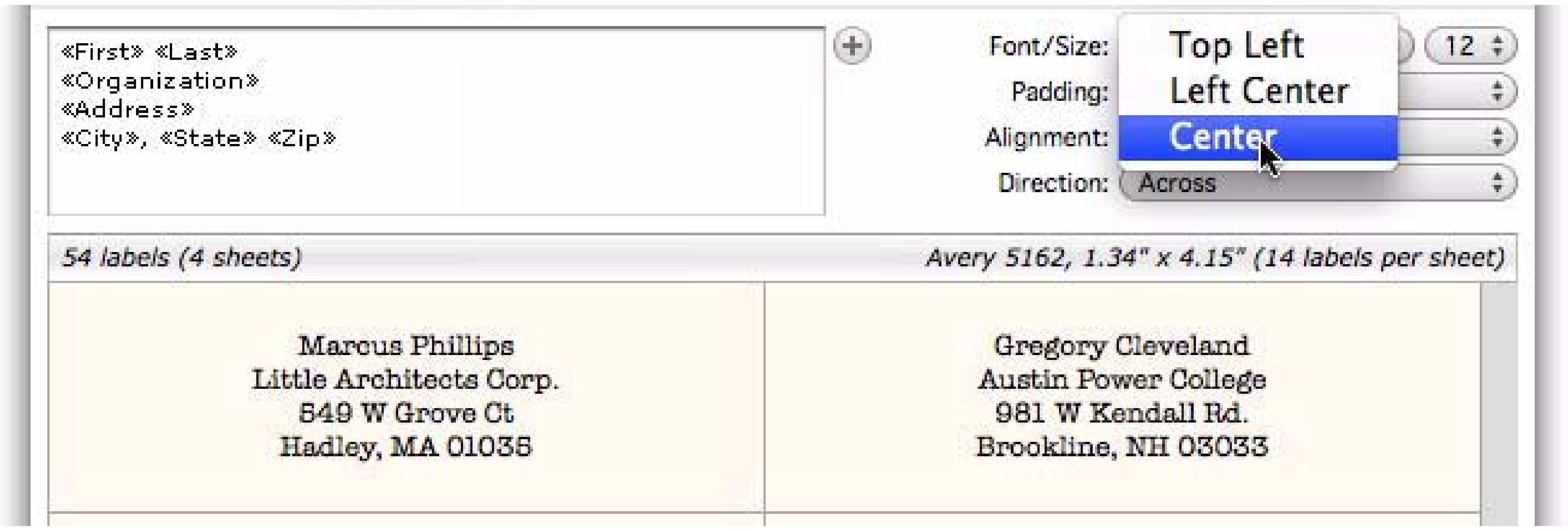
«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»

54 labels (4 sheets) *Avery 5162, 1.34" x 4.15" (14 labels per sheet)*

Marcus Phillips
Little Architects Corp.
549 W Grove Ct
Hadley, MA 01035

Gregory Cleveland
Austin Power College
981 W Kendall Rd.
Brookline, NH 03033

or centered in the middle.



«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»

54 labels (4 sheets) *Avery 5162, 1.34" x 4.15" (14 labels per sheet)*

Marcus Phillips
Little Architects Corp.
549 W Grove Ct
Hadley, MA 01035

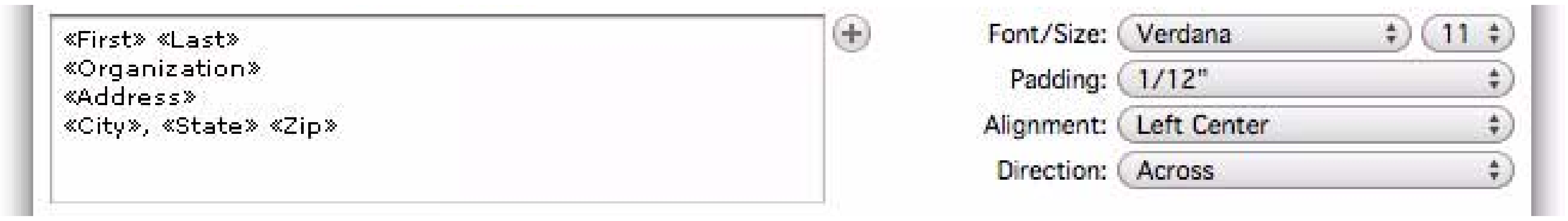
Gregory Cleveland
Austin Power College
981 W Kendall Rd.
Brookline, NH 03033

Label Direction

This option selects whether labels are printed across or down. Across means each row is printed from left to right, then the next row down, etc. Down means each column is printed from top to bottom, then the next column to the right, etc.

Customizing the Label Text

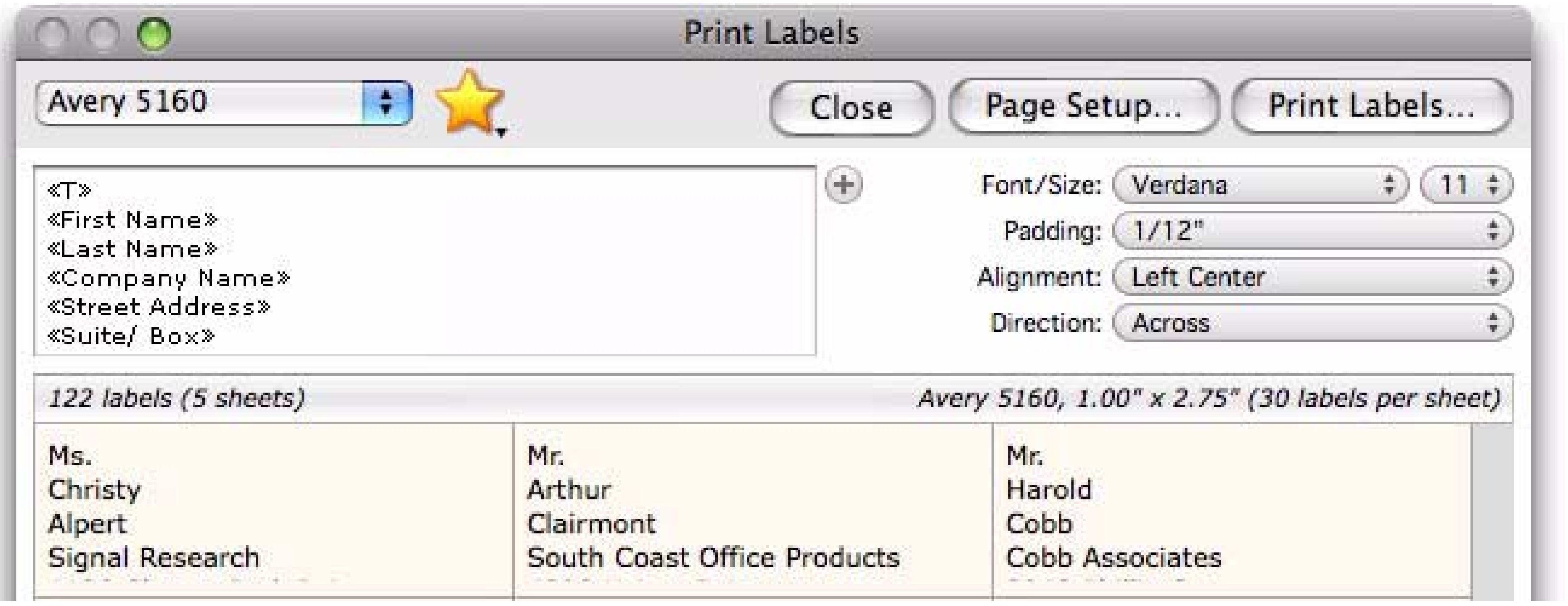
When you open the label dialog for the first time with a new database, Panorama will do the best job it can to arrange the text on the label. If your field names are standard it will do a pretty good job of this.



```
«First» «Last»
«Organization»
«Address»
«City», «State» «Zip»
```

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

If Panorama doesn't know about the field names you are using it will simply include all of the text columns in the database in a vertical column.



Avery 5160

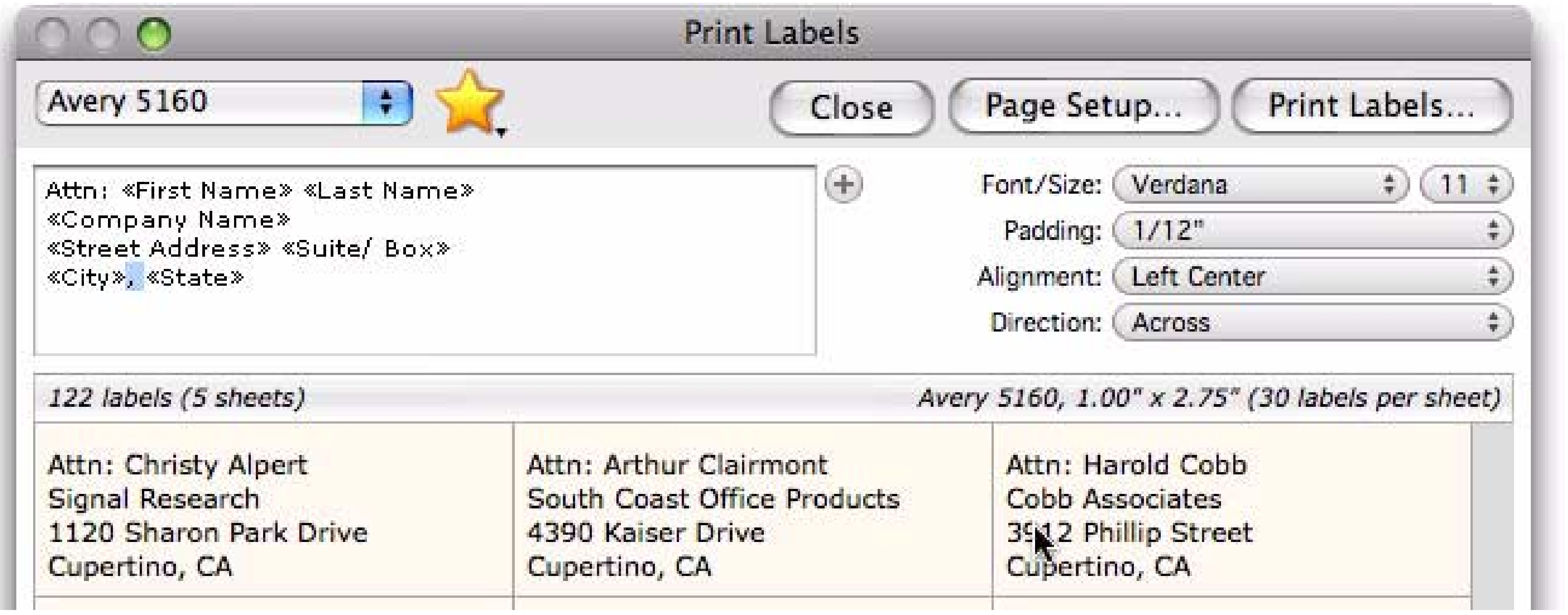
```
«T»
«First Name»
«Last Name»
«Company Name»
«Street Address»
«Suite/ Box»
```

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

122 labels (5 sheets) *Avery 5160, 1.00" x 2.75" (30 labels per sheet)*

Ms. Christy Alpert Signal Research	Mr. Arthur Clairmont South Coast Office Products	Mr. Harold Cobb Cobb Associates

If this happens, no problem, just click on the text and edit it. You can delete any fields you don't want on the label, and also simply type to add any extra text or punctuation you need.



Avery 5160

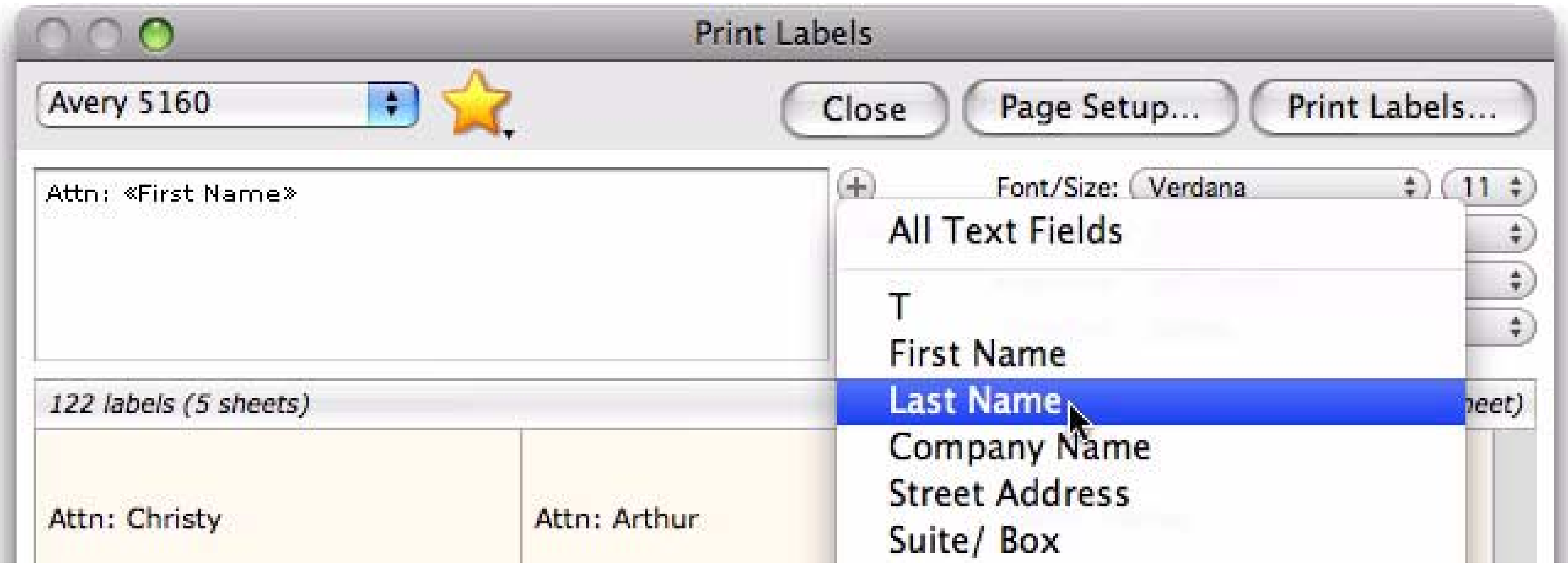
```
Attn: «First Name» «Last Name»
«Company Name»
«Street Address» «Suite/ Box»
«City», «State»
```

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

122 labels (5 sheets) *Avery 5160, 1.00" x 2.75" (30 labels per sheet)*

Attn: Christy Alpert Signal Research 1120 Sharon Park Drive Cupertino, CA	Attn: Arthur Clairmont South Coast Office Products 4390 Kaiser Drive Cupertino, CA	Attn: Harold Cobb Cobb Associates 3912 Phillip Street Cupertino, CA

You can also erase all of the text and build your label from scratch. Fixed text (like Attn: above) is simply typed in. To include a field name, it must be surrounded with chevron characters (« and »). You can type in field names manually, but it's usually easier to insert them by clicking on the + button to the right of the text and selecting from the pop-up menu.



Attn: «First Name»

122 labels (5 sheets)

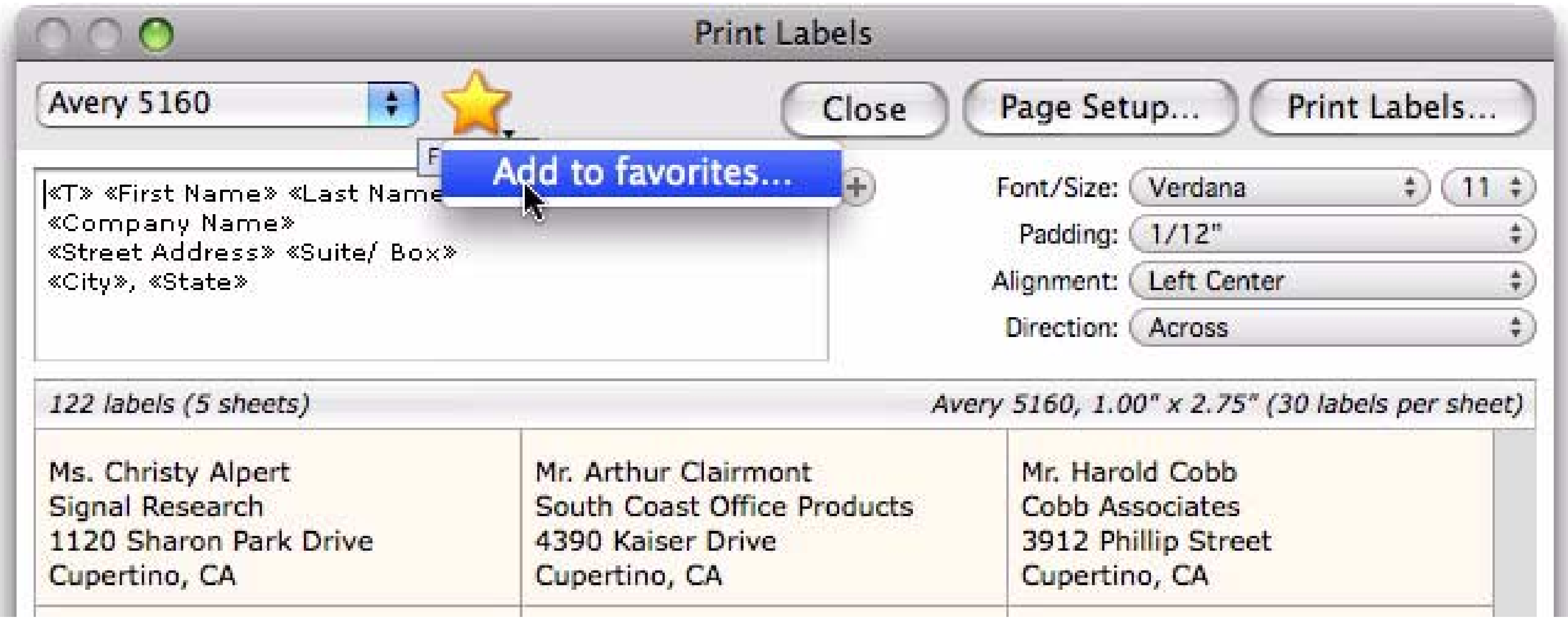
Attn: Christy

Attn: Arthur

Note: Only text fields may be used in a label. Numeric and date fields are not allowed. If you need to include a numeric or date field you should temporarily create a duplicate field and convert the duplicate to text.

Saving Favorite Label Designs

Once you've set up a label you may want to save it so that it can be used again. To save a label, click on the yellow star at the top of the dialog, then choose **Add to favorites** from the pop-up menu.



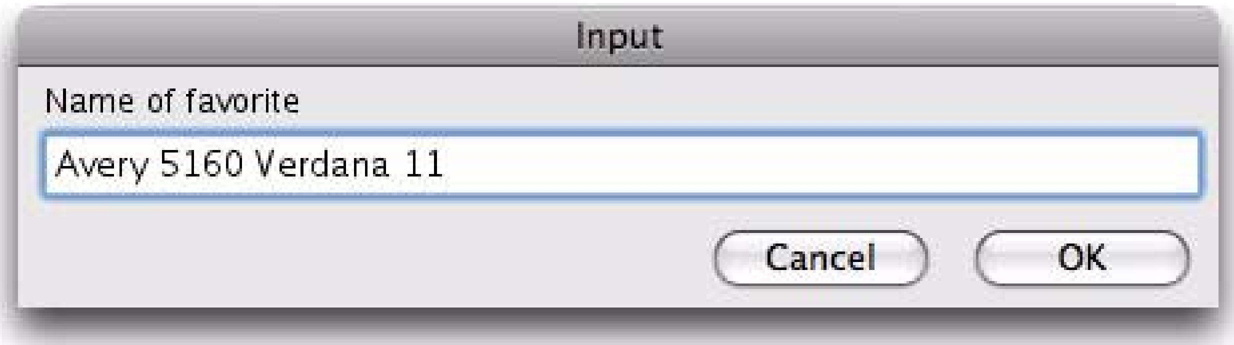
«T» «First Name» «Last Name
«Company Name»
«Street Address» «Suite/ Box»
«City», «State»

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

122 labels (5 sheets) Avery 5160, 1.00" x 2.75" (30 labels per sheet)

Ms. Christy Alpert Signal Research 1120 Sharon Park Drive Cupertino, CA	Mr. Arthur Clairmont South Coast Office Products 4390 Kaiser Drive Cupertino, CA	Mr. Harold Cobb Cobb Associates 3912 Phillip Street Cupertino, CA

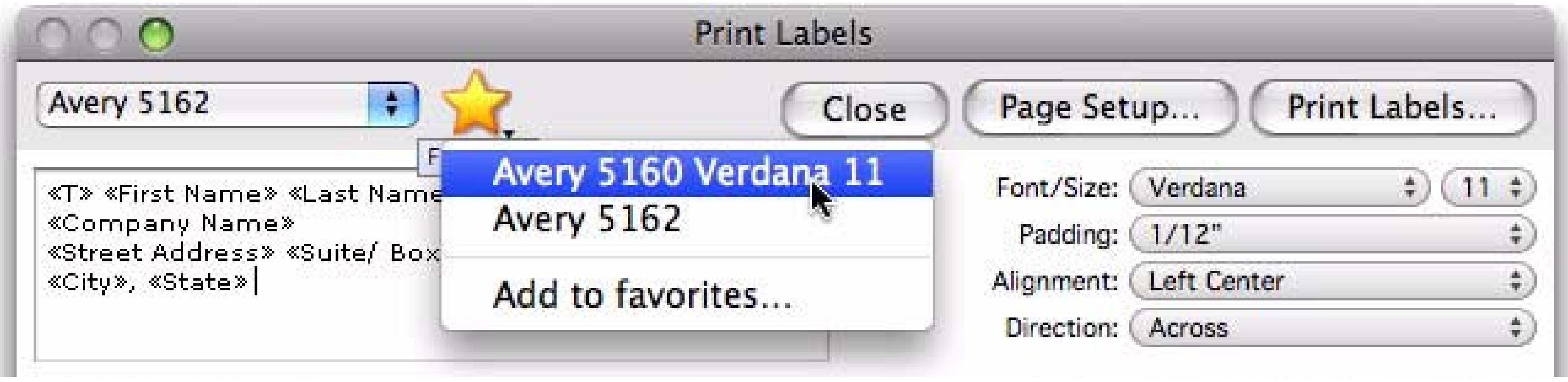
You'll be asked to give a name to your new favorite.



Name of favorite

Avery 5160 Verdana 11

When you want to re-use your favorite label, just click on the yellow star and choose it from the pop-up menu.



«T» «First Name» «Last Name
«Company Name»
«Street Address» «Suite/ Box
«City», «State»

Font/Size: Verdana 11
Padding: 1/12"
Alignment: Left Center
Direction: Across

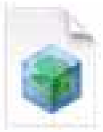
Note: Each database has its own separate favorite labels. Because the labels include field names, which are usually different from database to database, you can't use a favorite set up in one database in any other database.

Chapter 10: Files

Panorama operates on your data in memory, but the data is permanently stored in files on a disk drive. (In fact, you'll often find that the words **database** and **file** are used interchangeably.) Each Panorama file contains all the components needed to use the database.

Files, Icons and the Desktop

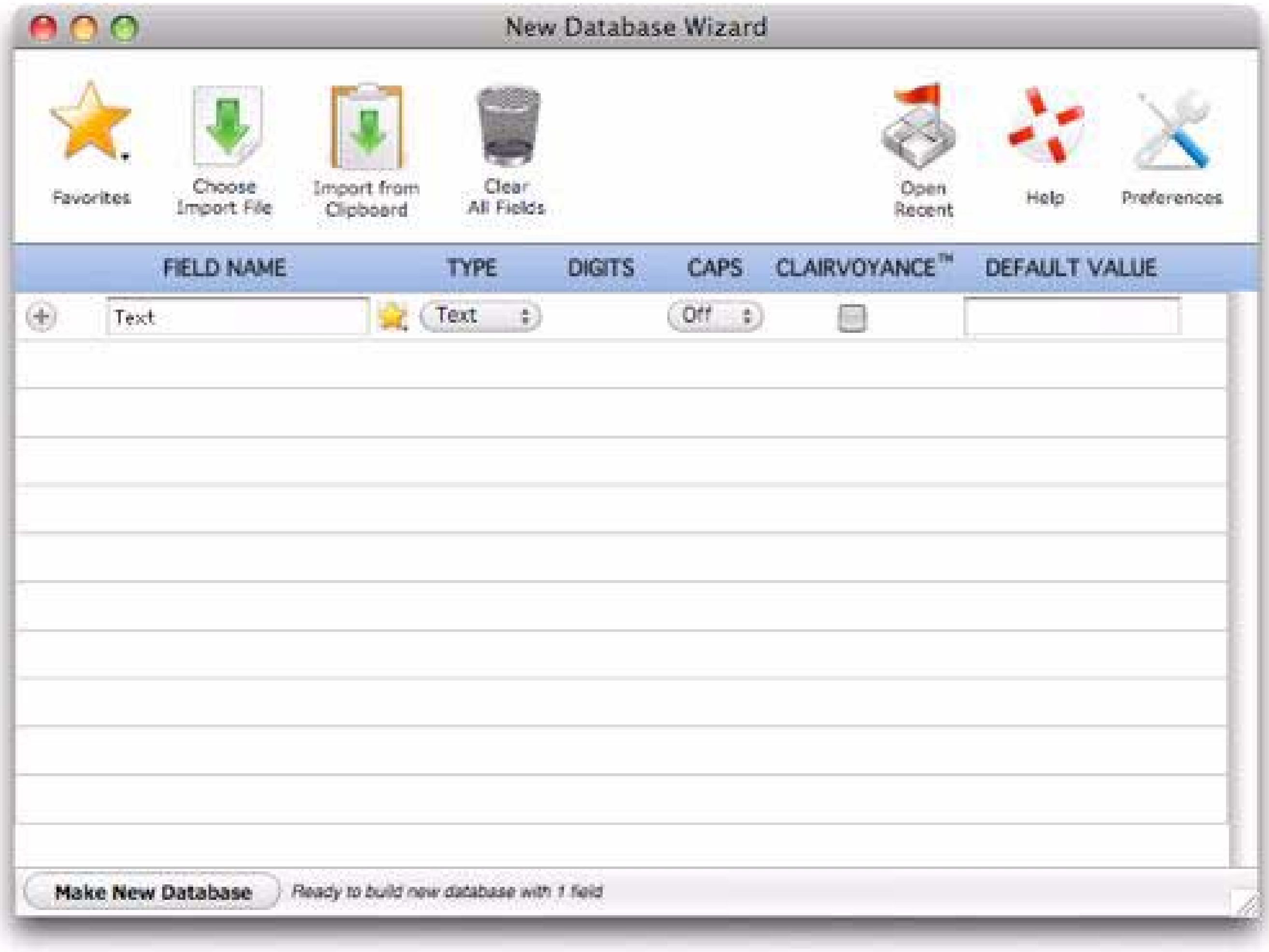
Before you begin to use Panorama you should be familiar with the basic operation of your computer. Whether you are using a Macintosh or a Windows based computer, files appear in a "desktop" environment that allows them to be located, moved, copied and opened. On the Macintosh this desktop environment is called the **Finder**. On Windows computers this is simply called the desktop, which you can view with **My Computer** or using the **Windows Explorer**. There are two different kinds of Panorama Sheets icons: **databases**, and the Panorama application itself.

	This is the icon for a single Panorama database. On Windows machines, these files have the extension **.pan**. Double click on this icon to open the database.
	This is the icon for the Panorama application itself, which is usually called **Panorama** (Mac) or **Panorama.exe** (Windows). You can double click this application when you want to create a new database without opening an existing database first.

You can manipulate these icons on the desktop any way you like, just like any other files.

Launching Panorama

To launch Panorama you can either double click on the Panorama application itself or double click on the icon for any Panorama database or file set. If you double click on the Panorama application itself the **New Database** wizard will appear.



FIELD NAME	TYPE	DIGITS	CAPS	CLAIRVOYANCE™	DEFAULT VALUE
Text	Text		Off	□	

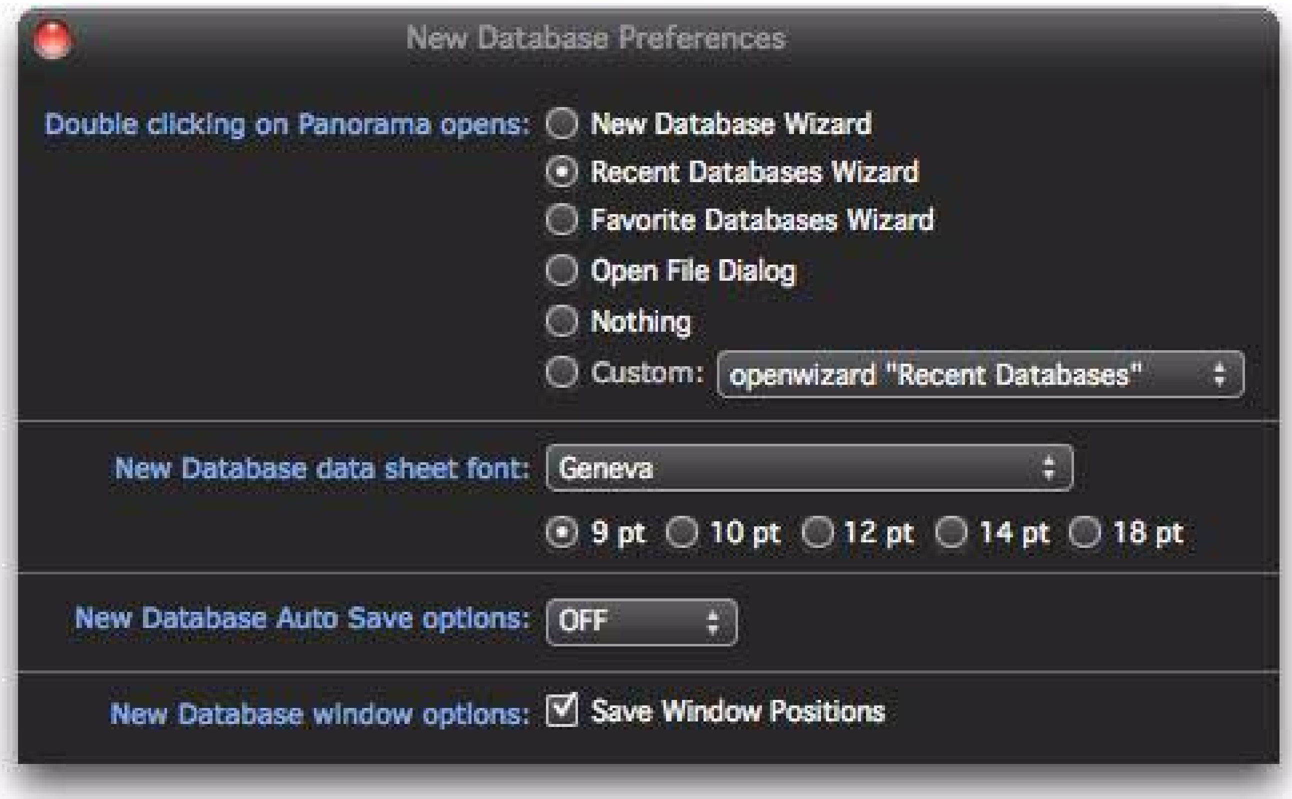
Ready to build new database with 1 field

This wizard can be used to create new databases (see "Creating a New Database from Scratch" on page 105), but it can also be used as a handy "command post" for Panorama using the half dozen or so icons in the top right corner.

Open Recent	Click here to open the **Recent Databases** wizard. This wizard makes it easy to re-open databases that were recently opened. See "The Recent Databases Menu and Wizard" on page 348 for more information.
Help	Click here to open the PDF file you are now reading.
Preferences	Click here to change the preferences for this wizard, including controlling what happens when you double click on the Panorama application icon (see below).

Changing the Default Launch Action

When you double click on the Panorama application icon Panorama normally opens the **New Database** wizard automatically. You can change this, however, by clicking on the **Preferences** tool in this wizard.



New Database Preferences

Double clicking on Panorama opens:
○ New Database Wizard
● Recent Databases Wizard
○ Favorite Databases Wizard
○ Open File Dialog
○ Nothing
○ Custom: openwizard "Recent Databases"

New Database data sheet font: Geneva
● 9 pt ○ 10 pt ○ 12 pt ○ 14 pt ○ 18 pt

New Database Auto Save options: OFF

New Database window options: ☑ Save Window Positions

You have several different choices of what action Panorama will take when you double click on its icon. The most common choices are:

● New Database Wizard	Open the **New Database** wizard (see "Creating a New Database from Scratch" on page 105). This is the default when Panorama is first installed.
● Recent Databases Wizard	Open the **Recent Databases** wizard (see "The Recent Databases Menu and Wizard" on page 348).

Opening a Database

Before you can work with a database you have to open it. From the desktop the quickest way to do this is to simply double click on the file's icon. If Panorama is already running you can use the **Open File** command (File Menu) which opens a standard Open File dialog.

Databases and RAM

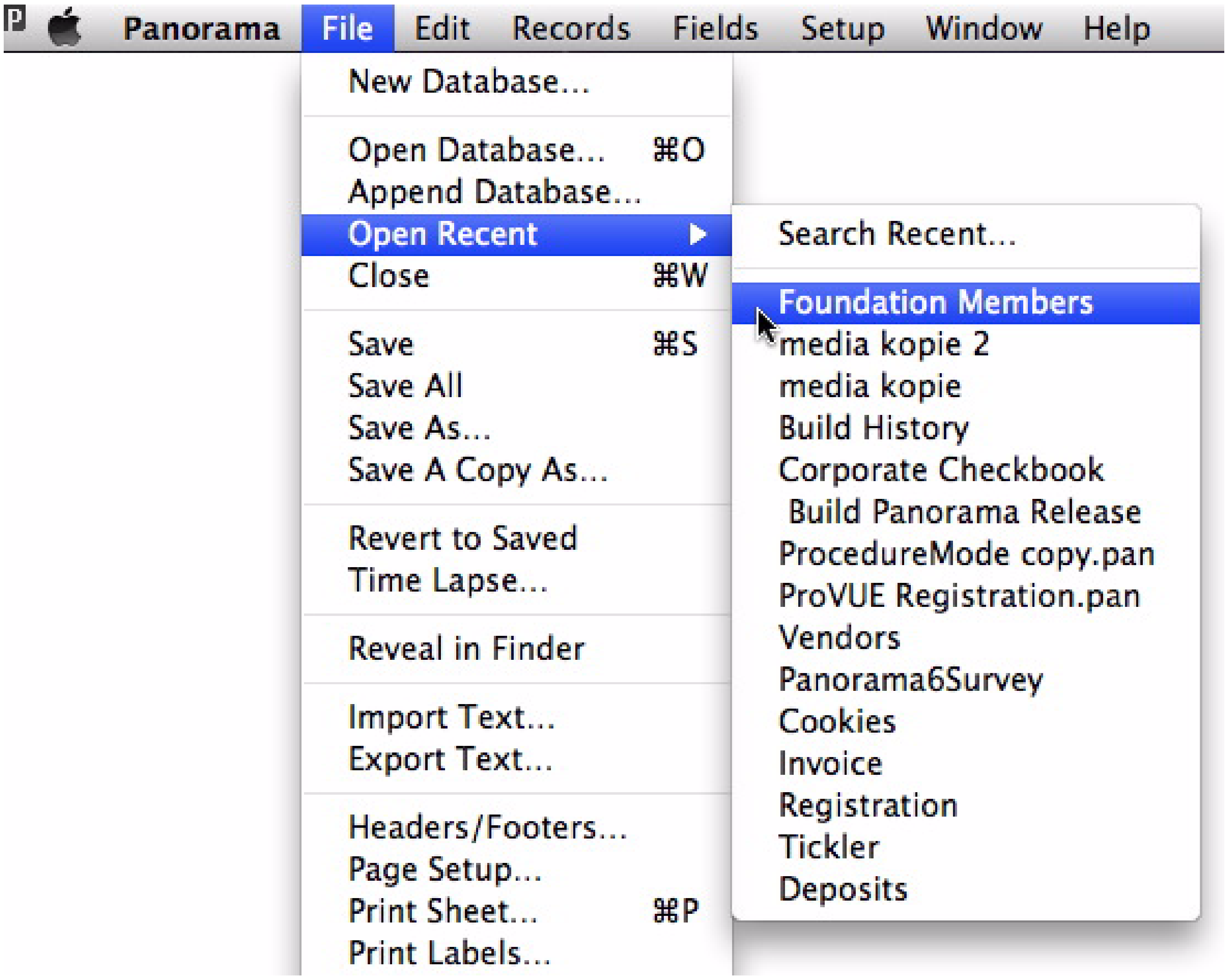
When a database is opened, Panorama copies the information from the disk into the computer's internal electronic memory (RAM). Everything you do to a file takes place in RAM; including data entry, sorting, calculating, and drawing. If you want to store your work permanently, you must save it from RAM back to the disk using the **Save** command.

Most database programs don't take the extra step of copying the database from the disk into RAM before working with it. Since your computer can access data in RAM hundreds or even thousands of times faster than data on the disk, bringing the data into RAM makes Panorama much faster than most other database programs. If you've used other database programs you'll immediately notice how much "zippier" Panorama is compared to the programs you are used to.

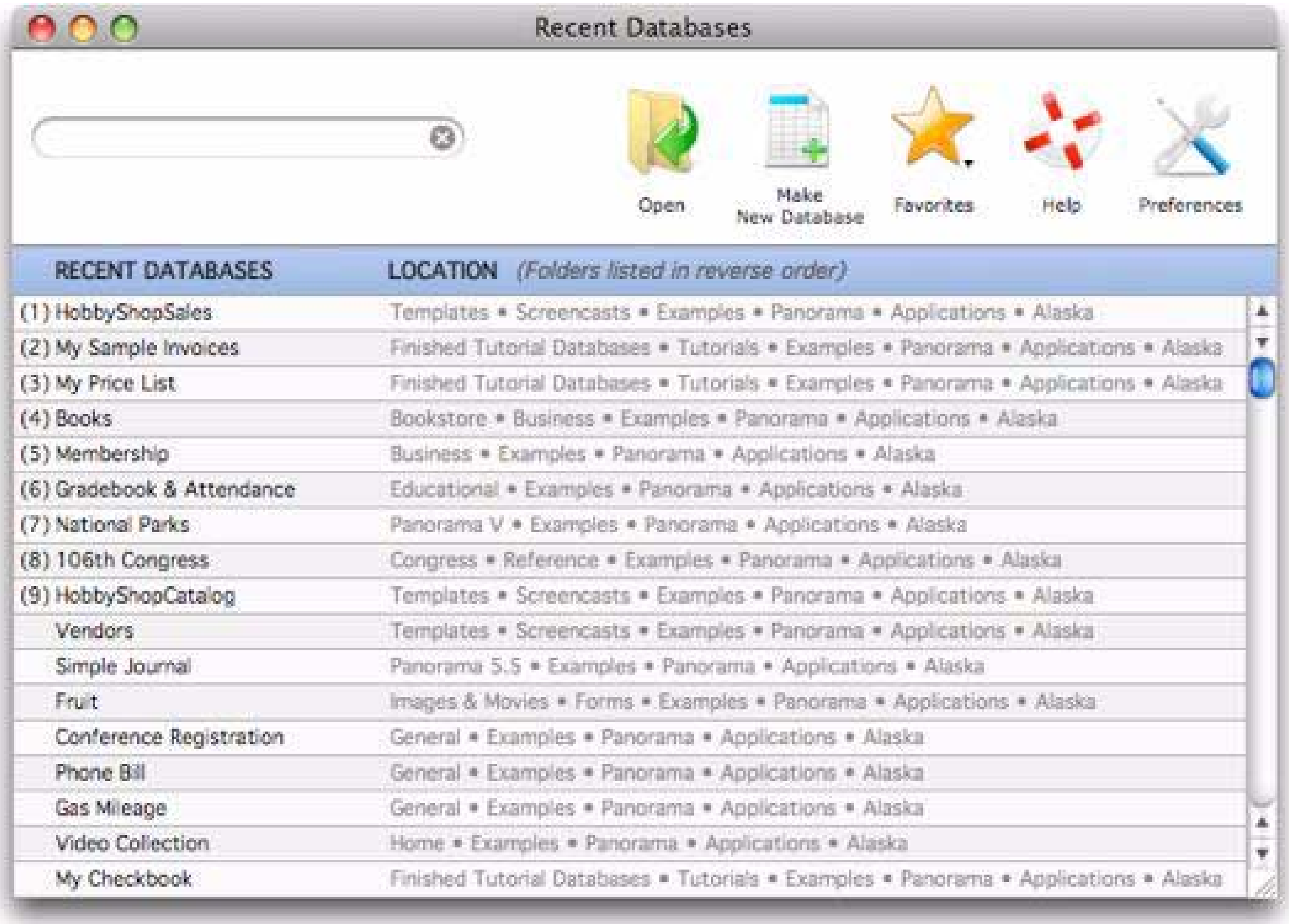
If your computer has enough RAM available, you can open several Panorama databases at the same time.

The Recent Databases Menu and Wizard

If a database has been opened recently, you can re-open it by choosing it from the **File>Open Recent** menu.



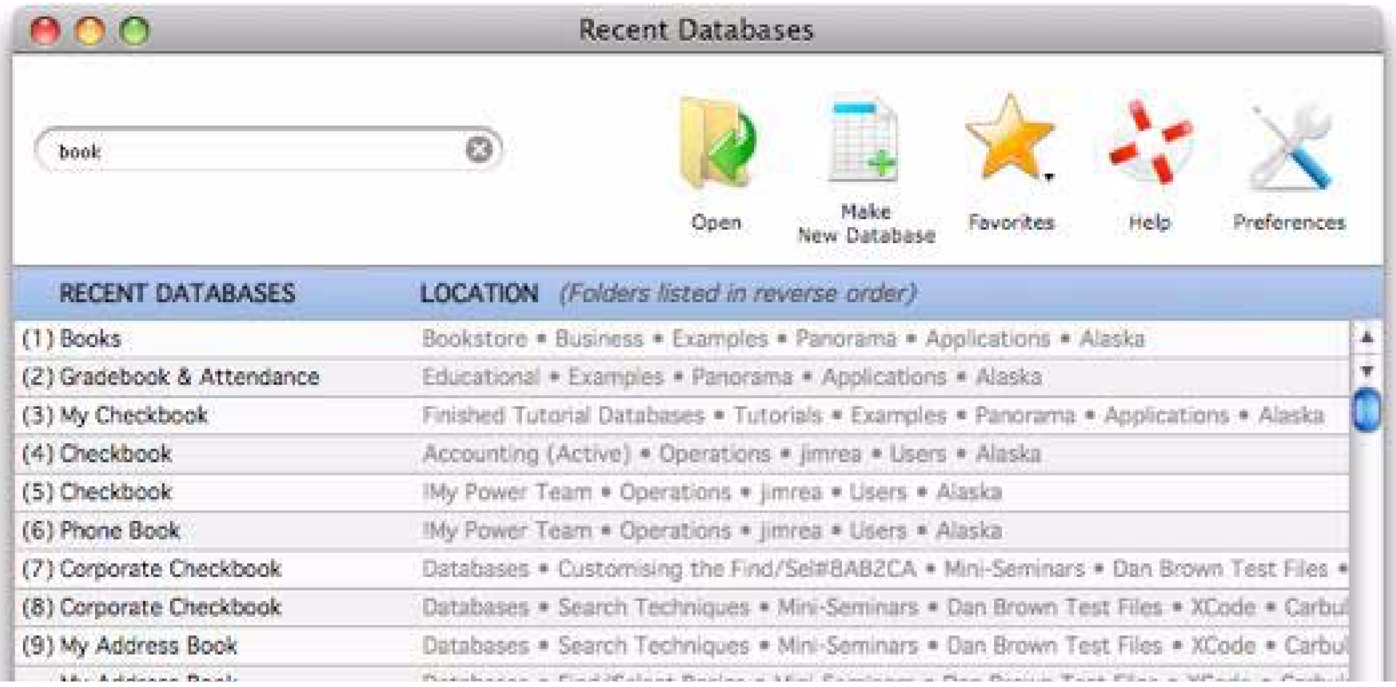
If the file has been opened before but is not one of the most recent you can find it by choosing the **File>Open Recent>Search Recent** command. This opens a window that lists several hundred recently opened databases.



RECENT DATABASES	LOCATION (Folders listed in reverse order)
(1) HobbyShopSales	Templates • Screencasts • Examples • Panorama • Applications • Alaska
(2) My Sample Invoices	Finished Tutorial Databases • Tutorials • Examples • Panorama • Applications • Alaska
(3) My Price List	Finished Tutorial Databases • Tutorials • Examples • Panorama • Applications • Alaska
(4) Books	Bookstore • Business • Examples • Panorama • Applications • Alaska
(5) Membership	Business • Examples • Panorama • Applications • Alaska
(6) Gradebook & Attendance	Educational • Examples • Panorama • Applications • Alaska
(7) National Parks	Panorama V • Examples • Panorama • Applications • Alaska
(8) 106th Congress	Congress • Reference • Examples • Panorama • Applications • Alaska
(9) HobbyShopCatalog	Templates • Screencasts • Examples • Panorama • Applications • Alaska
Vendors	Templates • Screencasts • Examples • Panorama • Applications • Alaska
Simple Journal	Panorama 5.5 • Examples • Panorama • Applications • Alaska
Fruit	Images & Movies • Forms • Examples • Panorama • Applications • Alaska
Conference Registration	General • Examples • Panorama • Applications • Alaska
Phone Bill	General • Examples • Panorama • Applications • Alaska
Gas Mileage	General • Examples • Panorama • Applications • Alaska
Video Collection	Home • Examples • Panorama • Applications • Alaska
My Checkbook	Finished Tutorial Databases • Tutorials • Examples • Panorama • Applications • Alaska

To re-open a database simply double click its name on the list. You can also open the first nine items simply by pressing the 1 thru 9 keys on your keyboard. There's no need to press **Return**, **Enter**, or anything else, just press the number and the database will open.

To search for a particular database simply type into the search box at the top of the wizard.



RECENT DATABASES	LOCATION (Folders listed in reverse order)
(1) Books	Bookstore • Business • Examples • Panorama • Applications • Alaska
(2) Gradebook & Attendance	Educational • Examples • Panorama • Applications • Alaska
(3) My Checkbook	Finished Tutorial Databases • Tutorials • Examples • Panorama • Applications • Alaska
(4) Checkbook	Accounting (Active) • Operations • jimrea • Users • Alaska
(5) Checkbook	!My Power Team • Operations • jimrea • Users • Alaska
(6) Phone Book	!My Power Team • Operations • jimrea • Users • Alaska
(7) Corporate Checkbook	Databases • Customising the Find/Sel#8AB2CA • Mini-Seminars • Dan Brown Test Files •
(8) Corporate Checkbook	Databases • Search Techniques • Mini-Seminars • Dan Brown Test Files • XCode • Carbu
(9) My Address Book	Databases • Search Techniques • Mini-Seminars • Dan Brown Test Files • XCode • Carbu

At any time you can press the 1 thru 9 keys to re-open a database. For example type **boo1** to open the **Checkbook** database, **boo2** to launch the **Phone Book** database, etc. You can re-open any previously opened database with just a few keystrokes.

Saving a Database

You can save your work permanently on the disk at any time with the **Save**, **Save As**, or **Save a Copy As** commands in the File menu. The **Save** command saves the database permanently on the disk, then allows you to continue with your work. You should save your work often.

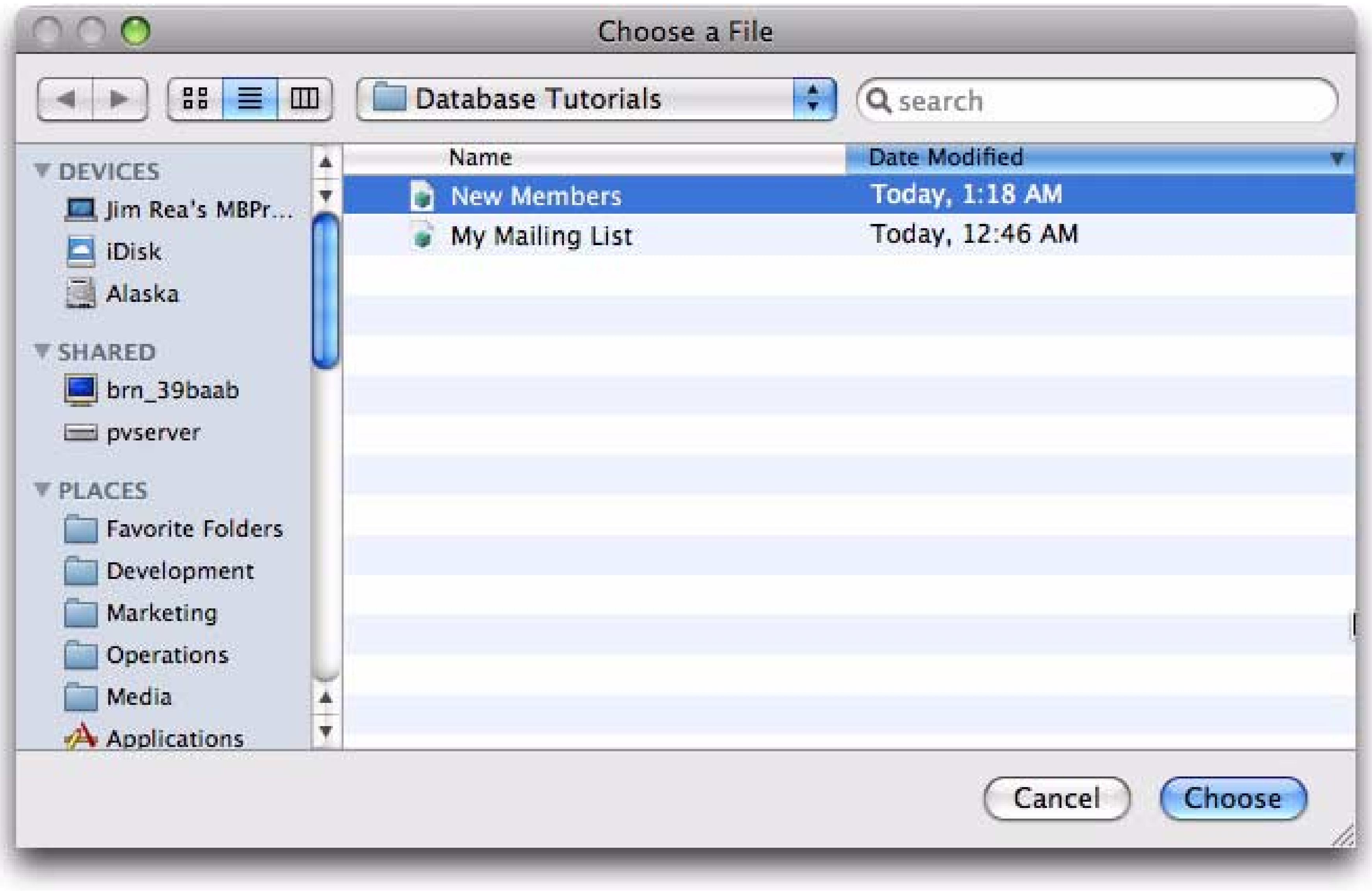
The **Save A Copy As** command makes a copy of the database under a new name. It leaves the original copy in memory so you can continue to work on it. This command is like duplicating a sheet of paper and then continuing to work on the original.

The **Save As** command also makes a copy of the database under a new name. The **Save As** command, however, leaves the new copy in memory—not the original. This command is like duplicating a sheet of paper and then working on the copy while setting the original aside.

The **Save As** command allows you to choose the location where you want to save the file, the name of the new file, and several file options. On Windows computers all Panorama database names end with **.pan**. This is called the **extension**, and it tells the system that this file is a Panorama database. You should not type the extension into the Save As dialog box—Panorama will automatically add the extension for you.

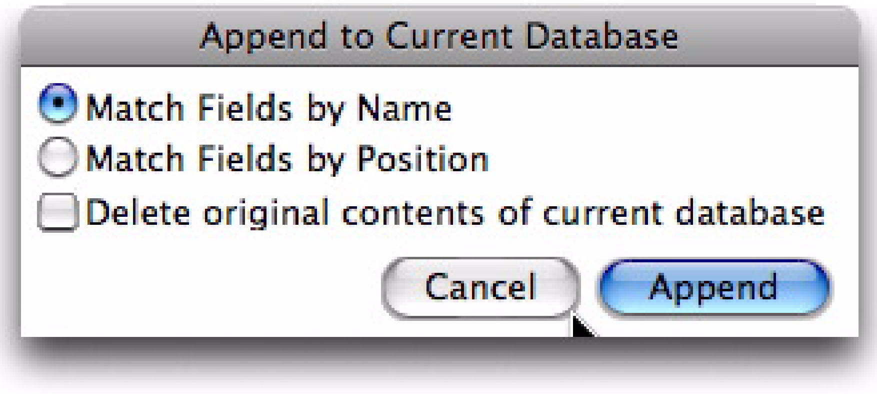
Appending One Database to Another

To append a database to the end of the current database, choose the **Append Database** command from the **File** menu. This opens a standard dialog for selecting a file.



Name	Date Modified
New Members	Today, 1:18 AM
My Mailing List	Today, 12:46 AM

Select the database you want to append and press the **Choose** button. Now a second dialog appears with options for appending the two databases.



Append to Current Database

● Match Fields by Name

○ Match Fields by Position

□ Delete original contents of current database

If the Match Fields by Name option is checked, Panorama will examine the two databases and look for fields with the same names. Only the data in these fields will be appended. For example if both databases contain fields named Address, City, State and Zip then the information in these fields will be appended. However if one database has a field named Zip and the other has a field called PostalCode, the data in these fields will not be appended. The field names must match exactly — Company and COMPANY will not match.

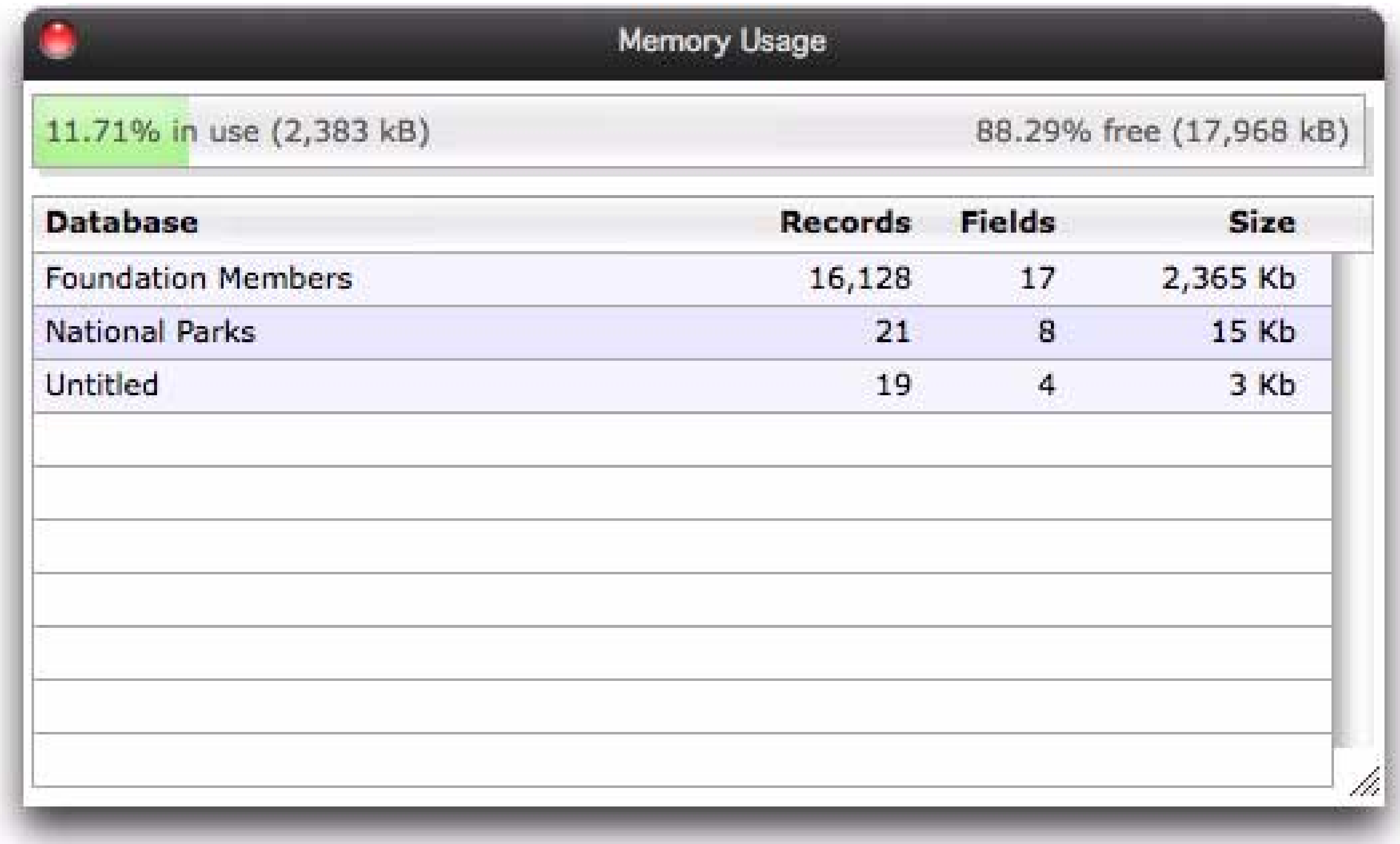
If the Match Fields by Name option is not checked, Panorama will append fields according to their order. In other words, the first field of the second database will be appended to the first field of the current database, the second field to the second field, etc. Usually appending two databases this way makes sense only if both databases have the same fields in the same order. If they don't, you can open the second database, re-arrange the fields and then append (see below).

If the Match Fields by Name option is not checked and the database being appended has more fields than the current database, the extra fields will be ignored. If the data types in the two files are incompatible, some data may be lost. For example, data will be lost if you try to append text into a numeric field. Panorama will alert you if this happens, but it cannot tell you exactly what data has been lost.

If the Delete original contents of current database is checked, the second database will replace the current database instead of being appended to it. Basically this option causes Panorama to completely replace the contents of the current database with the second database.

Monitoring Memory Usage

Each database you open with Panorama is copied into the RAM memory of your computer. For most typical databases you'll have plenty of RAM available. You can use the **Memory Usage** command in the Panorama Menu to see how much memory is in use and how much is available for expansion or for opening additional databases. This command opens a statistics window that displays the current memory usage of every open database, along with overall memory usage statistics.

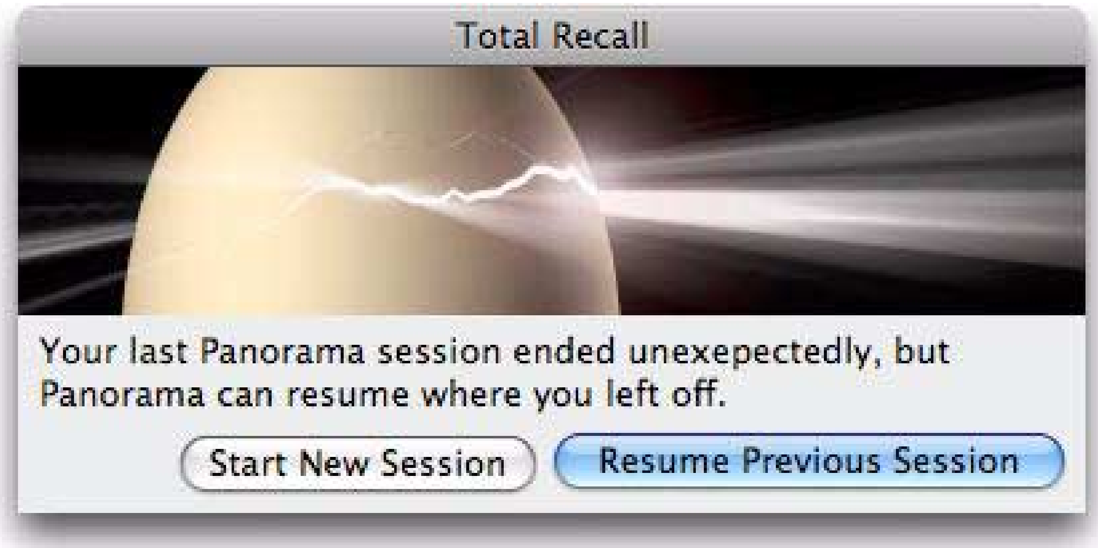


11.71% in use (2,383 kB) 88.29% free (17,968 kB)

Database	Records	Fields	Size
Foundation Members	16,128	17	2,365 Kb
National Parks	21	8	15 Kb
Untitled	19	4	3 Kb

Total Recall (Auto-Save/Crash Recovery)

Total Recall allows Panorama to fully recover after a crash -- whether due to a power outage, hardware problem, system crash, or Panorama bug (never!). When Panorama is relaunched after a crash it asks you if you want to start over or resume where you left off.



Total Recall

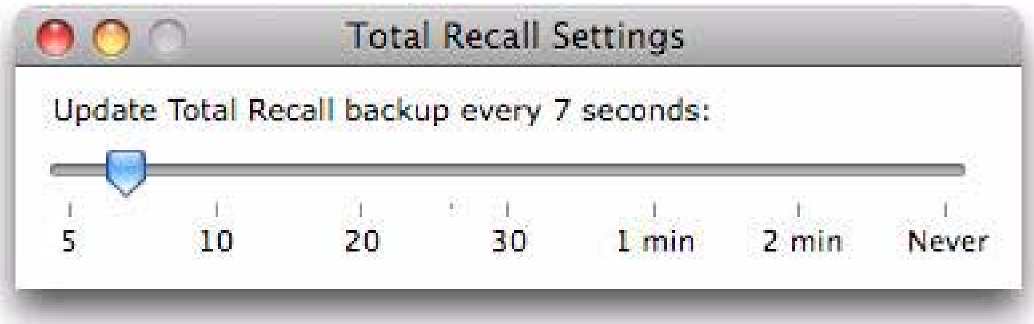
Your last Panorama session ended unexepectedly, but Panorama can resume where you left off.

If you press **Resume Previous Session** Panorama automatically restores everything just as you left it -- all open files, open windows, etc. Only the last few seconds of work will be lost. It's almost as if nothing has happened at all — you can just continue with your work as if nothing had happened.

Total Recall does not affect normal file saving, so if you have unsaved changes when the crash occurs, they will still be unsaved when Panorama is restored (in other words, **Revert to Saved** can still be used after the crash / restore cycle). Panorama will even restore any work you've done in a new database that has never been saved!

Setting the Total Recall Save Frequency

Total Recall works by periodically saving all of Panorama's RAM to disk. It uses the fastest possible technique for this, so in most cases you'll never even notice this is happening. To adjust how often periodic saves occur, open the **Preferences** window and press **Total Recall > Adjust Frequency** button.



Total Recall Settings

Update Total Recall backup every 7 seconds:

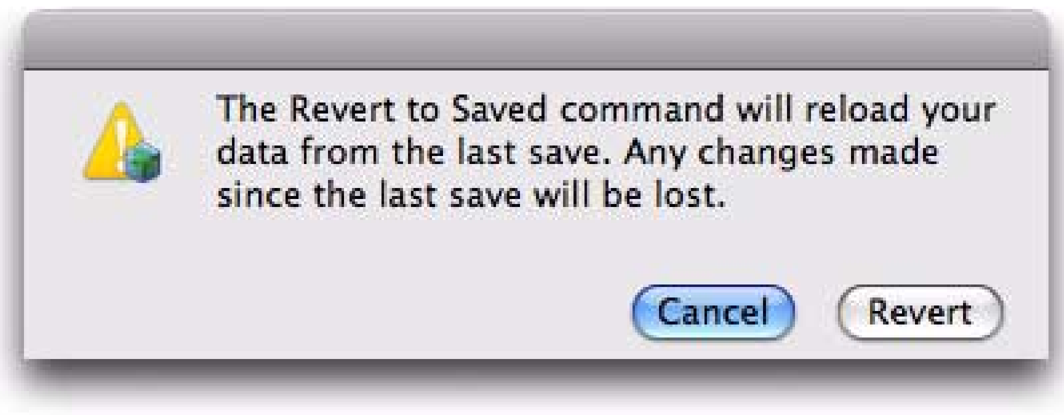
Simply drag the slider to set the time, or to turn the feature completely off.

Rolling Back Database Changes

As you've learned in the previous chapters, Panorama is a powerful tool for working with and manipulating data, it's an incredible power tool for your data. Unlike a real power tool, however, you don't have to worry about safety or about accidentally destroying data by improper use of the tool. Even if you accidentally deleted all of your data, Panorama's capability for rolling back changes will protect you. You can work confidently in the knowledge that your previous work is always safe.

Revert to Saved

Panorama's first level of rollback is the **Revert to Saved** command (File Menu). This command recopies the original file from the disk into RAM. This will undo all the changes made since the last time the file was saved. By all changes we mean all changes: data entry, sorting, formulas, graphic editing, creating / deleting forms, crosstabs or procedures—every single thing you've done to this database since the last time you saved. Before Panorama actually goes ahead with this command it asks you to verify that you really want to do this.



The Revert to Saved command will reload your data from the last save. Any changes made since the last save will be lost.

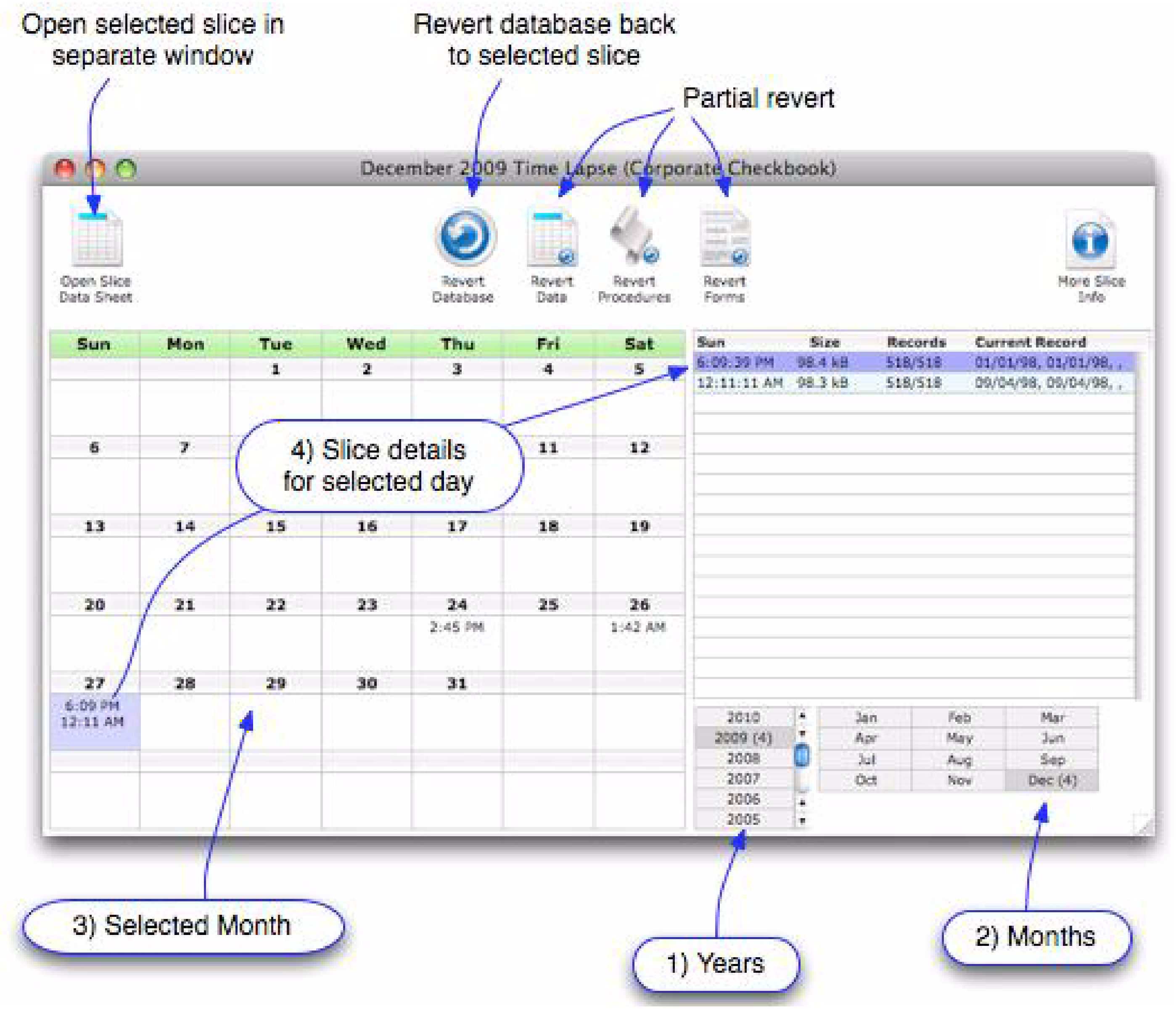
If you press Revert then Panorama will discard all of the changes made since the last time you saved the database.

Time Lapse

Panorama's Time Lapse feature is like **Revert to Saved** on steroids. With Time Lapse you can roll back to previous versions of your database made earlier today or at various times in the past. In addition to doing a full revert, you can also selectively revert only the data, only the procedures, or only the forms. You can also open previous versions of the database (called "slices") in separate windows so that you can compare them with the current database or even copy and paste data, code or form objects between versions.

Each time you save a database Panorama also makes another copy ("slice") for the Time Lapse feature. By default Panorama keeps up to 25 slices of previous versions of the database (more on how Panorama eventually determines how to "thin out" the slices in a moment.)

To see the previous slices that have been saved for the current database choose **Time Lapse** from the **File** menu. The slices are displayed in a monthly calendar format.



Open selected slice in separate window
Revert database back to selected slice
Partial revert
December 2009 Time Lapse (Corporate Checkbook)
Open Slice Data Sheet
Revert Database
Revert Data
Revert Procedures
Revert Forms
More Slice Info
4) Slice details for selected day
3) Selected Month
1) Years
2) Months

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7				11	12
13	14	15	16	17	18	19
20	21	22	23	24 2:45 PM	25	26 1:42 AM
27 6:09 PM 12:11 AM	28	29	30	31		

Sun	Size	Records	Current Record
6:09:39 PM	98.4 kB	518/518	01/01/98, 01/01/98, ,
12:11:11 AM	98.3 kB	518/518	09/04/98, 09/04/98, ,

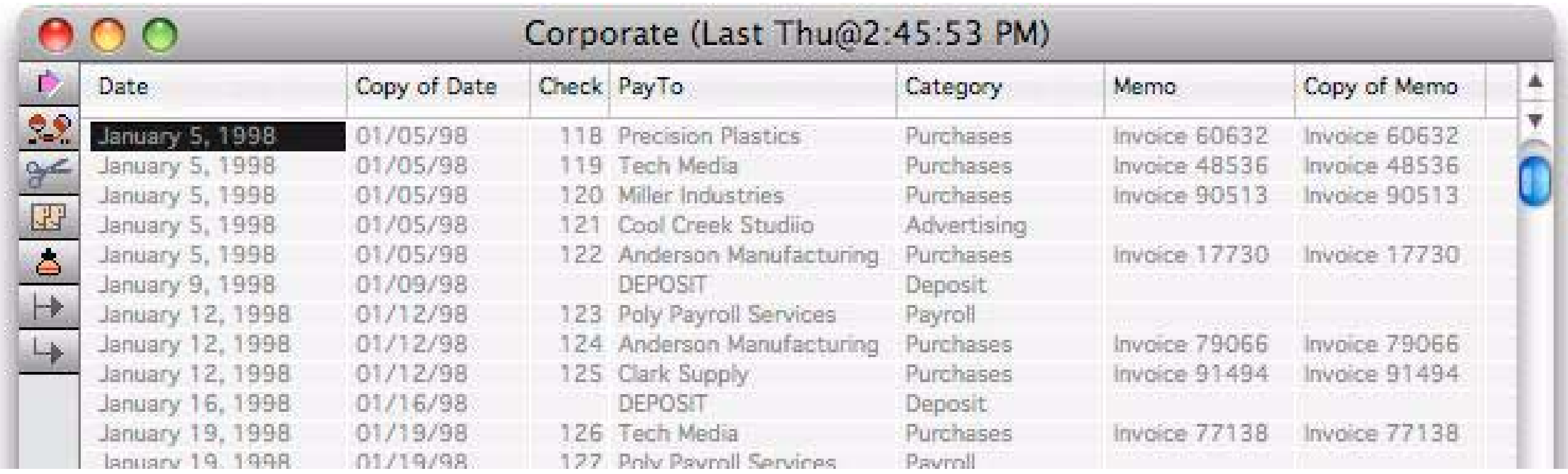
2010
2009 (4)
2008
2007
2006
2005

Jan	Feb	Mar
Apr	May	Jun
Jul	Aug	Sep
Oct	Nov	Dec (4)

Choose the year, month and day of the slice you are interested in (it defaults to today). (Note: The 1) Years and 2) Months lists show the number of slices available in the year and month.) Then choose the exact slice you are interested in from the list on the right. For each slice the list shows the date and time it was saved, the number of records, and the contents of the current record at the time the slice was saved.

Once you've selected a slice you can use the tools across the top to work with that slice:

Open Slice Data Sheet — Click here to open the slice in a separate window. When opening a previous slice this way Panorama always opens just the data sheet. Panorama ignores any saved window positions, it does not run any .Initialize procedure, and if this is a shared database it does not connect the database to the server or try to synchronize the database. The title of the window shows the database name and the date and time the slice was saved (the original database name may be truncated if necessary).



Corporate (Last Thu@2:45:53 PM)

Date	Copy of Date	Check	PayTo	Category	Memo	Copy of Memo
January 5, 1998	01/05/98	118	Precision Plastics	Purchases	Invoice 60632	Invoice 60632
January 5, 1998	01/05/98	119	Tech Media	Purchases	Invoice 48536	Invoice 48536
January 5, 1998	01/05/98	120	Miller Industries	Purchases	Invoice 90513	Invoice 90513
January 5, 1998	01/05/98	121	Cool Creek Studiio	Advertising		
January 5, 1998	01/05/98	122	Anderson Manufacturing	Purchases	Invoice 17730	Invoice 17730
January 9, 1998	01/09/98		DEPOSIT	Deposit		
January 12, 1998	01/12/98	123	Poly Payroll Services	Payroll		
January 12, 1998	01/12/98	124	Anderson Manufacturing	Purchases	Invoice 79066	Invoice 79066
January 12, 1998	01/12/98	125	Clark Supply	Purchases	Invoice 91494	Invoice 91494
January 16, 1998	01/16/98		DEPOSIT	Deposit		
January 19, 1998	01/19/98	126	Tech Media	Purchases	Invoice 77138	Invoice 77138
January 19, 1998	01/19/98	127	Poly Payroll Services	Payroll		

As you can see above, the data is all displayed in gray rather than black, and you cannot edit the data. You can copy it to the clipboard, however.

Though the slice always opens using the data sheet, you can use the **View** menu to open forms or procedures. If you try to save the slice Panorama will prompt you for a new file name/location. This makes the slice into a new, separate database that has no connection with the original database.

Revert Database — Click here to revert the current copy of the database to this previous version. All of the data, forms, procedures, permanent variables, print settings, etc. are all reverted back to the older version of the database.

Note: Reverting to a previous slice doesn't prevent you from later reverting to a more recent slice. You can easily move back in forth in time. Be careful, though, it can get confusing if you don't keep track of what you are doing.

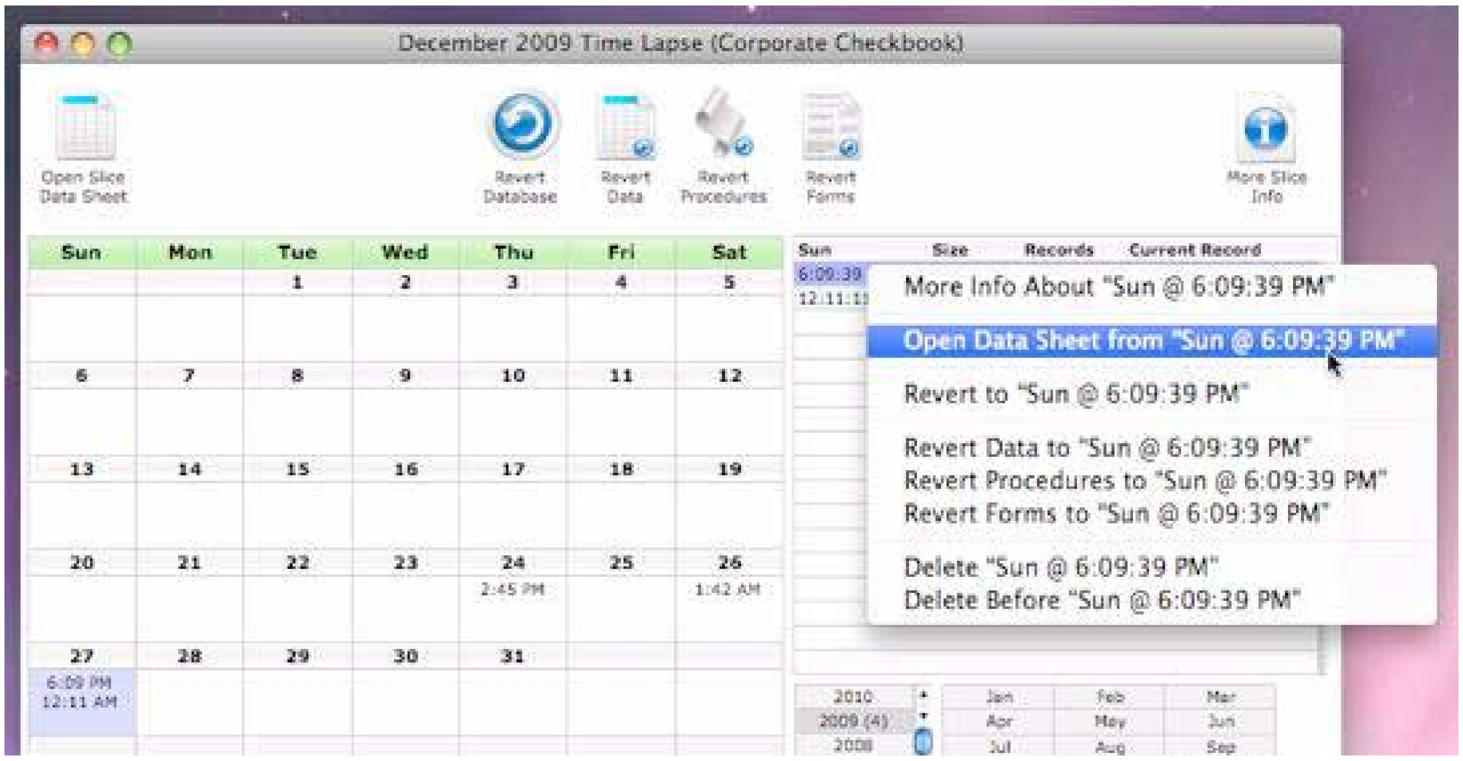
Revert Data — Click here to revert the just the data to this previous version. All forms, procedures, permanent variables, print settings, etc. are undisturbed. (Essentially Panorama imports the data from the previous slice into the current copy of the database.)

Revert Procedures — Click here to revert just the procedure code to this previous version. Everything else is undisturbed. For example, suppose you had made changes to procedures that didn't work out. You could simply revert the procedures back to the previous code, while keeping all of the updated data, forms, etc. (If you want to revert just a single procedure, open the previous slice with the **Open Slice Data Sheet** tool, open the procedure with the View menu and then manually copy the procedure code.)

Revert Forms — Click here to revert just the procedure code to this previous version. Everything else is undisturbed.

More Info — Click here to display more information about this saved slice, including a list of the forms, procedures and crosstabs in the database at the time the slice was saved.

Right Click/Context Menu — In addition to the tools across the top of the window you can also right click on a slice for a list of operations that can be performed on that slice.


December 2009 Time Lapse (Corporate Checkbook)
Open Slice Data Sheet
Revert Database
Revert Data
Revert Procedures
Revert Forms
More Slice Info
Sun
Mon
Tue
Wed
Thu
Fri
Sat
Size
Records
Current Record
More Info About "Sun @ 6:09:39 PM"
Open Data Sheet from "Sun @ 6:09:39 PM"
Revert to "Sun @ 6:09:39 PM"
Revert Data to "Sun @ 6:09:39 PM"
Revert Procedures to "Sun @ 6:09:39 PM"
Revert Forms to "Sun @ 6:09:39 PM"
Delete "Sun @ 6:09:39 PM"
Delete Before "Sun @ 6:09:39 PM"
2010
2009 (4)
2008
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep

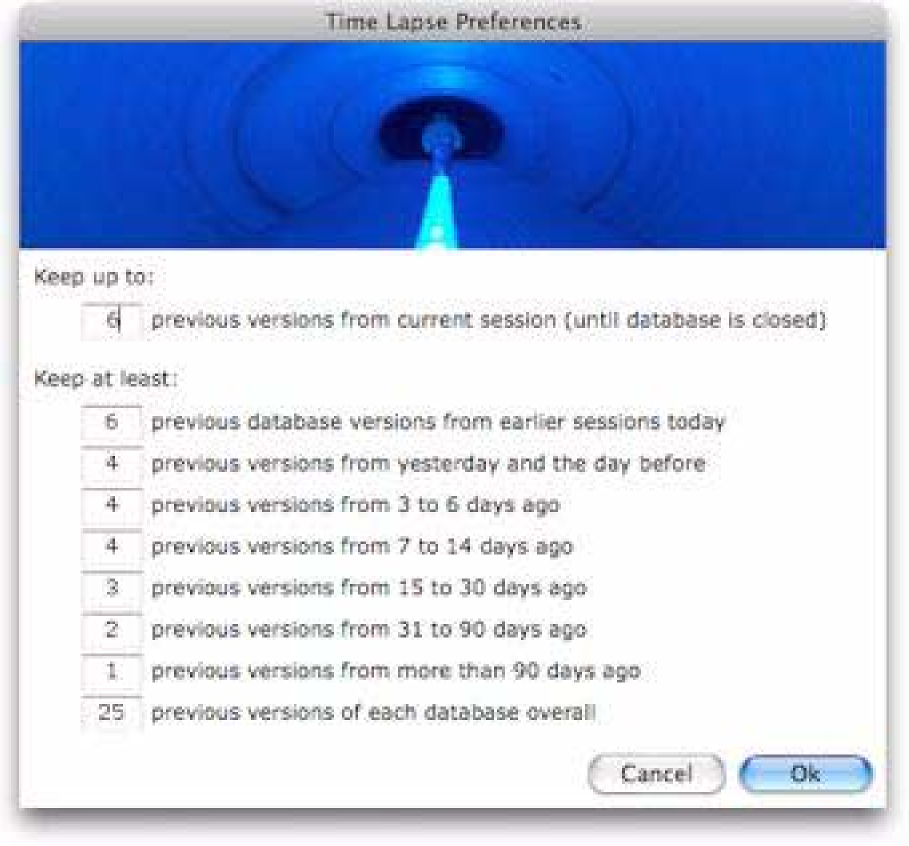
The first six options in this menu are the same as the tools on the top of the window. The last two options allow you to manually delete saved slices.

Delete — Choose to delete this particular slice.

Delete Before — Choose this to delete all slices saved before this slice. Note: We mean all slices, including slices saved on previous days, months, and years.

Time Lapse Preferences

By default Panorama keeps up to 25 “slices” of each database, and it tries to keep slices from a range of periods, not just the most recent. While in the Time Lapse window you can use the Setup->Global Preferences dialog to adjust how Panorama decides which slices to keep.



Time Lapse Preferences

Keep up to:

6 previous versions from current session (until database is closed)

Keep at least:

6 previous database versions from earlier sessions today
4 previous versions from yesterday and the day before
4 previous versions from 3 to 6 days ago
4 previous versions from 7 to 14 days ago
3 previous versions from 15 to 30 days ago
2 previous versions from 31 to 90 days ago
1 previous versions from more than 90 days ago
25 previous versions of each database overall

If necessary, you can override the preferences for a specific database. For example, if you have an extra-important database you may want to keep 50 copies instead of 25. Use the Setup->Preferences Override dialog to customize Time Lapse for a particular database.

Important Note: Time Lapse only works with database files that are inside the current users folder. Time Lapse slices will not be saved if the database is outside this folder (on an external drive, for example).

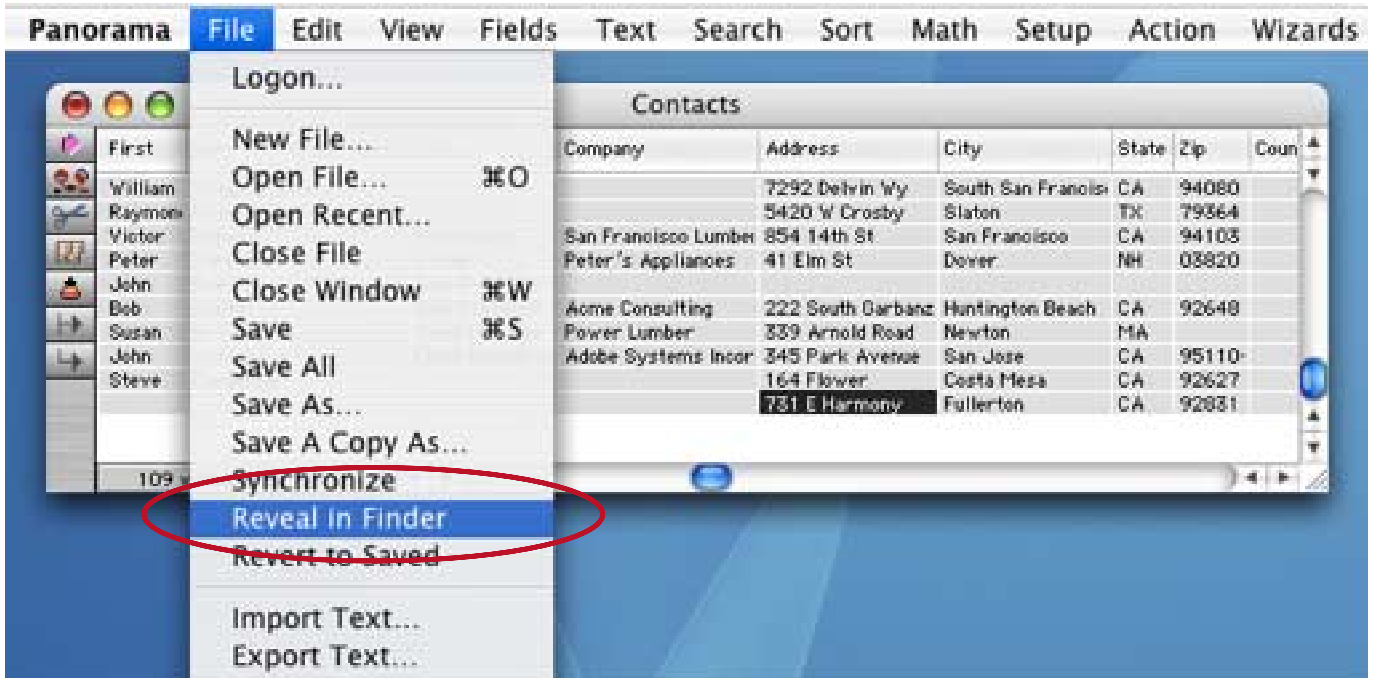
On the Importance of Backing Up

You’ve heard it before, you’ll hear it again—there’s no substitute for regular backups. Panorama’s Time Lapse option is great for recovering from your mistakes, but it won’t do you any good if your hard disk fails, or even gets stolen. Yes, it can happen to you! To protect from fire or theft you should keep your backups at a separate location. Any experienced user will tell you that “Having good backups means never having to say you’re sorry!”

Of course some of you will ignore this advice until it happens to you. We get too many sad calls from people who have lost thousands of records due to a hardware failure. Don’t take a chance on being one of them.

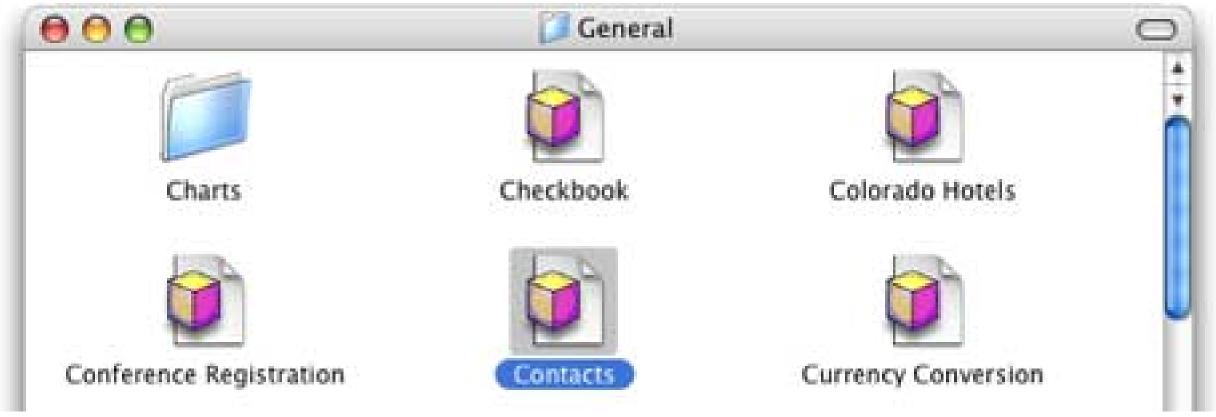
Finding a Database on the Hard Disk

To find the location of the current database on the hard drive simply choose the **Reveal in Finder** command from the **File** menu.



First	Company	Address	City	State	Zip	Coun
William		7292 Delvin Wy	South San Francis	CA	94080	
Raymon		5420 W Crosby	Slaton	TX	79364	
Victor	San Francisco Lumbe	854 14th St	San Francisco	CA	94103	
Peter	Peter's Appliances	41 Elm St	Dover	NH	03820	
John						
Bob	Acme Consulting	222 South Garbanz	Huntington Beach	CA	92648	
Susan	Power Lumber	339 Arnold Road	Newton	MA		
John	Adobe Systems Incor	345 Park Avenue	San Jose	CA	95110-	
Steve		164 Flower	Costa Mesa	CA	92627	
		731 E Harmony	Fullerton	CA	92831	

This will open the folder containing the database and highlight the database file.



Chapter 11: Importing & Exporting Data

Panorama allows you to freely exchange information between it and other applications. The common terms for these exchanges are **importing** and **exporting**.

Importing means to transfer information from another program or computer into a Panorama file. The data can then be manipulated using Panorama's menu commands and tools. Panorama's import capabilities allow you to take advantage of databases that have already been keyed in or databases on other computers (for instance, on minicomputers or electronic bulletin boards). See "Using the Text Import Wizard" on page 360.

Exporting is the exact opposite of importing. To export data from Panorama means to take data from a Panorama file and make it accessible to another "foreign" program. For example, Panorama data can be exported to Excel so that it can be included in a spreadsheet. See "Exporting a Text File" on page 370.

Working with Text Files

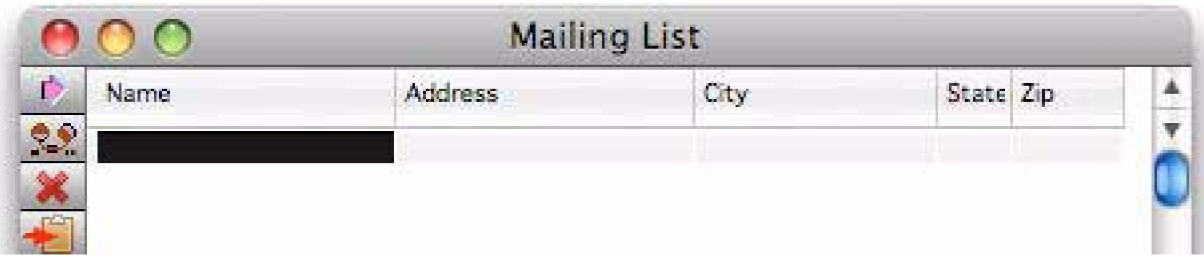
Panorama cannot directly access information in database or spreadsheet files created by other programs. Exchanging data between Panorama and another program requires an intermediate **text file**. A text file is very basic because it contains just the data—no forms, procedures, graphics, or anything else. Because text files are so simple, they provide a common interchange format for different programs. Virtually all database, spreadsheet, and word processing programs can read and write text files. This makes transferring data between Panorama and another program a two step process. Let's take Excel as an example. To transfer data from Panorama to Excel you first must export the data from Panorama as a text file. Then you go into Excel and import the text file. To transfer data from Excel to Panorama you start by exporting the data from Excel as a text file. Once the text file has been created you can go into Panorama and import the data from the text file.

On PC systems text files often have a three letter filename extension of **.txt**, for example My Data.txt. However, text files may use other extensions as well, such as the **.csv** (short for **c**omma **s**eparated **v**alues) file shown above. Panorama can work with text files with any extension.

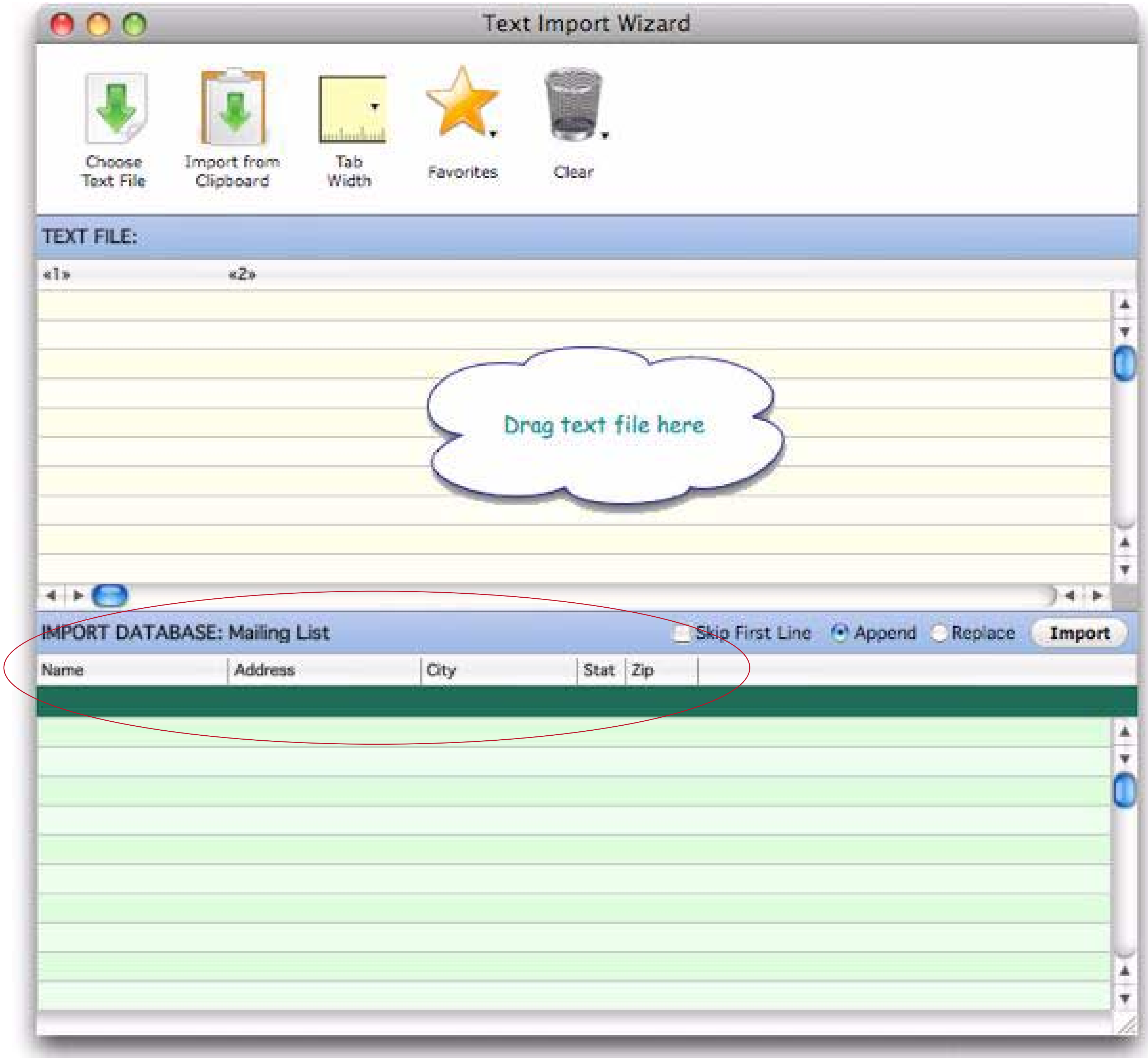
On Macintosh systems no extension is required. However we recommend adding **.txt** to the end of the filename anyway. This makes it easier to remember what kind of data is in the file and also improves compatibility in case the file is ever transferred to a PC system.

Using the Text Import Wizard

The **Text Import Wizard** makes it easy to import a text file into an existing database, even if the fields in the text file are not in the same order as the database fields. Usually you'll start the process by opening the database you want to import the data into. To illustrate this wizard we'll use a very simple mailing list file.



To start the import process choose **Import Text** from the **File** menu. As you can see the bottom section of the window shows that we are going to import into the Mailing List file, and lists the five fields in this database.

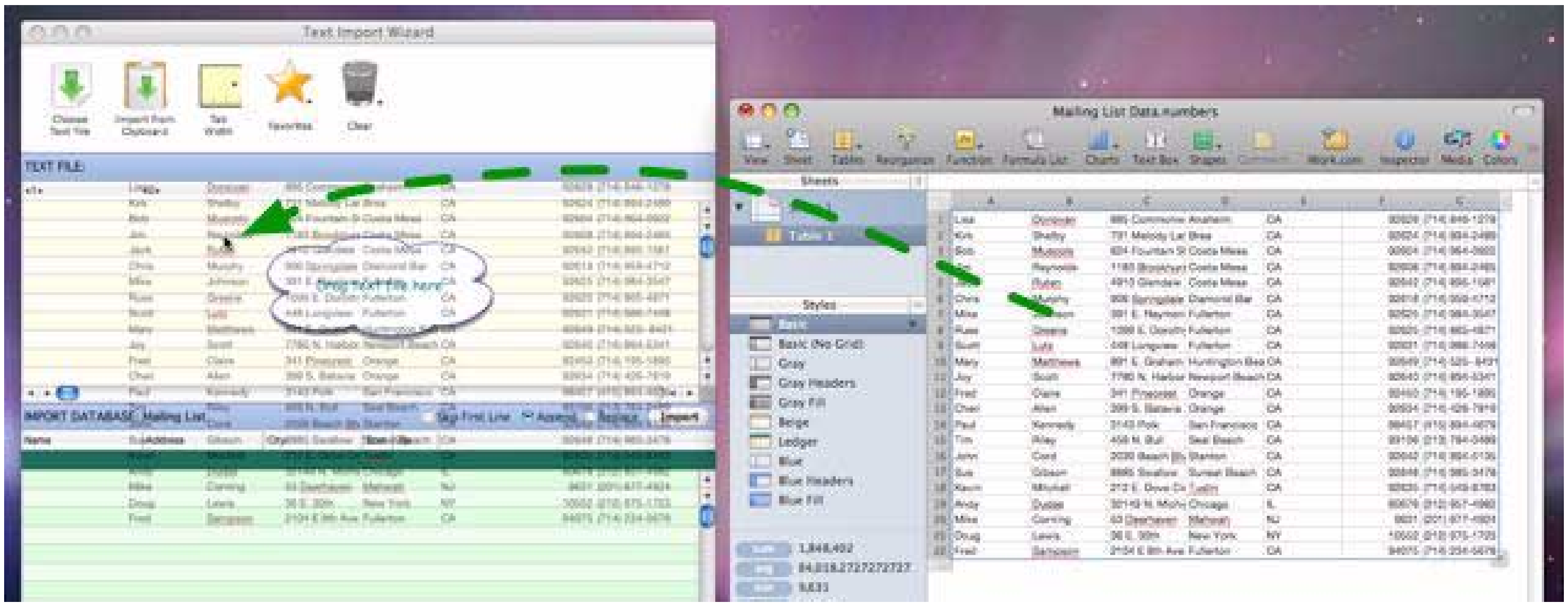


□ Skip First Line ● Append ○ Replace

The next step is to select the text you want to import into this database. There are four possible ways to do this.

1) Drag a tab or comma delimited text file onto the top half of the wizard.

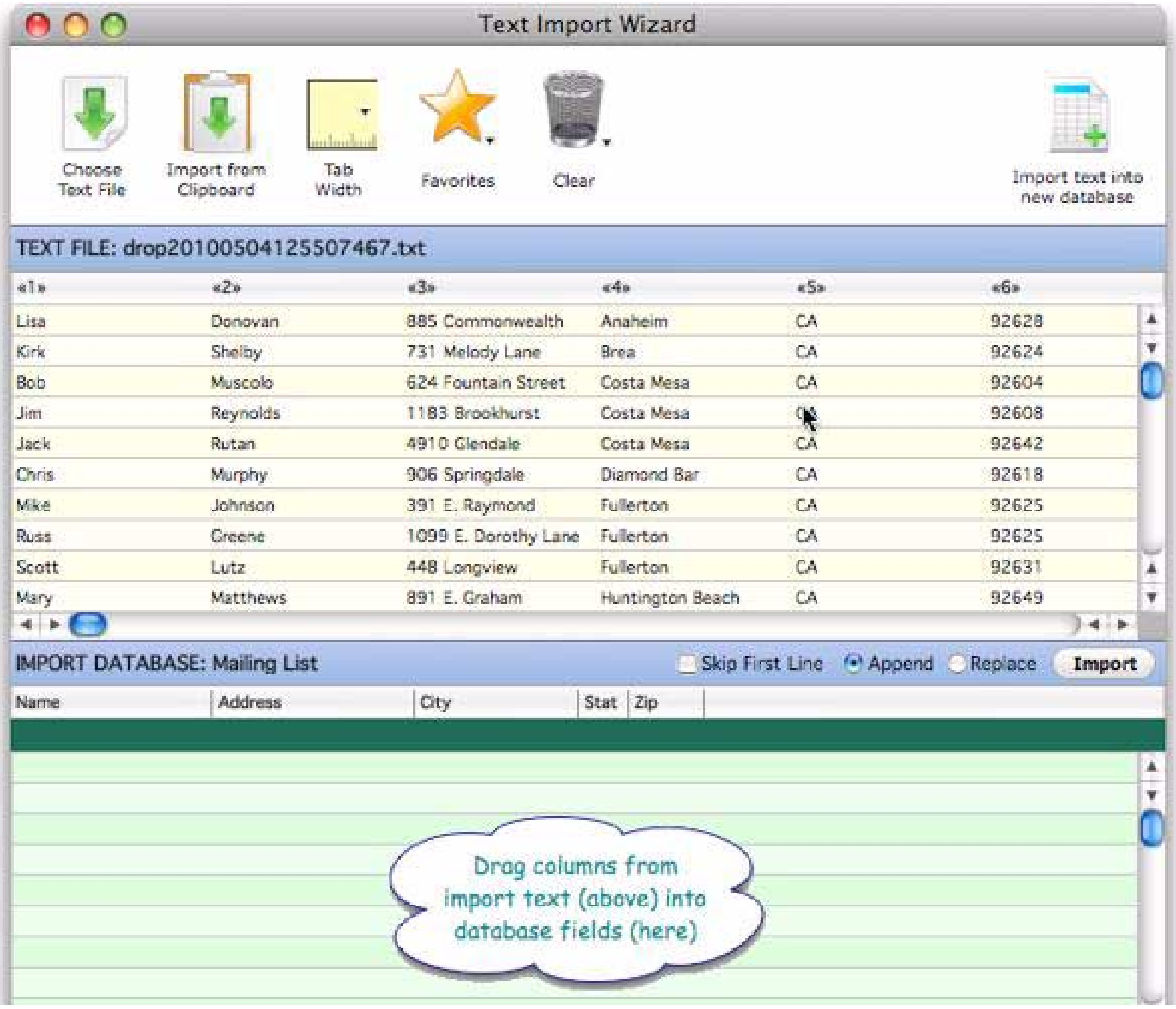
2) Drag data directly from a spreadsheet, word processor or text editor onto the top half of the wizard (Mac only), as shown below.



3) Click on the **Choose Text File** button, then select a text file containing tab or comma delimited text.

4) Copy tab or comma delimited text into the clipboard, then press the **Import from Clipboard** button.

The selected text will appear in the top section of the wizard.



TEXT FILE: drop20100504125507467.txt

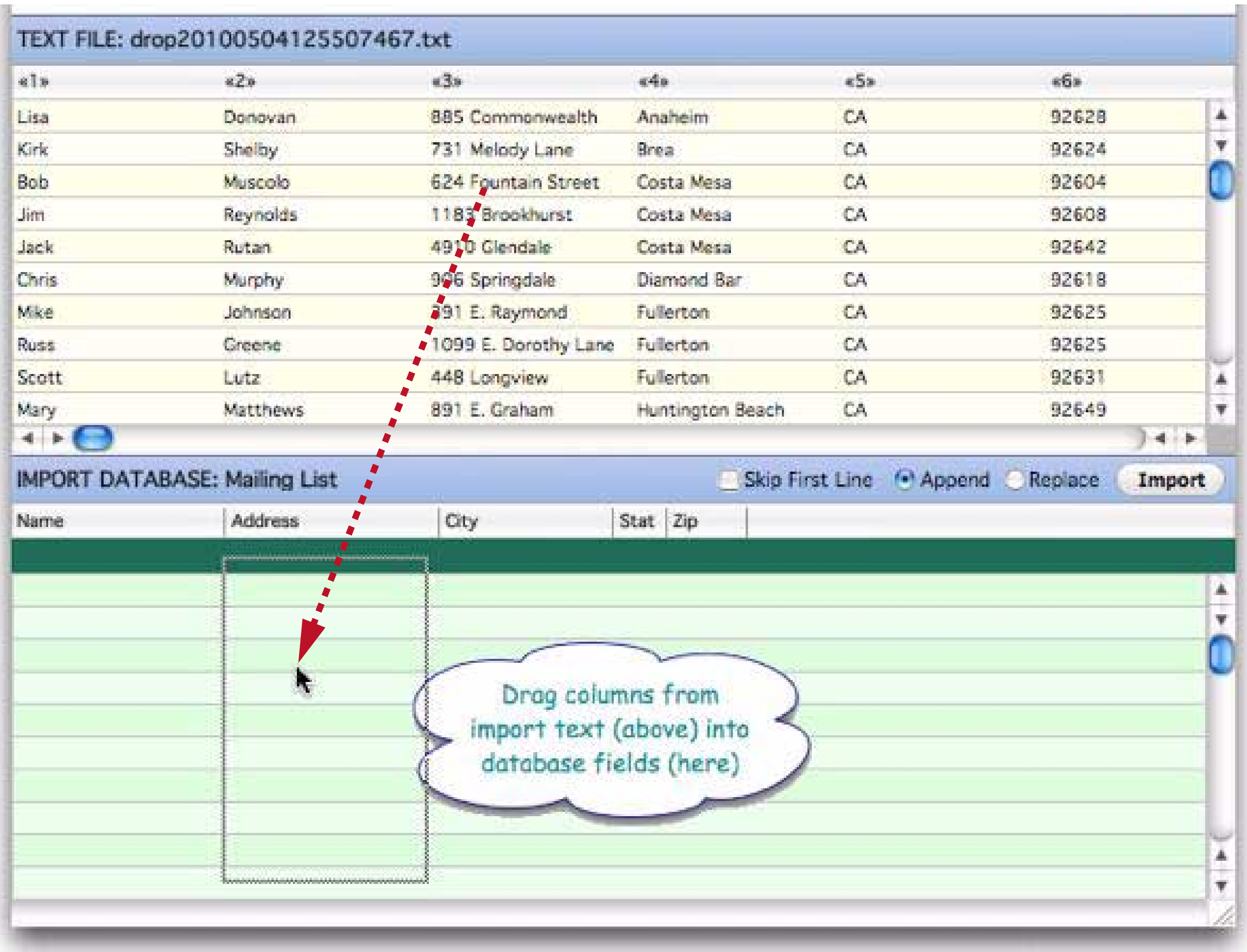
«1»	«2»	«3»	«4»	«5»	«6»
Lisa	Donovan	885 Commonwealth	Anaheim	CA	92628
Kirk	Shelby	731 Melody Lane	Brea	CA	92624
Bob	Muscolo	624 Fountain Street	Costa Mesa	CA	92604
Jim	Reynolds	1183 Brookhurst	Costa Mesa	CA	92608
Jack	Rutan	4910 Glendale	Costa Mesa	CA	92642
Chris	Murphy	906 Springdale	Diamond Bar	CA	92618
Mike	Johnson	391 E. Raymond	Fullerton	CA	92625
Russ	Greene	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott	Lutz	448 Longview	Fullerton	CA	92631
Mary	Matthews	891 E. Graham	Huntington Beach	CA	92649

IMPORT DATABASE: Mailing List ☐ Skip First Line ● Append ○ Replace Import

Name	Address	City	Stat	Zip

Drag columns from import text (above) into database fields (here)

If the imported text is already in the correct arrangement you can simply click on the **Favorites** button (yellow star), choose **ALL IMPORT COLUMNS** from the pop-up menu, then press the **Import** button. Otherwise, the next step is setting up the import configuration. There are several ways to do that, but usually the easiest is to drag fields from the top to the bottom section of the wizard.



TEXT FILE: drop20100504125507467.txt

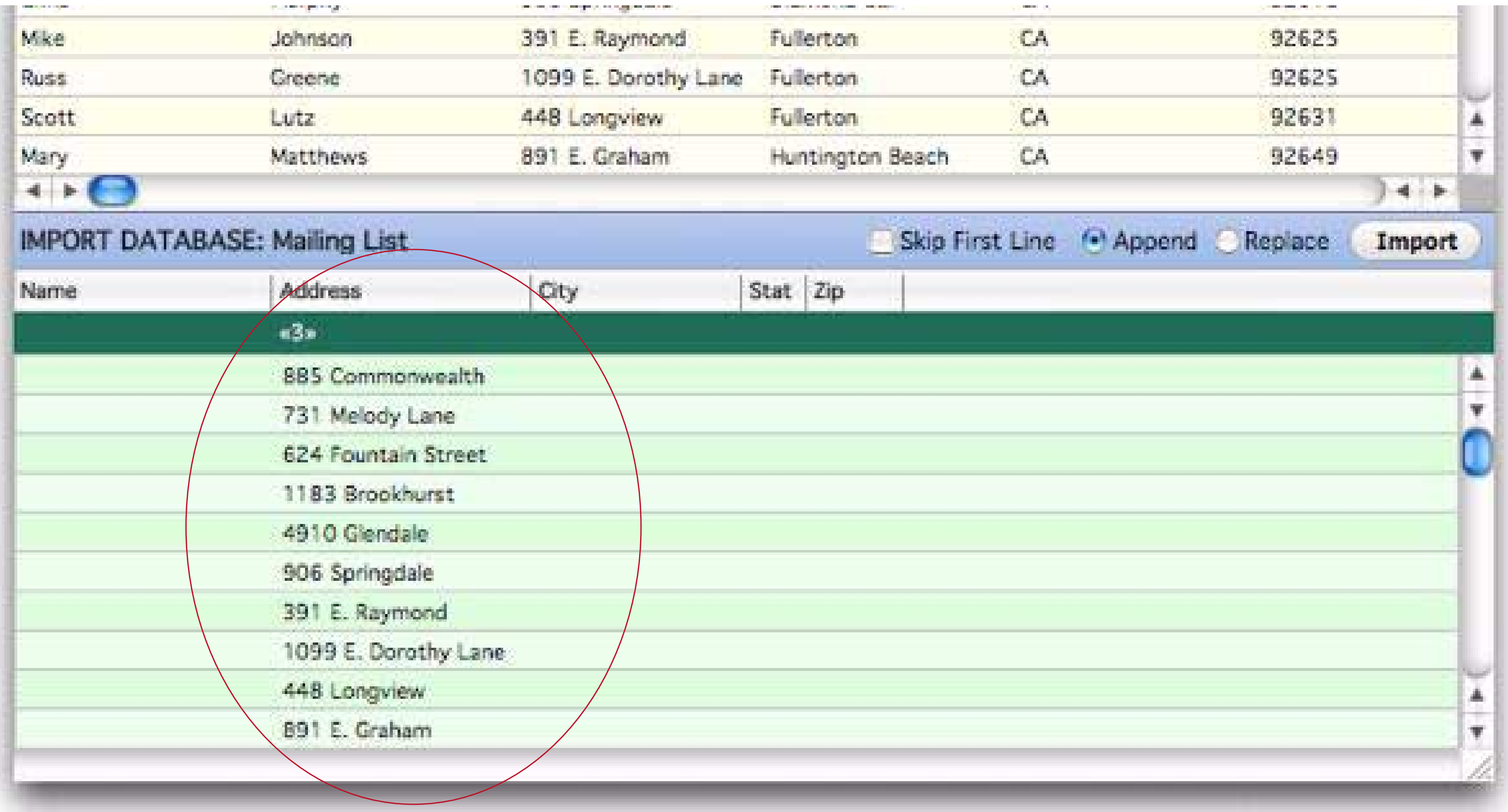
«1»	«2»	«3»	«4»	«5»	«6»
Lisa	Donovan	885 Commonwealth	Anaheim	CA	92628
Kirk	Shelby	731 Melody Lane	Brea	CA	92624
Bob	Muscolo	624 Fountain Street	Costa Mesa	CA	92604
Jim	Reynolds	1183 Brookhurst	Costa Mesa	CA	92608
Jack	Rutan	4910 Glendale	Costa Mesa	CA	92642
Chris	Murphy	906 Springdale	Diamond Bar	CA	92618
Mike	Johnson	391 E. Raymond	Fullerton	CA	92625
Russ	Greene	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott	Lutz	448 Longview	Fullerton	CA	92631
Mary	Matthews	891 E. Graham	Huntington Beach	CA	92649

IMPORT DATABASE: Mailing List □ Skip First Line ● Append ○ Replace Import

Name	Address	City	Stat	Zip

Drag columns from import text (above) into database fields (here)

When you release the mouse the wizard will update the import configuration.

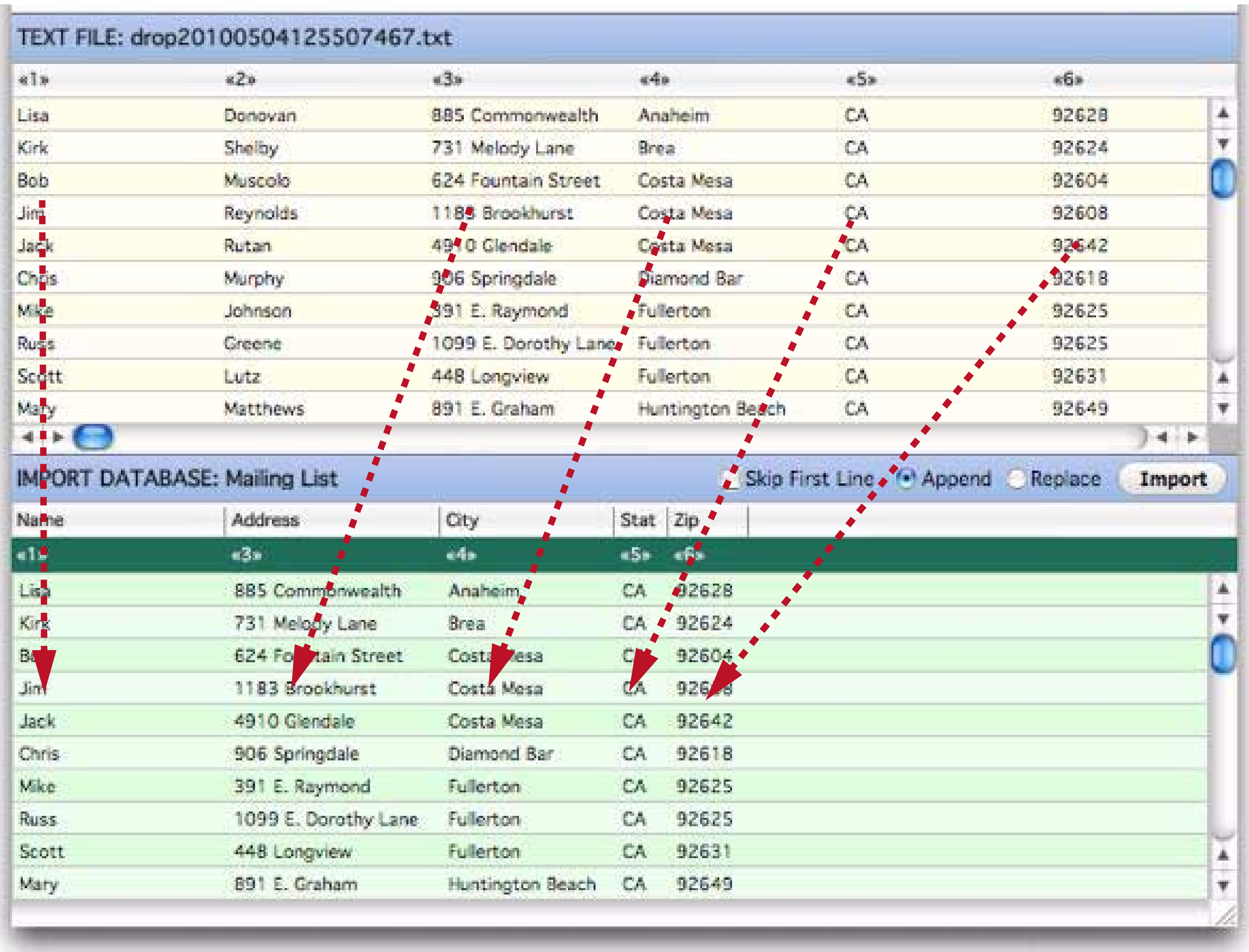


Mike	Johnson	391 E. Raymond	Fullerton	CA	92625
Russ	Greene	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott	Lutz	448 Longview	Fullerton	CA	92631
Mary	Matthews	891 E. Graham	Huntington Beach	CA	92649

IMPORT DATABASE: Mailing List □ Skip First Line ● Append ○ Replace Import

Name	Address	City	Stat	Zip
	«3»			
	885 Commonwealth			
	731 Melody Lane			
	624 Fountain Street			
	1183 Brookhurst			
	4910 Glendale			
	906 Springdale			
	391 E. Raymond			
	1099 E. Dorothy Lane			
	448 Longview			
	891 E. Graham			

You'll need to drag each field you want to import down from the top to the bottom.



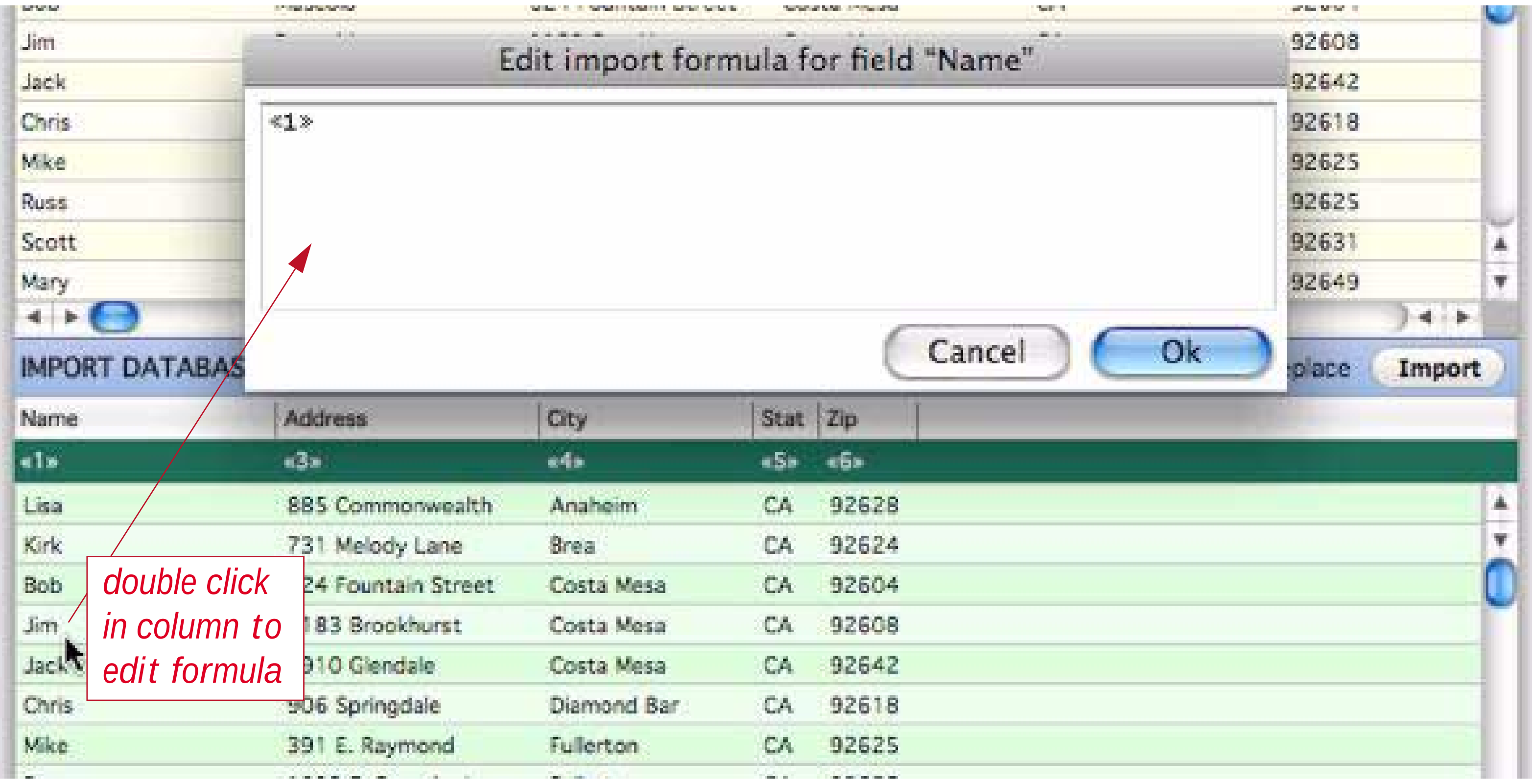
TEXT FILE: drop20100504125507467.txt

«1»	«2»	«3»	«4»	«5»	«6»
Lisa	Donovan	885 Commonwealth	Anaheim	CA	92628
Kirk	Shelby	731 Melody Lane	Brea	CA	92624
Bob	Muscolo	624 Fountain Street	Costa Mesa	CA	92604
Jim	Reynolds	1183 Brookhurst	Costa Mesa	CA	92608
Jack	Rutan	4910 Glendale	Costa Mesa	CA	92642
Chris	Murphy	906 Springdale	Diamond Bar	CA	92618
Mike	Johnson	391 E. Raymond	Fullerton	CA	92625
Russ	Greene	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott	Lutz	448 Longview	Fullerton	CA	92631
Mary	Matthews	891 E. Graham	Huntington Beach	CA	92649

IMPORT DATABASE: Mailing List ☐ Skip First Line ● Append ○ Replace Import

Name	Address	City	Stat	Zip
«1»	«3»	«4»	«5»	«6»
Lisa	885 Commonwealth	Anaheim	CA	92628
Kirk	731 Melody Lane	Brea	CA	92624
Bob	624 Fountain Street	Costa Mesa	CA	92604
Jim	1183 Brookhurst	Costa Mesa	CA	92608
Jack	4910 Glendale	Costa Mesa	CA	92642
Chris	906 Springdale	Diamond Bar	CA	92618
Mike	391 E. Raymond	Fullerton	CA	92625
Russ	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott	448 Longview	Fullerton	CA	92631
Mary	891 E. Graham	Huntington Beach	CA	92649

Sometimes the data you want to import doesn't match the fields in the database. In this case the database has only a single Name field, but the import data contains separate first and last names. Somehow these separate fields will need to be combined as the data is imported. The import wizard allows you to do this with a **formula** (see "Calculations & Formulas" on page 273). To edit the formula for a field double click anywhere in the field's column.



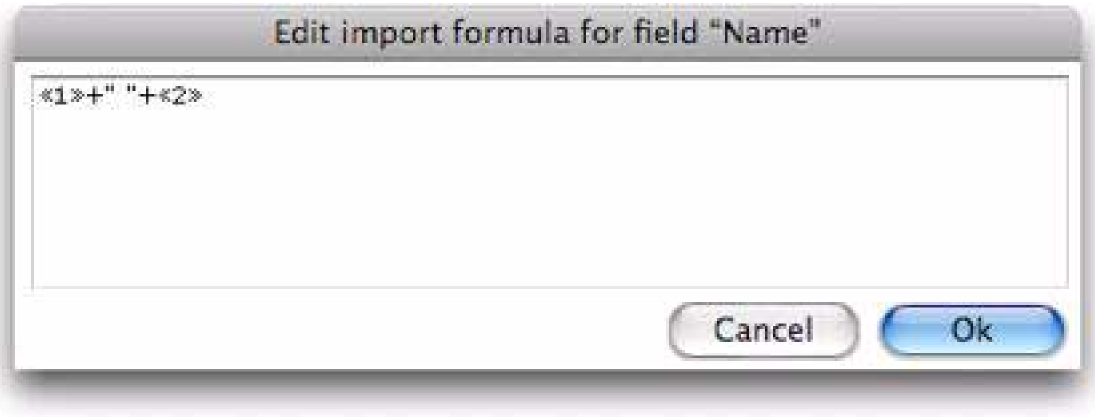
Edit import formula for field "Name"

```
«1»
```

Name	Address	City	Stat	Zip
«1»	«3»	«4»	«5»	«6»
Lisa	885 Commonwealth	Anaheim	CA	92628
Kirk	731 Melody Lane	Brea	CA	92624
Bob	24 Fountain Street	Costa Mesa	CA	92604
Jim	183 Brookhurst	Costa Mesa	CA	92608
Jack	910 Glendale	Costa Mesa	CA	92642
Chris	906 Springdale	Diamond Bar	CA	92618
Mike	391 E. Raymond	Fullerton	CA	92625

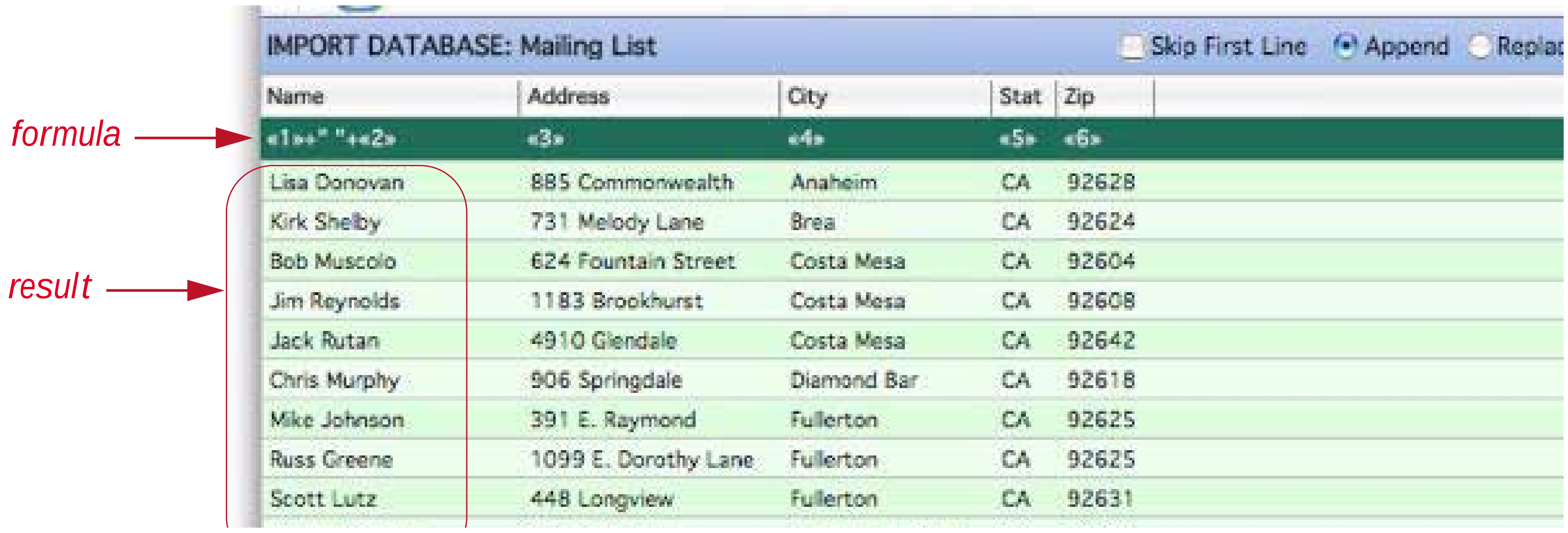
double click in column to edit formula

Within this formula you can include any import field by typing the field number in between « and » characters (see “Special Characters” on page 288, or simply use the Fields menu to type in the field number for you). To “glue” two text items together you can use the **+** symbol (see “Gluing Strings Together” on page 294). To include constant text in the formula put the text inside quotes (see “Constants” on page 284). The illustration below shows a formula that combines the first and last name into a single field (with a space in between).



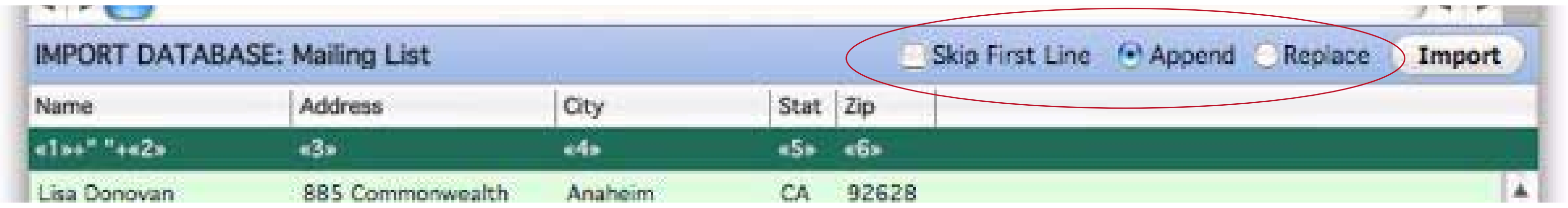
```
«1»+" "+«2»
```

Press the **OK** button to preview the result of this formula.



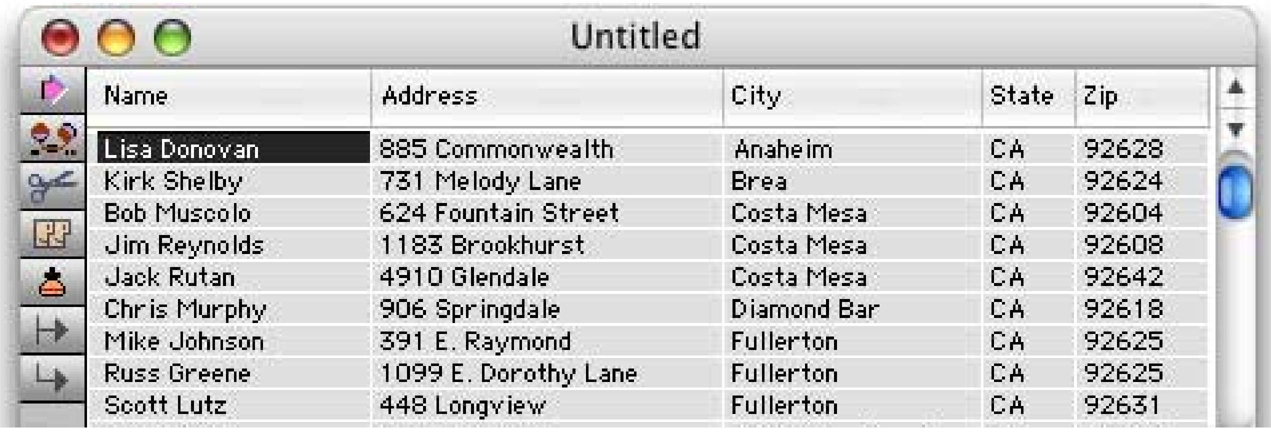
Name	Address	City	Stat	Zip
«1»+" "+«2»	«3»	«4»	«5»	«6»
Lisa Donovan	885 Commonwealth	Anaheim	CA	92628
Kirk Shelby	731 Melody Lane	Brea	CA	92624
Bob Muscolo	624 Fountain Street	Costa Mesa	CA	92604
Jim Reynolds	1183 Brookhurst	Costa Mesa	CA	92608
Jack Rutan	4910 Glendale	Costa Mesa	CA	92642
Chris Murphy	906 Springdale	Diamond Bar	CA	92618
Mike Johnson	391 E. Raymond	Fullerton	CA	92625
Russ Greene	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott Lutz	448 Longview	Fullerton	CA	92631

You are almost ready to import the data. Before you do, make sure that the Append or Replace option you want is selected. Append will append the new data to whatever data is already in the database, while Replace will erase and replace the existing data.) You may also want to choose to skip the first line of the imported data.



Name	Address	City	Stat	Zip
«1»+" "+«2»	«3»	«4»	«5»	«6»
Lisa Donovan	885 Commonwealth	Anaheim	CA	92628

Now press the **Import** button. The wizard imports the data into the original database.



Name	Address	City	State	Zip
Lisa Donovan	885 Commonwealth	Anaheim	CA	92628
Kirk Shelby	731 Melody Lane	Brea	CA	92624
Bob Muscolo	624 Fountain Street	Costa Mesa	CA	92604
Jim Reynolds	1183 Brookhurst	Costa Mesa	CA	92608
Jack Rutan	4910 Glendale	Costa Mesa	CA	92642
Chris Murphy	906 Springdale	Diamond Bar	CA	92618
Mike Johnson	391 E. Raymond	Fullerton	CA	92625
Russ Greene	1099 E. Dorothy Lane	Fullerton	CA	92625
Scott Lutz	448 Longview	Fullerton	CA	92631

Common Import Formulas

Using a formula you can combine import fields, split import fields, convert to upper case or lower case, and much much more. You've already learned how to combine two or more import fields together with the **+** symbol like this (see "Gluing Strings Together" on page 294).

```
«1»+" "+«2»
```

```
«2»+", "+«1»
```

To pick out a single word (for example a first or last name) you can use the **`firstword(`** or **`lastword(`** functions (see "Text Arrays" on page 302). Here is a formula for picking the first name from a combined name field (assumed to be the first field, «1», and using the format First Last, for example John Smith).

```
firstword(«1»)
```

To convert text to upper case use the **`upper(`** function (see "String Modification Functions" on page 298). This formula extracts the last name and converts it to upper case.

```
upper(lastword(«1»))
```

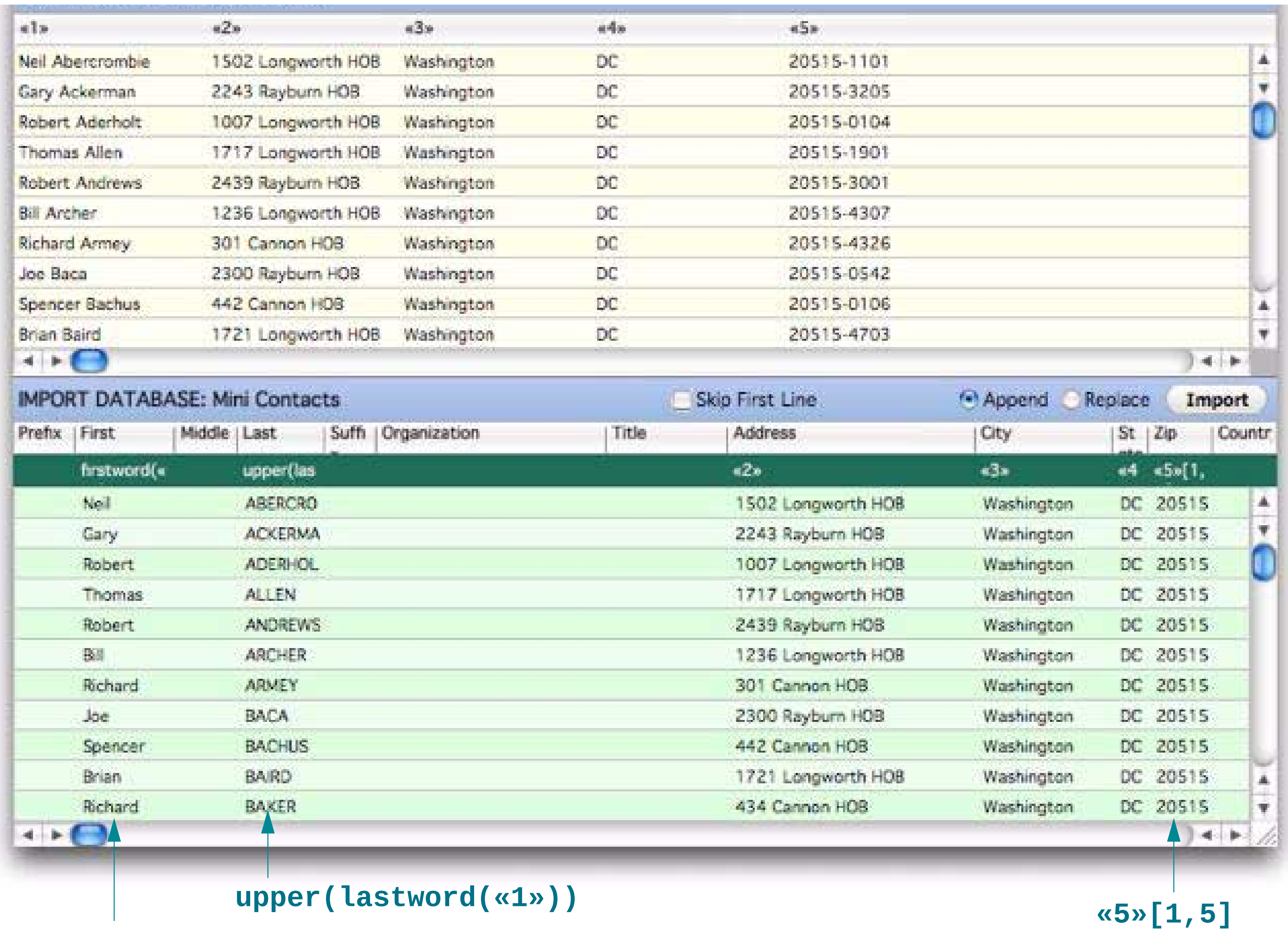
To extract only a limited number of characters use a **text funnel** (see "Taking Strings Apart (Text Funnels)" on page 296). This formula extracts the first five characters from a zip code.

```
«6»[1,5]
```

This table lists some common formulas that can be useful when importing.

Formula	Description
firstword(«1»)	extract the first word of the first import column
lastword(«1»)	extract the last word of the first import column
«1»+" "+«2»	combine the first and second import columns (with a space in between)
trimstart(«1»,2)	include everything but the first two characters of the first import column
trim(«1»,3)	include everything but the last two characters of the first import column
«1»[2,4]	extract the 2nd thru 4th characters from the first import column
upper(«1»)	include first import column, converted to upper case (all caps)
lower(«1»)	include first import column, converted to lower case
upperword(«1»)	include first import column, first character of each word capitalized
striptoalpha(«1»)	include first import column, but only alphabetic characters
stripchar(«1»,"09..--")	include first import column, but only numeric digits, periods, and minus signs (useful for importing numbers when there are extraneous characters like currency symbols)

Here is an example that uses several of these techniques.



«1»	«2»	«3»	«4»	«5»
Neil Abercrombie	1502 Longworth HOB	Washington	DC	20515-1101
Gary Ackerman	2243 Rayburn HOB	Washington	DC	20515-3205
Robert Aderholt	1007 Longworth HOB	Washington	DC	20515-0104
Thomas Allen	1717 Longworth HOB	Washington	DC	20515-1901
Robert Andrews	2439 Rayburn HOB	Washington	DC	20515-3001
Bill Archer	1236 Longworth HOB	Washington	DC	20515-4307
Richard Armey	301 Cannon HOB	Washington	DC	20515-4326
Joe Baca	2300 Rayburn HOB	Washington	DC	20515-0542
Spencer Bachus	442 Cannon HOB	Washington	DC	20515-0106
Brian Baird	1721 Longworth HOB	Washington	DC	20515-4703

IMPORT DATABASE: Mini Contacts ☐ Skip First Line ● Append ○ Replace Import

Prefix	First	Middle	Last	Suffi	Organization	Title	Address	City	St	Zip	Countr
	firstword(«		upper(las				«2»	«3»	«4	«5»[1,	
	Neil		ABERCRO				1502 Longworth HOB	Washington	DC	20515	
	Gary		ACKERMA				2243 Rayburn HOB	Washington	DC	20515	
	Robert		ADERHOL				1007 Longworth HOB	Washington	DC	20515	
	Thomas		ALLEN				1717 Longworth HOB	Washington	DC	20515	
	Robert		ANDREWS				2439 Rayburn HOB	Washington	DC	20515	
	Bill		ARCHER				1236 Longworth HOB	Washington	DC	20515	
	Richard		ARMEY				301 Cannon HOB	Washington	DC	20515	
	Joe		BACA				2300 Rayburn HOB	Washington	DC	20515	
	Spencer		BACHUS				442 Cannon HOB	Washington	DC	20515	
	Brian		BAIRD				1721 Longworth HOB	Washington	DC	20515	
	Richard		BAKER				434 Cannon HOB	Washington	DC	20515	

upper(lastword(«1»))

«5»[1,5]

firstword(«1»)

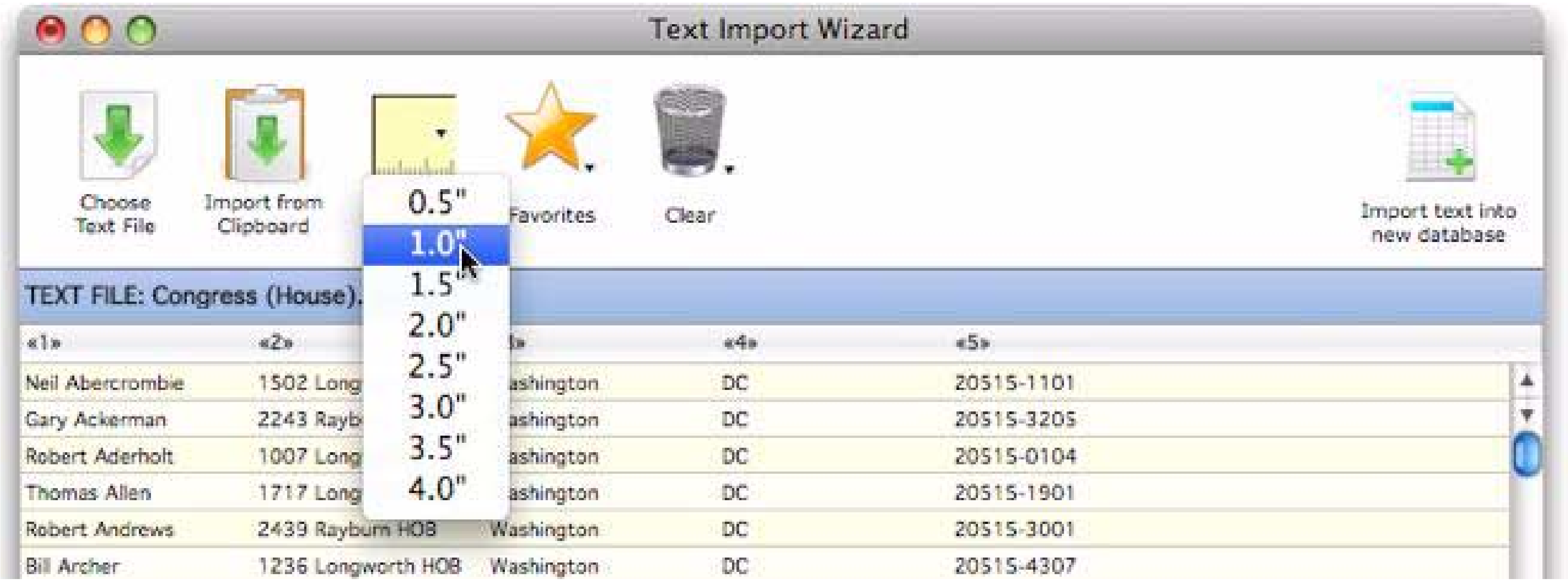
To learn more about Panorama formulas see “Calculations & Formulas” on page 273.

More Import Configuration Techniques

This section describes some additional techniques for setting up the import configuration.

Tab Width

The top section of the Text Import wizard displays the data to be imported in fixed width columns. Click on the **Tab Width** icon to change the width of these columns.

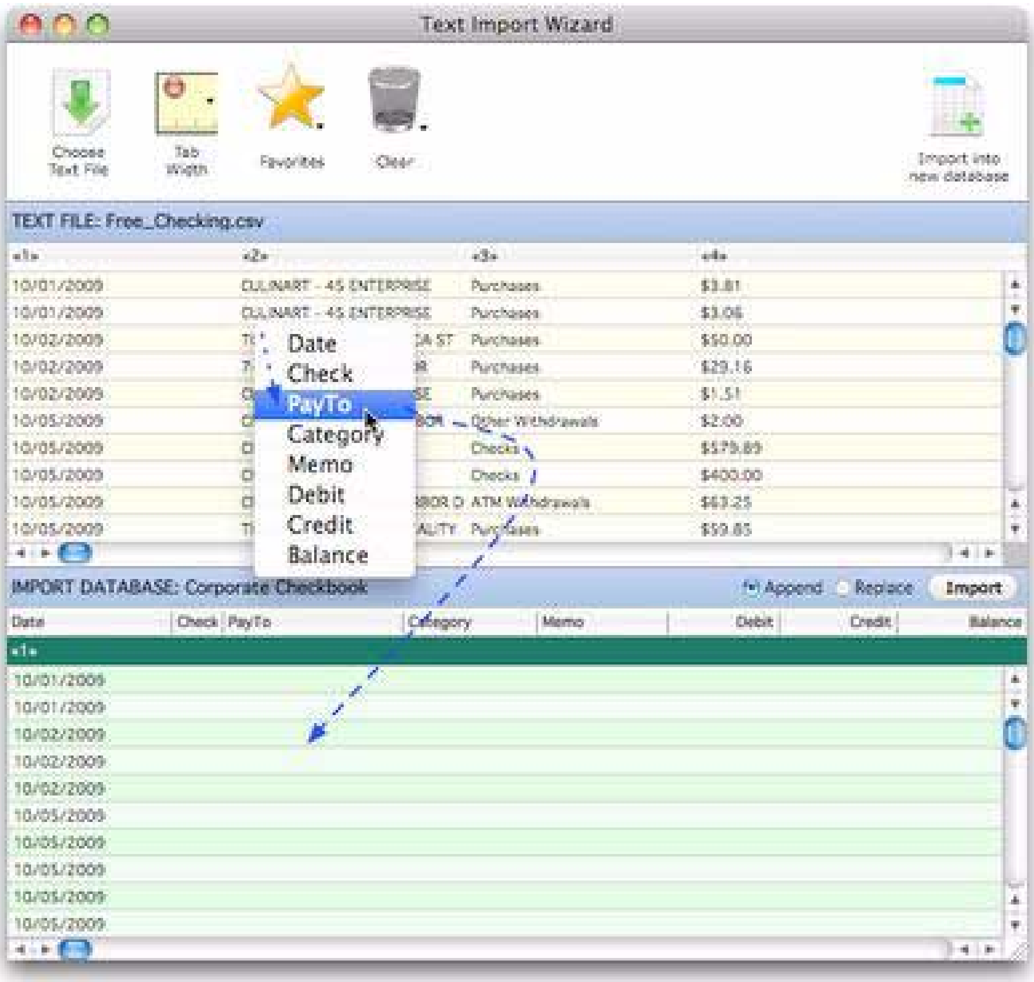


TEXT FILE: Congress (House).

«1»	«2»	3»	«4»	«5»
Neil Abercrombie	1502 Long	ashington	DC	20515-1101
Gary Ackerman	2243 Rayb	ashington	DC	20515-3205
Robert Aderholt	1007 Long	ashington	DC	20515-0104
Thomas Allen	1717 Long	ashington	DC	20515-1901
Robert Andrews	2439 Rayburn HOB	Washington	DC	20515-3001
Bill Archer	1236 Longworth HOB	Washington	DC	20515-4307

Configuration Context Menus

As an alternate to dragging columns you can set up the configuration by right clicking on either the top or bottom section of the wizard. Right clicking on an imported column allows you to choose a database field to "slot" the imported column into.



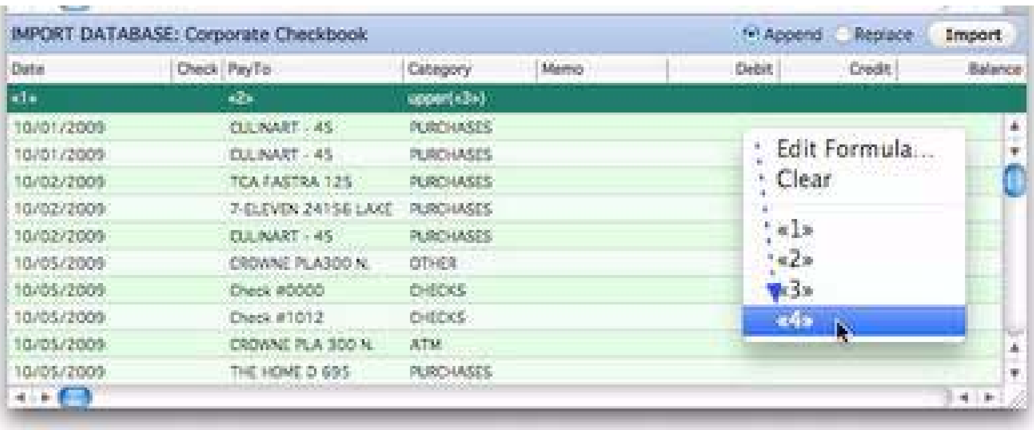
TEXT FILE: Free_Checking.csv

«1»	«2»	«3»	«4»
10/01/2009	CULINART - 45 ENTERPRISE	Purchases	$3.81
10/01/2009	CULINART - 45 ENTERPRISE	Purchases	$3.06
10/02/2009	T CA ST	Purchases	$50.00
10/02/2009	7 R	Purchases	$29.16
10/02/2009	O SE	Purchases	$1.51
10/05/2009	O BOR	Other Withdrawals	$2.00
10/05/2009	O	Checks	$579.89
10/05/2009	O	Checks	$400.00
10/05/2009	O BBOR D	ATM Withdrawals	$63.25
10/05/2009	T ALITY	Purchases	$59.85

IMPORT DATABASE: Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
«1»							
10/01/2009							
10/01/2009							
10/02/2009							
10/02/2009							
10/02/2009							
10/05/2009							
10/05/2009							
10/05/2009							
10/05/2009							
10/05/2009							

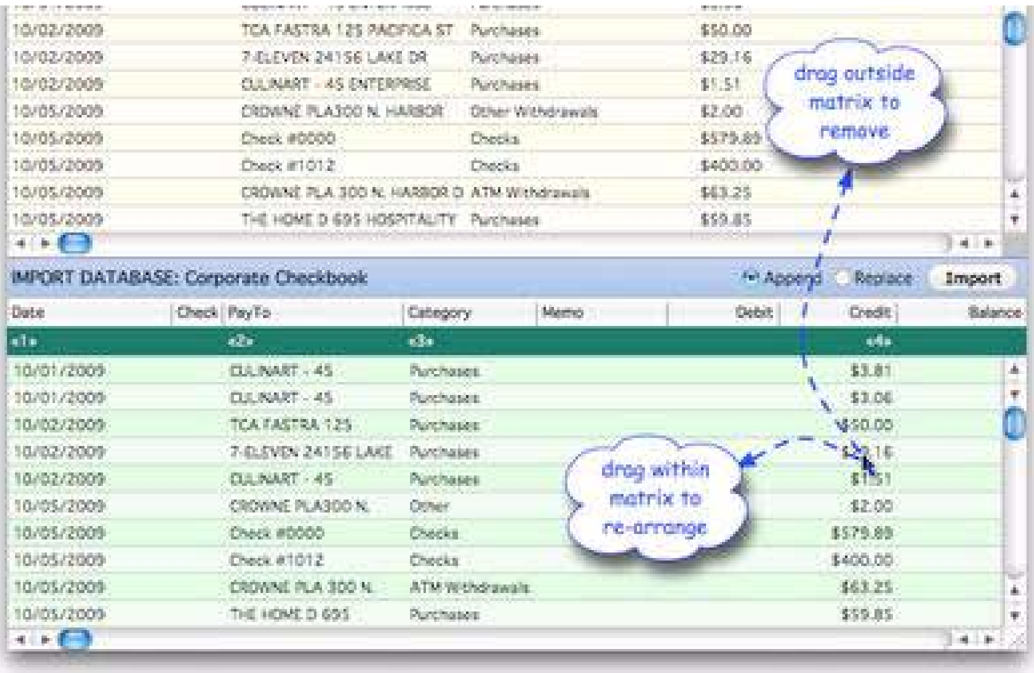
Right clicking on a database field allows you to choose an import column to “slot” into that field. You can also edit the formula associated with the field, or clear the field.



Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
«1»		«2»	upper(«3»)				
10/01/2009		CULINART - 45	PURCHASES				
10/01/2009		CULINART - 45	PURCHASES				
10/02/2009		TCA FASTRA 125	PURCHASES				
10/02/2009		7-ELEVEN 24156 LAKE	PURCHASES				
10/02/2009		CULINART - 45	PURCHASES				
10/05/2009		CROWNE PLA300 N.	OTHER				
10/05/2009		Check #0000	CHECKS				
10/05/2009		Check #1012	CHECKS				
10/05/2009		CROWNE PLA 300 N.	ATM				
10/05/2009		THE HOME D 695	PURCHASES				

Rearranging and Deleting Import Columns

If you make a mistake you can simply drag the column to the correct position, or drag it completely out of the bottom section to remove it.


drag outside matrix to remove
drag within matrix to re-arrange
IMPORT DATABASE: Corporate Checkbook
● Append
○ Replace
Import

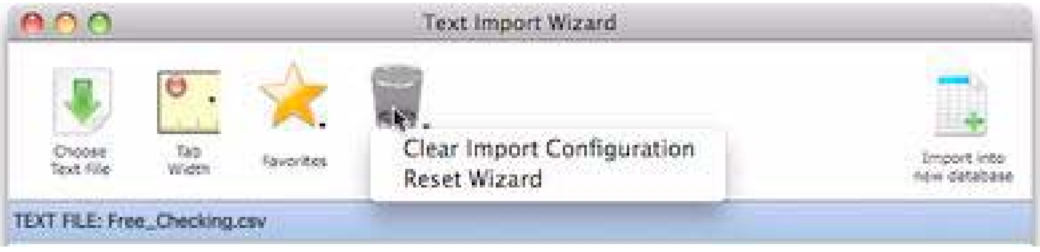
10/02/2009	TCA FASTRA 125 PACIFICA ST	Purchases	$50.00
10/02/2009	7-ELEVEN 24156 LAKE DR	Purchases	$29.16
10/02/2009	CULINART - 45 ENTERPRISE	Purchases	$1.51
10/05/2009	CROWNE PLA300 N. HARBOR	Other Withdrawals	$2.00
10/05/2009	Check #0000	Checks	$579.89
10/05/2009	Check #1012	Checks	$400.00
10/05/2009	CROWNE PLA 300 N. HARBOR D	ATM Withdrawals	$63.25
10/05/2009	THE HOME D 695 HOSPITALITY	Purchases	$59.85

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
«1»		«2»	«3»			«4»	
10/01/2009		CULINART - 45	Purchases			$3.81	
10/01/2009		CULINART - 45	Purchases			$3.06	
10/02/2009		TCA FASTRA 125	Purchases			$50.00	
10/02/2009		7-ELEVEN 24156 LAKE	Purchases			$29.16	
10/02/2009		CULINART - 45	Purchases			$1.51	
10/05/2009		CROWNE PLA300 N.	Other			$2.00	
10/05/2009		Check #0000	Checks			$579.89	
10/05/2009		Check #1012	Checks			$400.00	
10/05/2009		CROWNE PLA 300 N.	ATM Withdrawals			$63.25	
10/05/2009		THE HOME D 695	Purchases			$59.85	

You can also remove a column by right-clicking on it and choosing **Clear** from the pop-up menu.

Starting Over

To start over, simply drag another text file onto the top section of the dialog. Or, you can click on the trash can icon.



TEXT FILE: Free_Checking.csv

Clear Import Configuration clears out the bottom section of the wizard. **Reset Wizard** clears the entire wizard, after using this option you must re-select the text to be imported.

Choosing a Database to Import Into

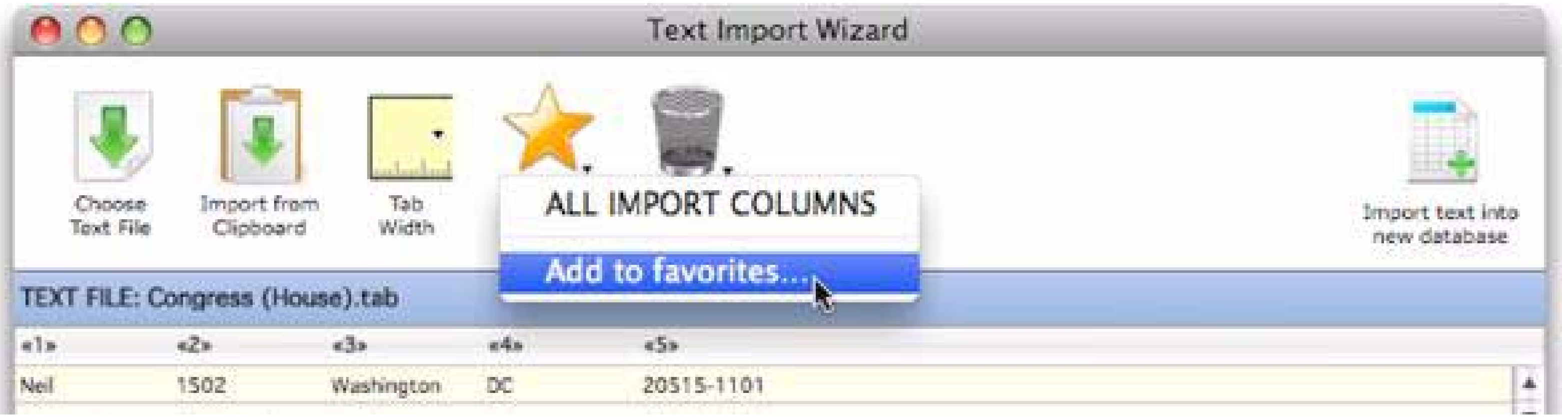
The **Text Import Wizard** normally imports into database that was active when the wizard was opened. However, you can use the **Database** menu to choose to import into any open database. Simply choose the database you want to import into and then set up the configuration.

Importing into a New Database

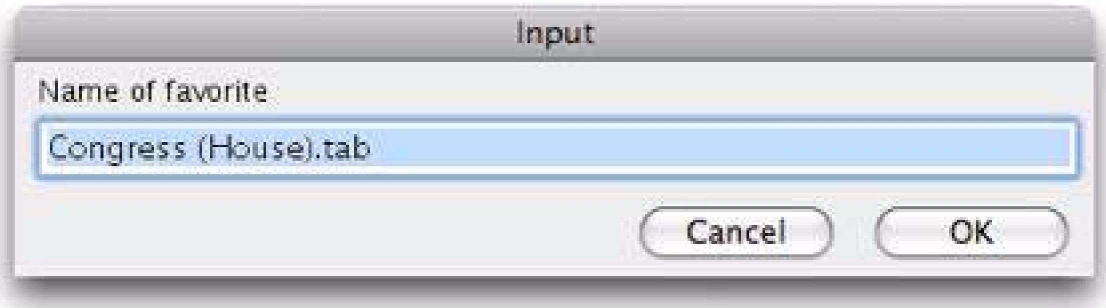
The Text Import wizard is for importing into an existing database. If you decide you would rather import into a new database, click the **Import into new database icon**. (This icon does not appear until you have selected a text file.)

Saving the Import Configuration for Later

To save an import configuration for later, click on the **Favorites** icon and choose **Add to favorites**.

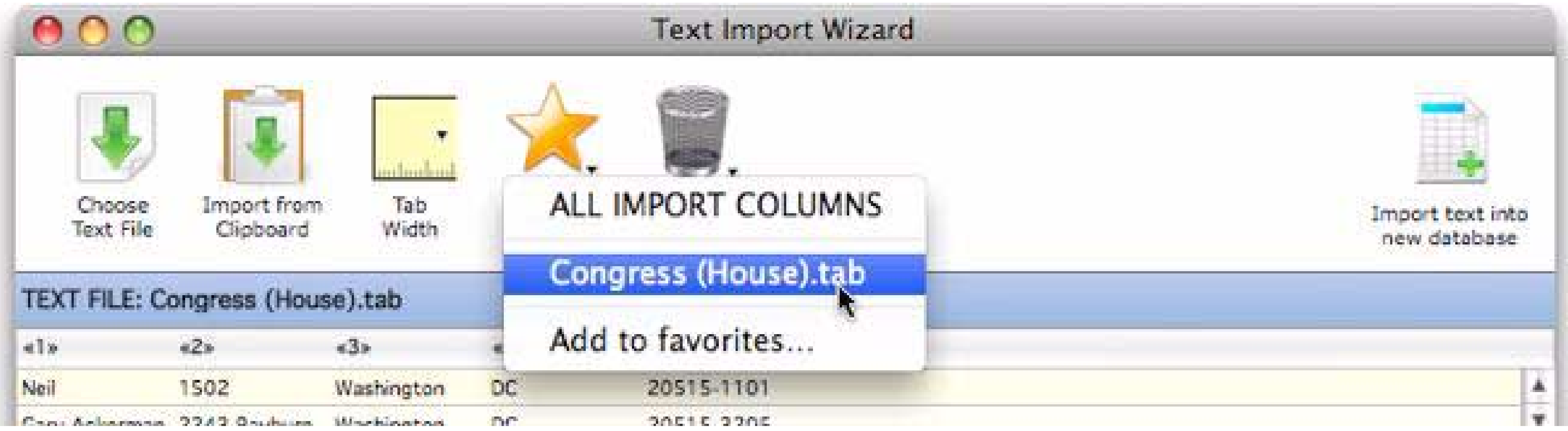


You'll be asked to give the new favorite a name. (If you use the name of the text file being imported, Panorama will automatically use this favorite configuration if you later re-import this text file.)

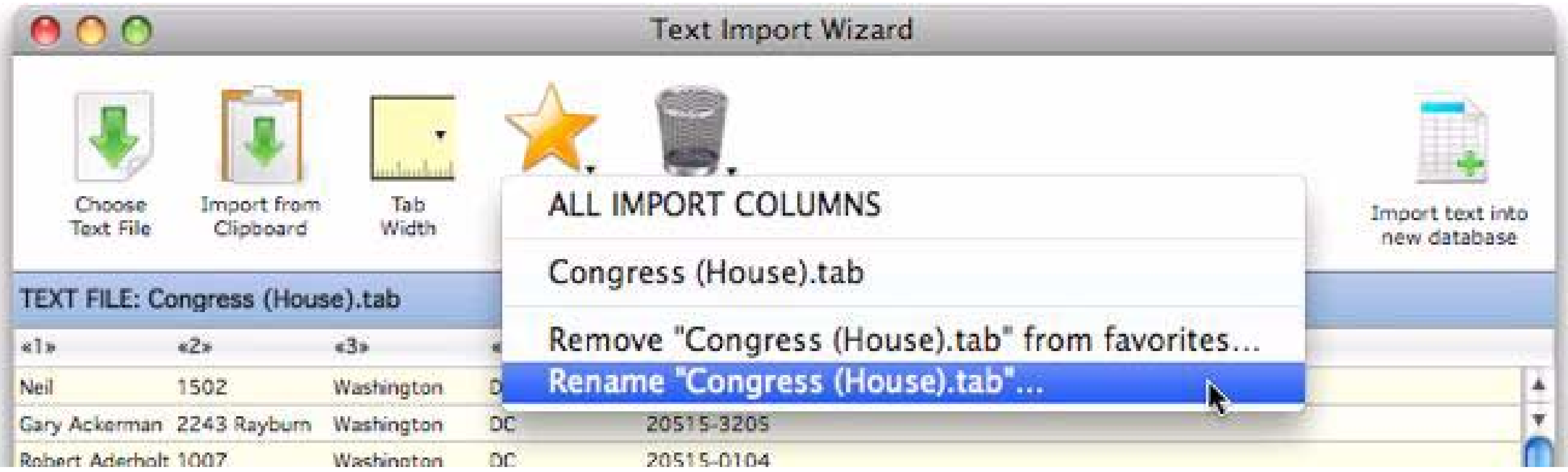


Name of favorite: Congress (House).tab

Later you can use the pop-up menu to bring back the saved configuration.



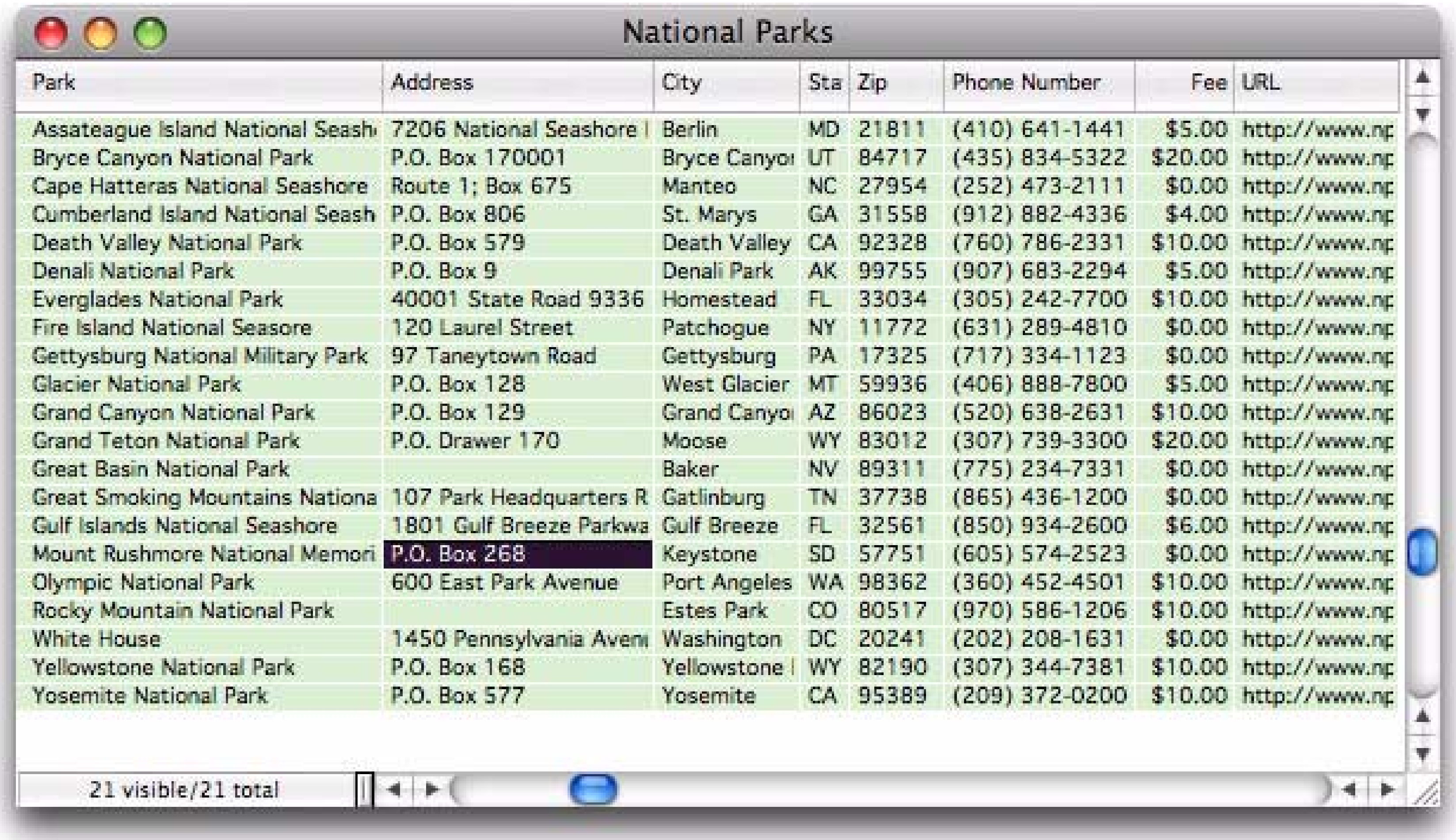
If you want to delete or rename a favorite, first select it, then click on the **Favorites** star again. Then choose **Remove** or **Rename**.


Text Import Wizard
Choose Text File
Import from Clipboard
Tab Width
Import text into new database
ALL IMPORT COLUMNS
Congress (House).tab
Remove "Congress (House).tab" from favorites…
Rename "Congress (House).tab"…
TEXT FILE: Congress (House).tab
«1» «2» «3»
Neil 1502 Washington D
Gary Ackerman 2243 Rayburn Washington DC 20515-3205
Robert Aderholt 1007 Washington DC 20515-0104

ALL IMPORT COLUMNS. In addition to the favorites you set up, Panorama automatically sets up a favorite called **ALL IMPORT COLUMNS**. This favorite sets up a configuration where the first imported text field goes into the first database field, the second database field into the second field, etc.

Exporting a Text File

To export the selected records (see "Finding vs. Selecting" on page 139) in the current database into a text file, use the **Text Export Wizard**. This wizard allows you to specify the order of the fields being exported, and to manipulate the data as it is being exported (converting it to upper case, for example, or combining several database fields into one export field). The wizard can even be used to convert the database into an HTML table. To illustrate this wizard we will use this database of national parks.

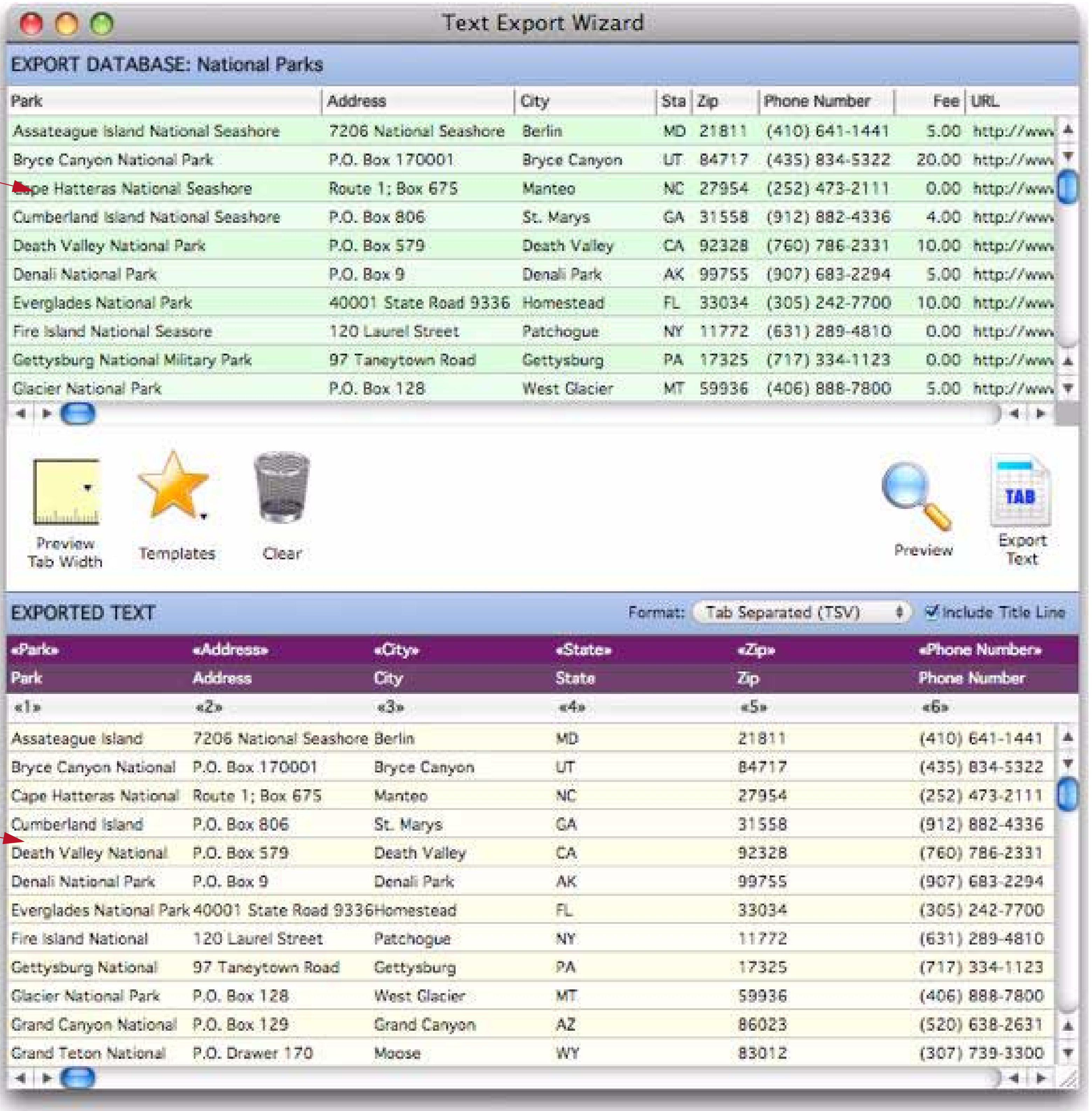


National Parks

Park	Address	City	Sta	Zip	Phone Number	Fee	URL
Assateague Island National Seash	7206 National Seashore	Berlin	MD	21811	(410) 641-1441	$5.00	http://www.np
Bryce Canyon National Park	P.O. Box 170001	Bryce Canyo	UT	84717	(435) 834-5322	$20.00	http://www.np
Cape Hatteras National Seashore	Route 1; Box 675	Manteo	NC	27954	(252) 473-2111	$0.00	http://www.np
Cumberland Island National Seash	P.O. Box 806	St. Marys	GA	31558	(912) 882-4336	$4.00	http://www.np
Death Valley National Park	P.O. Box 579	Death Valley	CA	92328	(760) 786-2331	$10.00	http://www.np
Denali National Park	P.O. Box 9	Denali Park	AK	99755	(907) 683-2294	$5.00	http://www.np
Everglades National Park	40001 State Road 9336	Homestead	FL	33034	(305) 242-7700	$10.00	http://www.np
Fire Island National Seasore	120 Laurel Street	Patchogue	NY	11772	(631) 289-4810	$0.00	http://www.np
Gettysburg National Military Park	97 Taneytown Road	Gettysburg	PA	17325	(717) 334-1123	$0.00	http://www.np
Glacier National Park	P.O. Box 128	West Glacier	MT	59936	(406) 888-7800	$5.00	http://www.np
Grand Canyon National Park	P.O. Box 129	Grand Canyo	AZ	86023	(520) 638-2631	$10.00	http://www.np
Grand Teton National Park	P.O. Drawer 170	Moose	WY	83012	(307) 739-3300	$20.00	http://www.np
Great Basin National Park		Baker	NV	89311	(775) 234-7331	$0.00	http://www.np
Great Smoking Mountains Nationa	107 Park Headquarters R	Gatlinburg	TN	37738	(865) 436-1200	$0.00	http://www.np
Gulf Islands National Seashore	1801 Gulf Breeze Parkwa	Gulf Breeze	FL	32561	(850) 934-2600	$6.00	http://www.np
Mount Rushmore National Memori	P.O. Box 268	Keystone	SD	57751	(605) 574-2523	$0.00	http://www.np
Olympic National Park	600 East Park Avenue	Port Angeles	WA	98362	(360) 452-4501	$10.00	http://www.np
Rocky Mountain National Park		Estes Park	CO	80517	(970) 586-1206	$10.00	http://www.np
White House	1450 Pennsylvania Aven	Washington	DC	20241	(202) 208-1631	$0.00	http://www.np
Yellowstone National Park	P.O. Box 168	Yellowstone	WY	82190	(307) 344-7381	$10.00	http://www.np
Yosemite National Park	P.O. Box 577	Yosemite	CA	95389	(209) 372-0200	$10.00	http://www.np

21 visible/21 total

To begin the export process choose **Export Text** from the **File** menu. The top section of the dialog shows the database being exported, the bottom section shows a preview of the exported text. When you first open the wizard, it is automatically configured to export all fields in the database, in the order they appear in the database.


database

export preview

Text Export Wizard

EXPORT DATABASE: National Parks

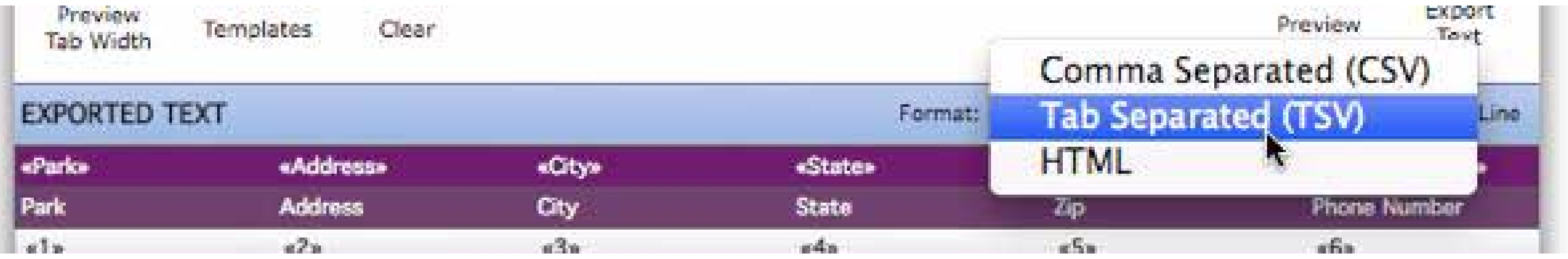
Park	Address	City	Sta	Zip	Phone Number	Fee	URL
Assateague Island National Seashore	7206 National Seashore	Berlin	MD	21811	(410) 641-1441	5.00	http://www
Bryce Canyon National Park	P.O. Box 170001	Bryce Canyon	UT	84717	(435) 834-5322	20.00	http://www
...pe Hatteras National Seashore	Route 1; Box 675	Manteo	NC	27954	(252) 473-2111	0.00	http://www
Cumberland Island National Seashore	P.O. Box 806	St. Marys	GA	31558	(912) 882-4336	4.00	http://www
Death Valley National Park	P.O. Box 579	Death Valley	CA	92328	(760) 786-2331	10.00	http://www
Denali National Park	P.O. Box 9	Denali Park	AK	99755	(907) 683-2294	5.00	http://www
Everglades National Park	40001 State Road 9336	Homestead	FL	33034	(305) 242-7700	10.00	http://www
Fire Island National Seasore	120 Laurel Street	Patchogue	NY	11772	(631) 289-4810	0.00	http://www
Gettysburg National Military Park	97 Taneytown Road	Gettysburg	PA	17325	(717) 334-1123	0.00	http://www
Glacier National Park	P.O. Box 128	West Glacier	MT	59936	(406) 888-7800	5.00	http://www

EXPORTED TEXT

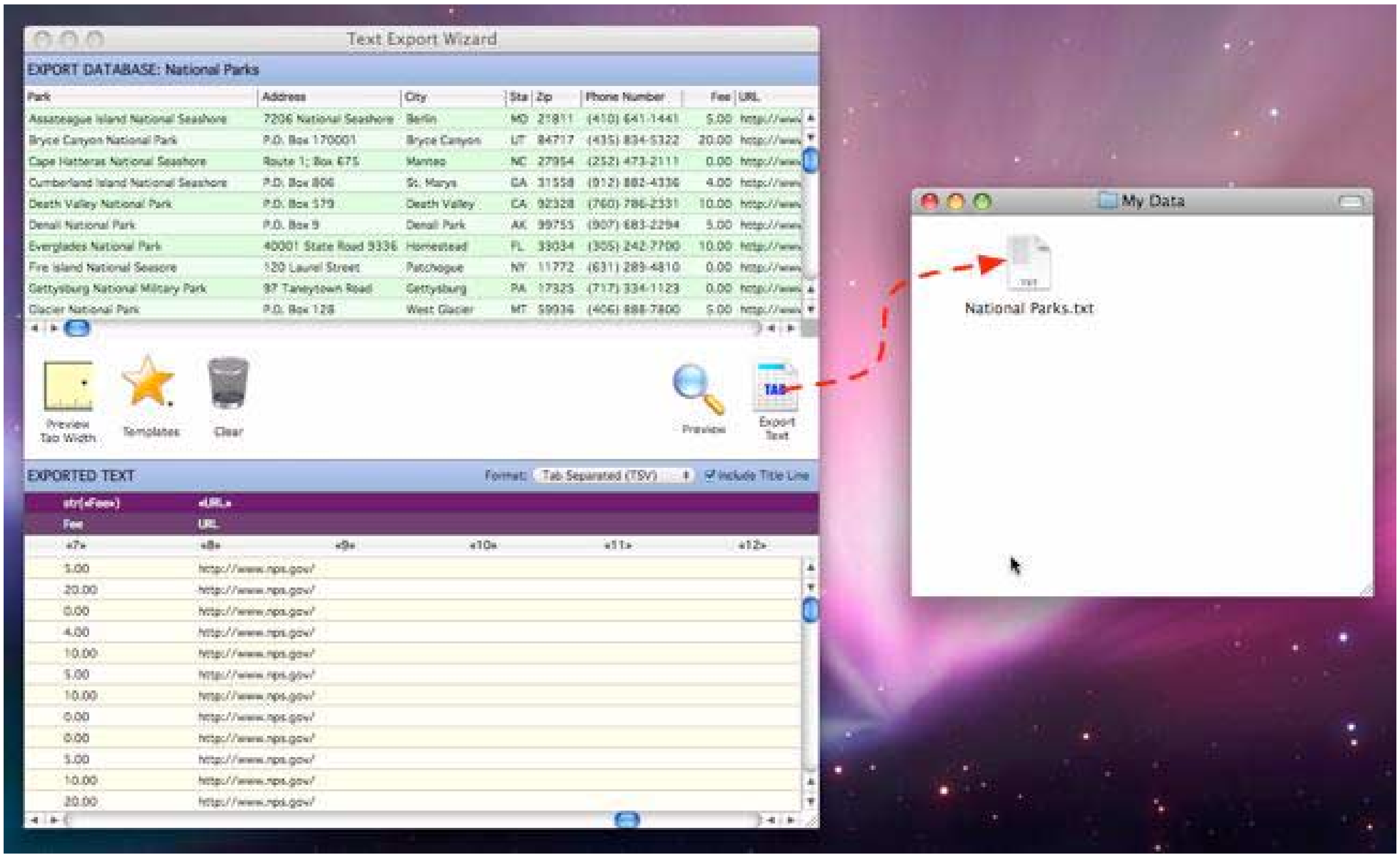
Format: Tab Separated (TSV) ☑ Include Title Line

«Park»	«Address»	«City»	«State»	«Zip»	«Phone Number»
Park	Address	City	State	Zip	Phone Number
«1»	«2»	«3»	«4»	«5»	«6»
Assateague Island	7206 National Seashore	Berlin	MD	21811	(410) 641-1441
Bryce Canyon National	P.O. Box 170001	Bryce Canyon	UT	84717	(435) 834-5322
Cape Hatteras National	Route 1; Box 675	Manteo	NC	27954	(252) 473-2111
Cumberland Island	P.O. Box 806	St. Marys	GA	31558	(912) 882-4336
Death Valley National	P.O. Box 579	Death Valley	CA	92328	(760) 786-2331
Denali National Park	P.O. Box 9	Denali Park	AK	99755	(907) 683-2294
Everglades National Park	40001 State Road 9336	Homestead	FL	33034	(305) 242-7700
Fire Island National	120 Laurel Street	Patchogue	NY	11772	(631) 289-4810
Gettysburg National	97 Taneytown Road	Gettysburg	PA	17325	(717) 334-1123
Glacier National Park	P.O. Box 128	West Glacier	MT	59936	(406) 888-7800
Grand Canyon National	P.O. Box 129	Grand Canyon	AZ	86023	(520) 638-2631
Grand Teton National	P.O. Drawer 170	Moose	WY	83012	(307) 739-3300

Use the pop-up menu to choose the format of the exported text.



If you are using a Macintosh you can export the text simply by dragging from the Export Text icon to wherever you need to go. For example, you can drag the icon onto any folder (any Finder window).


Text Export Wizard

EXPORT DATABASE: National Parks

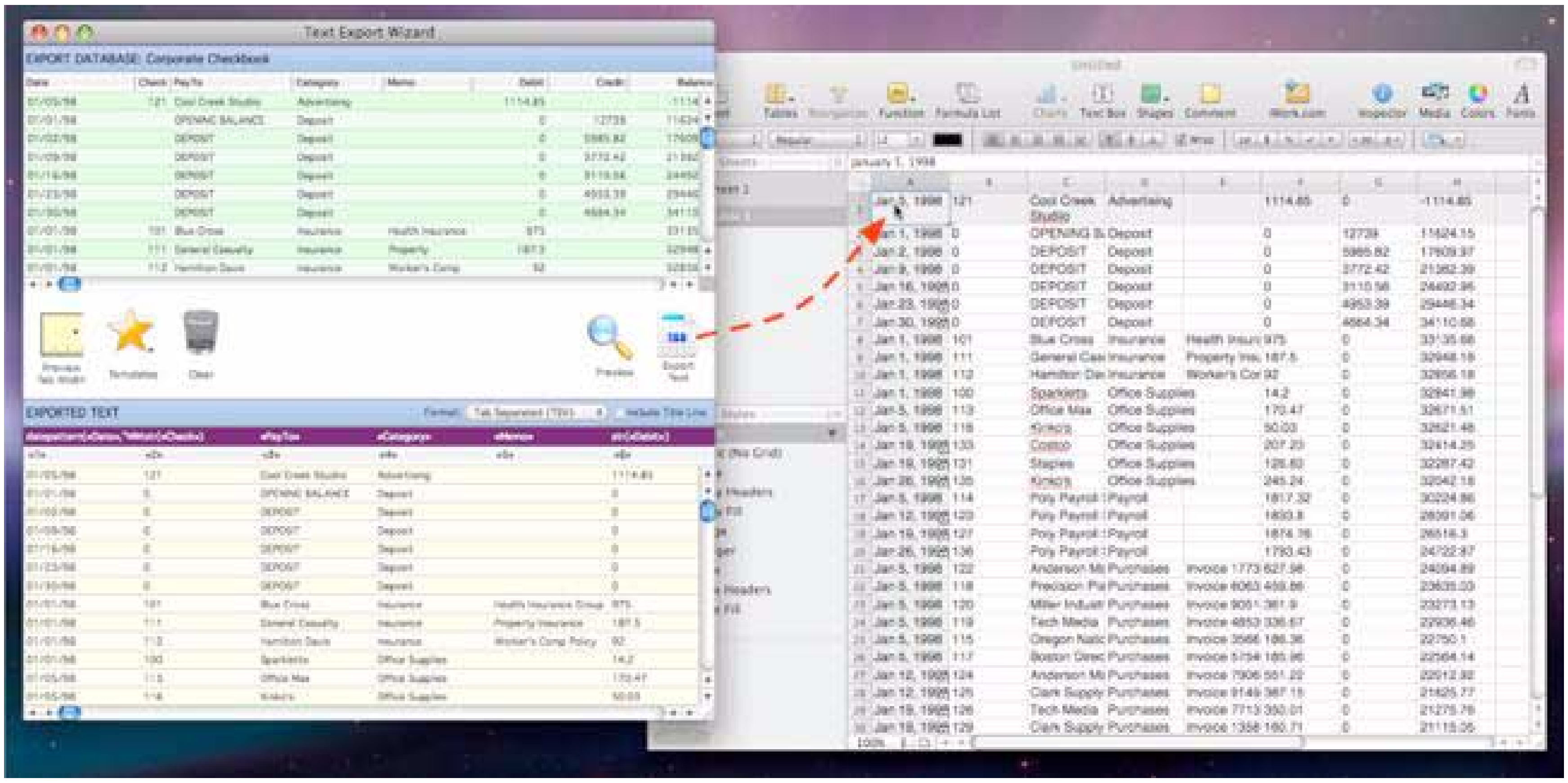
Park	Address	City	Sta	Zip	Phone Number	Fee	URL
Assateague Island National Seashore	7206 National Seashore	Berlin	MD	21811	(410) 641-1441	5.00	http://www
Bryce Canyon National Park	P.O. Box 170001	Bryce Canyon	UT	84717	(435) 834-5322	20.00	http://www
Cape Hatteras National Seashore	Route 1; Box 675	Manteo	NC	27954	(252) 473-2111	0.00	http://www
Cumberland Island National Seashore	P.O. Box 806	St. Marys	GA	31558	(912) 882-4336	4.00	http://www
Death Valley National Park	P.O. Box 579	Death Valley	CA	92328	(760) 786-2331	10.00	http://www
Denali National Park	P.O. Box 9	Denali Park	AK	99755	(907) 683-2294	5.00	http://www
Everglades National Park	40001 State Road 9336	Homestead	FL	33034	(305) 242-7700	10.00	http://www
Fire Island National Seasore	120 Laurel Street	Patchogue	NY	11772	(631) 289-4810	0.00	http://www
Gettysburg National Military Park	97 Taneytown Road	Gettysburg	PA	17325	(717) 334-1123	0.00	http://www
Glacier National Park	P.O. Box 128	West Glacier	MT	59936	(406) 888-7800	5.00	http://www

EXPORTED TEXT

Format: Tab Separated (TSV) ☑ Include Title Line

str(«Fee»)	«URL»				
Fee	URL				
«7»	«8»	«9»	«10»	«11»	«12»
5.00	http://www.nps.gov/				
20.00	http://www.nps.gov/				
0.00	http://www.nps.gov/				
4.00	http://www.nps.gov/				
10.00	http://www.nps.gov/				
5.00	http://www.nps.gov/				
10.00	http://www.nps.gov/				
0.00	http://www.nps.gov/				
0.00	http://www.nps.gov/				
5.00	http://www.nps.gov/				
10.00	http://www.nps.gov/				
20.00	http://www.nps.gov/				

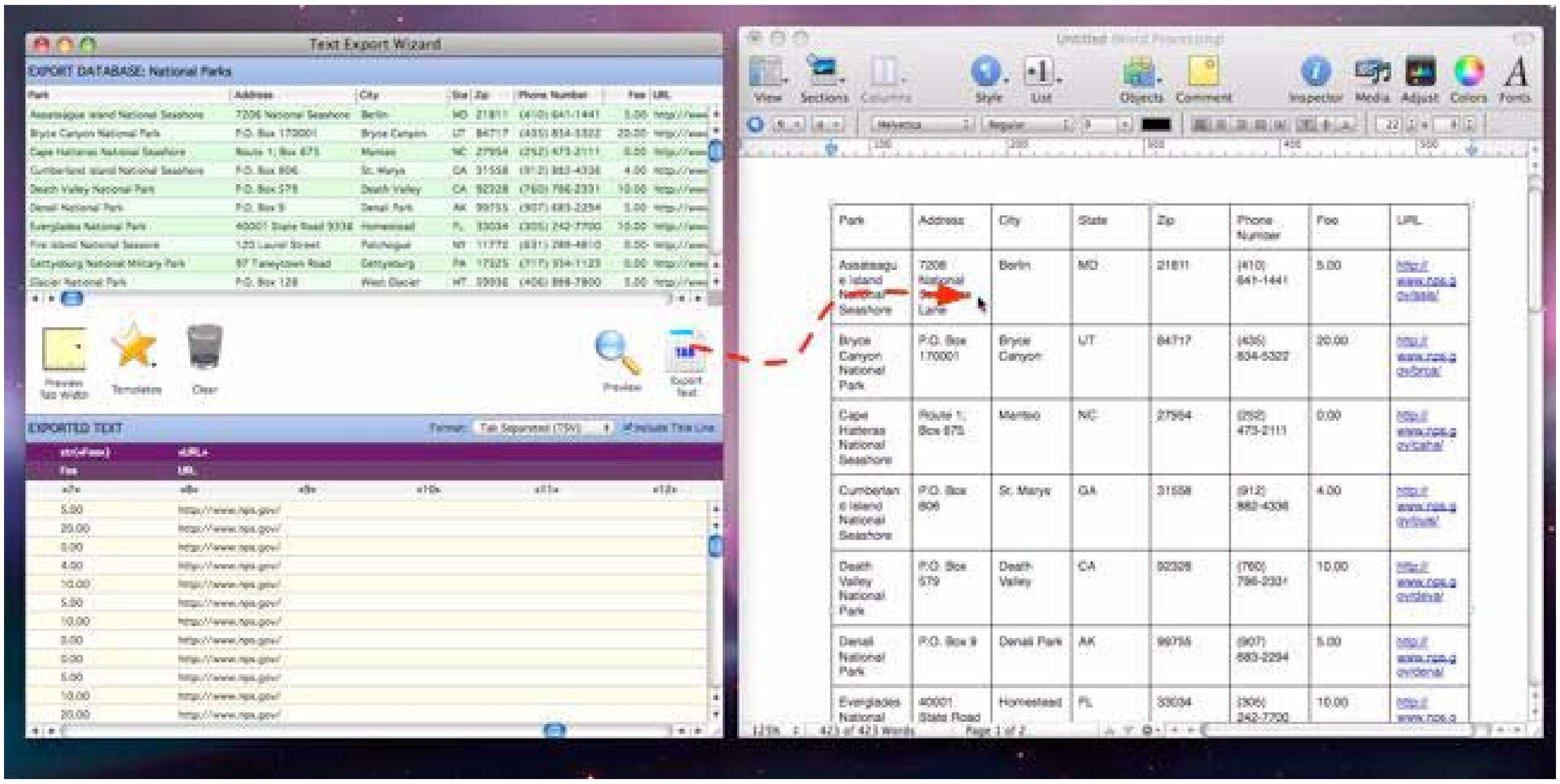
You can also drag onto any application that can receive dropped text. For example, you can drag onto a Numbers spreadsheet, as shown here:


Text Export Wizard

EXPORT DATABASE: Corporate Checkbook

EXPORTED TEXT

Many word processors can also handle tabular data. For example, you could drag exported Panorama data directly into a table in Pages, like this:



Text Export Wizard

EXPORT DATABASE: National Parks

Park	Address	City	Sta	Zip	Phone Number	Fee	URL
Assateague Island National Seashore	7206 National Seashore	Berlin	MD	21811	(410) 641-1441	5.00	http://www
Bryce Canyon National Park	P.O. Box 170001	Bryce Canyon	UT	84717	(435) 834-5322	20.00	http://www
Cape Hatteras National Seashore	Route 1, Box 675	Manteo	NC	27954	(252) 473-2111	0.00	http://www
Cumberland Island National Seashore	P.O. Box 806	St. Marys	GA	31558	(912) 882-4336	4.00	http://www
Death Valley National Park	P.O. Box 579	Death Valley	CA	92328	(760) 786-2331	10.00	http://www
Denali National Park	P.O. Box 9	Denali Park	AK	99755	(907) 683-2294	5.00	http://www
Everglades National Park	40001 State Road 9336	Homestead	FL	33034	(305) 242-7700	10.00	http://www
Fire Island National Seashore	120 Laurel Street	Patchogue	NY	11772	(631) 289-4810	0.00	http://www
Gettysburg National Military Park	97 Taneytown Road	Gettysburg	PA	17325	(717) 334-1124	0.00	http://www
Glacier National Park	P.O. Box 128	West Glacier	MT	59936	(406) 888-7800	5.00	http://www

EXPORTED TEXT   Format: Tab Separated (TSV)   ☑ Include Title Line

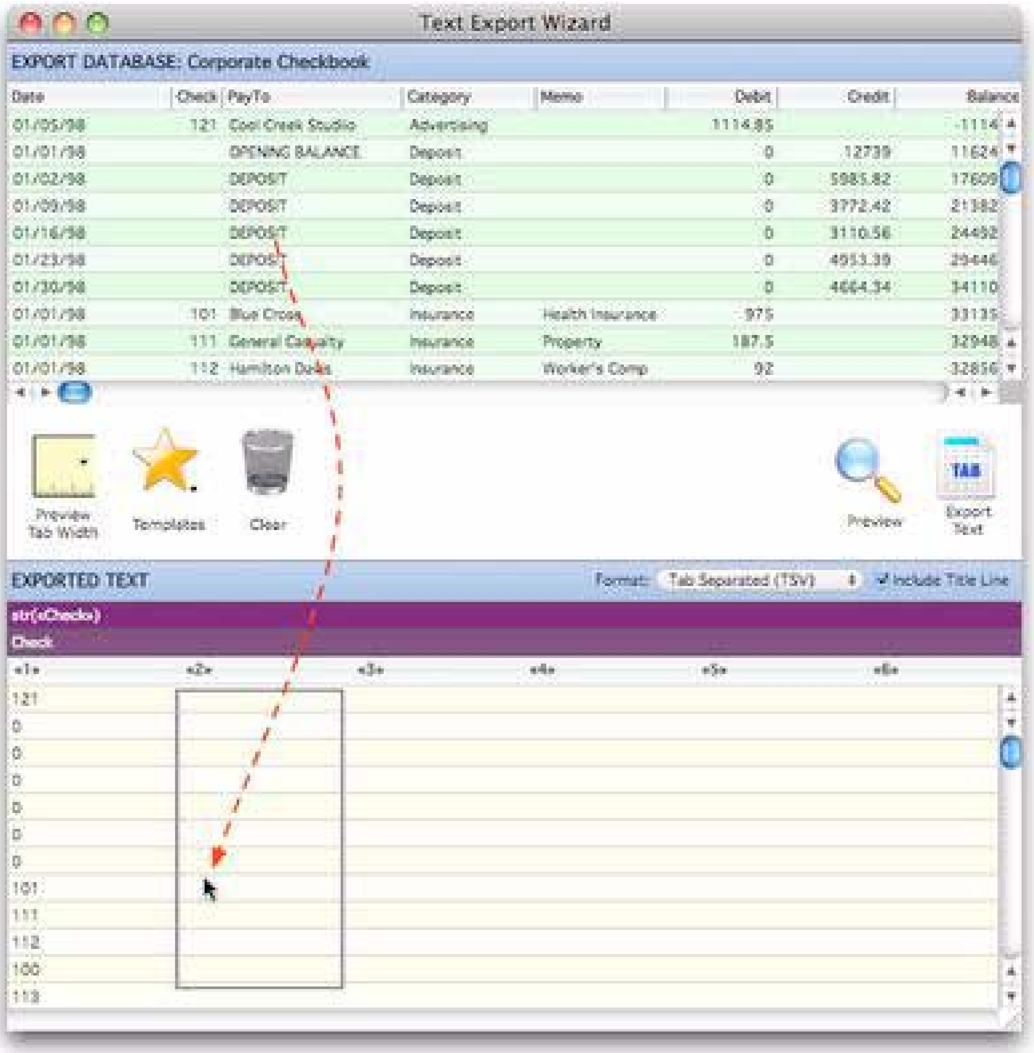
str(«Fee»)	«URL»				
Fee	URL				
«7»	«8»	«9»	«10»	«11»	«12»
5.00	http://www.nps.gov/				
20.00	http://www.nps.gov/				
0.00	http://www.nps.gov/				
4.00	http://www.nps.gov/				
10.00	http://www.nps.gov/				
5.00	http://www.nps.gov/				
10.00	http://www.nps.gov/				
0.00	http://www.nps.gov/				
0.00	http://www.nps.gov/				
5.00	http://www.nps.gov/				
10.00	http://www.nps.gov/				
20.00	http://www.nps.gov/				

Park	Address	City	State	Zip	Phone Number	Fee	URL
Assateague Island National Seashore	7206 National Seashore Lane	Berlin	MD	21811	(410) 641-1441	5.00	http://www.nps.gov/asis/
Bryce Canyon National Park	P.O. Box 170001	Bryce Canyon	UT	84717	(435) 834-5322	20.00	http://www.nps.gov/brca/
Cape Hatteras National Seashore	Route 1, Box 675	Manteo	NC	27954	(252) 473-2111	0.00	http://www.nps.gov/caha/
Cumberland Island National Seashore	P.O. Box 806	St. Marys	GA	31558	(912) 882-4336	4.00	http://www.nps.gov/cuis/
Death Valley National Park	P.O. Box 579	Death Valley	CA	92328	(760) 786-2331	10.00	http://www.nps.gov/deva/
Denali National Park	P.O. Box 9	Denali Park	AK	99755	(907) 683-2294	5.00	http://www.nps.gov/dena/
Everglades National	40001 State Road	Homestead	FL	33034	(305) 242-7700	10.00	http://www.nps.g

If you are using a Windows system, or if you don’t want to drag, just click on the **Export Text** icon instead of dragging. This opens a dialog that allows you to select a location for the exported text. You can also use the **Export** menu to export to a file or to the clipboard (right clicking on the **Export Text** icon also displays this menu.)

Customizing the Export Field Arrangement

When you first open the Text Export wizard it defaults to exporting all of the fields in the database. You can easily customize this if you need a different arrangement. If you want to start from scratch, click on the **Clear** icon (you can always go back to all fields by clicking on the yellow star and choosing **ALL FIELDS** from the Template pop-up menu). Then you can drag fields from the database (top section) to the export (bottom section).



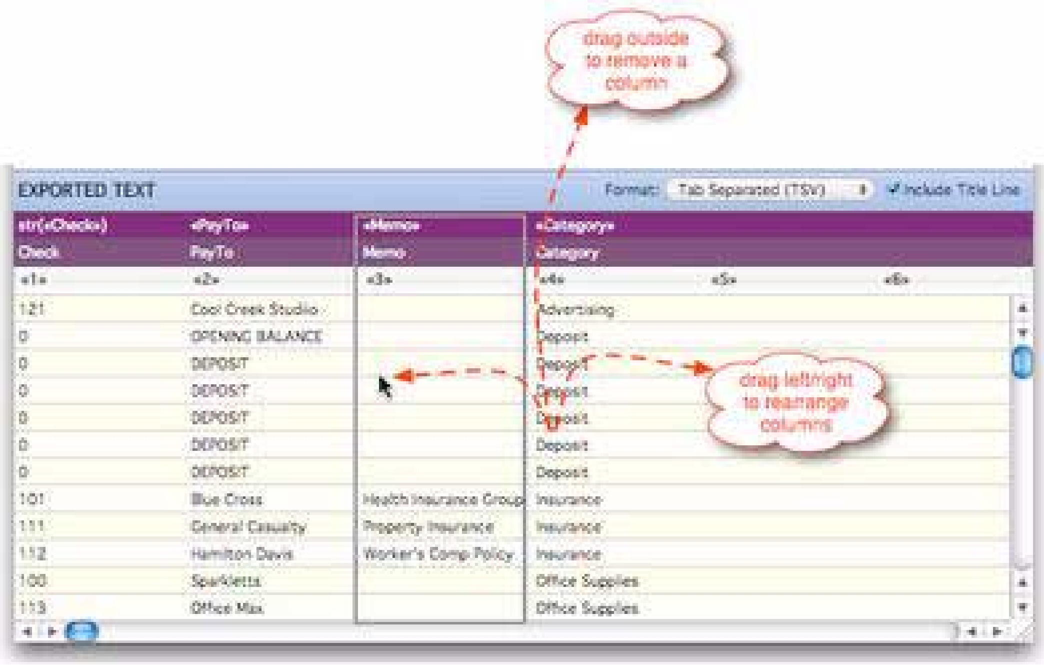
EXPORT DATABASE: Corporate Checkbook

Date	Check	PayTo	Category	Memo	Debit	Credit	Balance
01/05/98	121	Cool Creek Studio	Advertising		1114.85		-1114
01/01/98		OPENING BALANCE	Deposit		0	12739	11624
01/02/98		DEPOSIT	Deposit		0	5985.82	17609
01/09/98		DEPOSIT	Deposit		0	3772.42	21382
01/16/98		DEPOSIT	Deposit		0	3110.56	24492
01/23/98		DEPOSIT	Deposit		0	4953.39	29446
01/30/98		DEPOSIT	Deposit		0	4664.34	34110
01/01/98	101	Blue Cross	Insurance	Health Insurance	975		33135
01/01/98	111	General Casualty	Insurance	Property	187.5		32948
01/01/98	112	Hamilton Davis	Insurance	Worker's Comp	92		32856

EXPORTED TEXT Format: Tab Separated (TSV) ✓ Include Title Line

str(«Check»)					
Check					
«1»	«2»	«3»	«4»	«5»	«6»
121					
0					
0					
0					
0					
0					
0					
101					
111					
112					
100					
113					

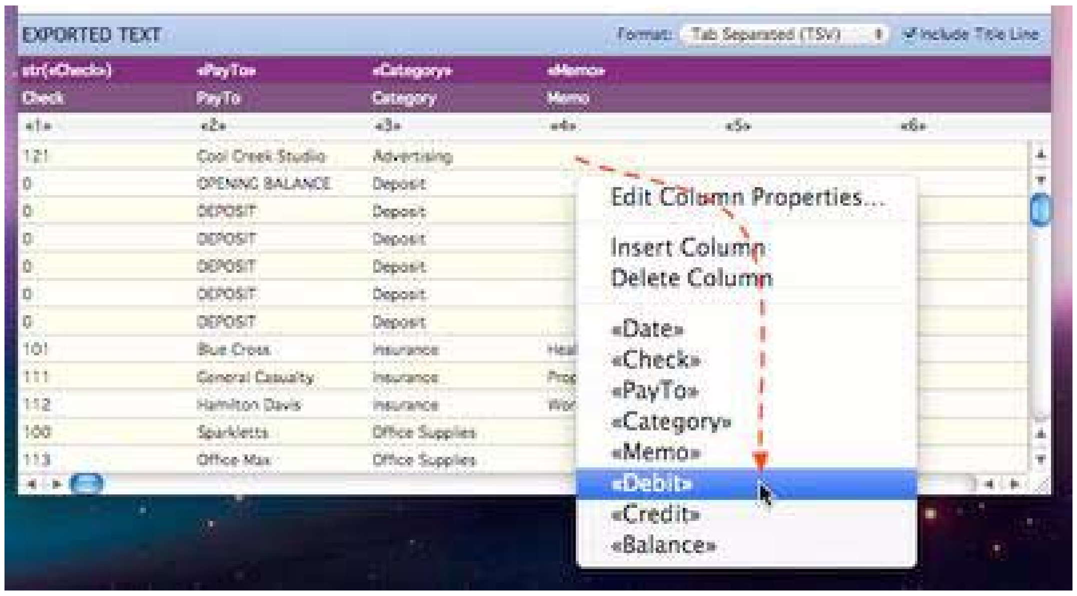
If you make a mistake don't worry, just re-drag the column into the correct spot. Or you can drag a column out of the export area to remove it.


drag outside to remove a column
drag left/right to rearrange columns

EXPORTED TEXT Format: Tab Separated (TSV) ✓ Include Title Line

str(«Check»)	«PayTo»	«Memo»	«Category»		
Check	PayTo	Memo	Category		
«1»	«2»	«3»	«4»	«5»	«6»
121	Cool Creek Studio		Advertising		
0	OPENING BALANCE		Deposit		
0	DEPOSIT		Deposit		
0	DEPOSIT		Deposit		
0	DEPOSIT		Deposit		
0	DEPOSIT		Deposit		
0	DEPOSIT		Deposit		
101	Blue Cross	Health Insurance Group	Insurance		
111	General Casualty	Property Insurance	Insurance		
112	Hamilton Davis	Worker's Comp Policy	Insurance		
100	Sparkletts		Office Supplies		
113	Office Max		Office Supplies		

Another method for setting up the configuration is to right click on an export column. This gives you options for editing the column options (more on that in a moment), inserting a deleting columns, and setting the column to a database field.


EXPORTED TEXT

Format: Tab Separated (TSV)

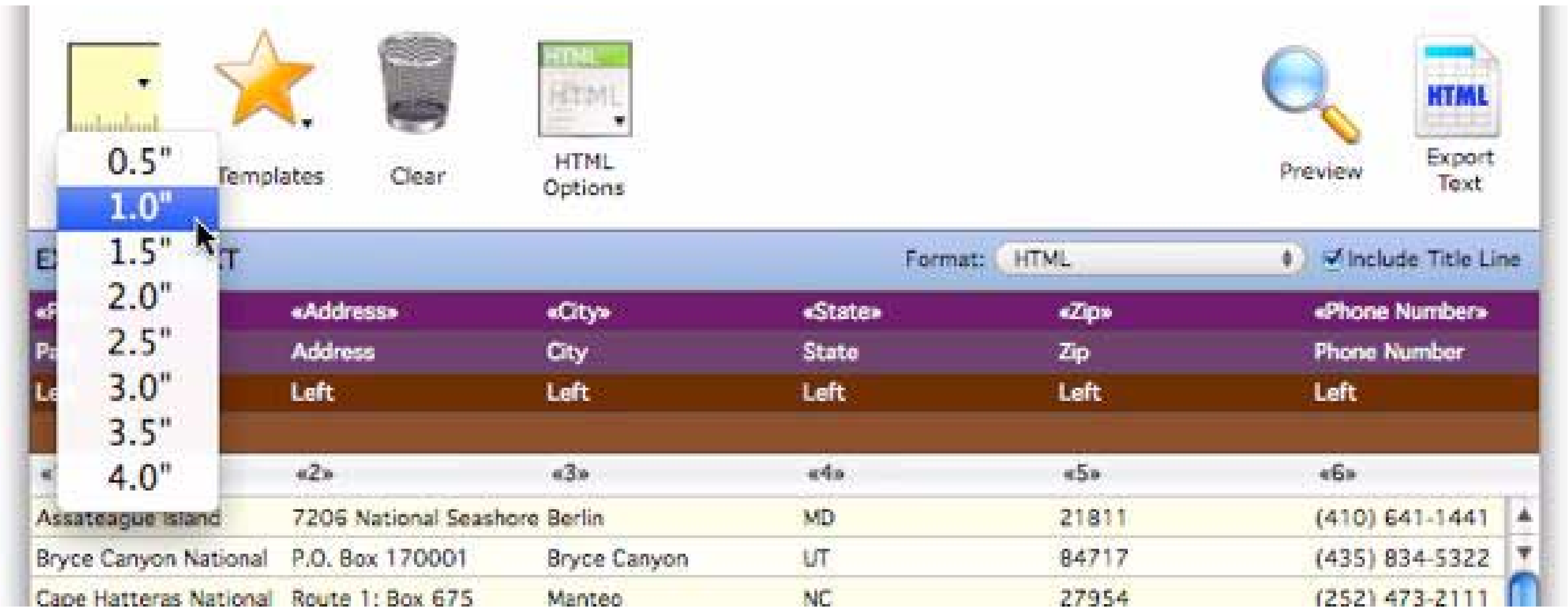
☑ Include Title Line

str(«Check»)	«PayTo»	«Category»	«Memo»		
Check	PayTo	Category	Memo		
«1»	«2»	«3»	«4»	«5»	«6»
121	Cool Creek Studio	Advertising			
0	OPENING BALANCE	Deposit			
0	DEPOSIT	Deposit			
0	DEPOSIT	Deposit			
0	DEPOSIT	Deposit			
0	DEPOSIT	Deposit			
0	DEPOSIT	Deposit			
101	Blue Cross	Insurance	Heal		
111	General Casualty	Insurance	Prog		
112	Hamilton Davis	Insurance	Wor		
100	Sparkletts	Office Supplies			
113	Office Max	Office Supplies			

There is a similar pop-up menu if you right click on a database field.

Preview Tab Width

The wizard defaults to displaying the previewed export columns on 1.5 inch spacings. To change the spacing, click on the **Preview Tab Width** icon and choose the width from the pop-up menu.



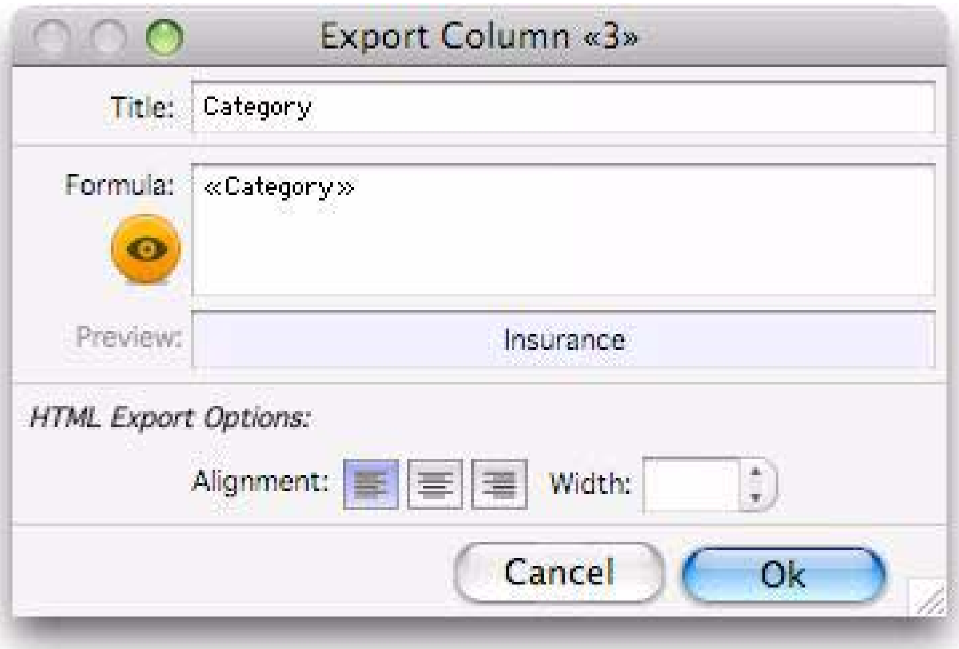
Format: HTML

☑ Include Title Line

«P	«Address»	«City»	«State»	«Zip»	«Phone Number»
Pa	Address	City	State	Zip	Phone Number
Le	Left	Left	Left	Left	Left
«	«2»	«3»	«4»	«5»	«6»
Assateague Island	7206 National Seashore	Berlin	MD	21811	(410) 641-1441
Bryce Canyon National	P.O. Box 170001	Bryce Canyon	UT	84717	(435) 834-5322
Cape Hatteras National	Route 1: Box 675	Manteo	NC	27954	(252) 473-2111

Customizing Export Column Properties

So far we've assumed that the columns in exported text will consist of unmodified database fields -- re-arranged, perhaps, but otherwise unchanged. However, it's possible for Panorama to manipulate the data as it is exported. You can combine two database fields into one exported column, split one database field into two export columns, force to upper or lower case, etc. If the Include Title Line option has been enabled you can also customize the title of each column. To make these changes simply double click on any column in the lower section of the wizard, or right click and choose **Edit Column Properties** from the pop-up menu. This dialog will appear:


Export Column «3»

Title: Category

Formula: «Category»

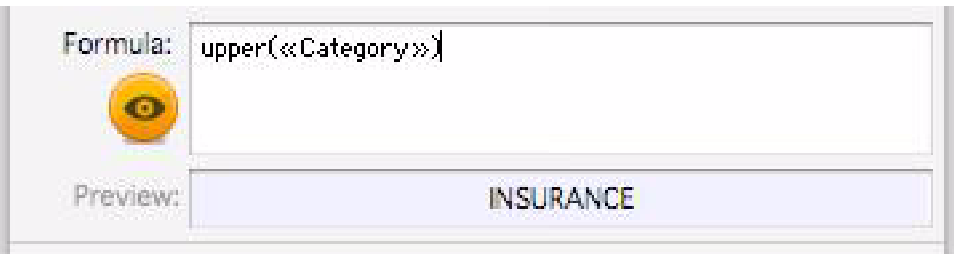
Preview: Insurance

HTML Export Options:

Alignment:

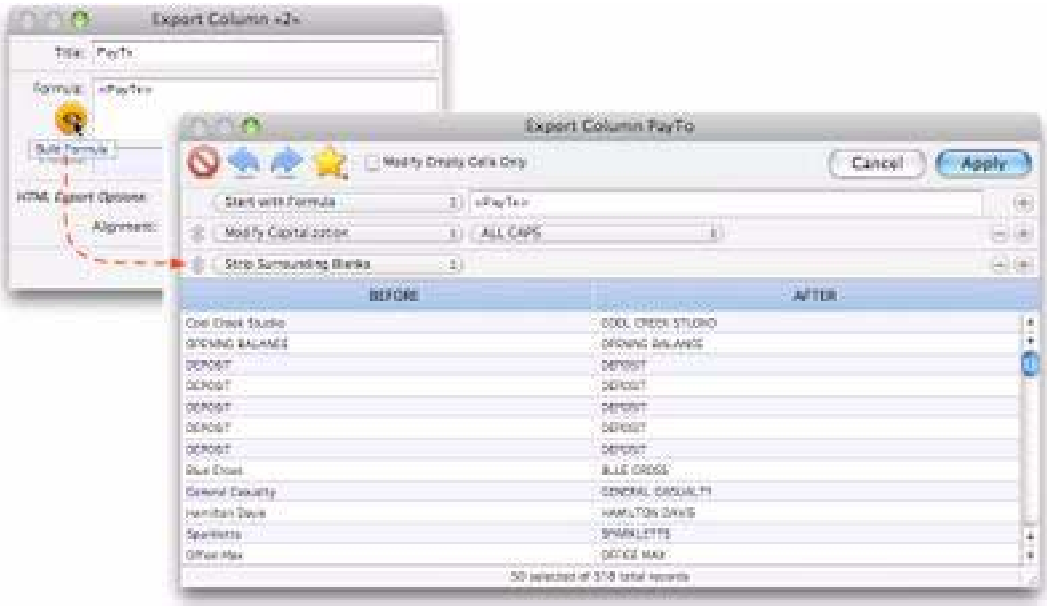
Width:

To manipulate the data as it is being exported, edit the formula. You can use any function or operator as part of the formula. For example, this formula converts the category field to upper case as it is being exported:


Formula: upper(«Category»)

Preview: INSURANCE

For assistance in constructing a formula, press the **Build Formula** icon. This opens the **Manipulate Data** dialog, which you can use to build a formula step-by-step (see “The Manipulate Data Dialog” on page 230).


Export Column «2»

Title: PayTo

Formula: «PayTo»

Export Column PayTo

□ Modify Empty Cells Only

Start with Formula: «PayTo»

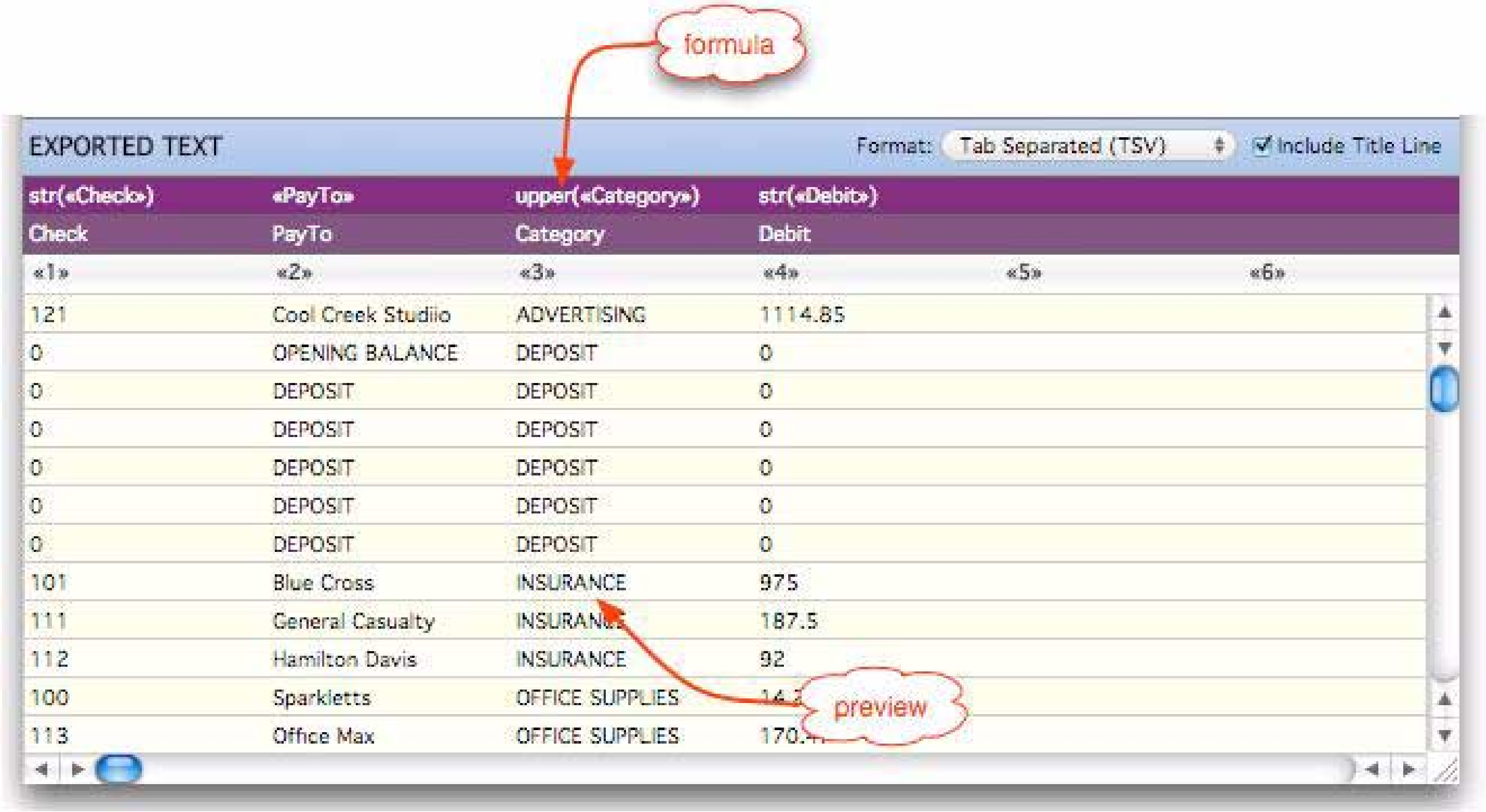
Modify Capitalization: ALL CAPS

Strip Surrounding Blanks

BEFORE	AFTER
Cool Creek Studio	COOL CREEK STUDIO
OPENING BALANCE	OPENING BALANCE
DEPOSIT	DEPOSIT
DEPOSIT	DEPOSIT
DEPOSIT	DEPOSIT
DEPOSIT	DEPOSIT
DEPOSIT	DEPOSIT
Blue Cross	BLUE CROSS
General Casualty	GENERAL CASUALTY
Hamilton Davis	HAMILTON DAVIS
Sparkletts	SPARKLETTS
Office Max	OFFICE MAX

50 selected of 318 total records

When you close the Column Properties dialog the wizard shows a preview of what the manipulated export column will look like (in this case the field is being converted to all upper case as it is exported).

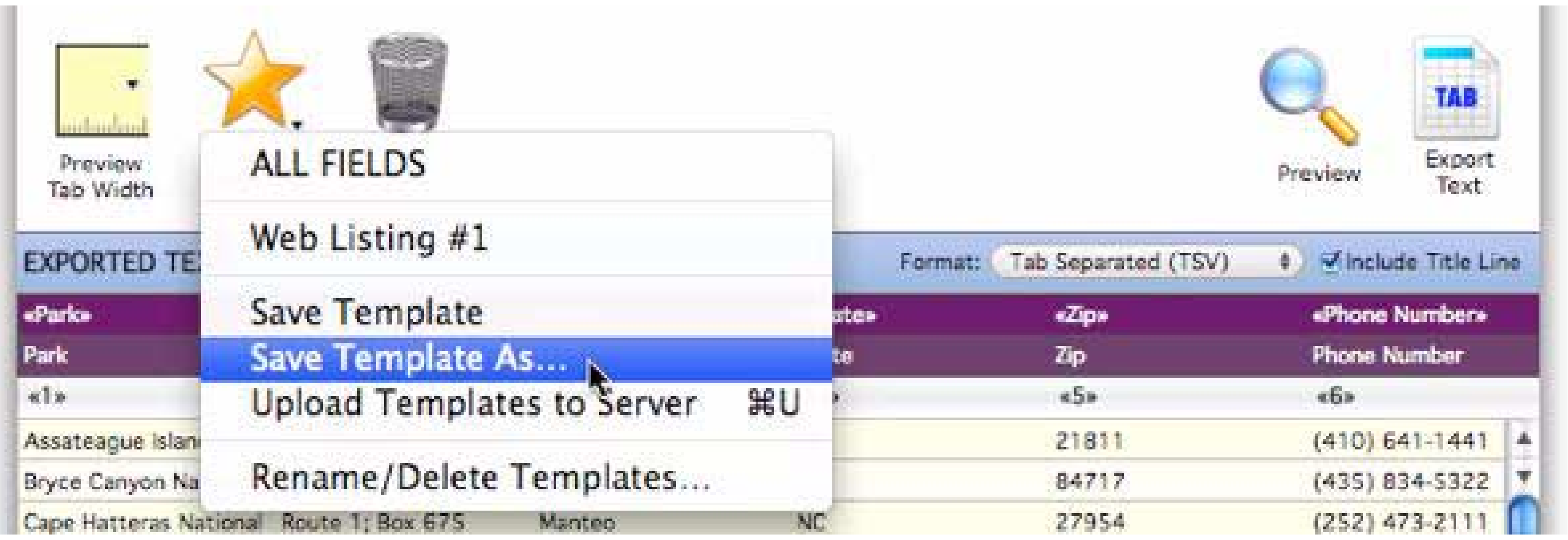


str(«Check»)	«PayTo»	upper(«Category»)	str(«Debit»)		
Check	PayTo	Category	Debit		
«1»	«2»	«3»	«4»	«5»	«6»
121	Cool Creek Studiio	ADVERTISING	1114.85		
0	OPENING BALANCE	DEPOSIT	0		
0	DEPOSIT	DEPOSIT	0		
0	DEPOSIT	DEPOSIT	0		
0	DEPOSIT	DEPOSIT	0		
0	DEPOSIT	DEPOSIT	0		
0	DEPOSIT	DEPOSIT	0		
101	Blue Cross	INSURANCE	975		
111	General Casualty	INSURAN	187.5		
112	Hamilton Davis	INSURANCE	92		
100	Sparkletts	OFFICE SUPPLIES	14.		
113	Office Max	OFFICE SUPPLIES	170.		

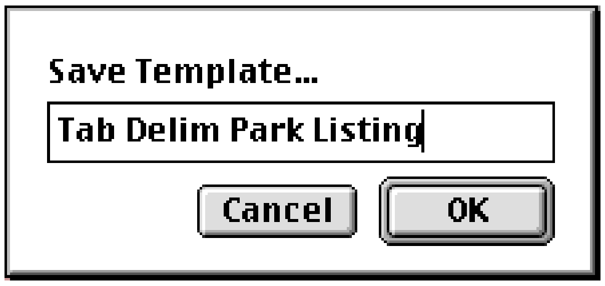
The **Text Export Wizard** allows you to use any valid Panorama formula (see “Text Formulas” on page 294) to create each item.

Export Templates

If you think you’ll need to use an export configuration more than once you can save it as a **template**. The first step is to set up the configuration (as described in the previous section). Once the configuration is set up you can save it with the **Save Template** or **Save Template As…** commands in the **Template** menu. This menu is available in the menu bar or by clicking the yellow star:


Preview Tab Width
Preview
Export Text
TAB
ALL FIELDS
Web Listing #1
Save Template
Save Template As…
Upload Templates to Server ⌘U
Rename/Delete Templates…
EXPORTED TE
Format: Tab Separated (TSV)
☑ Include Title Line
«Park» «Zip» «Phone Number»
Park Zip Phone Number
«1» «5» «6»
Assateague Islan 21811 (410) 641-1441
Bryce Canyon Na 84717 (435) 834-5322
Cape Hatteras National Route 1; Box 675 Manteo NC 27954 (252) 473-2111

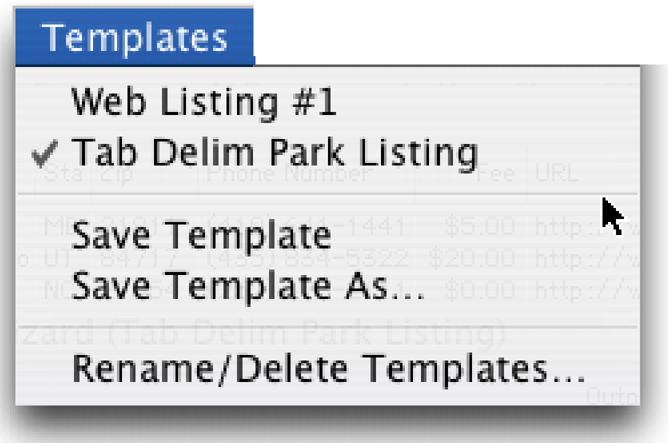
The wizard will prompt you to type in a name for the new template (the default is the name of the text file being imported).



Save Template...

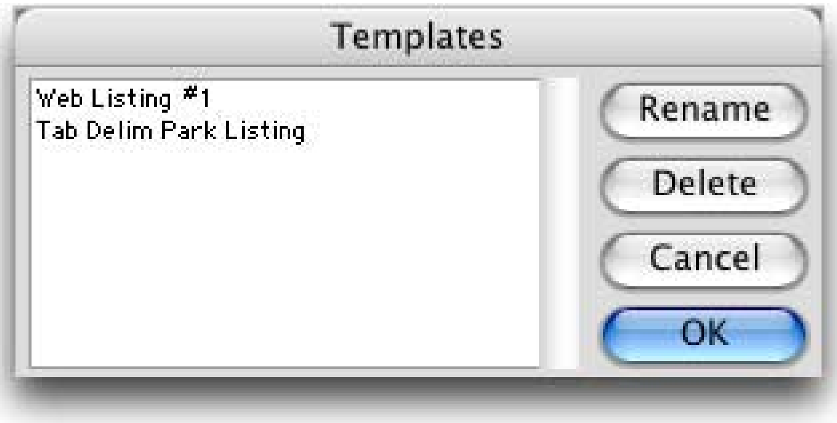
Tab Delim Park Listing

Once a template has been saved you can open it again by selecting it from the Template menu. (Note: The template is actually stored in the database being imported into (in this case National Parks). The template is only available when that database is being exported from. Each database may contain its own separate set of templates, which makes sense since the export configuration used with one database is not likely to work with any other database.)



The wizard loads the entire export configuration, ready to go. You can use the configuration as is or modify it before you actually import the data.

If you want to delete or rename a template choose the **Rename/Delete Templates…** command from the Template menu. To rename a template first click on it and then press the **Rename** button. A dialog appears allowing you to type in a new name. To delete a template press the **Delete** button.



Templates

Web Listing #1
Tab Delim Park Listing

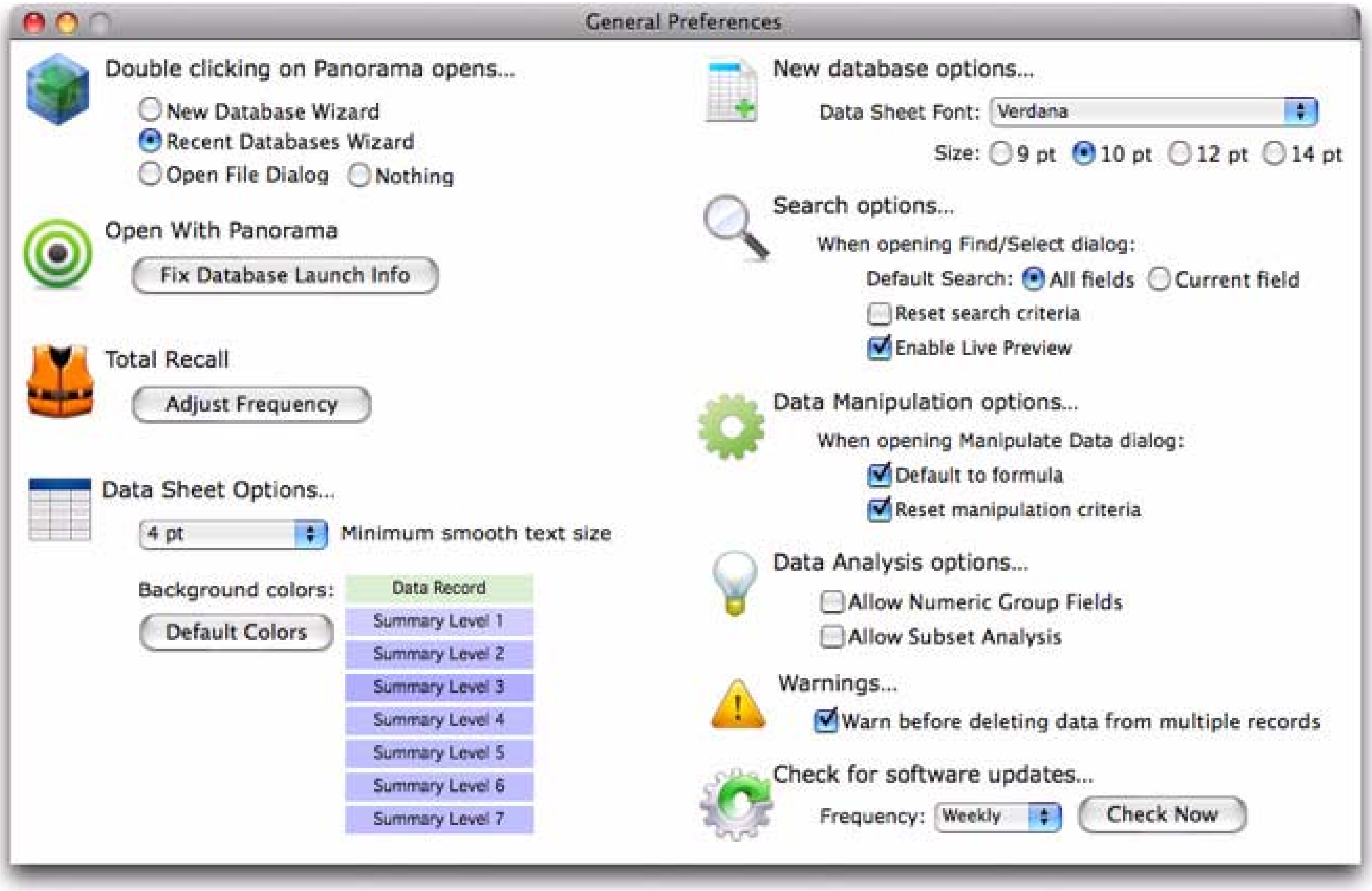
When you are done press the **OK** button.

Choosing a Database to Export From

The **Text Export Wizard** normally exports from database that was active when the wizard was opened. However, you can use the **Database** menu to choose to export from any open database. Simply choose the database you want to export from and then set up the configuration.

Chapter 12: Preferences

Panorama preferences are accesible from the Panorama menu. Choosing **Panorama**-> **Preferences** opens the main preferences window (the exact configuration may vary somewhat):



General Preferences

Double clicking on Panorama opens...

○ New Database Wizard
● Recent Databases Wizard
○ Open File Dialog ○ Nothing

Open With Panorama

Total Recall

Data Sheet Options...

4 pt Minimum smooth text size

Background colors: Data Record, Summary Level 1, Summary Level 2, Summary Level 3, Summary Level 4, Summary Level 5, Summary Level 6, Summary Level 7

New database options...

Data Sheet Font: Verdana

Size: ○ 9 pt ● 10 pt ○ 12 pt ○ 14 pt

Search options...

When opening Find/Select dialog:

Default Search: ● All fields ○ Current field
□ Reset search criteria
☑ Enable Live Preview

Data Manipulation options...

When opening Manipulate Data dialog:

☑ Default to formula
☑ Reset manipulation criteria

Data Analysis options...

□ Allow Numeric Group Fields
□ Allow Subset Analysis

Warnings...

☑ Warn before deleting data from multiple records

Check for software updates...

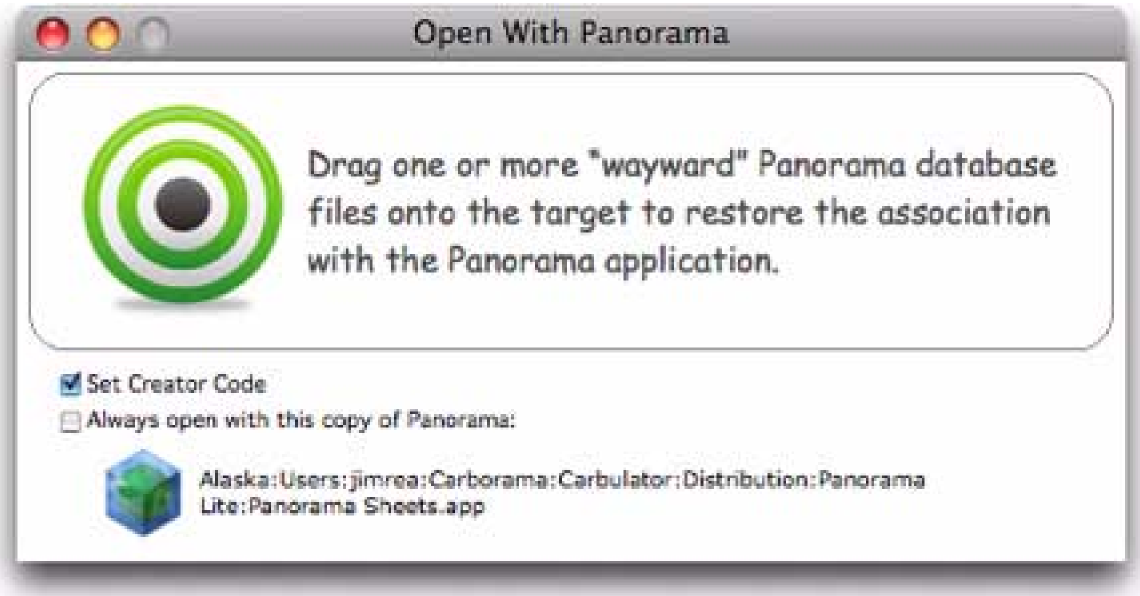
Frequency: Weekly

Double clicking on Panorama opens…

This option controls what happens when you double click on the Panorama application. The most common options are the Recent Databases wizard (allowing you to quickly open previously used databases) and the Open File dialog (this was the default in earlier versions of Panorama.)

Open With Panorama

Clicking on the **Fix Database Launch Info** button opens a secondary window.



Drag one or more "wayward" Panorama database files onto the target to restore the association with the Panorama application.

☑ Set Creator Code

☐ Always open with this copy of Panorama:

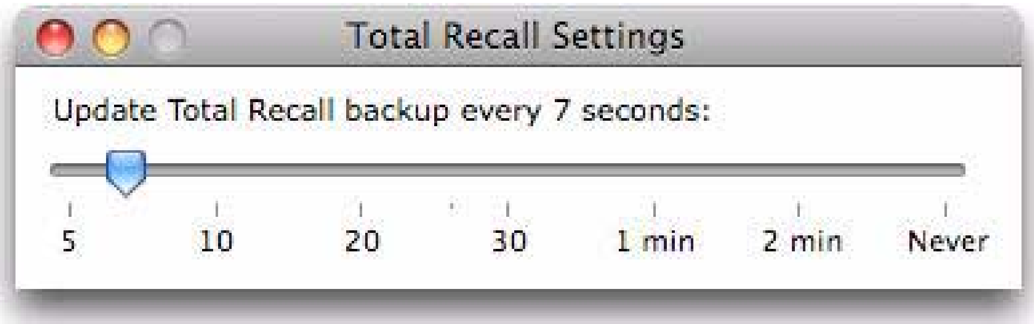
Alaska:Users:jimrea:Carborama:Carbulator:Distribution:Panorama Lite:Panorama Sheets.app

This window can be used on Macintosh computers to fix database files that have lost their connection with Panorama (for example if they have been copied to a PC and back, or even copied on a USB memory stick that is formatted for PC systems instead of Mac systems). Simply drag the files from the Finder onto this window.

There are two options. Set Creator Code tells MacOS that this is a general Panorama database, and will allow it to work with any copy of Panorama. The Always open with this copy of Panorama ties the database to this exact copy of Panorama, even if there are multiple copies of Panorama installed on your system. This is the same as clicking on the file in the Finder, choosing **Get Info**, then using the **Open With** pop-up menu.

Total Recall

Clicking the **Adjust Freqency** button opens a secondary window that allows you to turn **Total Recall** on and off, and to adjust how frequently Total Recall saves memory to the disk.



Update Total Recall backup every 7 seconds:

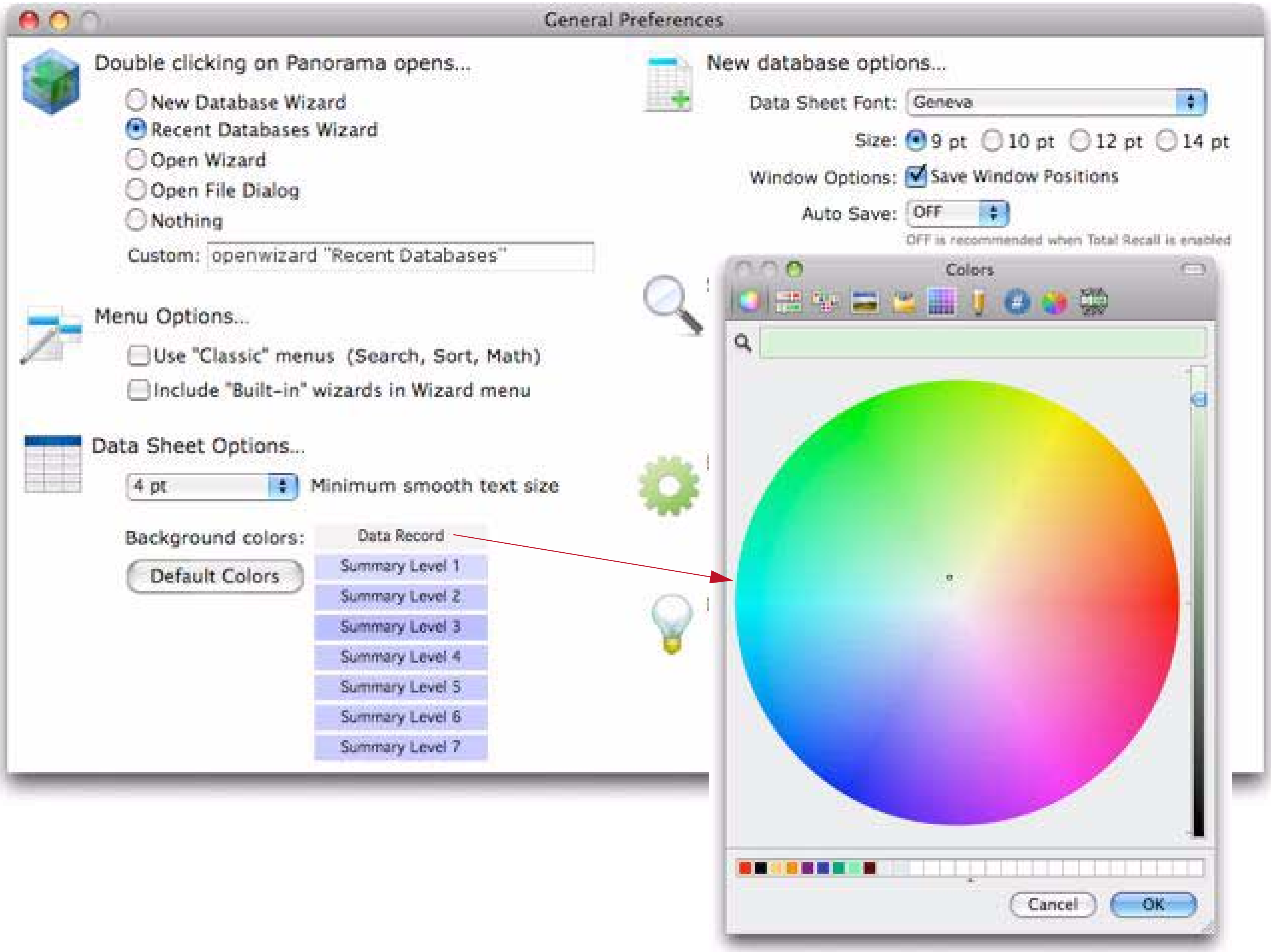
Simply drag the slider to set the time, or to turn the feature completely off. See "Total Recall (Auto-Save/ Crash Recovery)" on page 353 to learn more about this feature.

Data Sheet Options - Minimum Smooth Text Size

This option controls whether or not text in the data sheet is smoothed (this option is for Mac OS X only, on Windows systems it will always be smoothed if smooth text is available). The pop-up menu allows you to choose whether to always smooth, never smooth, or to only smooth above a specified point size.

Data Sheet Options - Background Colors

In the data sheet, Panorama normally displays data cells with a light green background and summary records with various shades of blue. This section of the preferences allows you to change these colors. For example you could change the data background to white, gray or yellow. To change a color simply click on one of the eight color swatches.



General Preferences

Double clicking on Panorama opens...

○ New Database Wizard
● Recent Databases Wizard
○ Open Wizard
○ Open File Dialog
○ Nothing

Custom: openwizard "Recent Databases"

Menu Options...

□ Use "Classic" menus (Search, Sort, Math)
□ Include "Built-in" wizards in Wizard menu

Data Sheet Options...

4 pt Minimum smooth text size

Background colors: Data Record, Summary Level 1, Summary Level 2, Summary Level 3, Summary Level 4, Summary Level 5, Summary Level 6, Summary Level 7

Default Colors

New database options...

Data Sheet Font: Geneva

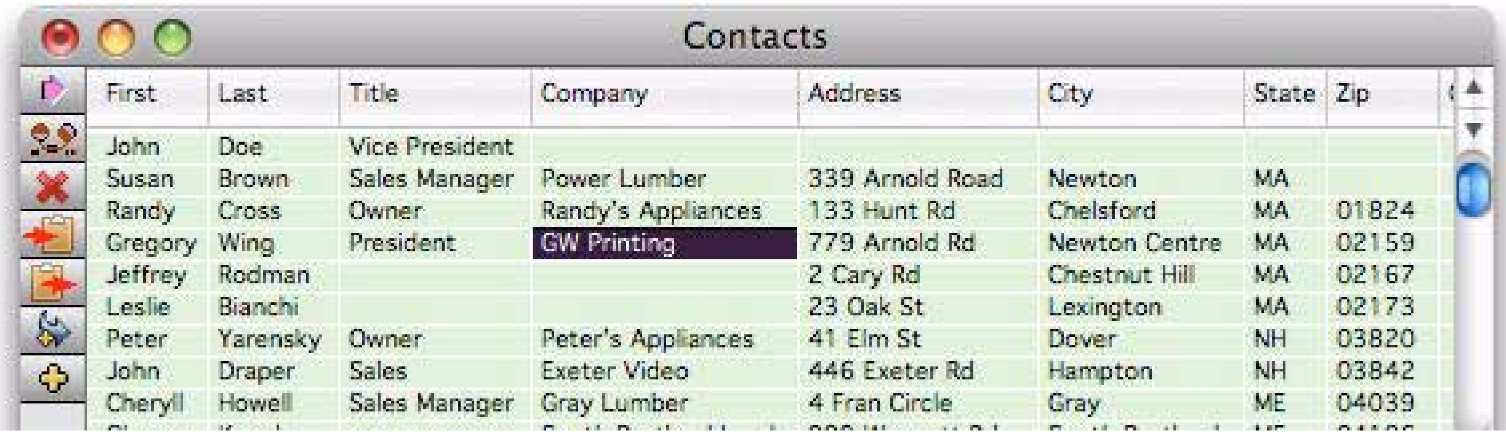
Size: ● 9 pt ○ 10 pt ○ 12 pt ○ 14 pt

Window Options: ☑ Save Window Positions

Auto Save: OFF

OFF is recommended when Total Recall is enabled

Use the color picker to choose the color, then press **OK**. Any open datasheets will update to show the new color.



Contacts

First	Last	Title	Company	Address	City	State	Zip
John	Doe	Vice President					
Susan	Brown	Sales Manager	Power Lumber	339 Arnold Road	Newton	MA	
Randy	Cross	Owner	Randy's Appliances	133 Hunt Rd	Chelsford	MA	01824
Gregory	Wing	President	GW Printing	779 Arnold Rd	Newton Centre	MA	02159
Jeffrey	Rodman			2 Cary Rd	Chestnut Hill	MA	02167
Leslie	Bianchi			23 Oak St	Lexington	MA	02173
Peter	Yarensky	Owner	Peter's Appliances	41 Elm St	Dover	NH	03820
John	Draper	Sales	Exeter Video	446 Exeter Rd	Hampton	NH	03842
Cheryll	Howell	Sales Manager	Gray Lumber	4 Fran Circle	Gray	ME	04039

New Database Options

These options control the font and text size for new databases.

Search Options

These options customize the operation of the **Find/Select** dialog. See "Customizing the Find / Select Dialog" on page 165 for more information.

Data Manipulation Options

These options customize the operation of the **Manipulate Data in Field** dialog. See "Customizing the Manipulate Data Dialog" on page 261 for more information.

Data Analysis Options

These options customize the operation of the **Summarize & Analzye** dialog (see "The Summarize & Analyze Dialog" on page 167).

Allow Numeric Group Fields

The **Summarize & Analzye** dialog normally lists only text and date fields in the group pop-up menu. If you want to list numeric fields also, check this option.

Allow Subset Analysis

The **Summarize & Analzye** dialog normally selects all of the data in the database before peforming the analysis. If you want to be able to analyze a selected subset of a database check this option.

Warnings

The Warn before deleting data from multiple records option controls whether Panorama will warn you (with an alert) before deleting data from multiple records in the database. Since Panorama's Time Lapse feature allows you to recover previous versions of your databases, you may want to turn off this warning.