List *Plus*™

Database Manager for the Apple® IIGS™

Organize and Analyze Information.
Design and Print Custom Reports.
Multiple Windows. Easy to Use.

ACTIVISION

NOTE: The Finder, as mentioned on pages 4
and 12, is not included on the List Plus disk
but is available from Apple Computer, Inc.
List Plus requires at least 768K RAM to run if
booted from the Finder.

List *Plus*™

Database Manager for the Apple® *IIGS*™

List Plus was designed and developed by Dominique Philippine,
with Nancy Philippine, Luc Barthelet, Henri Lamiraux, and
Loic Vandereyken, all of Version Soft, Inc.

Produced by Paul Zuzelo.

Special thanks to Rick Gusa, Kelly Zmak, Keith Orr, and
Corey Nelson.

User's guide by Jeff Schwamberger. Editorial management
by Steven Young.

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List Plus Contents

Contents

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on page 99.

List Plus *Introduction*

List Plus gives you everything you need to create and
organize lists, and to manage and make use of the
information they contain. You can use *List Plus* to create
something as simple as an address book or something as
complex as a system to schedule and keep track of every
room in a school or community center, the time and dates
of every activity there, and the name, address, and phone
number of the person who's responsible for each activity.

List Plus has special features that let you easily handle
specific kinds of information — such as text, numbers,
money, dates, times, and phone numbers. And it lets you do
much more than just store information. You can create
formulas that let you work with information in over 30
functionally different ways (and you can, of course,
combine different functions in the same formula to create a
practically limitless number of ways to manipulate
information). The functions that are available extend from
simple arithmetic operations like addition and subtraction to
the arcane functions of Boolean algebra. You can do such
things as generate random numbers, transform dates into a
form that lets you use them in arithmetic formulas, create
formulas that let you manipulate text, and develop If/Then
equations. The result is that you can not only use *List Plus*
to store information, you can actually create new
information that brings out hidden relationships in the
information you've stored in a list.

List Plus gives you a wide selection of ways to arrange the
information in a list and to extract important information
that might not be obvious from looking at an entire list.

There are a dozen separate ways to match information to extract just the information you need. You can also combine the separate criteria for matching information to perform subtle analyses of the contents of a list. If you find a particularly useful set of information, you can create a new list to store the information in without affecting the original list in any way. You can also create new lists from old ones by transferring entire categories of information from one list to another.

List Plus lets you create up to five different ways you can display or print the same information, and it lets you keep all five different formats immediately at hand. You can switch from any one to any of the others in a single step. You never have to be locked into viewing the same information in a single way. You can use the different formats to print custom reports to tell you at a glance exactly what you need to know or to convince someone else of something only a subtle analysis of the information can demonstrate.

If you own *Writer's Choice elite* or another word processor that works with the Apple IIGS, *List Plus* lets you save lists in a special format that will let you integrate a report you've created directly with a document you've used a word processor to write.

How to Use this Guide

This guide has three sections.

"A Guided Tour of *List Plus*" takes you through all the basic features of *List Plus*. It makes many stops along the way to let you experiment with the program and become familiar with how it works.

The "Reference" section covers every aspect of *List Plus*. It's the place to find anything that isn't covered in the guided tour. The "Reference" section is organized by the way things appear on the screen: the menu functions are listed according to which menu they appear on.

The "Glossary" lists and defines special terms used in the guide that you may not know.

What You'll Need

* An Apple IIGS with at least 512K RAM, with 2.0 ROM installed.

* At least one 3 1/2-inch disk drive.

* A blank disk. It's always best to save the lists you create on a disk other than the *List Plus* program disk.

* A printer, if you want to make printed copies of the lists you create.

Making a Backup Copy of List Plus

Your *List Plus* disk is not copy-protected, so you can make a fully workable backup copy *for your personal use only* or to install it on a hard disk.

Store your original program disk in a safe place and use the backup copy for everyday use; that way, you won't risk damaging your original. And remember, you must be a registered owner to be eligible for support and program updates.

You can use either the Finder or the system utilities on the Apple IIGS System Disk.

Using the Finder

To back up *List Plus* on a floppy disk:

1. Turn on your computer if it isn't already on.

   After a few moments, the Finder appears on the screen.

2. If you have two disk drives, put the *List Plus* program disk in one drive and a blank disk in the other.

   If you have a single disk drive, eject the disk that's there, if there is one, and replace it with a blank disk.

3. If the blank disk you're using isn't initalized, a message box appears that asks you if you want to initalize it. Click the **Initialize** button. A dialog box appears that asks you to name the disk. Type **List**, then click **OK**.

   When the disk is initalized, an icon representing the disk appears on the desktop.

4. If you have a single drive, eject the initialized disk and replace it with the *List Plus* program disk. The disk's icon remains on the desktop, but it's dimmed.

5. Point to the icon of the program disk, hold down the mouse button, and drag the outline of the disk to the dimmed icon of the initialized disk. Release the mouse button.

   A dialog box appears that asks if you want to completely replace the contents of the initalized disk.

6. Click **OK**.

If you have a single drive, the Finder prompts you to switch disks.

A message box appears that tells you how many blocks remain to be copied. The process takes a little over a minute (it takes longer if you have a single drive).

To back up *List Plus* on a hard disk:

1. Turn on the computer if it isn't already on.

   After a few moments, the Finder appears on the screen.

2. Put the *List Plus* program disk in the disk drive.

3. Double-click on both the hard disk icon and the *List Plus* icon to open both of them.

4. Move the pointer to the upper left corner of the *List Plus* icon, hold down the mouse button, and drag down and to the right to draw a selection box around all of the icons in the window. Release the mouse button.

   All the icons are selected.

5. Point to the group of icons, drag them to the hard disk window, and release the mouse button.

All of the files are then copied to the hard disk.

Using the Apple IIGS System Utilities

To back up *List Plus* on another floppy disk, you'll need the Apple IIGS System Disk.

1. From the files on the System Disk, select SYS.UTILS, then SYSUTIL.SYSTEM.

2. From the listing Work on Entire Disks, select Duplicate a Disk.

3. At the prompt Where is your source disk?, enter the slot and drive for your original *List Plus* disk. The slot number will be 5. If you have one drive, the drive number will be 1. If you have two drives, the drive number will be 1 or 2, depending on which drive you have your *List Plus* disk in.

4. At the prompt Where is your destination disk?, enter the slot and drive for the new disk that will be the backup copy.

5. At the prompt Enter Name of New Volume, do not make any changes; you *must* use the default name of /ListPlus/.

6. The program will now format the new disk and make a copy of *List Plus*.

To install *List Plus* on a hard disk, you'll need the Apple IIGS System Disk.

1. From the System Disk, select SYS.UTILS, then SYSUTIL. SYSTEM.

2. Under Work on Individual Files, select Copy Files.

3. At the prompt Where is your source disk? select Slot and Drive, then enter the slot and drive for your original *List Plus* disk. The slot number will be 5. If you have one drive, the drive number will be 1. If you have two drives, the drive number will be 1 or 2, depending on which drive you have your *List Plus* disk in.

4. At the prompt Where is your destination disk?, select Slot and Drive, then enter the slot number and drive number of your hard drive. This information can be found in the installation manual for your hard drive.

5. At Select some or all files on this disk, select All.

The program will now copy *List Plus* onto your hard drive.

Using the Mouse

This guide uses four terms to designate the different ways you can use the mouse. Here's what the terms mean:

Click means position the pointer and then press and quickly release the button on the mouse.

Double-click means position the pointer and then press and quickly release the mouse button twice.

Drag means position the pointer and hold the mouse button down while you move the mouse. You release the mouse button to choose a menu item or to select information.

Press means position the pointer and then hold down the mouse button without moving the mouse.

The Command Key

Throughout this guide, keys are referred to by the name printed on them. This key
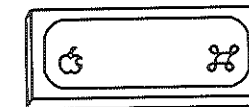
is called the *command* key.

Introduction

A Note on Type Styles

In this guide, **boldface** type is used for words and messages that appear on the screen. Boldface is also used for words you're supposed to type or keys you're supposed to press. For example,

Press *delete*

means that you're to press the key that has the word *delete* printed on it.

Sample Lists

You'll find the following sample files on the *List Plus* disk. The sample files are for use with the examples in the "Guided Tour."

Addresses	Realestate2
AddressBook	Schedule1
Cookies	Terms
Library	Translators
Realestate1	

A Note to the Adventuresome

If you'd prefer to explore *List Plus* on your own instead of working through the guided tour in the first six chapters, there's no reason not to. *List Plus* is simple and straightforward and works the way you'd expect it to.

You'll find in the "Reference" section (pages 99-183) an explanation of every item in every menu — just in case you need help.

▤ *A Guided Tour* ▤ *of* **List Plus**

Chapter 1

Getting Started

Starting List Plus *with the Launcher*

You can start *List Plus* using either the *launcher* or the *Finder.*

Note: Terms that appear in *italics* are explained in the glossary.

There are two ways to start *List Plus* with the launcher. The method you use depends on whether your computer is off or whether it's on and the launcher is on the screen.

Note: If you've set aside memory for a RAMdisk, any list you create has less space for information than without the RAMdisk. You can see how much memory is available by choosing **About** from the **Apple** menu.

If the computer is off:

1. If you have a printer, be sure it's off.

2. Turn on the monitor — but not the computer.

3. Put the *List Plus* disk in the disk drive with the label side up.

4. Turn on the computer (and your printer, if you have one.) The launcher loads into the computer. After a few moments, the launcher appears on the screen. It looks like this:

```
┌─────────────────────────────────────────────┐
│ Select the file you want to open:            │
│ 🖫 /List Plus/                                │
│  ┌──────────────────────┬─┐  ┌───────────┐   │
│  │ List              ⬆ │ │  (   Disk    )   │
│  │ Prodos               │ │                  │
│  │ Samples              │ │  ┌───────────┐   │
│  │ Icons                │ │  (   Open    )   │
│  │ System               │ │                  │
│  │                      │ │  (   Close   )   │
│  │                   ⬇ │ │                  │
│  └──────────────────────┴─┘  (   Cancel   )  │
└─────────────────────────────────────────────┘
```

5. Find **List** on the list. If you don't see it, use the mouse to position the tip of the pointer (the black arrow) on the down arrow (at the bottom right of the list). Click the mouse button to scroll the list up until you find **List**.

6. Position the tip of the pointer on **List** and click the mouse button. **List** is highlighted (it changes from black on white to white on black).

7. Position the pointer on the **Open** button and click the mouse button. *List Plus* starts loading into the computer.

After a minute or two, the title screen appears and then the *desktop.*

The screen should look like the illustration on page 15.

If the launcher is on the screen:

1. The screen looks something like this:

```
┌─────────────────────────────────────────────┐
│ Select the file you want to open:            │
│ 🖫 /List Plus/                                │
│  ┌──────────────────────┬─┐  ┌───────────┐   │
│  │ List              ⬆ │ │  (   Disk    )   │
│  │ Prodos               │ │                  │
│  │ Samples              │ │  ┌───────────┐   │
│  │ Icons                │ │  (   Open    )   │
│  │ System               │ │                  │
│  │                      │ │  (   Close   )   │
│  │                   ⬇ │ │                  │
│  └──────────────────────┴─┘  (   Cancel   )  │
└─────────────────────────────────────────────┘
```

2. If the *List Plus* disk isn't in the drive, eject the disk that's there and replace it with the *List Plus* disk, label side up. Then position the pointer on the **Disk** button and click the mouse button. In a moment, a new list of names appears on the screen.

Note: *Don't* eject a disk when the disk drive is running. Wait until the drive stops, then eject the disk.

3. Find **List** on the list. If you don't see it, use the mouse to position the tip of the pointer (the black arrow) on the down arrow (at the *bottom right* of the list). Click the mouse button to scroll the list up until you find **List**.

4. Position the tip of the pointer on **List** and click the mouse button. **List** is highlighted (it changes from black on white to white on black).

5. Position the pointer on the **Open** button and click the mouse button. *List Plus* starts loading into the computer.

After a minute or two, the title screen appears and then the *desktop*.

The screen should look like the illustration on page 15.
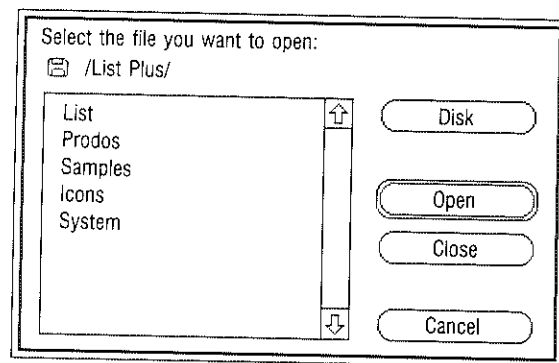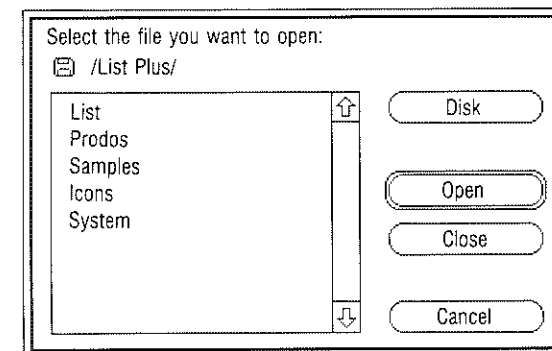
Starting List Plus *with the Finder*

There are two ways to start *List Plus* with the Finder. The method you use depends on whether your computer is off or whether it's on and the Finder is on the screen.

Note: If you've set aside memory for a RAMdisk, any list you create has less space for infomation than without the RAMdisk. You can see how much memory is available by choosing **About** from the **Apple** menu.

If the computer is off:

1. If you have a printer, be sure it's off.

2. Turn on the monitor — but *not* the computer.

3. Put the *List Plus* disk in the disk drive with the label side up.

4. Turn on the computer (and your printer, if you have one). The Finder loads into the computer. After a few moments, the Finder appears on the screen. It looks like this:
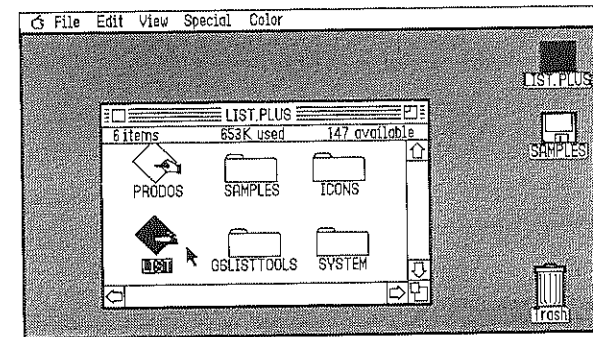
5. Find the *icon* with the word **LIST** beneath it. If you don't see it, use the mouse to position the tip of the pointer (the black arrow) on the right arrow (at the *bottom* of the window). Click the mouse button to scroll the contents of the window to the left until you find the **LIST** icon. If you can't find the **LIST** icon there, point to the left arrow and click the mouse button to scroll the contents of the window to the right.

6. Position the tip of the pointer on the **LIST** icon and *double-click* the mouse button. The **LIST** icon is highlighted (it changes from black on white to white on black). *List Plus* starts loading into the computer.

After a minute or two, the title screen appears and then the *desktop*.

The screen should look like the illustration on page 15.

If the Finder is on the screen:

1. The screen looks something like this:

2. If the *List Plus* disk isn't in the drive, eject the disk that's there and replace it with the *List Plus* disk, label side up.

   Note: *Don't* eject a disk when the disk drive is running. Wait until the drive stops, then eject the disk.

   An *icon* representing the disk appears on the desktop.

3. Position the pointer on the disk icon and *double-click* the mouse button. In a moment, a new window appears containing an icon for each of the files on the *List Plus* disk.
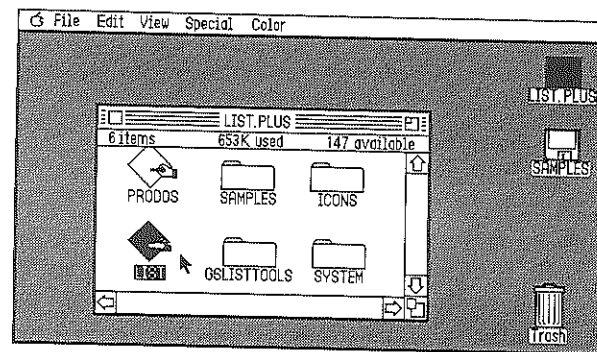
4. Find the icon with the word **LIST** beneath it. If you don't see it, use the mouse to position the tip of the pointer (the black arrow) on the right arrow (at the *bottom* of the window). Click the mouse button to scroll the contents of the window to the left until you find the **LIST** icon. If you can't find the **LIST** icon there, point to the left arrow and click the mouse button to scroll the contents of the window to the right.

5. Position the tip of the pointer on the **LIST** icon and double-click the mouse button. The **LIST** icon is highlighted (it changes from black on white to white on black).

After a minute or two, the title screen appears and then the *desktop*.

The screen should look like this:
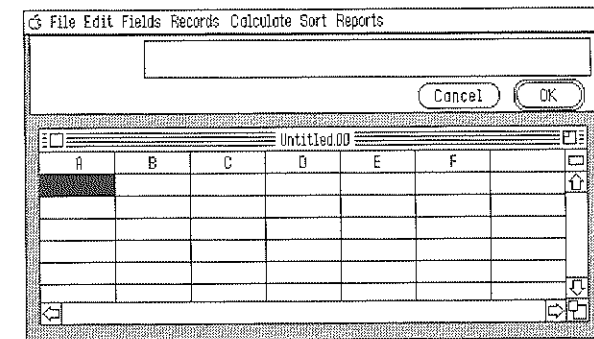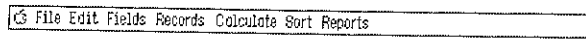
List Plus is now ready for you to use.

The Desktop

List Plus's desktop holds just about everything you need to create any kind of list you can imagine. (In this guide, *list* means any kind of document that's made up of rows and columns — an address list, a class schedule, a spreadsheet, and so on.) The tools you need to create a list, to edit it, arrange the way it looks, and print reports based on the information in it are contained in the menus. You can display each menu by pointing to its name on the *menu bar*, then pressing and holding down the mouse button.

The Menu Bar

Look at the top line on the screen. It looks like this:

```
 File Edit Fields Records Calculate Sort Reports
```

The menu bar contains the eight menus you can choose from when you're using *List Plus*. To see the commands each of the menus contains, point to the name of each menu in turn and hold down the mouse button.

The **Apple** menu (represented by the picture of an apple) displays a clock with the current time and gives you information about the version of *List Plus* you're using. See the "Reference" section for more information about it.

The **File** menu contains the commands, such as **Save** and **Print**, that apply to an entire list. You'll find explanations of the most important commands on the **File** menu later in this chapter, and in Chapter 2, "Making and Using a List," and Chapter 3, "Designing a List."

The **Edit** menu contains commands you use to work with single *cells* and with *rows* of information. Chapter 2, "Making and Using a List," and Chapter 3, "Designing a List," explain how to use those commands.

The **Fields** menu contains the commands that you use to work with *columns* of information. You'll find out how to use those commands in Chapter 3, "Designing a List."

The **Records** menu contains the commands you use to select records from a list and to arrange the way you want records to appear on the screen. Chapter 5, "Manipulating a List," explains how to use them.

The **Calculate** menu contains the commands you use to perform calculations on the information in columns. Those commands are covered in Chapter 4, "Using Calculations and Formulas."

The **Sort** menu contains the two commands you use to arrange all the records in a list in order. Chapter 5, "Manipulating a List," explains how to use them.

The **Reports** menu contains the commands you use to create and print a report based on the information in a list. All those commands are explained in Chapter 6, "Printing a Report."

Windows and Boxes

When you're using *List Plus,* you'll see three different types of elements on the screen: windows, dialog boxes, and message boxes.

Windows. Windows are areas you use to enter, organize, and sort the information in a list. Along with the list window, there's also the data entry window.

The **data entry** window is where you enter information you want to add to a list and where you edit information that's already part of the list. (If you're displaying each record in the list window as a separate form, the data entry window disappears because you can type information and edit it directly on the form itself.)

List Window

Data Entry Window

You can have up to four list windows open at once, and you can use whichever one you want at any time. That's not true of dialog boxes and message boxes. When a message box is on the screen, you have to respond to it before you can do anything else.

Dialog boxes. A dialog box appears when *List Plus* needs specific instructions about a task you've given it before it can carry out the task. For example, you can use a dialog box to name a list you're about to have *List Plus* save; you can also use a dialog box when you want to select part of a list, to identify for *List Plus* which records you want it to select.

Message boxes. A message box appears when *List Plus* has information about the task it's carrying out. For example, it might display a message to tell you the disk you want to save a document on is full, that none of the records in a list match the selection criteria you've specified, or that the syntax of a formula you've created is incorrect.

Syntax error

OK

The List Window

The list window is the part of the screen where the list you're working with appears.
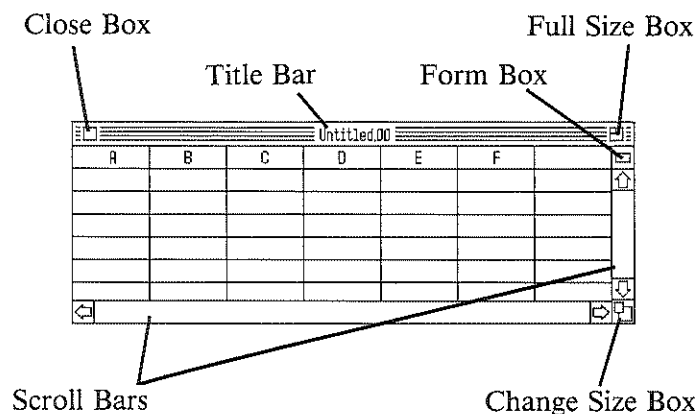
Whenever you start *List Plus,* an empty list window appears on the screen. You can either start a new list in the empty window or open another window that contains a list you've already created. You can have up to four lists open on the screen at the same time.

You can manipulate a list window in several ways. You can change its size, move it to a different part of the screen, move it behind or in front of other windows that are on the screen, and close it. You can also move a list under the list window to display parts of the list that are hidden.

You use the horizontal *scroll bar* to move a list left or right in the list window. You use the vertical scroll bar to move a list up or down in the list window. To use the scroll bars, you point to the scroll box, hold down the mouse button,

and move the box in the direction you want the document to move; or you point to an arrow and click the mouse button.

The *close box* lets you remove a list from the screen. To use the close box, you point to the close box and click the mouse button (be sure to save the list first if you want to keep it).

You use the *full size box* to expand a list window to fill the entire area on the desktop under the data entry window; you also use it to return an expanded list window to its original size. To expand or shrink a list window, you point to the full size box and click the mouse button.

You use the *form box* to switch between displaying the list in the row-and-column format and displaying the list one record at a time with each record on a separate form. To switch between forms and the row-and-column format, you point to the form box and click the mouse button.

When you display each record on a separate form, the data entry window automatically disappears until you switch back to the row-and-column format.

The function of the scroll bars also changes when you display each record on a separate form. The horizontal scroll bar lets you move from record to record, while the vertical scroll bar lets you move from the top to the bottom of a single form.

The *change size box* lets you make a list window any size you want it to be. To change the size of a window, you point to the change size box, press the mouse button, and hold it down. An outline appears around the list window.

You drag the outline of the window until it's the size you want, then release the mouse button. The list window is redrawn in the size the outline indicates.

The Keyboard

The keyboard of the Apple IIGS has all the keys that are standard on computer keyboards plus a few that are unique to the keyboards of Apple computers. The following keys have important functions in *List Plus*:

- *return*
- *shift*
- *delete*
- *tab*
- *caps lock*
- *option*
- *command*

The *option* and *command* keys and the placement of the arrow keys are unique to Apple computers. Make sure you know where they're located.

The special uses that keys have in *List Plus* are explained throughout this guide. If you need information about the usual way that any of the keys function, check the glossary at the back of this guide or "The Mouse and the Keyboard" in the Apple IIGS owner's guide.

Quitting List Plus

If you want to quit *List Plus* at any time, first save the list you're working on (see "Saving a List" in Chapter 2, "Making and Using a List"), then choose Quit from the File menu.

Chapter 2
Making and Using a List

This chapter explains how to enter information in a list, how to edit and sort the information, and how to print the list. The design of the list that you'll be working with in this chapter has been taken care of so you can get started right away (you'll find out how to design a list yourself in Chapter 3). The design is stored in an empty list on the *List Plus* program disk.

If you quit *List Plus* at the end of Chapter 1, restart it.

Opening a List

To get a list that's saved on a disk, you *open* the list. Choose **Open** from the **File** menu: point to **File** on the menu bar, hold down the mouse button, drag the pointer down until **Open** is highlighted, then release the mouse button. The Open dialog box appears.

In the left half of the box is a list of the names of the lists and other files on the disk. The list of names is called a *catalog*. If a catalog has more names on it than can fit in the window, you can scroll the list up and down to see all the names.

Choose **Samples** from the list and click **Open.** Another catalog appears. **Samples** isn't a list or a file, it's a *folder* that contains all the sample lists on the *List Plus* program disk. Notice that the name **Samples** has been added to the line of text next to the disk icon at the top of the dialog box.

Choose **Addresses** from the list and click **Open.** The dialog box disappears, the wristwatch *icon* replaces the pointer for a moment, then an empty address list appears on the screen. It looks like this:
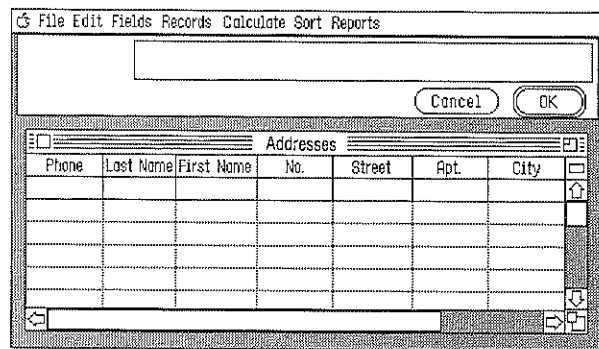
Notice that **Addresses** hasn't erased the list window, **Untitled.00,** that appeared automatically when you started *List Plus.* **Untitled.00** is still on the desktop, but it's behind **Addresses.** You can still see its title bar above **Addresses'.** To see more of **Untitled.00,** point to **Addresses'** title bar and hold down the mouse button. An outline appears around the **Addresses** list window. Drag the outline down. Release the mouse button. The desktop is redrawn with part of **Untitled.00** showing above the top of **Addresses.**

Cells, Rows, and Columns

Every list is constructed out of three basic units: cells, rows, and columns.
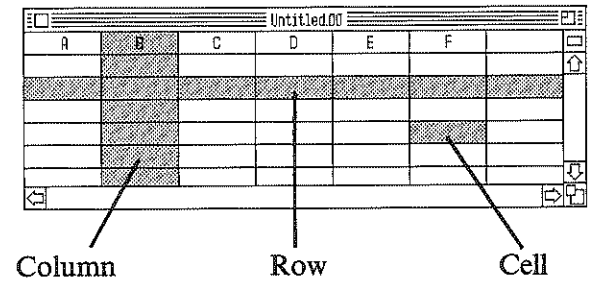
A row runs across a list, a column runs up and down. At a place where a row and column cross, they form a *cell.* A cell is a box where you can put information.

Selecting Cells, Rows, and Columns

Before you can work with a cell, a row, or a column, you have to *select* it.

Selecting a Cell

To select a cell, you point to it and click the mouse button. When a cell is selected, it's black. The first cell in an empty list is automatically selected when it appears.

Try selecting another cell: point to another cell in the same row and click the mouse button. When you do, the cell turns black to indicate that it's selected.

Selecting Rows and Columns

Selecting any cell in a column also selects the entire column. Selecting any cell in a row selects the entire row. The appearance of a column or row doesn't change when it's selected; a column or row is shown to be selected just by the selected cell within it.

Try selecting a cell in any of the rows below the first one, and you'll find out that you can't. You can't select any cell that has gray borders because it's inactive. Only cells with black borders are active.

Activating a Row

To activate the next row in a list, you select any cell in the last active row, then press *return.* Once you've activated a row, it stays active until you delete it (Chapter 3, "Designing a List," explains how to delete both rows and columns).

Activate the second row in **Addresses:** press *return.*

When you activate a row, a black border appears around every cell in it. You can't activate just part of a row. Activating a row means activating every cell in every active column in the row.

Entering Information

To enter information in a list, you first select the cell where you want the information to appear.

To enter information in a cell, you select the cell, then type the information you want to appear in the cell. To make the change final, you press *tab.* The information in the data entry window is then displayed in the cell you selected, and the next cell to the right is automatically selected. (If the cell you entered the information in was in the rightmost column, the cell in the leftmost column is automatically selected.)

Select the first cell in the first row again. You'll notice that the heading for the column is **Phone.** Type this number:

512 555 7093

As you type the number, it appears in the data entry window rather than in the cell you've selected. If you make a mistake, press *delete* to back up and erase it, then retype the number correctly. When you've finished, press *tab.*

The phone number appears in the cell you selected. Take a look at the number. *List Plus* hasn't displayed it exactly as you typed it: List Plus has added parentheses around the three digits of the area code and put hyphens between the three sets of number. You can have *List Plus* automatically display numbers in a variety of ways: as phone numbers, dates, times, and so on (see "Setting Data Display Attributes," in Chapter 3.).

There are three alternatives to pressing *tab* to enter information in a cell:

* You can click the **OK** button instead. If you click **OK**, the information you've entered is displayed in the cell you selected, and the cell remains selected.

* You can press *return*. When you press *return, List Plus* automatically selects the first cell in the row below the one where you were working. If the row below the one where you're working isn't active, *List Plus* activates it.

* You can point to any other cell and click the mouse button. When you do that, the information you've entered is displayed in the cell you selected beforehand, then the cell you're currently pointing to is selected.

Try these other techniques:

First, select the cell under **Last Name** in the first row, if it isn't selected. Type **Hartz,** then point to **OK** and click the mouse button.

Hartz appears in the cell, and the cell remains selected.

Next, press the *right arrow* key.

The cell in the **First Name** column is selected.

Type **Don,** then point to the cell to the right (under **No.**), and click the mouse button.

Don appears in the cell in the **First Name** column, and the cell in the **No.** column is selected.

Categories and Records

You may have noticed by now that columns and rows serve different functions in a list.

Columns represent categories: phone numbers go in the **Phone** column, street numbers go in the **No.** column; last names go in the **Last Name** column, and so on.

Rows, on the other hand, contain specific pieces of information that fit in each of the categories the columns represent: **(512) 555-7093** is a specific phone number, and **Hartz** is a specific last name. Of course, the information that's in a single row all belongs together: the phone number (512) 555-7093 belongs to the person named Don Hartz. A row is also called a *record* because you use a row to record the information that belongs together.

Editing Information

You can edit the information in a cell by changing it (either by deleting part of it or by inserting text or numbers in what's already there), by replacing it with different information, or by erasing the information and leaving the cell empty.

Changing Information

To change the information in a cell, you select the cell to display the information that's currently there in the data entry window. You then point to the entry window where you want to make the change and click the mouse button to place the *cursor* — a blinking vertical line — there. To insert a character, you simply type it; the new character appears at the spot where you've positioned the cursor. To delete a character, you position the cursor to the right of it and press *delete;* the character is erased.

Change the name **Don** to **Dan:** First point to the cell with **Don** in it, and click the mouse button to select the cell. **Don** appears in the data entry window.

Point to the space in between the letters **o** and **n**, and click the mouse button. The cursor appears between the two letters.

Press *delete* to erase the letter **o**, then type **a**. The letter **o** is replaced with **a**, and **Don** becomes **Dan**.

Undoing a Change

You can undo a change with the **Undo** command, but only *before* you make the change final by pressing *return*, clicking **OK**, or selecting another cell. (There are also other changes you can undo with **Undo**; they'll be pointed out as they come up.)

To undo a change, just choose **Undo** from the **Edit** menu.
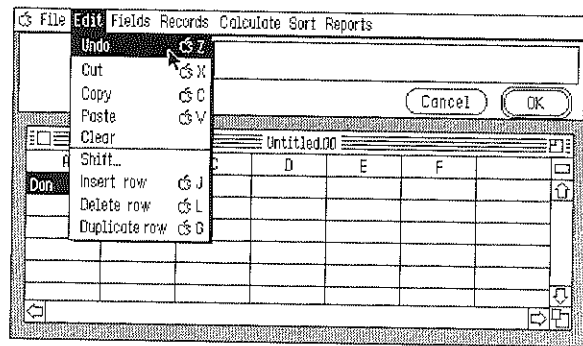
Undo the change you've just made: change **Dan** back to **Don**.

Here's what to do:

Point to **Edit** where it appears on the menu bar, and hold down the mouse button. The **Edit** menu appears.

Keep holding down the mouse button, and as you do, move the pointer down the menu until **Undo** is highlighted. Then release the mouse button. **Undo** flickers, and almost immediately **Dan** changes back to **Don**.

Since you've changed the information in the cell back to what it was originally, you don't have to make the change final. You can just go on to the next thing you want to do.

Replacing Information

You can completely replace information that's currently in a cell with other information in a single step.

To replace information, you select the cell the information is in. When the information appears in the data entry window, you simply type the new information. The old information is completely erased as soon as you finish typing.

Replace **Hartz** with a different last name:

First select the cell **Hartz** appears in. When **Hartz** appears in the data entry window, type **Hearts**. **Hartz** is immediately replaced by **Hearts** as soon as you finish typing.

Click **OK** to finalize the change.

Saving a List

You can save a list any time you want. You need to save the information you've added to the list because the image of the list on the screen lasts only as long as the computer is on. If you turn off the computer without saving the list, you'll lose all the information it contains. When you save a list, it's stored on the disk in the disk drive; it also remains on the screen until you close the list window or quit. The copy stays on the disk until you erase or replace it (for information about erasing a list from a disk, see your system disk guide). You can always get the list back from the disk and display it on the screen again.

It's a good idea to frequently save a list you're working on. That way, if the power goes out, you won't risk losing more than a little of your work.

To save a list, you choose **Save** from the **File** menu. Or you can choose **Save As** if you want to give a list a new name when you save it (for example, you might want to keep the old version of a list you've just made changes to). The only difference between **Save** and **Save As** is that when you choose **Save As,** a dialog box appears that lets you give the list you're saving a new name. **Save,** on the other hand, saves the list automatically with the name it already has. If you're saving a list for the first time (the name in the title bar will be **Untitled** followed by a number), **Save** and **Save As** work exactly the same way.

Give **Addresses** a new name, then save it. First, choose **Save As** from the **File** menu. This dialog box appears:
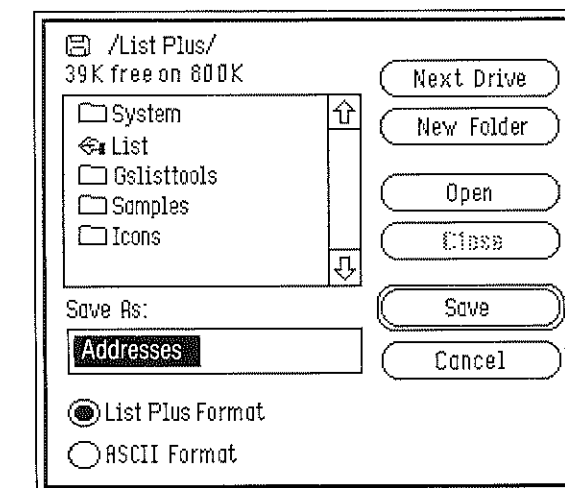
Look at the bottom of the dialog box. **Addresses** appears in the space below **Save As.** The name that appears there is always selected — as **Addresses** is — so that you can replace it just by typing a new name. But in this case, you just want to change **Addresses** to **Addresses1.**

Move the pointer to the right of the last **s** in **Addresses,** and click the mouse button. The cursor appears. Type **1.**

Notice the **Cancel** button in the lower right corner of the dialog box. You can't use Undo to 'unsave' a list once *List Plus* has started to save it (in fact, you can't undo any of the commands on the **File** menu once *List Plus* has started to carry out the command). Instead, you use the **Cancel** button to leave the dialog box without carrying out the **Save As** command.

List Plus takes up most of the space on the program disk, so it's best to save lists on a different disk. Before you save a list, first eject the *List Plus* disk from the drive and replace it with another initialized disk. Or if you have a second disk drive, put another disk in it. (If you need instructions on how to initialize a disk, see your Apple IIGS owner's guide.)

To switch disks:

If you have just one disk drive, make sure the Save As dialog box is on the screen, then press the button on the disk drive to eject the *List Plus* program disk, and replace it with an initialized disk. Point to the **Disk** button in the Save As dialog box, and click the mouse button.

If you have a second disk drive, put a formatted disk in it and click the **Disk** button.

In a moment, the catalog in the Save As dialog box lists the files on the disk (if there are any).

To save **Addresses1**, click the **Save** button. The wristwatch icon replaces the pointer for a moment while *List Plus* saves the list. When the pointer reappears, you can continue working in the list window.

Once you've saved a list with the name you want it to have, you can use **Save** rather than **Save As.** The **Save** command assumes that you want to replace the old version of a list with a new version. If you want to save different versions of a list, use **Save As** and give each version a different name.
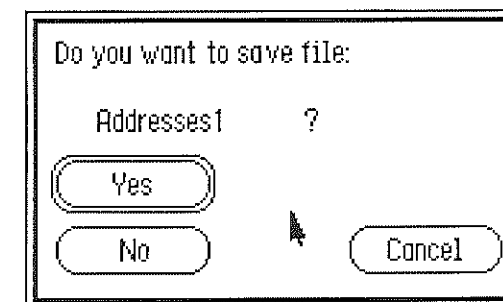
Closing a List

To remove a list from the screen, you *close* the list window. Closing the list window doesn't save the list that's there. If you want to keep the list, you have to save it first.

You close the list window by choosing **Close** from the **File** menu. If more than one window is open on the screen, **Close** closes the one that's active (the *active window* is the one in front of all the others; four horizontal lines appear in its title bar). If you haven't made any changes to the list since you last saved it, the window closes immediately.

But if you've changed the list in some way, the process is different.

To find out how the process is different, add a street number to the first cell in the **No.** column: select the cell, type **471,** and click **OK.**

Now choose **Close** from the **File** menu. A dialog box appears that asks if you want to save the changes you've made.

```
┌──────────────────────────────────────┐
│ ┌──────────────────────────────────┐ │
│ │ Do you want to save file:        │ │
│ │                                  │ │
│ │   Addresses1      ?              │ │
│ │ ╭──────────────╮                 │ │
│ │ │    Yes       │                 │ │
│ │ ╰──────────────╯                 │ │
│ │ ╭──────────╮         ╭─────────╮ │ │
│ │ │   No     │    ▶    │ Cancel  │ │ │
│ │ ╰──────────╯         ╰─────────╯ │ │
│ └──────────────────────────────────┘ │
└──────────────────────────────────────┘
```

If you click **No,** the list window disappears from the desktop, and the changes aren't saved.

If you click **Cancel,** the list window reappears just as it was before you clicked the close box.

If you click **Yes,** the new version of the list is saved, and the list window disappears.

Click **Yes.**

After *List Plus* has saved **Addresses1** in its new form, choose **Close** again. The list window containing **Addresses1** disappears.

Sorting a List

One of the first things you usually do after you create a list is to organize it. Organizing the information in a list is called *sorting*.

To sort a list, you first select the column you want *List Plus* to use as the basis for the organization. For example, for a list of addresses, you'd probably choose the last names of the people on the list. Then you select one of the sort options from the **Sort** menu. There are two options: **Sort Up** and **Sort Down. Sort Up** organizes information from first to last (for example, from A to Z) or from smallest to largest (for example, $1.00 to $99.00). **Sort Down** does the opposite: it sorts from last to first or from largest to smallest. (*List Plus* actually sorts the information in a column according to its ASCII value — unless the column is set up as currency, dates, or time — see "Sorting Information" in Chapter 5, "Manipulating a List," and the Appendix, "ASCII Values," for more information.)

There's a list of a half dozen addresses and phone numbers on the program disk. It's named **AddressBook.** You can use it to see how sorting works.

First open **AddressBook:**

Choose **Open** from the **File** menu. When the dialog box appears, point to **AddressBook** and click the mouse button. Then point to the **Open** button in the dialog box and click the mouse button. In a moment, **AddressBook** appears on the screen.

To sort the records alphabetically according to last names, first select any cell in the **Last Name** column. Then choose **Sort Up** from the **Sort** menu. In a moment, the list is sorted.
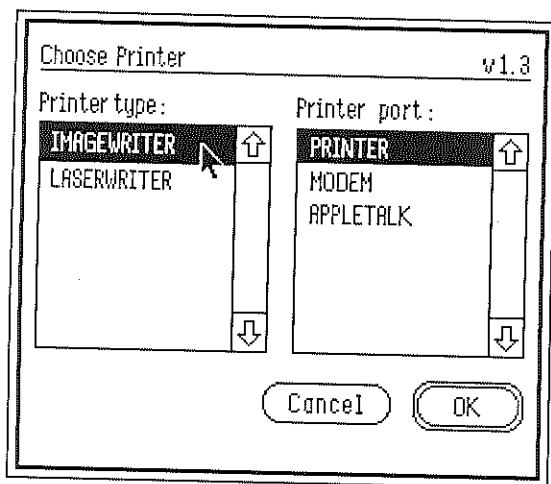
Experiment if you'd like with sorting the list by the information in other columns, then save the list in its new form. (Remember that *List Plus* is actually sorting according to ASCII value; if the results of sorting the list aren't what you expect, check the Appendix.)

Printing a List

Once you've finished a list, you'll want to print a copy of it. But before you print for the first time, you have to let *List Plus* know what type of printer you have connected to your computer and which port the printer is connected to.
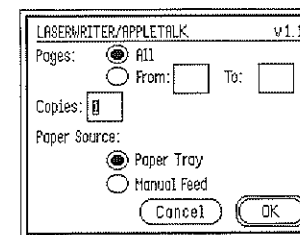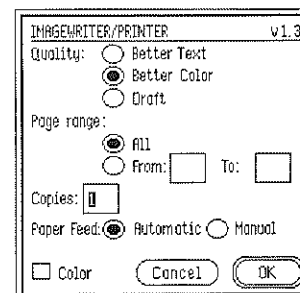
Note: If you're using AppleTalk, see "Choose Printer" in the "Reference" section for important information.

Select **Choose printer** from the **File** menu. This dialog box appears:

```
Choose Printer                    v1.3
Printer type:          Printer port:
IMAGEWRITER      ⇧     PRINTER        ⇧
LASERWRITER            MODEM
                       APPLETALK
                 ⇩                    ⇩
              ( Cancel )   ( OK )
```

If the **Printer type** and the **Printer port** selected match your system, click **OK**. If not, point to the correct printer and port and click the mouse button. When you've selected the printer and port you want, click **OK**. *List Plus* saves the selections that you've made on the program disk, so make sure the write notch on the disk is covered.

To print a list, you choose **Print QuickList** from the **Reports** menu (**Print** is slightly different from **Print QuickList**; for more information, see "Print" in the "Reference" section). A dialog box like one of these appears:

```
IMAGEWRITER/PRINTER          v1.3
Quality:  ○ Better Text
          ● Better Color
          ○ Draft
Page range:
          ● All
          ○ From:[  ] To:[  ]
Copies:[1]
Paper Feed:● Automatic ○ Manual
□ Color   ( Cancel )  ( OK )
```

```
LASERWRITER/APPLETALK        v1.1
Pages:   ● All
         ○ From:[  ] To:[  ]
Copies:[1]
Paper Source:
         ● Paper Tray
         ○ Manual Feed
              ( Cancel )  ( OK )
```

The options in the dialog box differ depending on whether you're using an ImageWriter or a LaserWriter. If you want detailed information about the options in the Print dialog box, see "Choose Printer" in the "Reference" section.

To print **AddressBook,** first make sure your printer is connected to the computer, turned on, and on line. Choose **Print QuickList** from the **Reports** menu. Leave all the options displayed in the dialog box set as they are. Click **OK**. **AddressBook** is printed, and the dialog box disappears from the screen.

List Plus Chapter 3
Designing a List

If you used *Paintworks Plus, Writer's Choice elite,* and *Draw Plus,* you know that they require almost no set up of any kind. You can start painting a picture, composing a document, or creating a drawing as soon as the program starts. That's also true of *List Plus,* but to a lesser extent. While you can use a list just as it is when it first appears on the screen, you can organize information much more thoroughly if you give the list itself structure.

This chapter explains how to structure a list and how to arrange the way it looks on the screen.

If you quit *List Plus* at the end of the last chapter, start it again.

Creating a New List

To create a new list, you use the **New** option on the **File** menu.

In this chapter, you're going to create the kind of list you can use to schedule various activities going on at the same time in the spaces available.

Start by creating a new list: choose **New** from the **File** menu.

An empty list appears on the screen.

Naming a Column

Notice that the columns on the new list are labeled **A** through **F**. To give a column a name, you first point to the cell that contains the column's name and double-click the mouse button. The column's current name appears in the data entry window, where you can edit or change it just like any other item of information. Once you've typed the name you want to give the column, you accept it and transfer it to the head of the column by clicking **OK**, pressing *return,* or selecting another column.

Name the first column (the one currently labeled **A**) *Place:*

Point to the cell that **A** is in and double-click the mouse button. Notice that even though the cell itself doesn't turn black to show it's selected like a normal cell, **A** appears in the data entry window, and the text in the lower left corner of the data entry window changes to **Column name.** The screen looks like this:
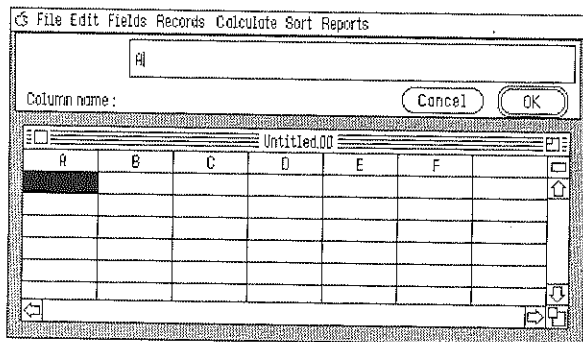
Point to the letter **A** displayed in the data entry window and double-click the mouse button. The letter is selected. You can erase and replace it at the same time just by typing the new heading for the column: type **Place.** Press *return,* and **Place** appears at the top of the first column.

Follow the same steps to rename column B *Class.* Then, type **114** under **Place,** and **Creative Writing** under **Class.**

Save the list, and name it *Schedule.*

Changing the Width of a Column

Creative Writing isn't completely visible in the **Class** column because the column isn't wide enough. To change the width of a column, you move the pointer to the cell that contains the column's name, then point to the line that separates the column from the column to its right. For example, to change the width of column A, you point to the line between column A and column B.
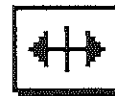
The pointer changes to a double-headed arrow that crosses a vertical line.

If you want to make the column narrower, you hold down the mouse button and move the double-headed arrow to the left. If you want to make the column wider, you hold down the mouse button and move the double-headed arrow to the right. A dotted line appears to show you how wide the

column will be when you release the button. When you've indicated the width you want, you release the mouse button. The column and all the columns to the right of it are redrawn, and the column's name is centered.

To make the **Class** column wide enough to accommodate **Creative Writing,** first move the pointer to the row that contains the column names, then point to the line between the **Class** column and column C. When the double-headed arrow appears, press the mouse button. A dotted line appears (or will appear as soon as you move the mouse). Keep holding down the mouse button, and move the double-headed arrow to the right until it's over the letter **C** in column C. Then release the mouse button. The **Class** column and all the columns to the right of it are redrawn.

Setting Attributes

List Plus lets you limit the kind of information that can be entered in a column, and it also lets you choose the format in which you want it displayed. For example, you can enter a date like this:

> September 14, 1987

or like this:

> 9/14/87

The information in either format is the same, but if you choose the second format and limit the information that's entered to numbers, *List Plus* recognizes the information as a date. Since it recognizes the information as a date, it can also manipulate the information as a date rather than just a series of numbers.

Setting Entry Attributes

"Setting entry attributes" means to select the kind or amount of information that *List Plus* will accept for a given column. There are four different kinds of information that *List Plus* recognizes:

Alphanumeric. The letters *A* through *Z* (both upper- and lowercase), the digits *0* through *9,* punctuation marks, and symbols (such as the ampersand (&), the asterisk (*), and so on). Alphanumeric is the setting for every column unless you choose a different setting.
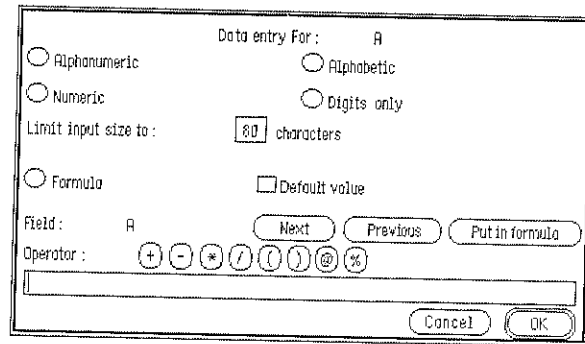
Alphabetic. Only the letters *A* through *Z* (both upper- and lowercase) and spaces.

Numeric. Only numbers, the decimal point (.), the plus (+) and minus (−) signs, and spaces.

Digits only. Only the digits *0* through *9.*

You might limit information to alphabetic characters if you wanted a column to be sorted strictly alphabetically (remember that numbers and symbols affect the order in which records are sorted). You'd want *List Plus* to screen out everything but numeric information for a column where you were recording amounts of money. And if you had a column you intended to use for dates, you'd want to limit information to digits only.

To select the kind of information you want *List Plus* to accept for a column, you select the column, then choose **Set data entry attibutes** from the **Fields** menu. This dialog box appears:

Data entry For :   A
○ Alphanumeric   ○ Alphabetic
○ Numeric   ○ Digits only
Limit input size to :   [80] characters

○ Formula   ☐ Default value

Field :   A   (Next) (Previous) (Put in formula)
Operator :   ⊕ ⊖ ⊛ ⊘ ⊙ ⊙ ⊚ ⊗

(Cancel) (OK)

The four attributes you can choose from are in the upper half of the box. (You use the bottom half of the box to create formulas; see "Formulas" in Chapter 4, "Using Calculations and Formulas," for information.)

To choose an attribute, you point to the button next to the one you want and click the mouse button. The dot that appears indicates that the attribute is chosen. Then you click **OK.** The dialog box disappears from the screen.

Try this example:

Column C is for the date that the course in the **Class** column starts. First, change the name of column C to *From:*

Point to column C and double-click the mouse. Erase **C** from the data entry window and replace it with **From,** then click **OK.**
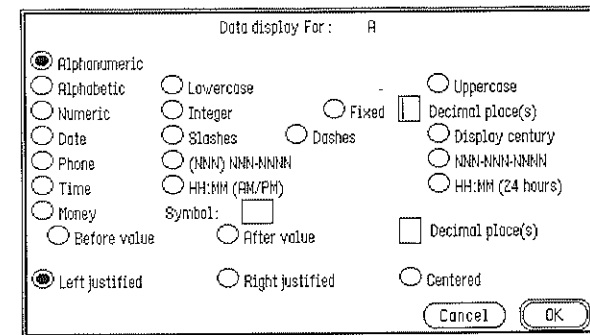
Choose **Numeric** as the data entry attribute:

Choose **Set data entry attributes** from the **Fields** menu. When the dialog box appears, point to the button next to **Numeric** and click the mouse button. Then click **OK.**

When the list reappears on the desktop, try entering letters, symbols, and punctuation marks in the cell below **From.** *List Plus* won't recognize anything but numbers.

Setting Data Display Attributes

The display attribute that you select for a column determines the format the information in the column will appear in. It also determines if *List Plus* can manipulate the information in any special way. For example, even if you enter a date in numbers, *List Plus* won't treat the information as a date if you don't also select **Date** as the display attribute.

To select a display attribute, you select a column, then choose **Set data display attributes** from the **Fields** menu. This dialog box appears:

Data display For :   A
◉ Alphanumeric
○ Alphabetic   ○ Lowercase   -   ○ Uppercase
○ Numeric   ○ Integer   ○ Fixed ☐ Decimal place(s)
○ Date   ○ Slashes   ○ Dashes   ○ Display century
○ Phone   ○ (NNN) NNN-NNNN   ○ NNN-NNN-NNNN
○ Time   ○ HH:MM (AM/PM)   ○ HH:MM (24 hours)
○ Money   Symbol: ☐
  ○ Before value   ○ After value   ☐ Decimal place(s)

◉ Left justified   ○ Right justified   ○ Centered
(Cancel) (OK)

You then point to the button next to the attribute you want and click the mouse button. You may also have to make some other, secondary choices. Finally, you click **OK,** and the dialog box disappears.

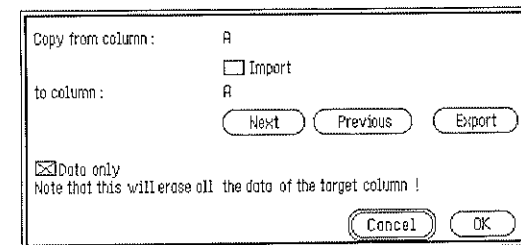Choose **Date** as the display attribute for the **From** column, then add a date to it:

Select the **From** column, then choose **Set data display attributes** from the **Fields** menu. When the dialog box appears, choose **Date**. Notice that **Slashes** and **Right justified** are automatically chosen. **Slashes** means that the numbers of the date are separated by slashes, like this: 9/14/87. You can also choose **Dashes** (for example, 9-14-87) and to display the century (9-14-1987) if you want. When you've made the selections you want, click **OK**. The dialog box disappears.

When the list reappears, select the cell just below the heading **From**, and type **91487**. Don't add slashes or dashes; *List Plus* adds them automatically (in fact, *List Plus* won't recognize them if you type them). When you've finished, click **OK**, and the numbers appear in the cell formatted as a date.

Duplicating Attributes

If you're creating one or more columns that have the same attributes, you can duplicate the attributes you've given to the first of the columns and then transfer the attributes all at one time to any of the other columns. To make the transfer, you use the **Duplicate column** option on the **Fields** menu. (You can also use **Duplicate column** to copy all the information in a column to another column; see "Transferring Information Between Lists" in Chapter 5, "Manipulating a List.")

To duplicate attributes, you first select the column whose attributes you want to duplicate, then choose **Duplicate column** from the **Fields** menu. This dialog box appears:

```
Copy from column:       A
                        ☐ Import
to column:              A
                   ( Next )  ( Previous )    ( Export )

☒ Data only
Note that this will erase all the data of the target column !
                              ( Cancel )  ( OK )
```

The name after **Copy from column** is the column whose attributes you're copying. The name after **to column** is the column you're copying the attributes to. When the dialog box first appears, the name after **to column** and the one after **Copy from column** are the same. To change the name after **to column** to the name of the column you want to copy the attributes to, you click either the **Next** button or the **Previous** button. **Next** displays the name of the column to the right of the one whose name is currently displayed. **Previous** displays the name of the column to the left of the one whose name is currently displayed.

Notice that the check box next to **Data only** has an **X** in it. The **X** means that *List Plus* will copy only the information in the column, not its data entry and display attributes. To remove the **X**, you point to the check box and click the mouse button. (Since there's no information in the column yet, *List Plus* copies only the column's attributes when you remove the **X** from the check box.) Finally, click **OK**.

The column to the right of **From** is also going to hold a date — the date when the course named in the **Class** column ends. Duplicate the **From** column on column D:

First, select the **From** column, then choose **Duplicate column** from the **Field** menu. When the dialog box appears, click the **Next** button to change the name after **to column** to **D.** Point to the check box next to **Data only,** and click the mouse button to remove the X in it. Then click **OK.**

Notice that the name of column D has changed to **From.** Change the name to *To:*

Select the new **From** column, then point to the name **From** in it, and double-click the mouse button. **From** appears in the data entry window. Type **To,** then click **OK.** The heading of the new **From** column changes to **To.**

Select the cell below **To,** and enter **121887.**

Before you go on to the next section, name and format columns E and F:

Rename column E *Instructor.* Select column E, point to **E** in the heading cell, and double-click the mouse button. Type **Instructor,** and click **OK.**

Format the **Instructor** column for a name. Choose **Set data entry attributes** from the **Fields** menu, select **Alphabetic** from the dialog box, then click **OK.** Then select **Set data display attributes** from the **Fields** menu, select **Alphabetic** from the dialog box, and click **OK.**

Enter **Susan Munroe** in the first cell of the column. Adjust the width of the column so that the entire name is visible.

Repeat the same steps for column F: rename it *Work Phone,* then select **Digits only** for its data entry attribute and **Phone** for its data display attribute.

Enter **206 555 6381.** Adjust the width of the column so that the entire number is visible.

Adding and Deleting Columns

When a new list first appears on the desktop, it's made up of only six columns. When you need more columns, you can create more either by adding a column to the right of the last column or by inserting a column in between two that already exist.

Adding a Column

To add a column, you choose **Add column** from the **Fields** menu, then type a name for the column in the data entry window, and press *return.* You don't have to select a column or position the pointer first, because the column you add is always placed to the right of the list's rightmost column.

Add a column to **Schedule:** choose **Add column** from the **Fields** menu. The cursor appears on the data entry line in the data entry window. Type **Home Phone** and press *return.* **Home Phone** appears in the new column's heading cell, and the cell is now ready to use.

Format the new column the same way as **Work Phone.** For the first cell in the column, enter **206 359 5973.** Adjust the width of the column.

Inserting a Column

If you want to add a new column somewhere other than next to the last column, you use the **Insert column** option.

Inserting a column is almost identical to adding a column except that you first have to show *List Plus* where you want the new column to be inserted. To do that, you select a column; *List Plus* then inserts the new column to the *left* of the column you've selected.

Insert a column between the **To** and **Instructor** columns:

First select the **Instructor** column, then choose **Insert column** from the **Fields** menu. The cursor appears on the data entry line in the data entry window. Type **At** and press *return.* The new column appears.

Format the **At** column for time: Choose **Set data entry attributes** from the **Fields** menu, select **Digits only** from the dialog box, then click **OK**. Then select **Set data display attributes** from the **Fields** menu, select **Time** from the dialog box, and click **OK**.

Enter **900** in the first cell in the column.

Insert another column between **At** and **Instructor**, and name it **Until**. Then format the **Until** column just like the **At** column. Enter **950** in the first cell.

Add this information to the next row before you go on to the next section:

Place:	**027**
Class:	**Adv. Composition**
From:	**9 14 87**
To:	**12 18 87**
At:	**1100**
Until:	**1150**
Instructor:	**Susan Munroe**
Work Phone:	**206 555 6381**
Home Phone:	**206 359 5973**

Deleting a Column

To delete a column, all you have to do is to select the column, then choose **Delete column** from the **Fields** menu. This dialog box appears:

```
About to delete column:

A

        ( Cancel )  ( OK )
```
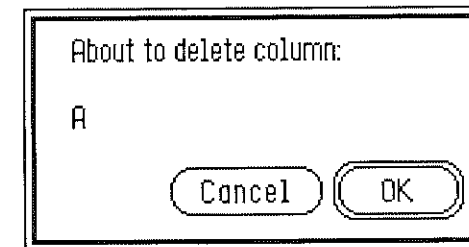
The name of the column should be **Work Phone.**

You click **OK** to have *List Plus* delete the column you've selected. Since you can't use **Undo** to bring the column back once it has been deleted, the dialog box also has a **Cancel** button you can use if you change your mind.

Insert a column in **Schedule** so you have something to delete: choose **Insert column** from the **Fields** menu, then press *return* when the cursor appears on the data entry line. A column named **Unnamed** is inserted in the list.

Delete the column. Select **Unnamed** if it isn't still selected. Choose **Delete column** from the **Fields** menu. The dialog box appears. Notice that the name of the column, **Unnamed,** appears in the dialog box so that you don't delete the wrong column by mistake. Click **OK.** The dialog box disappears, and the column is deleted.
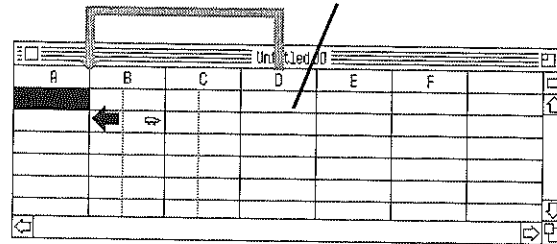
Moving a Column

You can rearrange the order of the columns in a list by using the **Move column** command.

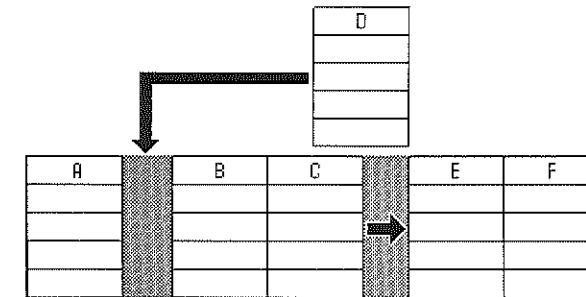To move a column, you first choose **Move column** from the **Fields** menu.

The pointer changes from an arrowhead to a little truck, like the one at the left. You move the truck to the column you want to move and press the mouse button. Dotted lines appear over the left and right margins of the column. You keep holding the mouse button and move the truck icon to the place where you want the column to be moved (the dotted lines representing the columns move as as you move the truck). When you release the mouse button, *List Plus* places the column you're moving to the left of the column the truck is on.

The Column You're Moving

It moves the column you're pointing to with the truck (and the columns to the right of it) to the right to make room for the column you're moving.

When the list is redrawn, the truck changes back to the arrowhead.

Move the **At** column in between the **Class** and **From** columns:

First, choose **Move column** from the **Fields** menu. When the truck appears, move it to the **At** column, then press the mouse button. Keep holding down the mouse button, and move the truck to the **From** column. Then release the mouse button.

Then *List Plus* redraws **Schedule** and places the **At** column in between the **Class** and **From** columns.

Follow the same steps to move the **Until** column in between the **At** and **From** columns.

Creating and Deleting Rows

The simplest way to create a new row is to select a cell in the last row that's active, then press *return* or *enter*. If you press *return*, List *Plus* creates a new row and places the cursor in the first (leftmost) cell in the new row. If you press *enter*, List *Plus* creates a new row and places the cursor in the cell *below* the cell the cursor was in when you pressed *enter*. Pressing *return* is equivalent to using the **Add column** function, because it always adds a row after the last row that currently exists. You can also insert a row between any two rows that exist and duplicate an entire row, including its contents.

Inserting a Row

To insert a row, you first have to show List *Plus* where you want the new row to be inserted. To do that, you select a row; List *Plus* then inserts the new row above the row you've selected.

Insert a row between the two that now exist: select any cell in the second row, the choose **Insert row** from the **Edit** menu. A new row appears immediately.

Duplicating a Row

You may have noticed when you entered the information for the second record in **Schedule** that much of the information was the same as in the first record. You can save time when you need to create a record that duplicates much of the information in a record that already exists by just duplicating the existing record and editing it.

Before you duplicate a record, you first have to insert a new row immediately after the row you want to duplicate — otherwise the copy of the row will replace the information in the row after it. Then you choose **Duplicate row** from the **Edit** menu. All of the information in the record you selected is copied to the new row.

Duplicate the first record in the row you just inserted: select any cell in the first row, then choose **Duplicate row** from the **Edit** menu. The information in the first record is duplicated in the empty, second row.

Make these two changes to the information in the second row: change **9:00** to **10:00** in the **At** column, and **9:50** to **10:50** in the **Until** column.

Save **Schedule** when you've made the changes.

Deleting a Row

To delete a row, you select the row you want to delete, then choose **Delete row** from the **Edit** menu. No dialog box appears because you can use **Undo** to bring a row back if you delete it by mistake.

First, insert a row so that you have one to delete: choose **Insert row** from the **Edit** menu. A blank row appears in the list.

To delete the row, first select it if it isn't already selected, then choose **Delete row** from the **Edit** menu. The row disappears.

Cutting, Copying, and Pasting Information

You can use **Cut**, **Copy**, and **Paste** to move or copy information from one cell to another.

Cutting Information

When you use **Cut**, you remove information from a cell and place it on the Clipboard. Information stays on the Clipboard, regardless of what changes you make to the list, until you cut or copy something else.

To use **Cut**, you first select the cell you want to cut information from. Then you choose **Cut** from the **Edit** menu. The information disappears immediately both from the data entry window and from the cell itself.

You can also cut just *part* of the information in a cell. Say, for example, you want to cut just the first name from a cell that contains both a first and a last name. To do that, you first select the cell, and the name would appear in the data entry window. To select just the first name, you point to the space to the left of the first letter of the first name and press the mouse button. You then keep holding down the mouse button and drag the mouse to the right until the entire first name and the space after it are highlighted. Then you release the mouse button. Only the information highlighted is selected. You then choose **Cut** from the **Edit** menu. There's no apparent change to the information in the data entry window, but when you click **OK**, the information you cut disappears from the cell you selected.

Cut the first name from a cell in **Schedule:**

Select the cell in the first row in the **Instructor** column. **Susan Munroe** appears in the data entry window. Point to the space to the left of **Susan** and click the mouse button to display the cursor there. Then hold down the mouse button and drag the pointer to the left until **Susan** and the space to the right of it are highlighted. Release the mouse button.

Next, choose **Cut** from the **Edit** menu. The highlight disappears from **Susan,** but other than that, there's no apparent change. Click **OK,** and **Susan** is erased from the data entry window and the selected cell simultaneously.

Copying Information

When you use **Copy**, you make a copy of the information in a cell and place it on the Clipboard. Unlike **Cut, Copy** doesn't remove the information it's placing on the Clipboard. The information stays on the Clipboard, regardless of what changes you make to the list, until you cut or copy something else.

To use **Copy**, you first select the cell you want to copy information from; if you want to copy just part of the information in a cell, you then select the part you want to copy. You then choose **Copy** from the **Edit** menu. *List Plus* makes a copy of the information and places it on the Clipboard. There's no change to the information in either the data entry window or in the cell you've selected, unless you've selected just part of the information in a cell. In that case, the highlight disappears from the information you've selected.

Copy the name **Susan** in the second cell in the **Instructor** column:

First, select the second cell in the **Instructor** column. **Susan Munroe** appears in the data entry window. Select **Susan** and the space after it (you can do so either by pointing to **Susan** and double-clicking the mouse button, or by using the technique you used in the previous section). Then choose **Copy** from the **Edit** menu. The highlighting disappears from **Susan,** and *List Plus* places a copy of the name on the Clipboard.

Pasting Information

You can use **Paste** to transfer a copy of the information that's on the Clipboard to one of the cells in the list. The information that's on the Clipboard stays there even after you've copied it to a cell. Only cutting or copying different information erases the information that's currently on the Clipboard.

To use **Paste,** you first select the cell you want to copy the information on the Clipboard to. Then you choose **Paste** from the **Edit** menu. The information in the cell is replaced with a copy of the information on the Clipboard. If you want to replace just a part of the information in the cell, you select the part you want to replace, then choose **Paste.** If you want to add the information on the Clipboard to the information already in the cell, you position the cursor in the text at the point where you want the new information to be inserted, then you choose **Paste.**

Paste the copy of **Susan** that's currently on the Clipboard into the cell you erased it from earlier:

First, select the first cell in the **Instructor** column. When **Munroe** appears in the data entry window, point to the space in front of **Munroe** and click the mouse button to position the cursor there. Choose **Copy** from the **Edit** menu. Finally, click **OK. Susan** appears in front of **Munroe** in both the data entry window and in the cell.

Save **Schedule** before you go on to the next chapter.

Chapter 4
List Plus Using Calculations and Formulas

This chapter explains how to use *List Plus's* calculation functions and how to create formulas.

The calculation functions are designed to work with the information in a column. You can total the values or count the number of items in a column, or find the average, the maximum, or the minimum value in a column. You can create formulas to perform standard arithmetic functions on the values in a row.

If you quit *List Plus* at the end of the last chapter, restart it.

Open the list named **Cookies** (open the **Samples** folder first if it isn't open already). **Cookies** was designed to keep track of how many boxes of cookies the children on the list ordered, sold, and returned. It also figures out the difference between the number of boxes ordered and the number either sold or returned. It has a column for recording the money that has been turned in and another column that automatically calculates how much money is still due.

Calculations

All of the calculation functions that are available are listed on the **Calculate** menu. You can use the **Count** function on a column regardless of the kind of information it contains. You can use the other four functions — **Total, Minimum, Maximum,** and **Average** — only on columns that have **Numeric** or **Money** as their data display attribute.

The Count Function

The **Count** function tells you the number of entries you have in a column. The number of entries may not be the same as the number of records in the list. For example, if a record doesn't have an entry in the column you're counting, the blank entry isn't counted.

To use **Count,** you select the column whose entries you want to count, then choose **Count** from the **Calculate** menu. The **Calculate** menu looks like this:
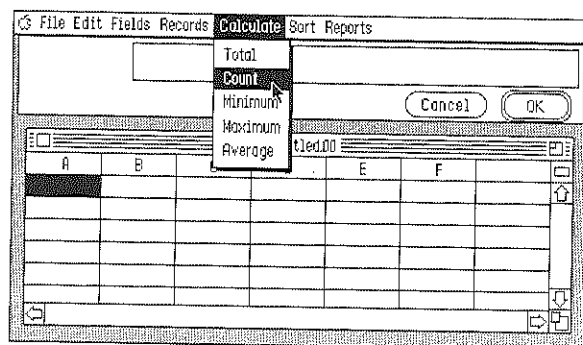
List Plus counts the entries, then displays the number in a new row at the bottom of the list. (If you count more than one column, all the results are listed in the same row.)
If the numbers of entries in a column changes, *List Plus* automatically updates the count. If you want to remove the count at the bottom of the column, choose **Count** again.

Count the number of people who are listed on the **Cookies** list: select the **Last Name** column, then choose **Count** from the **Calculate** menu.

Move down to the very bottom of the column and you'll see C 12 there.

The Total Function

The **Total** function adds together all the values in a column.

To use **Total,** you select the column whose values you want to total and choose **Total** from the **Calculate** menu.

Total the **Ordered** column: select the **Ordered** column, then choose **Total** from the **Calculate** menu.

Move to the end of the **Ordered** column to see the total. Notice that a new row is added below the row that the count of the **Last Name** column appears in. That's because the row the count appears in is reserved for the counts of the other columns, whether you make them or not. The row that the total of the **Ordered** column appears on is, likewise, reserved for the totals of any of the other numeric columns.

Total the **Sold, Returned,** and **Money** columns.

The Minimum and Maximum Functions

The **Minimum** function displays the lowest value in a column; the **Maximum** function displays the highest.

To use either **Minimum** or **Maximum,** you select the column whose minimum or maximum value you want to see, then you choose either **Minimum** or **Maximum** from the **Calculate** menu.

Find the minimum and maximum values in the **Ordered** column. First, select **Ordered,** then choose **Minimum** from the **Calculate** menu. Notice that when the **Calculate** menu appears, there's a check mark next to **Total.** The check mark lets you know what functions you've already selected for a

column. Next, choose **Maximum** from the **Calculate** menu. Move down to the bottom of the list and you'll see that two new rows have been added, one for the minimum value and one for the maximum value.

The Average Function

The **Average** function displays the average of the values in the column.

To use **Average,** you select the column whose values you want to average, then you choose **Average** from the **Calculate** menu.

Find the average number of boxes sold and the average returned. First, select the **Sold** column, then choose **Average** from the **Calculate** menu. Then select **Returned** and choose **Average** from the **Calculate** menu again.

Scroll to the end of the list and you'll see that another row has been added for the averages of the two columns.

Formulas

You can create a formula that uses addition, subtraction, division, and multiplication to derive a value from the other values in a single row.

To create a formula, you first have to create a column where *List Plus* can display the results of the formula. Next, you select the new column you've created, then choose **Set data entry attributes** from the **Fields** menu. This dialog box appears:
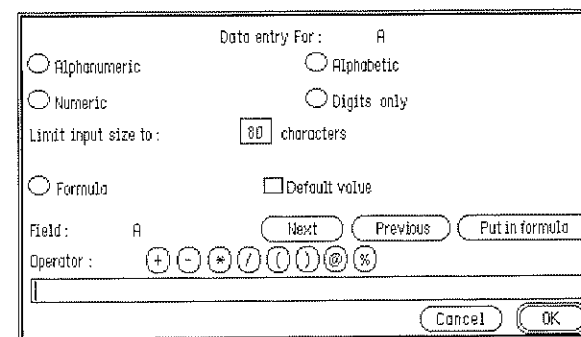
The lower half of the dialog box is where you create the formula. You click the button next to **Formula,** then you select the mathematical functions and the columns you want to work with. You can also add numbers to the formula if you need to. When you're finished, you click **OK.** *List Plus* automatically calculates the results of the formula and puts the results in the column you've created.

The Formula for the Difference Column

The **Difference** column is for displaying the difference between the number of boxes each of the children ordered and the number each either sold or returned. Here's how to create the formula that calculates the difference and displays the result in the **Difference** column:

First, select the **Difference** column, then select **Set data display attributes** from the **Fields** menu. The dialog box appears. Choose **Numeric** from the dialog box, then click **OK.**

When **Cookies** reappears on the desktop, select **Set data entry attributes** from the **Fields** menu. When the dialog box appears, point to the button next to **Formula** and click the

mouse button. All the elements in the lower half of the dialog box that were dimmed become functional.

The formula you need to create has to first add the number of boxes sold to the number returned, and then subtract that sum from the number ordered. You use **Sold,** the name of the column in which the number of boxes sold is recorded, to stand for the number sold; **Returned** to stand for the number returned; and **Ordered** to stand for the number ordered. The formula will look like this:

Ordered - (Sold + Returned)

The parentheses around **Sold** and **Returned** tell *List Plus* to add the number sold to the number returned before subtracting the sum from the number ordered.

Notice that the name next to **Field** gives the name of the column you're working with — in this case, **Difference.** Remember that **Cookies** looks like this:

Last Name	First Name	Ordered	Sold	Returned	Difference	Money In	
Landers	Lee	22	16	6		$ 47.20	
Peters	Molly	20	20	0		$ 32.45	
Mulloy	Rob	30	26	3		$ 38.35	
Schippers	Joey	35	29	6		$ 73.75	
Niccolo	Cindy	30	19	0		$ 35.40	
Chen	Kate	25	25	5		$ 73.75	

To create the formula, first click the **Previous** button three times: Click **Previous** once, and **Returned** replaces **Difference.** Click **Previous** again, and **Sold** replaces **Returned.** Click **Previous** a third time, and **Ordered** replaces **Sold.** The

function of the **Previous** button is to display next to **Field** the name of the column to the left of the one whose name is currently displayed there.

Next, click **Put in formula,** which tells *List Plus* to display **Ordered** in the formula line. **Ordered** appears in the formula line enclosed in square brackets, like this: **[Ordered].** Then click the minus sign button (−). *List Plus* adds a minus sign to the formula line. Click the left parenthesis button (( ). Up to this point, the formula looks like this: **[Ordered]-(.**

Click the **Next** button to replace **Ordered** where it appears next to **Field** with **Sold.** The **Next** button displays beside **Field** the name of the column to the right of the one whose name is currently displayed there. Then click **Put in formula** to add **Sold** to the formula line. Click the plus sign button (+). Then click the **Next** button again to display **Returned** next to **Field.** Click **Put in formula** to add **Returned** to the formula line, and finish the formula by clicking the right parenthesis button ( )). The finished formula looks like this:

[Ordered] − ([Sold] + [Returned]).

Click **OK,** and the dialog box will disappear. When the list reappears, the **Difference** column is immediately filled in with the results of the formula for each row.

The Formula for the Money Due Column

Drag the horizontal scroll bar (at the bottom of the list window) to the right to display the **Money due** column.

The **Money due** column first totals the number of boxes sold and the number in the **Difference** column (which shows the number neither sold nor returned). It multiplies the sum

by the price of each box of cookies ($2.95), then subtracts the money turned in from that total. The result is the money that's due. The formula looks like this:

(([Sold] + [Difference])*2.95) − [Money in]

Before you start to create the formula, choose the data display attribute for **Money due**: select the **Money due** column, then choose **Set data display attributes** from the **Fields** menu. When the dialog box appears, choose **Money**, then click **OK**.

When **Cookies** reappears on the desktop, choose **Set data entry attributes** from the **Fields** menu. When the dialog box appears, choose **Formula**.

Start the formula by clicking the left parenthesis button (( ) twice. Click the **Previous** button until **Sold** appears next to **Field**, then click **Put in formula**. Click the plus sign button (+). Click the **Next** button until **Difference** appears next to **Field**, then click **Put in formula**. Click the right parenthesis button ( )). Click the multiplication sign button (*). Type **2.95**, then click the right parenthesis button ( )) again. Click the minus sign button (−). Finally, click the **Next** button to display **Money in** next to **Field**, then click **Put in formula**.

The formula you've created should look like this:

(([Sold] + [Difference])*2.95) − [Money in]

Click **OK**. When **Cookies** reappears, *List Plus* automatically fills in the results of the formula in the **Money due** column.

Save **Cookies** before you go on to the next chapter.

Chapter 5
Manipulating a List

There are many ways you can arrange and rearrange a list to help you extract information from it or to make better use of it. This chapter explains how to sort and select information and how to transfer information between two lists.

If you quit *List Plus* at the end of the last chapter, start it again.

Open the list named **Schedule1** (open the **Samples** folder first if it isn't open already).

Sorting Information

Most people, when they enter information into a list, don't enter it in any particular order. But it's much easier to use a list when it's organized in some obvious way. *Sorting* lets you arrange all the records according either to ASCII text value or to numerical value.

What determines whether information is sorted as text or as values is the data display attribute that you've chosen for the information. If you've chosen **Alphanumeric** or **Alphabetic**, the information is treated as text. If you've chosen **Numeric**, **Date**, **Phone**, **Time**, or **Money**, the information is treated as numerical values. Blank records are always last regardless of whether the information is treated as text or as numerical values.

ASCII Text Order

ASCII is a standard for assigning numerical values to the letters of the alphabet, numbers, punctuation marks, and symbols (you'll find a complete list of characters and their ASCII order in the Appendix).

The ASCII order of the letters of the alphabet is the same as normal alphabetical order.

Numbers and most symbols come before the letters of the alphabet. Say, for example, you have a list of characters that looks like this:

a * 9 ? 5 z M 0 !

If you ordered them according to their ASCII value, the list looks like this:

! * 0 5 9 ? a M z

ASCII treats every digit in a number separately, just as it treats every letter in a word separately. For example, *abacus* doesn't come after *ant*, even though it's a bigger word than *ant*, because *b*, the second letter in *abacus*, comes before *n*, the second letter in *ant*. In the same way, when *1213* and *19* are ordered according to their ASCII values, *1213* comes before *19*, even though it's a larger number, because *2*, its second digit, comes before *9*, the second digit in *19*. The numerical value of a number doesn't matter; it's the ASCII value of each of its digits taken individually that determines where it belongs.

Sorting a List

To sort a list, you first choose the column you want to use as the basis of the sort. *List Plus* will sort all of the records according to the information that's in the column you select; the information in the other columns has no effect on the sorting. Then you choose **Sort Up** or **Sort Down** from the **Sort** menu. The **Sort** menu looks like this:
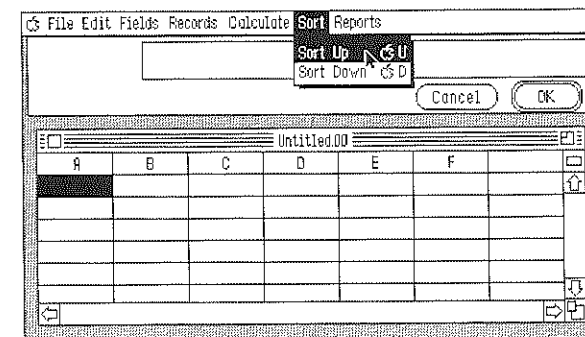
Sorting information up means that symbols and numbers will be at the top of the list and letters at the bottom, or that the smallest numbers will be at the top and the largest at the bottom. Sorting information down means the opposite: the letters of the alphabet will be at the top of the list and numbers and symbols at the bottom, or the largest numbers will be at the top and the smallest at the bottom.

Try sorting **Schedule1** a few times using a different column each time. Use **Sort Up** and **Sort Down** to see how they differ.
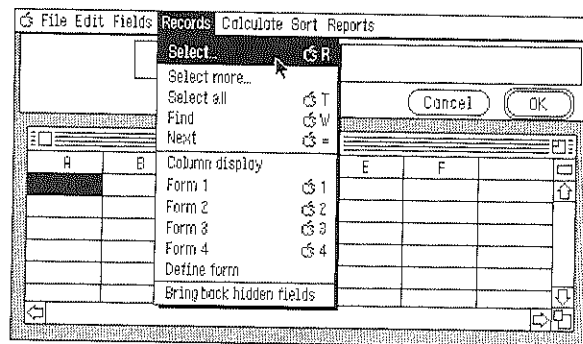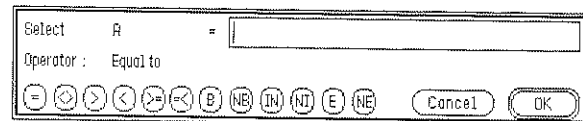
Selecting Information

Selecting lets you extract from a list just the information
you need. For example, you can extract from **Cookies,** the
list you worked with in the last chapter, the records of only
those children who still owe money or of those who have
sold more than 20 boxes of cookies. You can extract from
Schedule1 all of the evening classes, or the records of all the
classes taught by a single instructor, or the daily schedule
for a particular room.

The Select Function

To select specific records from a list, you first select the
column you want to use as the basis for the selection, then
you choose **Select** from the **Records** menu. The **Records**
menu looks like this:

Once you've chosen **Select,** this dialog box appears:

You type the information you want to match in the entry
box. Then you choose the operator you want to use — for
example, you click the equal sign button (=) if you want to
select only those records that match exactly the information
in the entry box. (The function of the operator you pick is
displayed next to **Operator.**) Then you click **OK.** *List Plus*
goes through all the records in the list and hides all of them
that don't match the information you want to select. You
can save the short list of selected records as a separate list.

You can display all of the records in a list again by choosing
Select all from the **Records** menu.

Relational Operators

The operators that you can choose from in the Select dialog
box are called *relational operators* because they let you
compare two separate pieces of information. Unlike
arithmetic operators (such as addition and subtraction),
relational operators don't change either piece of information
in any way. Their function is just to provide a way to
compare information.

This is what the operators mean:

=	is equal to
< >	is not equal to
>	is greater than
<	is lower than
> =	is greater than or equal to
< =	is lower than or equal to
B	begins with
NB	doesn't begin with
IN	includes
NI	doesn't include
E	ends with
NE	doesn't end with

The operators apply both to text and values. For example, if you use the greater than sign (>) with text, it means *after* (as determined by ASCII order). So *ant* is greater than *abacus,* and *19* is greater than *1213.*

The Equal To Operator

You use the Equal To operator (=) to select only the information that matches the target information exactly.

For example, you can use Equal To to extract from **Schedule1** a schedule for a specific instructor.

To do so, first select the **Instructor** column, then choose **Select** from the **Records** menu. When the Select dialog box appears, click the equal sign button (=). Type **Paul Winslow** in the data field, then click **OK.** In a moment, only those records that list Paul Winslow as the instructor are displayed. You can then save the list as a file separate from **Schedule1,** or you can print the list.

The Not Equal To Operator

The Not Equal To operator (< >) selects only the information that doesn't match the target information.

For example, you can use Not Equal To to extract from **Cookies** a list of all the children who have money due.

First, open **Cookies** (don't close **Schedule1** — you're going to use it again shortly). Select the **Money due** column, then choose **Select** from the **Records** menu. When the dialog box appears, click the Not Equal To button (< >). Type a zero in the data field, and click **OK.**

The list that appears contains only the records of the children who had a value other than zero in the **Money due** column.

Close **Cookies** before you go on.

The Greater Than Operators

The Greater Than operator (>) selects information that's greater in value than the target information or that's after the target information in ASCII order. The Greater Than or Equal To operator (> =) works in the same way, except it also selects the information that matches the target information exactly.

You can use the Greater Than operator to extract a list of evening classes from **Schedule1** so that you can check for conflicts in room assignments.

First, make **Schedule1** active, then select the **At** column. Choose **Select** from the **Records** menu. When the Select dialog box appears, click the Greater Than or Equal To button (> =). Evening classes are those that begin at or after 6:00 PM — that is, those that begin at a time greater than or equal to 6:00 PM. You need to represent 6:00 PM in 24-hour format to distinguish it from 6:00 AM. In 24-hour format, 6:00 PM is 1800. Type **1800** in the data field, then click **OK.**

After a moment, only those classes that start in the evening are displayed.

Combining Sorting with Selecting. The easiest way to look for classroom conflicts in a short list like the list of evening classes is to sort it by classroom. Then any classrooms that

have been assigned more than once will appear next to each other.

To sort the list of evening classes, select the **Place** column, then choose **Sort Up** from the **Sort** menu. The list is sorted.

Room **009** appears twice at the top of the list, but if you look at the **From** and **To** columns, you can see that one of the classes the room is used for starts after the other class ends.

Room **114** is used three times. Once again the **From** and **To** columns show that there's no conflict between **Landscaping** and **Real Estate Appraisal,** but there is a conflict between **Real Estate Appraisal** and **Interior Design.** A different classroom needs to be found for one of them.

Room **204** is also used twice, but the **From** and **To** columns show that one of the classes the room is used for starts after the other class ends.

The Lower Than Operators

The Lower Than operator (<) parallels the Greater Than operator: it selects information that's lower in value than the target information or that's after the target information in ASCII order. The Lower Than or Equal To operator (< =) works in the same way, except it also selects the information that matches the target information exactly.

The Begins With and Doesn't Begin With Operators

The Begins With operator (**B**) selects information that begins with the character or characters of the target information. The Doesn't Begin With operator (**NB**) does the opposite: it

selects only information that doesn't begin with the character or characters of the target information.

For example, if a list of books has a column with the Library of Congress catalog number for each book, you could use the Begin With operator to select all the books on a certain subject regardless of what the books' titles were.

Here's how to do it:

First, open the list named **Library,** and select the **Catalog Number** column. Then choose **Select** from the **Records** menu. Click the Begin With button (**B**). To select all the books on the theory of relativity, type **QC** in the data field, then click **OK.**

The list that appears has three books on it: *Einstein's Universe, The Relativity Explosion,* and *The Dancing Wu Li Masters.* Only one of the books has the word *relativity* in its title.

Close **Library** before you go on.

The Includes and Doesn't Include Operators

The Includes operator (**IN**) selects information that contains somewhere in it the target information. The Doesn't Include operator (**NI**) does the opposite: it selects information that contains the target information nowhere in it.

For example, you could use the Doesn't Include operator to search a list of homes for sale to find a house without a swimming pool (perhaps for a family with small children).

Here's how:

First, open the list named **Realestate1**, and select the **Extras** column. Then choose **Select** from the **Records** menu. When the dialog box appears, click the Doesn't Include button (**NI**), then type **pool** in the data field. Finally, click **OK**. In a moment, a list of only those homes without swimming pools appears.

The Ends With and Doesn't End With Operators

The Ends With operator (**E**) selects information that ends with the character or characters of the target information. The Doesn't End With operator (**NE**) does the opposite: it selects only the information that doesn't end with the character or characters of the target information.

For example, you could extract from a list of medical terms all the terms that had to do with inflammations by selecting those that end with *-itis*.

Here's how:

First, open the list named **Terms** and select the **Term** column. Then choose **Select** from the **Records** menu. Click the Ends With operator (**E**), then type **itis** in the data field. In a moment, a list of all the words that end with *-itis* appears.

Compound Selections

You can use the **Select** function to search a list for records that match two or more selection criteria. For example, you can search for records with a specific range of values. Or you can select records all of which include two items or all of which include one item but don't include another. You

can also select the records that include either one thing or another, but not necessarily both.

Close **Terms** before you go on.

Selecting a Range of Values

To select records with a certain range of values, you first do a greater than (or greater than and equal to) search, and then a lower than (or lower than and equal to) search. For example, here's how you would select all the children who have sold 18 to 24 boxes of cookies:

Open the **Cookies** list and select the **Sold** column. Choose **Select** from the **Records** menu. The dialog box appears. First, select all the children who have sold 18 or more boxes: click the Greater Than or Equal To button (**> =**), and type **18** in the data field. Click **OK**, and in a moment only the records of the children who have sold 18 or more boxes are listed.

Next, you select from the limited list you've just created only those children who have sold 24 or fewer boxes. The **Sold** column remains selected, so choose **Select** from the **Records** menu again. The dialog box appears. Click the Lower Than Or Equal To button (**< =**), and type **24** in the data field. Click **OK**. In a moment, the records of only those children who have sold 18 to 24 boxes remain.

Close **Cookies** before you go on.

Selecting Both One Item and Another

To select only the records that include two or more items, you use the **Select** option successively for each item. Doing so has the effect of narrowing down the list more each time until it contains only the records that have all the items you're looking for. For example, here's how to select from a list of translators those who speak both French and Spanish:

Open the list named **Translators.** Select the column named **Languages,** then choose **Select** from the **Records** menu. Search for the translators who speak French first: click the Includes button (**IN**), type **French** in the data field, then click **OK.** The list that appears has the records of only the translators who speak French.

Repeat the process, searching for Spanish: choose **Select** from the **Records** menu, click the Includes button (**IN**), type **Spanish** in the data field, then click **OK.** The new list that appears has the records of only those translators who speak both French and Spanish.

Selecting Either One Item or Another

To select records with *either* one item *or* another but not necessarily both, you use the **Select** option to select records with the first item, then the **Select more** option to select records with the second. **Select more** adds records from the original list to the list with the first set of records you selected.

This example shows how to select translators who know either Russian or Greek:

Make sure the **Languages** column is still selected, then choose **Select** from the **Records** menu. When the dialog box

appears, click the Includes button (**IN**), then type **Russian** in the data field. Click **OK.** A list of the translators who speak Russian appears.

To add to that list the translators who speak Greek, do this: choose **Select more** from the **Records** menu, click the Includes button (**IN**), type **Greek** in the data field, and click **OK.** In a moment, the translators who speak Greek are added to the list.

Transferring Information Between Lists

You may find that sometimes when you create a new list, you need to create a column that has the same information that a column in an existing list contains. You can use **Duplicate column** to copy all the information from the existing list to the new column in the new list.

To transfer information from one list to another, you start by duplicating the column that has the information you want to transfer. First, you select the column, then choose **Duplicate column** from the **Fields** menu.

This dialog box appears:

```
┌─────────────────────────────────────────────────┐
│ Copy from column :        A                      │
│                           ☐ Import               │
│ to column :               A                      │
│                      ( Next )  ( Previous )  ( Export ) │
│                                                  │
│ ☒Data only                                       │
│ Note that this will erase all the data of the target column ! │
│                              ( Cancel )  ( OK )  │
└─────────────────────────────────────────────────┘
```

Instead of copying the information in the column directly to another column, you click the **Export** button to copy the information to a special clipboard. It doesn't matter whether you select **Data only** or not: when you click **Export**, the attributes of the column, the formula associated with it (if it has one), its name, and so on are automatically copied along with the information it contains. You then click **OK** to copy the column to the special clipboard.

Next, you activate the list you want to transfer the information to and select the column you want it copied into. You once again choose **Duplicate column** from the **Fields** menu. When the dialog box appears, you select **Import**, then click **OK**. The information is copied from the special clipboard to the new column in the new list.

Copy the information in the **Name** column in **Translators** to a new list:

First, select the **Name** column, then choose **Duplicate column** from the **Fields** menu. When the dialog box appears, click the **Export** button, then click **OK**. The **Name** column and its contents are copied to the special clipboard.

Next, choose **New** from the **File** menu. When the new list appears, leave column A selected. Choose **Duplicate column** from the **Fields** menu, and when the dialog box appears, select **Import**. Finally, click **OK**. The name of column A changes to **Name,** and the information that was in the **Name** column in **Translators** appears in it.

Before you continue, discard the new list by closing it without saving it.

Shifting Cells

It's easy when you're working with a list that has many columns with the same kind of information (say, dates or dollar amounts) to accidentally start entering information in the wrong column and not realize you've made a mistake until you get to the end of the row. *List Plus* makes it easy to correct a mistake like that with the **Shift** function.

To use the **Shift** function, you first select the farthest left cell that contains information that's in the wrong column. Then you choose **Shift** from the **Edit** menu. This dialog box appears:

```
┌─────────────────────────────────────┐
│ Shift the data from the current cell: │
│                                       │
│  ● one cell to the right              │
│  ○ one cell to the left               │
│                                       │
│              ( Cancel )  ( OK )       │
└─────────────────────────────────────┘
```
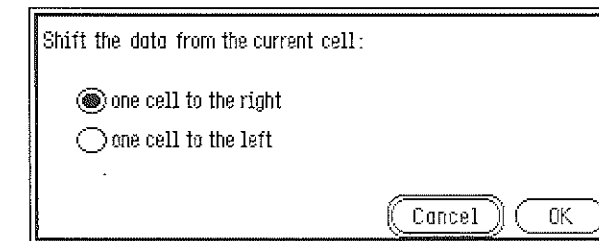
You select whether you want to shift all the information one cell to the right of the cell you've selected or one cell to the left. Then you click **OK**. All the information is automatically shifted.

Try this example:

Open the list named **Realestate2**. Move the horizontal scroll bar all the way to the right, and you'll notice that, unlike **Realestate1,** it has a separate column for each extra feature instead of an **Extras** column. For each house on the list, there's a **Y** or an **N** in each column to indicate whether the

house does or doesn't have the extra feature. You'll notice that the Ys and Ns in the last row are misaligned — they need to be shifted one cell to the right.

Here's what to do:

Select the last cell in the **Garage** column, then choose **Shift** from the **Edit** menu. The dialog box appears. The button next to **one cell to the right** is already selected, so just click **OK.** The dialog box disappears, and *List Plus* shifts the last five cells to the right.

The cell you selected in the **Garage** column remains selected so you can enter the correct information there immediately. Type **1 car,** then click **OK.**

List Plus Chapter 6

Printing a Report

This chapter explains how to create a custom report and how to make a printed copy of it. A report is a printed summary of all or some of the information in all or some of the records in a list. A report can look exactly like the printed summary that **Print QuickList** produces, or it can look completely different. You create a custom report by arranging the way fields appear in each record and the way records appear on a page. You can also add a header and a footer to a custom report.

If you quit *List Plus* at the end of the last chapter, start it again.

Changing the Display Format

You may sometimes find it easier to enter information on a form or use information that's on a form set up differently from the row-and-column format of the standard list. You can arrange the layout of any of the four forms on the **Records** menu any way you want. You can also lay out a form in the way you want the information in each record to appear when you print a custom report.

The process for laying out a form is the same no matter what you intend to use the form for.

You start by picking the form you want to lay out, and then choosing **Define form** from the **Records** menu.

The example in this chapter shows you how to arrange a form so that you can print both mailing labels and an address list.

Start by opening **AddressBook** (open the **Samples** folder first if it isn't open already). When it appears on the desktop, choose **Form 1** from the **Records** menu, then choose **Define form** from the same menu.

The background changes to gray so that you can see the size of each field. The screen looks something like this:

```
┌─────────────────AddressBook═══════════════┐
│□                                          □│
│Phone  (512)-555-7043                     ⇧│
│Last Name  Hearts                          │
│First Name  Con                            │
│No. 471                                    │
│Street  Brendon Ave                        │
│Apt. 2                                    ⇩│
│⇦                                      ⇨ │
└───────────────────────────────────────────┘
```
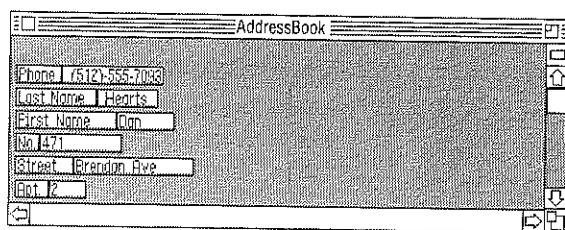
There are four ways you can change a form: you can hide fields, change their size, move fields around on the form, or add non-data fields to the form.

Hiding Fields

You can hide any fields that you don't want to appear on the form or that you don't want to appear when you print the list.

To hide a field, you point to it, hold down the *option* key, then hold down the mouse button. A dotted rectangle appears. You then move the pointer above and to the left of the field until the dotted rectangle disappears, and release the mouse button. The field disappears.

You don't affect the structure of a list by hiding a field, you just change the layout of the form. The field you've hidden

still exists (if you switch to the row-and-column display, you'll see it's still there). You can make the fields you've hidden reappear at any time by choosing **Bring back hidden fields** from the **Records** menu.

Hide all of the fields on the **AddressBook** form that are column names (for example, **First Name** and **Street**). You don't want them to appear on the mailing labels, and you don't really need them on the address list.

To hide **Phone,** point to the field where **Phone** appears, hold down *option,* then press the mouse button. A dotted rectangle appears. Keep holding down the mouse button, and move the pointer above and to the left of the **Phone** field until the dotted rectangle disappears. Release the mouse button. The **Phone** field disappears.

Choose **Column display** to go back to the row-and-column format for a moment so that you can see that the **Phone** column still exists. To return to the form, click the form box.

Choose **Bring back hidden fields** from the **Records** menu, and the **Phone** field reappears, although it's so small, only the *P* is visible.

Shrinking and Enlarging Fields

You can shrink and enlarge a field at any time by using the same function you used to hide a field.

You point to the field whose size you want to change, hold down *option,* press the mouse button, and drag the pointer until the dotted rectangle is the size you want the field to be

— but don't let it overlap any other field. You release the mouse button, and the field is redrawn the same size as the dotted rectangle.

If you've set a limit to the size of a field in the Set data entry attributes dialog box, shrinking or enlarging the field doesn't change that limit. It changes just the display size of the field.

Expand the **Phone** field back to its original size:

Point to the **Phone** field, hold down *option,* press the mouse button, and drag the pointer until the dotted rectangle is about the size it was originally. Then release the mouse button, and the field is redrawn approximately its original size.

Use the same process to make the field with the street name in it larger and the field with the apartment number smaller.

Hide **Phone** again, just as you did before. You don't need phone numbers for the purposes of this example, so hide the field that contains the phone numbers, too. Then hide these fields: **Last Name, First Name, No., Street, Apt., City, State,** and **Zip.**

Moving Fields

You can move a field anywhere on a form as long as it doesn't overlap any other field.

To move a field, you point to the one you want to move, hold down the *command* key, and press the mouse button. A dotted rectangle the size of the field appears. A horizontal dotted line that coincides with the bottom line of the

rectangle extends the entire width of the form. While you keep holding the mouse button down, you drag the mouse to move the dotted rectangle to the place on the form where you want the field to appear, then you release the mouse button. The field is redrawn in the new location.

Move the **First Name** field above the **Last Name** field, like this:
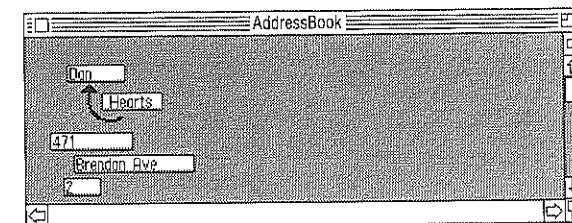
First, point to the **First Name** field, then hold down *command,* and press the mouse button. A dotted rectangle appears superimposed on the field. Keep holding down the mouse button, and move the dotted rectangle to the field's new location. Release the mouse button. The **First Name** field is redrawn in its new location.

Move the **Last Name** field, the **No., Street,** and **Apt.** fields, and the **City** field to the locations shown here:
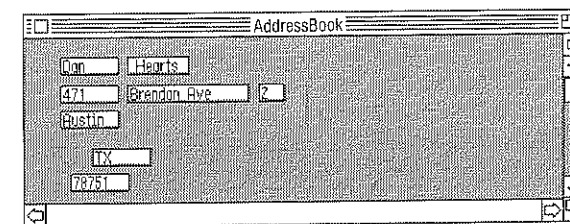
Creating Non-Data Fields

A non-data field is a field with text that stays the same from form to form. For example, you might use a non-data field to put a title on a form or to add instructions or an explanation about a field to a form.

To create a non-data field, you point to any part of the gray background, hold down *option,* press the mouse button, and drag the mouse. As soon as you start to drag the mouse, a dotted rectangle appears. You keep dragging the mouse until the rectangle is the shape and size you want the field to be (but not overlapping any other fields), then you release the mouse button. A field that's the size and shape of the dotted rectangle appears. A non-data field looks just like a standard field.

You can add text to a non-data field only when you're arranging the form (that is, when the background is gray). You can't add text to it when the background of the form is white, because only the data fields are active then.

To add information to a non-data field, you point to it and click the mouse button to display the cursor in it. Then you type the text you want to appear in it, and press *return.*

Use a non-data field to insert a comma between the **City** and **State** fields:

Point to the spot just to the right of the upper right corner of the box that represents the **City** field. Hold down *option,* then press the mouse button, and start to drag the mouse down and to the right. A dotted rectangle appears. Make the dotted rectangle as tall as the **City** field and about as wide as it is tall. Release the mouse button. The field should look something like this:
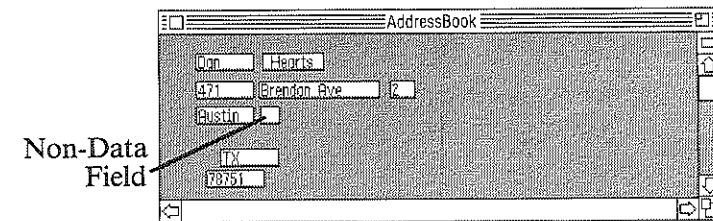
Non-Data Field

Point to the non-data field, and click the mouse button. A cursor appears in the field. Type a comma, press the *spacebar* to add a space, then press *return*. Also add non-data fields to separate the **First Name** and **Last Name** fields, and the **No.**, **Street**, and **Apt.** fields.

To finish setting up the form, move the **State** and **Zip** fields and add one more non-data field so that the form looks like this:
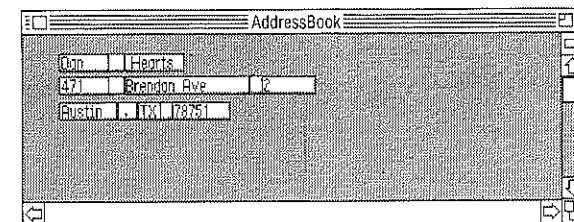
When you have all the fields in place, choose **Complete form** from the **Records** menu. The background of the form changes back to white.

Creating a Custom Report

The major task in creating a custom report is laying out the form. Once you've accomplished that, you can put the finishing touches on the report using the **Header, Footer,** and **Fields/Records** options.

You use the **Header** and **Footer** options to add a header and a footer to a report. You use the **Fields/Records** option to set margins and the number of records on a page, and to choose between fixed and floating fields.

Setting Margins

You use **Fields/Records** to set not only top and bottom margins, but also the space between records when you're printing more than one on a page.

To set the margins and the space between records, you first choose **Fields/Records** from the **Reports** menu. This dialog box appears:

```
                    Fields/Records definition

Top margin :        [10] pixels  Bottom margin :     [10] pixels

Records per page :      ● One         ○ Multiple

Fields :                ● Fixed       ○ Floating

Space between records :             [10] pixels

☐ Draw line between records

                                 ( Cancel )  ( OK )
```

To set the amount of space you want to appear between the top edge of the paper and the first line on the first record, you type a number in the space next to **Top margin**. To set the amount of space you want to appear between the bottom of the last record on a page and the bottom edge of the paper, you type a number in the space next to **Bottom margin**. To set the amount of space between the bottom of one record and the top of the next, type a number in the space next to **Space between records**.

To set up **AddressBook** so you can print the form you laid out earlier in the chapter on standard 3 1/2 by 15/16 inch address labels, type **0** next to **Top margin**, **0** next to **Bottom margin**, and **60** next to **Space between records**.

The size of pixels varies depending on the vertical size setting you've selected in the Page SetUp dialog box. Make sure you've selected **Normal** for the address list and the mailing labels.

Setting the Records per Page

You can choose to print one record on each page or more than one. If you choose to print more than one, *List Plus* uses the layout of the form, the top and bottom margins, and the space between records you've set to figure out how many records to print on each page. If a record won't fit completely in the space that's left at the bottom of a page, the entire record is moved to the top of the next page.

To print just one record or more than one record on a page, select either **One** or **Multiple** from the Fields/Records dialog box.

Select **Multiple** to print mailing labels and an address list.

Choosing Fixed or Floating Fields

You can choose to print all the fields in a record a fixed length. If you choose **Fixed**, *List Plus* leaves the same amount of space for a field every time it prints the field. A fixed-length field always begins and ends in exactly the same place regardless of the length of the information the field contains.

Fixed-length fields are best if you're printing information that you want to be aligned in columns, like this:

CLASS SCHEDULE			
9:00 AM to	9:50 AM	Creative Writing	Susan Munroe
10:00 AM to	10:50 AM	Creative Writing	Susan Munroe
11:00 AM to	11:50 AM	Adv. Composition	Susan Munroe
1:00 PM to	1:50 PM	Drama	Susan Munroe
2:00 PM to	2:50 PM	American Classics	Susan Munroe
3:00 PM to	3:50 PM	World Literature	Susan Munroe

You can also choose to let the length of all the fields in a record vary when they're printed, depending on the length of the information they contain. If you put more than one field on a line, the location of all the fields but the first one "float" as the amount of information in each field varies (you should always put a non-data field at least one space long between floating fields so the information in them doesn't run together). The result looks like this:

```
Felicia Allen
11-57 35th. St. 3B
Astoria, NY 11103
                        Martin Morris
                        6809 Summit Ave.
                        Brookline, MA 02146
Chris Sanders
2374 Woodside Ln.
Cincinnati, OH 42539
                        Janis Prescott
                        6373 Coddington Rd.
                        Ithaca, NY 14850
```

Select **Floating** for the mailing labels and address list you're going to print.

Creating a Header and a Footer

A *header* is text that appears at the top of every page of a report. It usually contains the title of the report, and it can also contain the date and page number (although the page number usually goes in the *footer*).

A footer is text that appears at the bottom of every page. In addition to the page number, you can put the date there. If you're creating more than one report from the same list, it's also a logical place to put the name of the list the report is based on.

To create a header, you first choose **Header** from the **Reports** menu. This dialog box appears:

```
                    Header definition
Print:                              Justification:
  ☐ date              ○ Left   ○ Centered  ○ Right
  ☐ page number       ○ Left   ○ Centered  ○ Right
  ☒ text              ○ Left   ◉ Centered  ○ Right
  [                                             ]
  ☒ Print Header      ◉ from page one
                      ○ from page two
                              ( Cancel )  ( OK )
```

If you want the current date to be part of the header, you select **date**, and then select whether you want it to be aligned to the left or to the right or centered.

Left alignment means that the first character of the date, page number, or text is even with the left margin. Right alignment means that the last character is even with the right margin. If you center the date, page number, or text, it's positioned so that it's evenly spaced between the left and right margins.

If you want the page number to be part of the header, you select **page number,** then select whether you want it to be aligned to the left or to the right or centered.

If you want to add text, such as a title, you select **text** and select the alignment you want for it. Then you type the text you want to appear in the header in the space below **text.**

There may be times when you don't want the header you've created printed on a report. For example, it makes sense to print the header on the address list you're going to print, but not on the sheets of mailing labels. If you don't want to print the header, you click the check box next to **Print Header** to remove the **X** that appears there.

If you want the header to be printed on every page of a report, you select **Print Header** and **from page one.** If you want to print the header on every page of the report but the first, you select **Print Header** and **from page two.**

For the address list you're going to print, select **date** and **Right,** and **text** and **Left.** In the space below **text,** type **Christmas Card List.** Since you're going to print the address list before the address labels, select **Print Header** and **from page one.** Finally, click **OK.**

The Footer dialog box looks exactly like the Header dialog box and works exactly the same way.

For the address list, set the footer up this way: select **page number** and **Centered,** and **Print Footer** and **from page one.** Click **OK.**

Printing a Report

Printing a custom report works the same way as printing a QuickList or using the **Print** function.

To print a report, you choose **Print Custom Report** from the **Reports** menu. The dialog box that appears is just like that one that appears when you choose **Print QuickList,** and you select settings in it in exactly the same way.

Printing an Address List

Before you print the address list, make sure you've selected **Normal** as the vertical sizing option in the Page SetUp dialog box.

To print an address list, choose **Print Custom Report** from the **Reports** menu. Make sure the settings selected are the right ones, then click **OK.**

List Plus prints the address list for you.

Printing Mailing Labels

Before you print mailing labels, first choose **Header** from the **Reports** menu, click the check box next to **Print Header** to remove the X that appears there, then click **OK.** Then choose **Footer,** and do the same thing.

Replace the paper in your printer with a sheet of standard 3 1/2 by 15/16 inch address labels.

To print the mailing labels, choose **Print Custom Report** from the **Reports** menu. Make sure the settings selected are the right ones, then click **OK.**

List Plus prints the mailing labels for you.

List Plus *Reference*

Contents

The Desktop

The List Window
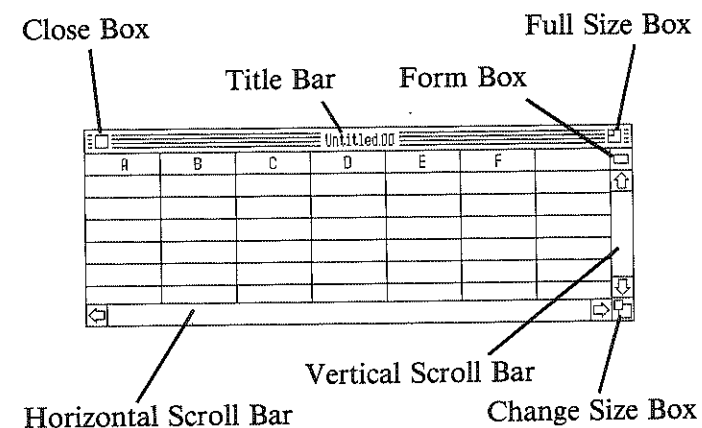
Scroll Bars

In List Mode. When you're displaying a list on the screen as rows and columns, use the horizontal scroll bar to move the list left or right in the list window. Use the vertical scroll bar to move a list up or down in the list window.

In Form Mode. When you're displaying each record in a list on a separate form, use the horizontal scroll bar to move from form to form. Use the vertical scroll bar to move a form up or down in the list window.
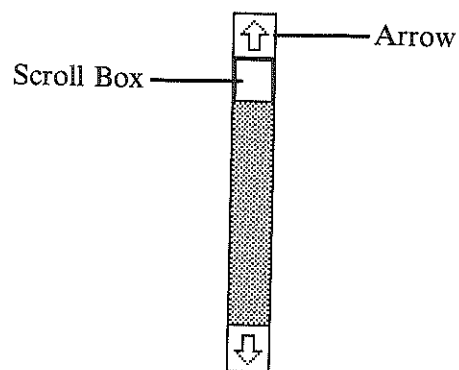
Arrow

Scroll Box

To use the scroll bars:

● Point to the scroll box, hold down the mouse button, and move the box in the direction you want the list to move; or point to an arrow and click the mouse button.

The Boxes

The Close Box. Use the close box to remove a list from the screen.

The Close Box. Use the close box to remove a list from the screen.

To use the close box:

● If you want to keep the list you're about to close, save it first.

● Point to the close box and click the mouse button.

The list disappears from the screen. (If a dialog box appears that asks **Do you want to save file,** see the instructions at the beginning of the "File" section.)
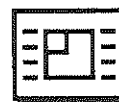
The Full Size Box. Use the full size box to expand the list window to fill the entire desktop below the data entry window (or to return an expanded list window to its original size).

To expand or shrink a list window:

● Point to the full size box and click the mouse button.

The Form Box. Use the form box to switch from displaying a list in rows and columns to displaying each record as a separate form, or to switch from a form to rows and columns. When you use the form box to switch to a form, it displays the form you used most recently.

To switch from rows and columns to a form:

• Point to the form box and click the mouse button.

The Change Size Box. Use the change size box to change the size of a list window.

To change the size of a window:

• Point to the change size box, press the mouse button, and hold it down.

   An outline appears around the list window.

• Drag the outline of the window until it's the size you want.

• Release the mouse button.

The list window is redrawn in the size the outline indicates.

APPLE
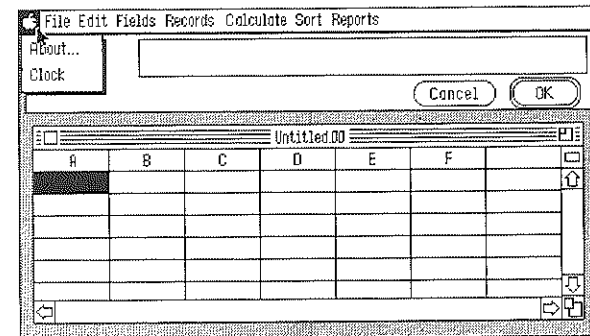
About

About tells you how much space is available in memory for a list and approximately how many records you can fit in that space. It also gives you information about the version of *List Plus* you're using.

To use **About:**

• Choose **About** from the **Apple** menu.

   A message box with information about *List Plus* appears.

• To go back to the list window, click **OK.**

Clock

Use **Clock** to display the current date and time.

To use **Clock:**

• Choose **Clock** from the **Apple** menu.

The Clock window appears. It contains the current date and time. You can move the Clock window anywhere on the screen, just like any other window.

• To remove the Clock window from the desktop, click its close box.

File
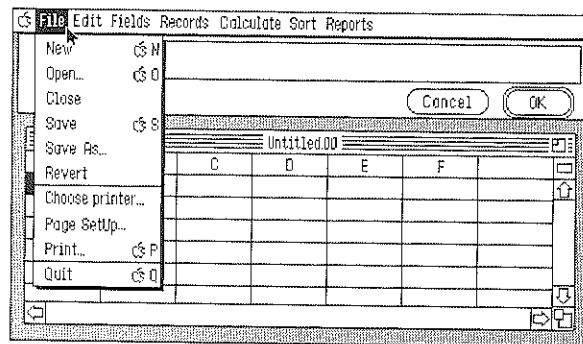
Occasionally, when you choose a selection from the **File** menu, this dialog box may appear:
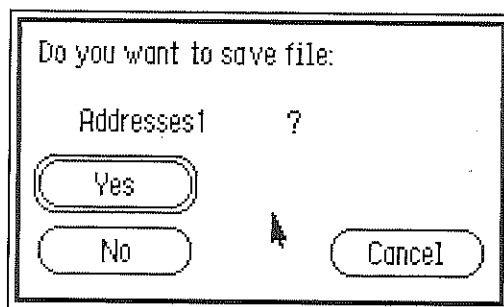
It means you've made changes to the list on the screen since you last saved it. The dialog box gives you a chance to save those changes.

The three buttons in the box give you these choices:

Yes. Click **Yes**, and a dialog box appears that lets you save the list. Name the list if you need to, then click **Save.** Once you've saved the list, the command you've selected is carried out.

No. Click **No**, and the command you've selected is carried out immediately. The list on the screen isn't saved, and you can't get it back.

Cancel. Click **Cancel** if you decide you don't want the command you've selected to be carried out.

New

Use **New** to start a new list. The Clipboard is left as it is. You can have up to four list windows open at a time.

You can't undo **New** once it has been carried out.

To use **New**:

• Choose **New** from the **File** menu, or hold down the *command* key and type **N**.

A list window with empty columns appears so you can start a new list.

Open

Use **Open** to redisplay a list you've saved on a disk. You can't undo **Open** once it has been carried out.

To use **Open**:

• Choose **Open** from the **File** menu, or hold down the *command* key and type **O**.

A dialog box appears.

```
Open:
🖫 /List Plus/Samples

 ┌─────────────────────┐ ⬆   ╭───────────╮
 │ Addresses           │     │   Disk    │
 │ AddressBook         │     ╰───────────╯
 │ Cookies             │
 │ Library             │     ╭───────────╮
 │ Realestate1         │     │   Open    │
 │ Realestate2         │     ╰───────────╯
 │ Schedule1           │     ╭───────────╮
 │ Terms               │     │   Close   │
 │                     │ ⬇   ╰───────────╯
 └─────────────────────┘     ╭───────────╮
                             │  Cancel   │
                             ╰───────────╯
```
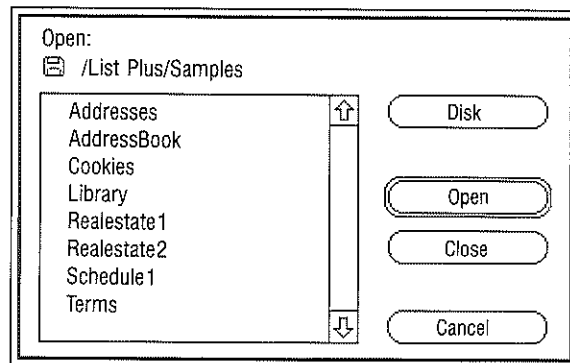
• Click the name of the list you want to open.

The buttons in the box give you these choices:

Open. Click **Open** to have the list you've selected displayed on the desktop.

The list appears on the desktop in a list window.

Close. Click **Close** if there's a *folder* open and you want to close it. If there's no folder open, **Close** is dimmed.

Disk. If the list you want to open is on a disk other than the one in the drive, put the new disk in the drive and then use **Disk** to display the names of the lists (and other files) on the new disk.

Cancel. Click **Cancel** if you decide not to open a list.

Close

Use **Close** to remove a list from the screen. It doesn't save the list, and it doesn't give you a new list window. You can't undo **Close** once it has been carried out.

To use **Close**:

• If you want to keep the list you're about to close, save it first.

• Choose **Close** from the **File** menu, or click the close box (at the left end of the title bar).

The list disappears from the screen. (If a dialog box appears that asks **Do you want to save file**, see the instructions at the beginning of the "File" section.)

Save

Use **Save** to make a permanent copy of a list on a disk. If there's already a list (or any other file) on the disk that has the same name as the list, the list erases it and replaces it.

Save also saves any changes you've made to the layouts of the four forms available on the **Records** menu. If you've created a custom layout for a report using the options on the **Reports** menu, it saves that layout as well.

You can also use **Save** to create a folder to save lists in. Saving lists in a folder is an easy way to keep lists that are related together.
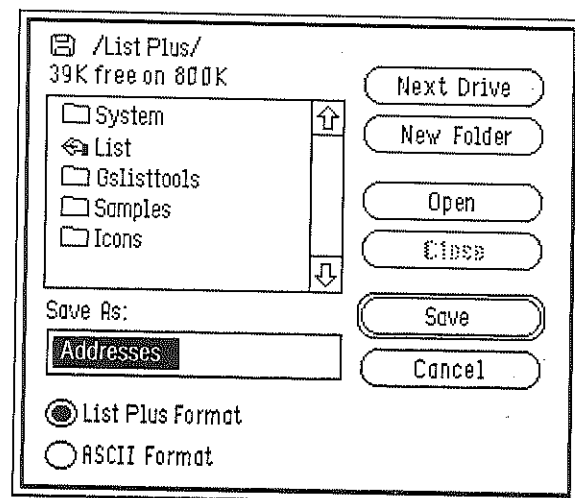
You can't undo **Save** once it has been carried out.

To use **Save:**

• Choose **Save** from the **File** menu, or hold down the *command* key and type **S.**

If you've saved the list before, *List Plus* saves it again immediately.

If you're saving a list for the first time, a dialog box appears.

```
┌─────────────────────────────────────────┐
│ 🖫 /List Plus/                            │
│ 39K free on 800K          ┌─────────────┐│
│ ┌───────────────────────┐ │  Next Drive ││
│ │ ▢ System           ⇧ │ └─────────────┘│
│ │ ⬸ List               │ ┌─────────────┐│
│ │ ▢ Gslisttools        │ │  New Folder ││
│ │ ▢ Samples            │ └─────────────┘│
│ │ ▢ Icons              │ ┌─────────────┐│
│ │                    ⇩ │ │    Open     ││
│ └───────────────────────┘ └─────────────┘│
│ Save As:                  ┌─────────────┐│
│ ┌───────────────────────┐ │    Close    ││
│ │ Addresses            │ └─────────────┘│
│ └───────────────────────┘ ┌─────────────┐│
│                           │    Save     ││
│ ⦿ List Plus Format       └─────────────┘│
│ ○ ASCII Format           ┌─────────────┐│
│                           │   Cancel    ││
│                           └─────────────┘│
└─────────────────────────────────────────┘
```

• Type a name for the list in the space under **Save As.**

You can save a list in either of two formats:

List Plus Format. Saves not only the information in each cell, but also information about the list itself (for example, the width of the columns and their attributes, formulas, custom report layouts, and so on).

ASCII Format. Saves all of the information in the list in the row-and-column format. Each column is separated by a tab. No information about the list itself is saved.

The buttons in the box give you these choices:

Next Drive. If you want to save the list on a disk other than the one in the drive, replace the disk in the drive with the new disk. Use **Next Drive** to display the names of the documents on the new disk.

New Folder. To create a new folder, type a name for it in the space under **Save As,** then click **New Folder.** Use **Open** to open the new folder whenever you want to save a list in it.

Open. If you want to save a list in a folder, select the folder from the catalog and click **Open.**

Close. You can use **Close** only if a folder is open. Use **Close** to close the folder.

Save. Click **Save** when you're ready to save the list.

If a dialog box appears that says **Volume full,** there isn't enough room on the disk to save the list. Click **OK,** then eject the disk from the drive and replace it with a disk that has space on it.

Cancel. Click **Cancel** if you decide not to save the list.

Save As

Use **Save As** to save different versions of the same list. You first give a new name to a list you've already saved, and then save the list under the new name.

As long as you give the new version a different name, **Save As**, unlike the **Save** command, doesn't replace the old list with the new one.

You can't undo **Save As** once it has been carried out.

To use **Save As:**

• Choose **Save As** from the **File** menu.

A dialog box appears that's just like the one that accompanies the **Save** command. The functions of the buttons and the formats that are available are explained above.

Revert

Use **Revert** to replace the list on the screen with the last version you saved. **Revert** has the effect of letting you undo all the changes you've made to a list since the last time you saved it. You can't undo **Revert** once it has been carried out.

To use **Revert:**

• Choose **Revert** from the **File** menu.

A dialog box appears. It asks you if you want to revert to the last version saved.

> Revert to last saved version of this list ?
>
> (Cancel)   (OK)
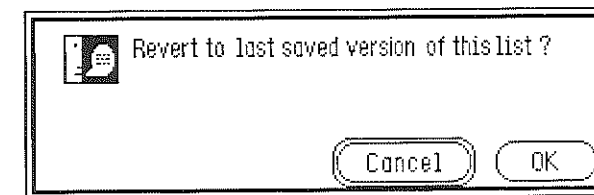
The buttons in the box give you these choices:

OK. Click **OK** to replace the list on the screen with the version that's on the disk. The list window goes blank, and after a moment, the last version saved appears.

Cancel. Click **Cancel** if you decide you don't want to revert to the previous version.

Choose Printer

Use **Choose printer** to let *List Plus* know what type of printer you have connected to your computer and which port the printer is connected to.

If you're using AppleTalk, see "Using AppleTalk" later in this section, then follow the instructions below.

To use **Choose printer:**

• Make sure that the *List Plus* system disk is in the disk drive that's active.

• Select **Choose printer** from the **File** menu.

A dialog box appears.

```
┌─────────────────────────────────────┐
│ ┌─────────────────────────────────┐ │
│ │ Choose Printer            v1.3  │ │
│ │ Printer type:      Printer port:│ │
│ │ ┌────────────┐┌┐   ┌──────────┐┌┐│ │
│ │ │IMAGEWRITER ││⇧│  │ PRINTER  ││⇧││ │
│ │ │LASERWRITER ││ │   │MODEM     ││ ││ │
│ │ │            ││ │   │APPLETALK ││ ││ │
│ │ │            ││ │   │          ││ ││ │
│ │ │            ││⇩│   │          ││⇩││ │
│ │ └────────────┘└┘   └──────────┘└┘│ │
│ │        ( Cancel )   (  OK  )     │ │
│ └─────────────────────────────────┘ │
└─────────────────────────────────────┘
```
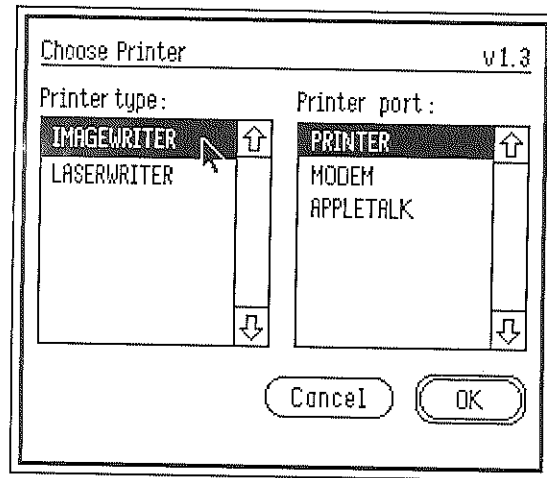
* Select one of the printers from the printer type catalog.
  Use the arrows to scroll the list up or down if you need to.

* Select one of the ports from the printer port catalog.

The buttons in the box give you these choices:

OK. Click **OK** when you've selected your printer and the
port it's connected to.

Cancel. Click **Cancel** to return any settings you've
changed to the way they were originally and to return to
the list window.

Using AppleTalk. If you choose **AppleTalk** as the printer
port:

* Go to the Control Panel. To do so, first hold down
  control and the *command* key, then press *esc.*

  The list window disappears and the **Desk Accessories**
  menu appears:

```
┌─────────────────────────────────────────┐
│  Desk Accessories                        │
│                                          │
│    Control Panel                         │
│    Alternate Display Mode                │
│    Mangler                               │
│    Loader Dumper                         │
│    Quit                                  │
│                                          │
│                                          │
│                                          │
│  Select: ↓ ↑              Open: ↵        │
└─────────────────────────────────────────┘
```
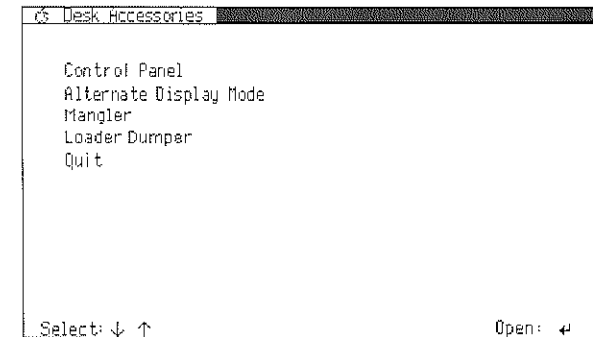
* Select **Control Panel,** then press *return.*

  The **Control Panel** menu appears.

* Use the arrow keys to highlight **Slots,** then press *return.*

  A listing appears with the settings of your computer's
  slots.

* Use the **up** and **down arrow** keys to highlight **Slot 1,** then
  use the **right arrow** key to display **Your Card** next to it.

Note: Make sure **Slot 1** is not set to **Printer Port,** or your
computer will stop working when you try to use AppleTalk.

• Use the arrow keys to highlight **Slot 7,** and set it to **Built-in AppleTalk.**

• Press *return* to save the slot settings and to return to the **Control Panel** menu.

• Select **Quit** to return to the **Desk Accessories** menu.

• Select **Quit** on the **Desk Accessories** menu to go back to *List Plus.*

• If you've made changes to the lists in any of the list windows that are open, save them.

• Close all the list windows, quit *List Plus,* and turn the computer off.

The changes you made to the settings of the slots on the Control Panel won't take effect until you start the computer again.

• Turn on the computer again and restart *List Plus.*

• Follow the instruction for using **Choose printer** above, and choose **AppleTalk** from the printer port catalog.

When you're finished using AppleTalk, go to the Control Panel and change the settings of the slots back to the way they were. Then turn the computer off, turn it back on again, and restart *List Plus.*

Page SetUp

Use **Page SetUp** to indicate how your printer is to print a list or report on the page.

Page SetUp is different from a report's layout. A report's layout is made up of margin settings, fixed or floating fields, and so on (for information about laying out a report, see "Reports," the section on the **Reports** menu). **Page SetUp** determines how a report appears on a page: you can, for example, print a report on its side (with the lines of text parallel to the long edge of the paper rather than the short edge), or you can print text at half its usual size.

The settings you choose are saved when you save the list.

To use **Page SetUp:**

• Choose **Page SetUp** from the **File** menu.

A dialog box appears. The settings you can choose from differ depending on the type of printer you selected in the Choose printer dialog box.

ImageWriter. If you chose **ImageWriter** in the Choose printer dialog box, the Page SetUp dialog box looks like this:

```
┌──────────────────────────────────────┐
│ IMAGEWRITER/PRINTER            v1.3   │
│ Paper: ⦿ US Letter                     │
│        ○ US Legal                      │
│        ○ International Fanfold          │
│        ○ A4 Letter                     │
│                                        │
│ Vertical Sizing:   Special Effects:    │
│   ⦿ Normal         ☐ 50% Reduction     │
│   ○ Condensed      ☐ No Gaps Between   │
│                         Pages          │
│ Orientation:                           │
│  ┌──┐ ┌──┐                             │
│  │  │ │  │   ( Cancel ) ( OK )         │
│  └──┘ └──┘                             │
└──────────────────────────────────────┘
```
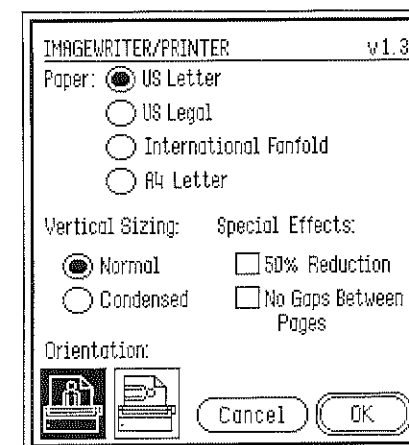
These are the settings you can choose from:

Paper:

US Letter. For paper 8 1/2 inches wide and 11 inches tall. (This option is automatically selected.)

US Legal. For paper 8 1/2 inches wide and 14 inches tall.

International Fanfold. For international standard paper, 8 1/4 inches wide and 12 inches tall.

A4 Letter. For European standard paper, 8 1/4 inches wide and 11 2/3 inches tall.

Vertical Sizing:

Normal. The printed text looks just like it does on the screen — the page is printed with the same number of rows of dots as the text on the screen is displayed in. (This option is automatically selected.)

Condensed. The list is printed half the height of the list on the screen, but with the same number of dots as a normal list.

Special Effects:

50% Reduction. The list is printed half its normal size.

No Gaps Between Pages. The list is printed continuously, without page breaks.

Orientation:
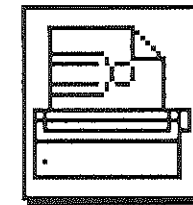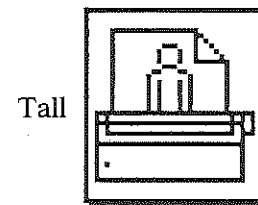
Tall   Wide

Tall. The text is printed upright on the page, with the top line at the top of the page. (This option is automatically selected.)

Wide. The text is printed sideways on the page, with the top line down the right side of the page.

LaserWriter. If you chose **LaserWriter** in the Choose printer dialog box, the Page SetUp dialog box looks like this:

```
LASERWRITER/APPLETALK          v1.1
Paper: ● US Letter  ○ A4 Letter
       ○ US Legal   ○ B5 Letter
Orientation:      Vertical Sizing:
                  ● Normal
   [icons]        ○ Intermediate
                  ○ Condensed
Printer Effects:
                  Reduce or  [100] %
⊠ Smoothing?      Enlarge:
⊠ Font Substitution?
              ( Cancel ) ( OK )
```
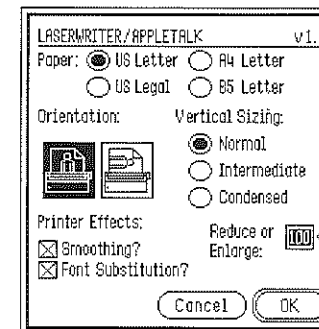
These are the settings you can choose from:

Paper:

US Letter. For paper 8 1/2 inches wide and 11 inches tall. (This option is automatically selected.)

US Legal. For paper 8 1/2 inches wide and 14 inches tall.

A4 Letter. For European standard paper, 8 1/4 inches wide and 11 2/3 inches tall.

B5 Letter. For paper 15 inches wide and 11 inches tall.

Orientation:
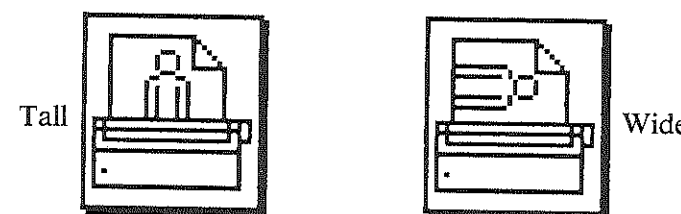
Tall | Wide

Tall. The text is printed upright on the page, with the top line at the top of the page. (This option is automatically selected.)

Wide. The text is printed sideways on the page, with the top line down the right side of the page.

Vertical Sizing:

Normal. The printed text looks just like it does on the screen (the page is printed with the same number of rows of dots as the text on the screen is displayed in).

Intermediate. The printed text looks two-thirds as high as the text on the screen (the page is printed with one and a half times the number of rows of dots as the text on the screen is displayed in). Select this option to fit a full page of text on paper that's being printed in the Wide rather than the Tall orientation.

Condensed. The text is the same height as it appears on the screen, but it's printed with twice as many rows of dots as the text on the screen is displayed in. The result is a high-resolution printed copy that resembles what a Macintosh would produce.

Printer Effects:

Smoothing. The printer adds extra dots in between points that form a line to produce a higher-resolution copy. (This option is automatically selected.)

Font Substitution. When you use certain fonts, a LaserWriter substitutes different fonts for the ones you've used when it prints the list out. *List Plus* uses a font named Shaston. A LaserWriter substitutes Helvetica for Shaston automatically whether or not you've selected this option.

Reduce or Enlarge. To reduce or enlarge the text of the list, type the percentage you want the text reduced or enlarged in the space next to **Reduce or Enlarge.**

You can type a number from 25% to 400% (50% reduces the text to half its normal size; 200% enlarges the text to twice its normal size).

The buttons in the box give you these choices:

OK. Click **OK** to record the settings you've chosen.

Cancel. Click **Cancel** to return any settings you've changed to the way they were originally and to return to the list window.

Print

Use **Print** to print the list in the list window that's currently active. If you're displaying each record on a separate form, use **Print** to print all the records in the list.

There's a difference both between **Print** and **Print QuickList** and between **Print** and **Print Custom Report:**

Print QuickList always prints a list as rows and columns regardless of whether a form or the row-and-column format is displayed. **Print**, on the other hand, produces a printed copy that matches the format that's displayed. **Print QuickList** also prints the name of the list at the top of the page and the page number at the bottom. **Print** does neither. (For more information, see "Print QuickList" under "Reports.")

Print Custom Report lets you print records only form by form. It also lets you add headers and footers, set top and bottom margins, print more than one record on a page, and choose fixed or floating fields. **Print** lets you do none of those things. (For more information, see "Print Custom Report" under "Reports.")

To stop printing once it has started, hold down the *command* key and type a period.

To use **Print:**

• Choose **Print** from the **File** menu, or hold down the *command* key and type **P.**

A dialog box appears. The settings you can choose from differ depending on the type of printer you selected in the Choose printer dialog box.

ImageWriter. If you chose **ImageWriter** in the Choose printer dialog box, the Print dialog box looks like this:
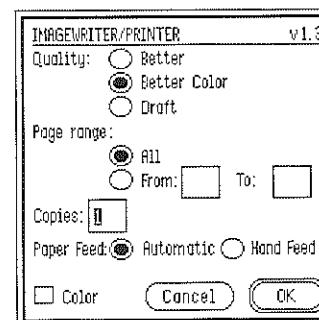
These are the settings you can choose from:

Quality:

Better. Produces the highest quality printed copy, but takes the longest to print. **Better** produces high-quality printed text by using a font that's twice the size of the actual font you've used, then condensing that font to half its size.

Better Color. Produces a high-quality printed copy and takes less time than **Better** to print. (This option is automatically selected.)

Draft. Produces a printed copy more quickly than either **Better** or **Better Color.**

Page Range:

All. All the pages of the list are printed. (This option is automatically selected.)

From:____ To:____. Lets you pick a range of pages you want *List Plus* to print. Click the button to the left of **From,** then type the numbers of the first and last pages you want to have printed.

Copies: If you want more than one copy, type the number of copies you want.

Paper Feed:

Automatic. For continuous computer paper. (This option is automatically selected.)

Hand Feed. For single sheets of paper that you feed into the printer by hand, one at a time.

Color. This option is for use only with applications such as *Paintworks Plus, Writer's Choice elite,* or *Draw Plus* that produce files that contain color.

LaserWriter. If you chose **LaserWriter** in the Choose printer dialog box, the Print dialog box looks like this:

```
LASERWRITER/PRINTER          v1.1
Pages:   ⦿ All
         ○ From:[    ] To: [    ]
Copies:[0]
Paper Source:
         ⦿ Paper Tray
         ○ Manual Feed
              ( Cancel )  ( OK )
```
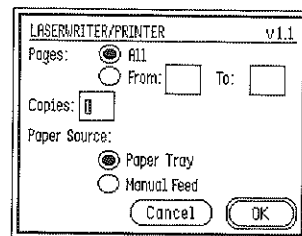
These are the settings you can choose from:

Pages:

All. All the pages of the list are printed. (This option is automatically selected.)

From:____ To:____. Lets you pick a range of pages you want *List Plus* to print. Click the button to the left of **From,** then type the numbers of the first and last pages you want to have printed.

Copies: If you want more than one copy, type the number of copies you want.

Paper Source:

Paper Tray. For paper that's in a cassette. (This option is automatically selected.)

Manual Feed. For single sheets of paper that you feed into the printer by hand, one at a time.

The buttons in the box give you these choices:

OK. When you've selected the settings you want, click **OK** to start printing.

Cancel. Click **Cancel** to return to the list window without printing the list. Any settings you've changed are returned to the way they were originally.

Quit

Use **Quit** to leave *List Plus.* You can't undo **Quit** once it has been carried out.

To use **Quit:**

* If you want to keep the list that's on the screen, save it.

* Choose **Quit** from the **File** menu, or hold down the *command* key and type **Q.**

The entire screen is erased, and you can start another application. (If a dialog box appears that asks **Do you want to save file,** see the instructions at the beginning of the "File" section.)

Edit

```
 File Edit Fields Records Calculate Sort Reports
       Undo      ⌘Z
       Cut       ⌘X
       Copy      ⌘C                    Cancel      OK
       Paste     ⌘V
       Clear          ═══════ Untitled.00 ═══════
       Shift...            D      E      F
       Insert row  ⌘J
       Delete row  ⌘L
       Duplicate row ⌘G
```
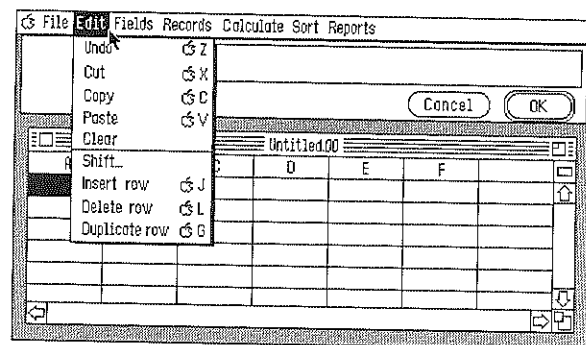
Undo

Use **Undo** to cancel the last change you made to a list.

Note: You can't use **Undo** to cancel any of the commands on the **File** or **Fields** menus.

To use **Undo:**

• Pull down the **Edit** menu and click **Undo;** you can also hold down the *command* key and type **Z.**

The last change you made to the list is canceled.

Cut

Use **Cut** together with **Paste** to move all or part of the information in a cell to another cell (the cell can be in the same list or in another list).

To use **Cut:**

• Select the information you want to cut. The information you select must be in the data entry box.

• Choose **Cut** from the **Edit** menu, or hold down the *command* key and type **X.**

The information you've selected disappears from the screen and is placed on the Clipboard. You can now go to the new location where you want to put the information and use the **Paste** command to place the information there.

Copy

Use **Copy** to make one or more copies of all or part of the information in a cell.

If you want to make a copy of an entire row, see "Duplicate Row" later in this "Reference" section. If you want to duplicate a column, see "Duplicate Column" also later in this "Reference" section.

To use **Copy:**

• Select the information you want to copy. The information you select must be in the data entry box.

• Choose **Copy** from the **Edit** menu; you can also hold down the *command* key and type **C.**

A copy of the information you've selected is placed on the Clipboard.

• To insert a copy of the information, use the **Paste** command.

Paste

Use **Cut** together with **Paste** to move information from one cell to another (the second cell can be in the same list or in a different list). If you want to move a copy of the information in a cell instead of the original information itself, use **Copy** instead of **Cut.**

To use **Paste:**

* First select the information you want to move, and then use **Cut** or **Copy.**

* Go to the place you want to move the information to. You can go to another part of the same list or to another list.

* Choose **Paste** from the **Edit** menu, or hold down the *command* key and type **V.**

Repeat the last two steps if you want to insert the information in more than one cell. The information stays on the Clipboard until you cut or copy something else.

Clear

Use **Clear** to erase information from a cell.

To use **Clear:**

* Select the cell you want to erase.

* Choose **Clear** from the **Edit** menu, or press *delete.*

The cell you've selected is erased.

Shift

Use **Shift** to move information one cell to the left or right of its current location. **Shift** moves not only the information in the cell you've selected, but also the information in all the cells to the right of the selected cell.

You may, when you're working with a list that has many columns with the same kind of information (say, dates or dollar amounts), accidentally start entering information in the wrong column and not realize you've made a mistake until you get to the end of the row. **Shift** is designed to correct a mistake such as that easily.

To use **Shift:**

* Select the leftmost cell that contains information that's in the wrong column.

* Choose **Shift** from the **Edit** menu.

This dialog box appears:

Shift the data from the current cell:

  (●) one cell to the right
  ( ) one cell to the left

  (Cancel) (OK)
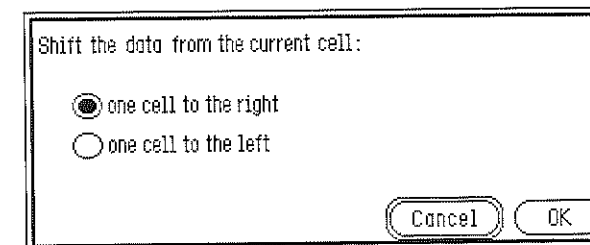
These are the options you have to choose from:

one cell to the right. Shifts the information in the cell you've selected and the information in all the cells to the right of it one cell to the right.

one cell to the left. Shifts the information in the cell you've selected and the information in all the cells to the right of it one cell to the left.

The buttons in the box give you these choices:

OK. Click **OK** to shift the information one cell in the direction you've chosen.

Cancel. Click **Cancel** to return to the list without shifting information.

Insert Row

Use **Insert row** to insert a blank row above the row that's currently selected.

To use **Insert row:**

• Select the row you want the new row to be above.

• Choose **Insert row** from the **Edit** menu, or hold down the *command* key and type **J.**

A blank row is inserted above the row you selected. The new row is automatically selected.

Delete Row

Use **Delete row** to remove the row you've selected from the list.

To use **Delete row:**

• Select the row you want to delete.

• Choose **Delete row** from the **Edit** menu, or hold down the *command* key and type **L.**

The row you selected is removed from the list.

Duplicate Row

Use **Duplicate row** to make a copy of the row you've selected. The copy of the row is inserted below the row you're copying.

To use **Duplicate row:**

• Select the row you want to copy.

• Choose **Duplicate row** from the **Edit** menu, or hold down the *command* key and type **G.**

A copy of the row you selected appears below the selected row.

Fields
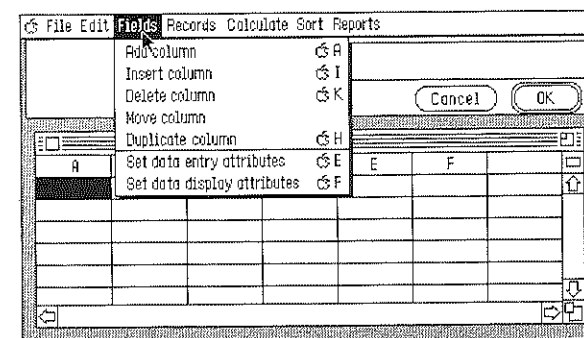
Add Column

Use **Add column** to add a column to the right of the column that's currently farthest right.

You can't undo **Add column** once the new column has been added. Use **Delete column** to remove the new column.

To use **Add column:**

- Choose **Add column** from the **Fields** menu, or hold down the *command* key and type **A**.

  A prompt that says **Column name** appears in the data entry window.

- Type a name for the column, then click **OK.**

The new column appears to the right of the column that's currently farthest to the right.

Insert Column

Use **Insert column** to add a column between existing columns.

You can't undo **Insert column** once the new column has been added. Use **Delete column** to remove the new column.

To use **Insert column:**

- Select the column to the right of the place where you want the new column to be added.

- Choose **Insert column** from the **Fields** menu, or hold down the *command* key and type **I**.

  A prompt that says **Column name** appears in the data entry window.

- Type a name for the column, then click **OK.**

The new column appears to the left of the column you selected.

Delete Column

Use **Delete column** to remove a column from the list permanently.

You can't get a column back once you've deleted it.

To use **Delete column:**

- Select the column you want to delete.

- Choose **Delete column** from the **Fields** menu, or hold down the *command* key and type **K**.

This dialog box appears:

```
About to delete column:

A

              ( Cancel ) (( OK ))
```
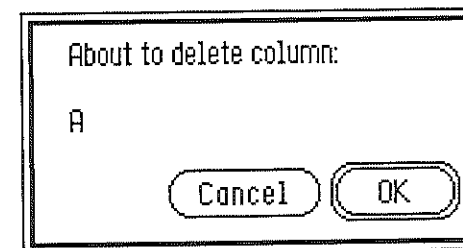
The buttons in the box give you these choices:

OK. Click **OK** to delete the column you've selected.

Cancel. Click **Cancel** to return to the list without deleting the column.

Move Column

Use **Move column** to change the place a column appears in a list.

To use **Move column:**

● Select the column you want to move.

● Choose **Move column** from the **Fields** menu.

The pointer changes from an arrowhead to a little truck, like the one at the left.

● Press the mouse button.

When you do, an outline of the column you've selected appears.

● Keep holding the mouse button down, and move the truck icon to the place where you want the column to be moved (*List Plus* inserts the column to the left of the column you move the truck to).

● Release the mouse button.

The column you selected moves to its new position, and all the columns to the right of it are redrawn.

Duplicate Column

Use **Duplicate column** to copy the contents of a column to another column. You can copy the contents of a column to a column in the same list or to one in another list. You can copy the contents of a column only to another column that already exists.

You can't undo **Duplicate column** once the contents of the column have been copied to another column.

To use **Duplicate column:**

● If you need to create a new column to receive a copy of the contents of the column you're duplicating, use **Add column** or **Insert column.**

● Select the column you want to copy.

● Choose **Duplicate column** from the **Fields** menu, or hold down the *command* key and type **H.**

This dialog box appears:

```
Copy from column:        A
                         ☐ Import
to column:               A
                         ( Next ) ( Previous )   ( Export )

☒ Data only
Note that this will erase all the data of the target column !
                                        ( Cancel ) ( OK )
```
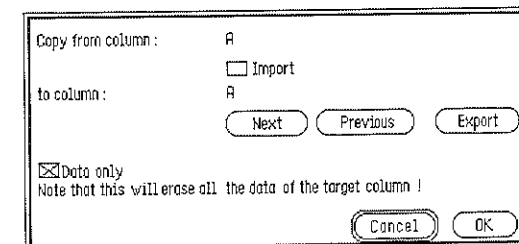
To copy information from one column to another in the same list:

• Use the **Next** and **Previous** buttons to display next to **to column** the name of the column you're copying the information to, then click **OK**.

To copy information from a column in one list to a column in another list:

• Click **Export** to copy the information in the column you've selected to a special clipboard, then click **OK**.

• Activate the list you want to copy the information to.

• Select the column you want to copy the information to.

• Choose **Duplicate** from the **Fields** menu, or hold down the *command* key and type **H**.

• When the dialog box appears, select the **Import** option, then click **OK**.

These are the options you can choose:

Import. Select **Import** to transfer information from a column in one list to a column in another list, rather than from one column to another within the same list. Before you use **Import,** use **Export** to make a copy of the information you want to transfer.

If you're importing a column that has a formula, any column names that the formula contains are imported along with the formula. Make sure that you change the names in the formula to match the column names in the list you're transferring the information to.

Data only. If you choose **Data only,** only the information in the column you've selected is copied. If you don't choose **Data only,** the column's name, its attributes and formula (if it has one) are copied along with the information it contains. If you've chosen **Export,** the column's name, its attributes and formula are copied whether you've selected **Data only** or not.

The buttons in the box give you these choices:

Next. Click **Next** to display the name of the column that's to the right of the column whose name appears following **to column.** If the name displayed there belongs to the rightmost column, clicking **Next** wraps around to display the name of the leftmost column.

Previous. Click **Previous** to display the name of the column that's to the left of the column whose name appears following **to column.** If the name displayed there belongs to the leftmost column, clicking **Next** wraps around to display the name of the rightmost column.

Export. Click **Export** to copy the contents of the column to a special clipboard so that you can transfer the contents to a column in another list.

Cancel. Click **Cancel** to return to the list without duplicating the contents of the selected column.

OK. Click **OK** to copy the contents of the column you've selected to the column whose name is displayed following **to column.** If you've clicked **Export,** clicking **OK** transfers the contents of the column to a special clipboard. If you've selected **Import,** clicking **OK** transfers the information on the special clipboard to the column you've selected.

Set Data Entry Attributes

Use **Set data entry attributes** to limit the kind and amount of information that can be entered in a column, to set a default value for a column, or to create a formula for a column.

To use **Set data entry attributes:**

- Select the column you want to set data entry attributes for.

- Choose **Set data entry attributes** from the **Fields** menu, or hold down the *command* key and type **E.**

This dialog box appears:

```
┌──────────────────────────────────────────────┐
│              Data entry For :     A            │
│ ○ Alphanumeric              ○ Alphabetic       │
│ ○ Numeric                   ○ Digits only      │
│ Limit input size to :      │80│ characters     │
│ ○ Formula                  □ Default value     │
│ Field :     A      ( Next )( Previous )( Put in formula )│
│ Operator :  (+)(-)(*)(/)(()())(@)(%)           │
│ │                                           │  │
│                           ( Cancel )( OK )     │
└──────────────────────────────────────────────┘
```

These are the options you have to choose from:

Alphanumeric. Allows the letters *A* through *Z* (both upper- and lowercase), the digits *0* through *9,* punctuation marks, and symbols (such as the ampersand (&), the asterisk (*), and so on). (This option is automatically selected.)

Alphabetic. Allows only the letters *A* through *Z* (both upper- and lowercase) and spaces.

Numeric. Allows only numbers, the decimal point (.), the plus (+) and minus (–) signs, and spaces.

Digits only. Allows only the digits *0* through *9.*

Limit input size to:____characters. Type a number from 0 to 255 to limit the number of characters that can be entered in any cell in the column you've selected. The size is automatically set at 80 characters.

The limit you set affects the amount of space set aside in memory for a list. If you leave the limit set at 80 characters, every time you add a record — even if the record is blank — 80 characters of space is set aside in memory for each column in the list. Even if the information you add to a column takes only 5 characters, 80 characters is still set aside in memory. You can create room in memory for more records by limiting each column to the number of characters you expect the longest entry in the column to contain.

Formula. Select **Formula** to activate the buttons in the lower part of the box so you can enter a formula.

A formula can include:

- *Constants,* which are values or sets of characters that stay the same each time the formula is calculated.

- Numbers

- Alphanumeric characters, placed inside quotation marks ("..."). For example, "Chicago, IL 30303".

- Dates, placed inside quotation marks ("..."). For example, "6/2/88".

- Column names, placed inside square brackets ([...]). For example, [Address]. A column name stands for, in turn, the value or set of characters in each of the cells in the column named. A column name is a *variable,* rather than a constant, because the actual value or set of characters it represents may be different for each record.

- Operators such as the plus sign (+) or the division sign (/).

- Functions such as *@SUM* or *@TODAY.*

- Conditional expressions (*IF...THEN...ELSE*) preceded by the at sign (@). For example, @IF (BALANCE = 0) THEN ("Overdrawn") ELSE ("Okay").

A formula can be made up of just constants (for example, 1 + 0.065), of just variables (for example, [PRICE] * [TAX]), or of a mixture of constants and variables (for example, [CITY] + ", IL" + [ZIP]).

A formula can be no longer than the formula entry line. If the formula you want to create won't fit, try using shorter column names. You can also break a long formula into its component equations, then insert a column for each equation (making each equation a formula for its respective column), and finally create a formula to combine the results of each of the component equations.

A formula is calculated once for each record in a list, and each time it's calculated it uses only the values in a single row (for example, you can't multiply the price of an item in one row by the quantity in a different row). The results are displayed in the column that's selected when you create the formula.

Default value. Select **Default value** if you want to be able to replace the value or set of characters that a formula displays in a cell.

Enter a number in the data entry line at the bottom of the dialog box, then select **Default value** to display that number as the default value in every cell in the column.

The buttons have these functions:

Field:

Next. Click **Next** to display the name of the column that's to the right of the column whose name appears next to **Field.** If the name displayed there belongs to the rightmost column, clicking **Next** wraps around to display the name of the leftmost column.

Previous. Click **Previous** to display the name of the column that's to the left of the column whose name appears next to **Field.** If the name displayed there belongs to the leftmost column, clicking **Next** wraps around to display the name of the rightmost column.

Put in formula. Click **Put in formula** to add the name of the column displayed next to **Field** to the data entry line. Remember that a column name is a variable, and that a formula is calculated once for each record in a list. When *List Plus* calculates the formula for a record, it replaces the column name with the value in that column in the current record.

Operator:

\+   Adds two numbers together.

Joins two sets of alphanumeric characters. For example, "*Chicago*" + "*,*" + "*IL*" equals "*Chicago, IL.*"

Adds a number of days to a date function to get a date. For example, if today is December 25, 1987, then @TODAY + 7 equals "*1/1/88.*"

–   Subtracts one number from another.

Removes one set of alphanumeric characters from another. For example, "*oxygen*" – "*yg*" equals "*oxen.*"

Subtracts a number of days from a date to get another date. For example, if today is December 25, 1987, then @TODAY – 7 equals "*12/18/87.*"

*   Multiplies two numbers.

/   Divides one number by another.

Gives the location where one set of alphanumeric characters appears within another set. For example, "*cola*"/"*chocolate*" equals 4 because the first letter in *cola* is the fourth letter in *chocolate*. If one set of characters doesn't appear in the other set exactly, the result is zero; for example, "*cola*"/"*collateral*" equals zero.

(*and*)   An equation inside parentheses is worked out before any equations outside the parentheses. For

example, 4 * (3 – 1) equals 8 because 1 is first subtracted from 3, then the result (2) is multiplied by 4; but 4 * 3 – 1 equals 11 because 4 and 3 are first multiplied, then 1 is subtracted from the result (12).

@   Indicates that the word following the at sign is a function. For example, @RND(10) indicates that *RND* is the random number function. (@RND(10) equals a random number between 1 and 10.)

%   Calculates a percentage by multiplying the number following the percent sign by 1/100th of the number before the percent sign. For example, if the value in the column named *Amount* is 200, 2% [AMOUNT] equals 4 because 200 times .02 equals 4.

Indicates if one set of alphanumeric characters is included in another set. For example, "*cola*" % "*chocolate*" equals TRUE because *cola* is included in *chocolate*. If one set of characters doesn't appear in the other set exactly, the result is FALSE; for example, "*cola*" % "*collateral*" equals FALSE. TRUE and FALSE are called *logical* values.

You can also use these operators although there are no buttons for them:

\\   Produces the remainder of a division calculation. For example, 17 \ 5 equals 2 because if you divide 17 by 5, the result is 3 with 2 left over.

&   Compares two logical values to see if they're the same. There are two logical values, TRUE and FALSE. If you compare two logical values that are

the same, the result is TRUE; otherwise the result is FALSE. For example, FALSE & FALSE is TRUE, but FALSE & TRUE is FALSE.

| Compares two logical values to see if either one is TRUE. If either of the values is TRUE, the result is TRUE; if neither of the values is TRUE, the reult is FALSE. For example, TRUE | FALSE is TRUE, but FALSE | FALSE is FALSE.

= In an If/Then formula, the If clause is true if the value, text, or date before the equal sign is the same as the value, text, or date after it. For example, if the date in the **DATE** column is "10/10/88", @IF([DATE] = "10/10/88") THEN ("Yes") ELSE ("No") equals "Yes". But if the date is "10/11/88", the formula equals "No".

≠ In an If/Then formula, the If clause is true if the value, text, or date before the not equal to sign is different from the value, text, or date after it. For example, if the date in the **DATE** column is "10/10/88", @IF([DATE] ≠ "10/10/88") THEN ("No") ELSE ("Yes") equals "Yes". But if the date is "10/11/88", the formula equals "No".

To display the not equal to sign (≠), hold down the *option* key and type an equal sign (=).

> In an If/Then formula, the If clause is true if the value, text, or date before the greater than sign is greater than the value, text, or date after it. If the information in the column is numeric, *greater than* means "is larger than." If the information is a date, *greater than* means "after." If the information in the

column is alphabetic or alphanumeric, *greater than* means "has a higher ACSII value" (see the Appendix, "ASCII Values," for more information).

Examples:

zebra is greater than *ant* because *z* has a higher ASCII value than *a*.
1213 is greater than *19* if the format for the column is numeric.
19 is greater than *1213* if the format for the column is alphanumeric: both *1*s have the same ASCII value, but *9* has a higher ASCII value than *2*.

So, if the text in the **ANIMAL** column is "zebra", @IF([ANIMAL] > "ant") THEN ("Yes") ELSE ("No") equals "Yes". But if the text in the **ANIMAL** column is "albatross", the formula equals "No".

≥ In an If/Then formula, the If clause is true if the value, text, or date before the greater than or equal to sign is the same as or larger than the value, text, or date after it. For example, if the value in the **BALANCE** column is $1.00, @IF([BALANCE] ≥ 0) THEN ("Okay") ELSE ("Overdrawn") equals "Okay". But if the balance is −$1.00, the formula equals "Overdrawn".

To display the greater than or equal to sign, hold down *option* and type a greater than sign (>).

< In an If/Then formula, the If clause is true if the value, text, or date before the less than sign is less than the value, text, or date after it. If the information in the column is numeric, *less than* means "is smaller than." If the information is a

date, *less than* means "before." If the information in the column is alphabetic or alphanumeric, *less than* means "has a lower ACSII value" (see the Appendix, "ASCII Values," for more information).

Examples:

ant is less than *zebra* because *a* has a lower ASCII value than *z*.
19 is less than *1213* if the format in the column is numeric.
1213 is less than *19* if the format for the column is alphanumeric: both *1*s have the same ASCII value, but *2* has a lower ASCII value than *9*.

So, if the text in the **ANIMAL** column is "zebra," @IF[ANIMAL]< "ant") THEN ("Yes") ELSE ("No") equals "No." But if the text is "albatross," the formula equals "Yes."

≤   In an If/Then formula, the If clause is true if the value, text, or date before the less than or equal to sign is less than or the same as the value, text, or date after it. For example, if the value in the **TEMPERATURE** column is 32, @IF([TEMPERATURE]≤ 32) THEN ("Freezing") ELSE ("Okay") equals "Freezing." If the value in the **TEMPERATURE** column is 20, the formula also equals "Freezing." But if the value is 33, the formula equals "Okay."

To display the less than or equal to sign, hold down *option* and type a less than sign (<).

You can use the following functions either in a formula or alone. Numbers in a function are represented by *n*, two or more numbers are represented by *n*,...(you have to separate two or more numbers with commas). Dates are represented by *d;* dates have to be inside quotation marks, and they have to be in the form MM/DD/YY.

@ABS(*n*) calculates the absolute value of the value inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). The absolute value of a number is always positive. For example, if the value of [BALANCE] is $573.38, @ABS([BALANCE]) equals 573.38.

@AVERAGE(*n*,...) finds the average of the values inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). For example, @AVERAGE(10,20) equals 15.

@COUNT([*name*],...) gives the number of cells in the columns you name that have information in them in the current record. For example, @COUNT([CITY],[STATE], [ZIP]) equals 2 if you have a city and state but no zip code for a certain record.

@DATE(*n*) gives the date that corresponds with the number inside the parentheses (the value can be a number or a column name, such as [START]). The number inside the parentheses stands for the number of days since December 31, 1899. For example, @DATE(1) equals '1/1/00' (that is, January 1, 1900); @DATE(35000) equals '10/29/95'. @DATE(*n*) is the complement of @NUMDATE(*d*).

@DAY(*d*) gives the day of the month of the date inside the parentheses as a number. You can write the date out as "MM/DD/YY," or you can use a date function, such as

@TODAY. If you write the date out, place it inside double quotation marks, like this: @DAY("MM/DD/YY"). For example, @DAY("4/12/88") equals 12; if the current date is April 1, 1988, @DAY(@TODAY) equals 1.

@EMPTY([*name*]) tells you whether or not the column whose name is inside the parentheses is empty in the current record. If the column is empty, @EMPTY([*name*]) displays TRUE; it the column isn't empty, it displays FALSE. For example, if the current record has no city listed in the CITY column, @EMPTY([CITY]) is TRUE; if there is a city listed, @EMPTY([CITY]) is FALSE.

@LENGTH("*text*") gives the number of characters in a string of text. For example, @LENGTH("Boston") equals 6. You can put the text itself inside the parentheses, or you can use the name of the column containing the text whose length you want to count, like this: @LENGTH([CITY]). If you put the text itself inside the parentheses, put quotation marks around it.

@MAXIMUM(n,...) finds the largest value among the values inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). For example, @MAXIMUM(10,1,5) equals 10; @MAXIMUM (10,[AMOUNT],5) compares the value in the AMOUNT column in the current row with *10* and *5* and displays the largest of the three.

@MINIMUM(n,...) finds the smallest value among the values inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). For example, @MINIMUM(10,1,5) equals 1; @MINIMUM (10,[AMOUNT],5) compares the value that appears in the AMOUNT column in the current row with *10* and *5* and displays the smallest of the three.

@MONTH(d) gives the month of the date inside the parentheses as a number. You can write the date out as "MM/DD/YY", or you can use a date function, such as @TODAY. If you write the date out, place it inside double quotation marks, like this: @MONTH ("MM/DD/YY"). For example, @MONTH("4/12/88") equals 4; if the current date is October 1, 1988, @MONTH(@TODAY) equals 10.

@NUMDATE(d) gives the number that corresponds with the date inside the parentheses. You can write the date out as "MM/DD/YY", or you can use a date function, such as @TODAY. If you write the date out, place it inside double quotation marks, like this: @NUMDATE ("MM/DD/YY"). The number @NUMDATE(d) displays stands for the number of days since December 31, 1899. For example, if the current date is June 2, 1988, @NUMDATE(@TODAY) equals 32295; @NUMDATE ("1/1/50") equals 18263. @NUMDATE(d) is the complement of @DATE(n).

@PRODUCT(n,...) multiplies the values you put inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). For example, @PRODUCT ([BALANCE],10) multiplies the value in the BALANCE column by 10. If you use the name of a column that's empty, it's ignored; if the column contains a zero, however, the zero is not ignored. For example, if the BALANCE column is empty, @PRODUCT ([BALANCE],10) equals 10. But if the value in the BALANCE column is zero, @PRODUCT ([BALANCE],10) equals zero.

@RND(n) generates a random number between 1 and the value inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). For example, @RND(10) equals a random number between 1 and 10.

@SGN(*n*) shows the sign of the value inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). A positive sign is shown as 1, a negative sign as −1; zero is shown as 0. For example, if the value of [BALANCE] is −$573.38, @SGN([BALANCE]) equals −1.

@SQRT(*n*) calculates the square root of the value inside the parentheses (a value can be a number or a column name, such as [AMOUNT]). For example, @SQRT(4) equals 2.

@STR$(*n*) changes the value inside the parentheses into text (the value can be a number or a column name, such as [AMOUNT]). Changing a value into text lets you use the results of a formula in an alphabetic column. It also lets you use information you've entered in a numeric-only column in an alphabetic column. For example, @STR$(20) equals "20" (not "*twenty*"). Remember that even though the value 20 and the text 20 may look the same, they're treated differently by *List Plus*. @STR$(*n*) is the complement of @VALUE ("*text*").

@SUM(*n*, . . .) adds together the values you put inside the the parentheses (a value can be a number or a column name, such as [AMOUNT]). @SUM([AMOUNT],10) adds 10 to the value in the **AMOUNT** column.

@TODAY gives the current date. For example, if the current date is April 1, 1988, @TODAY equals 4/1/88.

@VALUE("*text*") changes the text digits inside the parentheses into a value. Changing text digits into a value lets you use a number you've entered as text in a formula or a numeric-only column. For example, @VALUE("316") changes the string of characters "316" into the value 316. You can put the text digits themselves inside the parentheses, as in

@VALUE("316"); or you can use the name of the column that has the text you want to transform, like this: @VALUE([AGE]). If you put the text digits themselves inside the parentheses, put double quotation marks around the digits, like this: @VALUE("316"). @VALUE("*text*") is the complement of @STR$(*n*).

@YEAR(*d*) gives the year of the date inside the parentheses as a number. You can write the date out as "MM/DD/YY," or you can use a date function, such as @TODAY. If you write the date out, place it inside double quotation marks, like this: @YEAR ("MM/DD/YY"). For example, @YEAR("4/12/88") equals 88; if the current date is August 27, 1989, @YEAR(@TODAY) equals 89. The year's two leading digits, *19,* are dropped.

The buttons in the box give you these choices:

OK. Click **OK** to accept any data entry attribute you've selected, any input size limit or default value you've entered, or any formula you've created.

Cancel. Click **Cancel** to return anything you've changed to the way it was originally and to go back to the list.

Set Data Display Attributes

Use **Set data display attributes** to determine the format the information in a column appears in. The display attribute of a column also determines the way in which *List Plus* can manipulate the information in a column. For example, numbers in a column whose display format is alphanumeric are sorted in a different manner from numbers in a column whose display format is numeric.

To use **Set data display attributes:**

• Select the column whose display format you want to set.

• Choose **Set data display attributes** from the **Fields** menu, or hold down the *command* key and type **F.**

This dialog box appears:

```
Data display For:    A
◉ Alphanumeric
○ Alphabetic      ○ Lowercase              ○ Uppercase
○ Numeric         ○ Integer      ○ Fixed ☐ Decimal place(s)
○ Date            ○ Slashes      ○ Dashes  ○ Display century
○ Phone           ○ (NNN)-NNN-NNNN          ○ NNN-NNN-NNNN
○ Time            ○ HH:MM (AM/PM)           ○ HH:MM (24 hours)
○ Money           Symbol: ☐
   ○ Before value    ○ After value      ☐ Decimal place(s)

◉ Left justified    ○ Right justified    ○ Centered

                              ( Cancel )  ( OK )
```
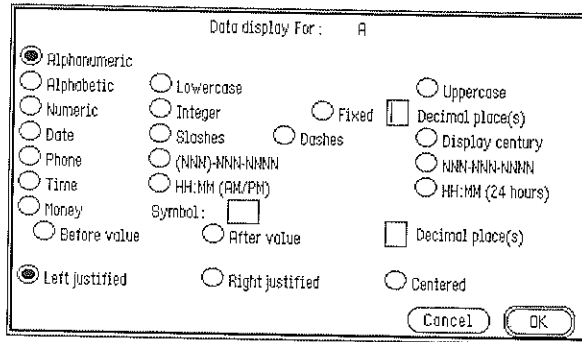
These are the options you have to choose from:

Alphanumeric. Displays the letters *A* through *Z* (both upper- and lowercase), the digits *0* through *9*, punctuation marks, symbols (such as the ampersand (&), the asterisk (*), and so on), and spaces. (This option is automatically selected.)

Alphabetic. Displays only the letters *A* through *Z* and spaces.

Lowercase. Displays both upper- and lowercase letters.

Uppercase. Displays uppercase letters only.
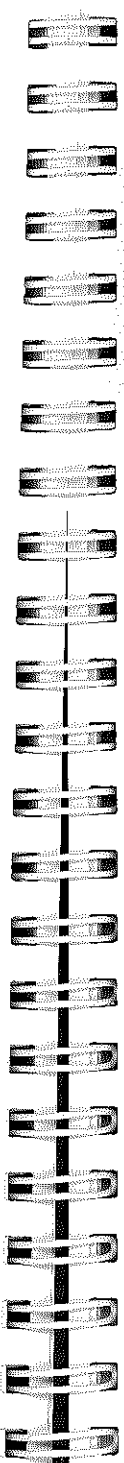
Numeric. Displays only numbers, the decimal point (.), the plus (+) and minus (−) signs, and spaces.

Integer. Displays only whole numbers. Rounds decimal numbers to the nearest whole number.

Fixed. Displays numbers with a fixed number of decimal places.

____Decimal place(s). Type the number of decimal places you want to be displayed.

If a number has more decimal places than the number of places you set, *List Plus* rounds the number off. If the leftmost digit to be dropped is five or more, the number is rounded up to the next highest value. For example, for two decimal places, 5.005 is rounded up to 5.01; 5.0051 and 5.00501 are also rounded up to 5.01. But if the leftmost digit to be dropped is less than 5, the extra digits are simply dropped. So 5.004 is rounded down to 5.00; 5.0049 and 5.00499 are also rounded down to 5.00.

Date. Displays up to six digits as a date in this format: MM DD YY.

Slashes. Separates the month, day, and year with slashes, like this: MM/DD/YY.

Dashes. Separates the month, day, and year with dashes, like this: MM-DD-YY.

Display century. Displays all four digits of the year, like this: MM/DD/YYYY or MM-DD-YYYY. *List Plus* makes the first two digits of the year 19 unless you enter different digits.

Phone. Displays up to ten digits as a phone number.

(NNN)NNN-NNNN. Displays a phone number like
this: (800)555-4567.

NNN-NNN-NNNN. Displays a phone number like this:
800-555-4567.

Time. Displays from one to four digits as time. Enter the
time in 24-hour format. For example, for 12:00 midnight,
type 0000 (or just one zero). 12:00 noon is 1200. 12:30 AM
is 0030 (or just 30). 1:00 AM is 0100 (but not just 1 — 1 is
the same as 0001, or 12:01 AM). 6:00 AM is 0600. 6:00 PM
is 1800.

HH:MM (AM/PM). Displays time followed by AM or
PM to show whether it's between midnight and noon
(AM) or between noon and midnight (PM).

HH:MM (24 hours). Displays time in 24-hour format.
Midnight is 00:00, noon is 12:00. 6:00 AM is 600,
6:00 PM is 1800.

Money. Displays a value as currency.

Symbol: _____. Type the symbol you want to use. (A
dollar sign is automatically displayed.)

Before value. Displays the currency symbol before the
value (for example, $20.00 or £20.00).

After value. Displays the currency symbol after the
value (for example, 95¢ or 95p).

_____Decimal place(s). Type the number of decimal
places you want to be displayed.

Left justified. Starts the text or number in the cell at the
left edge of the cell.

Right justified. Ends the text or number in the cell at the
right edge of the cell.

Centered. Centers the text or number in the cell.

The buttons in the box give you these choices:

OK. Click **OK** to accept the settings you've selected.

Cancel. Click **Cancel** to return the settings to the way
they were before you made any changes and to return to
the list.

Records
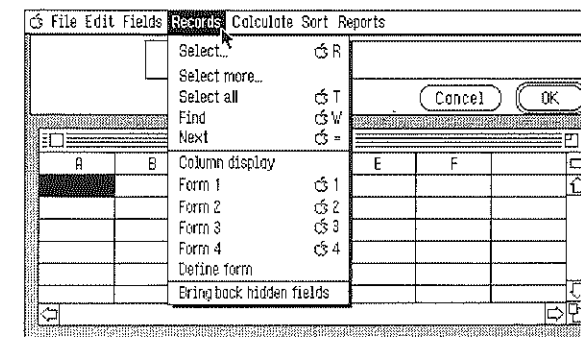
Select

Use **Select** to extract from a list records that contain specific
information.

To use Select:

● Select the column you want to use as the basis for choosing records.

● Choose **Select** from the **Records** menu, or hold down the *command* key and type **R.**

This dialog box appears:

```
Select     A      =  [                    ]
Operator :  Equal to
⊜ ⊘ ⊙ ⊙ ⊙ ⊙ Ⓑ ⓃⒷ ⒤Ⓝ Ⓝ⒤ Ⓔ ⓃⒺ   ( Cancel )  ( OK )
```
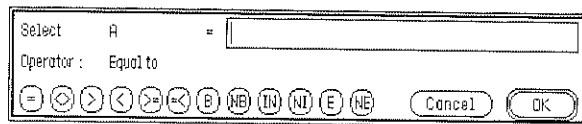
● Choose an operator.

● Type the information you want to compare the information in the records to.

List Plus compares the information you entered in the dialog box with the information in each cell in the column you've selected.

These are the options you can choose from:

= **Equal to.** Selects a record if the information in the column you've select matches the information in the dialog box exactly.

< > **Not equal to.** Selects a record if the information in the column you've select *doesn't match* the information in the dialog box.

> **Greater than.** Selects a record if the information in the column you've selected is greater than the information in the dialog box. If the information in the column is

alphabetic or alphanumeric, *Greater than* means "has a higher ASCII value" (see the Appendix, "ASCII Values," for more information). If the information in the column is numeric, *Greater than* means "is larger than."

Examples:

zebra is greater than *ant* because *z* has a higher ASCII value than *a*.
1213 is greater than *19* if the format for the column is numeric.
19 is greater than *1213* if the format for the column is alphanumeric: both *1*s have the same ASCII value, but *9* has a higher ASCII value than *2*.

< **Lower than.** Selects a record if the information in the column you've selected is lower than the information in the dialog box. If the information in the column is alphabetic or alphanumeric, *Lower than* means "has a lower ASCII value" (see the Appendix, "ASCII Values," for more information). If the information in the column is numeric, *Lower than* means "is smaller than."

Examples:

ant is lower than *zebra* because *a* has a lower ASCII value than *z*.
19 is lower than *1213* if the format for the column is numeric.
1213 is lower than *19* if the format for the column is alphanumeric: both *1*s have the same ASCII value, but *2* has a lower ASCII value than *9*.

> = **Greater than or equal to.** Selects a record if the information in the column you've selected is greater than or equal to the information in the dialog box.

If the information in the column is alphabetic or alphanumeric, *Greater than or equal to* means "has the same or higher ASCII value" (see the Appendix, "ASCII Values," for more information). If the information in the column is numeric, *Greater than or equal to* means "is the same as or larger than."

< = **Lower than or equal to.** Selects a record if the information in the column you've selected is lower than or equal to the information in the dialog box. If the information in the column is alphabetic or alphanumeric, *Lower than or equal to* means "has the same or a lower ACSII value" (see the Appendix, "ASCII Values," for more information). If the information in the column is numeric, *Lower than or equal to* means "is the same as or smaller than."

B **Begins with.** Selects a record if the information in the column you've selected begins with the character or characters you've entered in the dialog box.

Examples:

tw selects *two, twelve,* and *twenty.*
twe selects *twelve* and *twenty.*
. *twen* selects only *twenty.*

NB **Doesn't begin with.** Selects a record if the information in the column you've selected *doesn't* begin with the character or characters you've entered in the dialog box.

Examples:

tw selects *three,* but not *two, twelve,* or *twenty.*
twe selects *two,* but not *twelve* or *twenty.*
twen selects *two* and *twelve,* but not *twenty.*

IN **Includes.** Selects a record if the character or characters you've entered in the dialog box appear as part of the information in the column you've selected.

Examples:

A/C selects *Deck, A/C, Sauna* and *fp, pool, a/c* but not *FP, sauna, pool.*
Sauna selects *Deck, A/C, Sauna* and *FP, sauna, pool* but not *fp, pool, a/c.*

NI **Doesn't include.** Selects a record if the character or characters you've entered in the dialog box *don't* appear as part of the information in the column you've selected.

Examples:

pool selects *Deck, A/C, Sauna* but not *fp, pool, a/c* or *FP, sauna, pool.*
A/C selects *FP, sauna, pool* but not *Deck, A/C, Sauna* or *fp, pool, a/c.*

E **Ends with.** Selects a record if the information in the column you've selected ends with the character or characters you've entered in the dialog box.

Examples:

itis selects *bronchitis* and *neuritis,* but not *agoraphobia, kleptomania,* or *monomania.*
mania selects *kleptomania* and *monomania,* but not *agoraphobia, bronchitis,* or *neuritis.*

NE **Doesn't end with.** Selects a record if the information in the column you've selected *doesn't* end with the character or characters you've entered in the dialog box.

Examples:

phobia selects *bronchitis* and *kleptomania,* but not *agoraphobia* or *xenophobia.*
itis selects *kleptomania, agoraphobia,* and *xenophobia,* but not *bronchitis.*

The buttons in the box give you these choices:

OK. Click **OK** to start selecting records.

Cancel. Click **Cancel** to go back to the list without selecting any records.

Select More

Use **Select more** to add more records from the original list to a list of selected records.

To use **Select more:**

• Select the column you want to use as the basis for choosing records.

• Choose **Select more** from the **Records** menu.

A dialog box appears. The dialog box is the same as the one that appears when you use the **Select** function. See the previous section, "Select," for an explanation of the options that are available.

Select All

Use **Select all** to redisplay all the records in a list after you've been working with just a few selected records.

To use **Select all:**

• Choose **Select all** from the **Records** menu, or hold down the *command* key and type **T.**

The complete list reappears in the list window.

Find

Use **Find** to locate a cell whose contents match the value, text, date, or time you've entered in the Find dialog box. **Find** can locate matching information only in the list that's active when you choose **Find** from the menu.

To use **Find:**

• If you don't want to search the entire list, select the cell where you want the search to begin.

• Choose **Find** from the **Records** menu, or hold down the *command* key and type **W.**

This dialog box appears:

```
Find:  [                                              ]
☒ From the first cell        ☒ On all fields
☐ Match exactly                        ( Cancel )  ( Find )
```

• Type the information you're looking for in the space next to **Find.**

Find doesn't distinguish between numbers that stand for a value and numbers that are part of text. For example, if you type *1200,* you'll find both numeric entries like *$1200.00* and alphanumeric entries like *1200 Mariposa Avenue.*

Find doesn't distinguish between uppercase and lowercase letters. For example, if you type *chicago,* you'll find *Chicago* and *CHICAGO* along with *chicago.*

If you want to find a currency value, a date, a time, a phone number, or any other value that has punctuation other than a decimal point, a plus sign (+), or a minus sign (−), type just the value; don't type the symbol or punctuation that goes along with the value. For example, if you want to find *$1200.00,* type just *1200* or *1200.00.* If you want to find *1/07/88,* type just *10788.* If you want to find *12:25 AM,* type just *0025* or *25.* If you want to find *(617)-555-2964,* type just *6175552964.*

These are the options you can choose:

From the first cell. Select **From the first cell** if you want to search the entire list regardless of the record that's currently selected (the X in the box to the left of the option indicates that the option is selected).

If you want to start the search beginning with the record you've selected, point to the box to the left of the option and click the mouse button to remove the X there.

On all fields. Select **On all fields** if you want to search the entire list regardless of the column that's currently selected (the X in the box to the left of the option indicates that the option is selected).

If you want to search only the column you've selected, point to the box to the left of the option and click the mouse button to remove the X there.

Match exactly. Select **Match exactly** if you want to find only the cells that contain exactly the information you've entered in the space next to **Find.** For example, if you want to find just *CA*, and not such entries as *Chicago, Canada,* and *Boca Raton,* type *CA* and select **Match exactly.** (**Find** doesn't distinguish between uppercase and lowercase letters even when you select **Match exactly.**)

The buttons give you these choices:

Cancel. Click **Cancel** if you want to return to the list without carrying out a search.

Find. Click **Find** to search for the information you've entered. If *List Plus* finds the information, the Find dialog box disappears, and the cell that contains the information is selected. If *List Plus* doesn't find the information, the Find dialog box disappears, and a message box saying **String not found** appears.

Next

Use **Next** to find the same information that you last searched for and found.

To use **Next:**

- If you don't want to search the entire list, and you canceled either **From the first cell** or **On all fields,** select the cell where you want the search to begin.

• Choose **Next** from the **Records** menu, or hold down the *command* key and type the equal sign (=).

List Plus immediately starts the search. If it finds the information, the cell that contains the information is selected. If it doesn't find the information, a message box saying **String not found** appears.

Column Display

Use **Column display** to change from viewing each record on a separate form to viewing the list in the row-and-column format.

To use **Column display**:

• Choose **Column display** from the **Records** menu.

The list is redrawn in the row-and-column format.

Form 1/2/3/4

Use **Form 1** through **Form 4** to display each record in a list on a separate form. You can use each **Form** option for a separate layout. (Use **Define form** to change the layout of any of the forms.)

To use the **Form** option:

• Choose the option on the **Records** menu that corresponds to the form layout you want to display, or hold down the *command* key and type the number of the **Form** option.

The list window is redrawn, and the record that's currently selected is displayed on a form.

Define Form/Complete Form

Use **Define form** to change the layout of any of the four forms available through the **Form** options. In addition to changing the size or location of any of the fields on the form, you can also add non-data text fields. (A non-data field contains text that doesn't have anything to do with any of the categories of information you're collecting; an example of a non-data field is a field for the title of a form.)

When you choose **Define form**, the option on the **Records** menu changes to **Complete form**.

To use **Define form**:

• Choose one of the **Form** options to display the form you want to rearrange.

• Choose **Define form** from the **Records** menu.

The form changes so that each field is visible.

To move a field:

• Hold down the *command* key.

• Point to the field you want to move, then press the mouse button and hold it down.

A dotted outline of the field appears.

- Move the dotted outline to the place where you want the field to appear. Make sure the dotted outline doesn't overlap any other field.

- Release the mouse button.

The field disappears from its old location and appears in its new one.

To hide or change the size of a field:

- Hold down the *option* key.

- Point to the field you want to hide or whose size you want to change, then press the mouse button and hold it down.

    A dotted outline of the field appears.

- To hide the field, shrink the dotted outline to nothing by moving the pointer above and to the left of the upper left corner of the field.

- To change the size of the field, stretch or reduce the dotted outline to the size you want the field to be. Make sure the dotted outline doesn't overlap any other field.

- Release the mouse button.

The field is redrawn.

To create a non-data text field:

- Hold down the *option* key.

- Point to any gray area on the form, hold down the mouse button, and drag the mouse down and to the right.

    A dotted rectangle appears.

- When the field is the size you want it to be, release the mouse button.

    A new field appears.

    You can change the size of the field, move it, or hide it just like any other field.

- When you've finished making changes to the form, choose **Complete form** from the **Records** menu.

Bring Back Hidden Fields

Use **Bring back hidden fields** to redisplay on a form the fields you've hidden.

To use **Bring back hidden fields:**

- Choose **Bring back hidden fields** from the **Records** menu.

All the fields on the form that were hidden are redrawn, except for non-data fields that were empty when you hid them.

Calculate
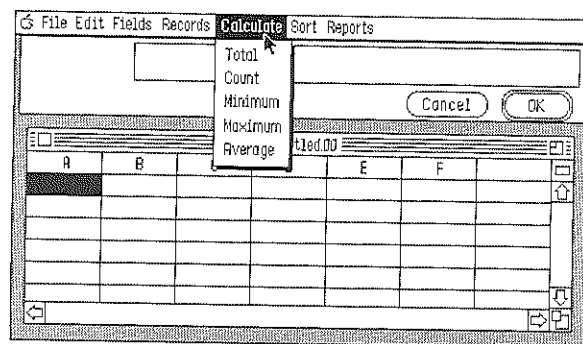
Total

Use **Total** to add all the values in a column together. The total is displayed preceded by **T** in a cell below the last record in the column. **Total** recalculates the values in the column every time you make a change to the column.

Total works only with columns whose data display attribute is **Numeric** or **Money.**

To use **Total:**

- Select the column you want to total.

- Choose **Total** from the **Calculate** menu.

The total appears in a cell below the last record in the column. If you total more than one column, all the totals appear in the same row. A check mark also appears next to **Total** on the **Calculate** menu.

- To remove the total from a column, choose **Total** from the **Calculate** menu again.

The total disappears from the column, and the check mark that's next to **Total** on the **Calculate** menu also disappears.

Count

Use **Count** to count the number of cells in a column that have an entry. The count is displayed preceded by **C** in a cell below the last record in the column. The count is recalculated every time you make a change to a column.

To use **Count:**

- Select the column whose entries you want to count.

- Choose **Count** from the **Calculate** menu.

The count appears in a cell below the last record in the column. If you count the entries in more than one column, all the counts appear in the same row. A check mark also appears next to **Count** on the **Calculate menu.**

- To remove the count from a column, choose **Count** from the **Calculate** menu again.

The count disappears from the column, and the check mark that's next to **Count** on the **Calculate** menu also disappears.

Minimum

Use **Minimum** to display the smallest value in a column. The minimum value is displayed preceded by **I** in a cell below the last record in the column. The minimum value is updated every time you make a change to the column.

Minimum works only with columns whose data display attribute is **Numeric** or **Money.**

To use **Minimum:**

• Select the column where you want to find the lowest value.

• Choose **Minimum** from the **Calculate** menu.

The minimum value appears in a cell below the last record in the column. If you find the minimum value for more than one column, all the minimum values appear in the same row. A check mark also appears next to **Minimum** on the **Calculate** menu.

• To remove the minimum value from a column, choose **Minimum** from the **Calculate** menu again.

The minimum value disappears from the column, and the check mark that's next to **Minimum** on the **Calculate** menu also disappears.

Maximum

Use **Maximum** to find the largest value in a column. The maximum value is displayed preceded by **S** in a cell below the last record in the column. **Maximum** updates the maximum value in the column every time you make a change to the column.

Maximum works only with columns whose data display attribute is **Numeric** or **Money.**

To use **Maximum:**

• Select the column where you want to find the maximum value.

• Choose **Maximum** from the **Calculate** menu.

The maximum value appears in a cell below the last record in the column. If you find the maximum value for more than one column, all the maximum values appear in the same row. A check mark also appears next to **Maximum** on the **Calculate** menu.

• To remove the maximum value from a column, choose **Maximum** from the **Calculate** menu again.

The maximum value disappears from the column, and the check mark that's next to **Maximum** on the **Calculate** menu also disappears.

Average

Use **Average** to find the average of all the values in a column. The average is displayed preceded by **A** in a cell below the last record in the column. **Average** recalculates the average value in the column every time you make a change to the column.

Average works only with columns whose data display attribute is **Numeric** or **Money.**

To use **Average:**

• Select the column whose average value you want to find.

* Choose **Average** from the **Calculate** menu.

The average appears in a cell below the last record in the column. If you average more than one column, all the averages appear in the same row. A check mark also appears next to **Average** on the **Calculate** menu.

* To remove the average from a column, choose **Average** from the **Calculate** menu again.

The average disappears from the column, and the check mark that's next to **Average** on the **Calculate** menu also disappears.

Sort
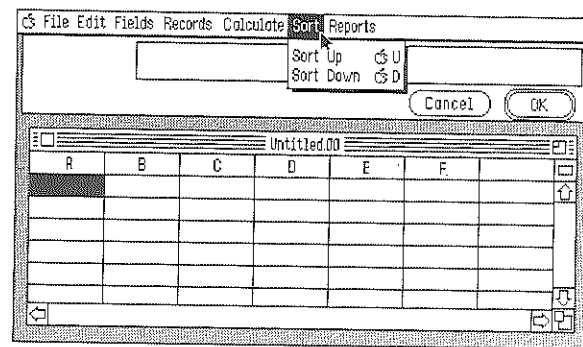
Use the **Sort** functions to arrange all the records in a list according either to their ASCII text value or to their numerical value.

What determines whether information is sorted as text or as values is the data display attribute that you've chosen for the information. If you've chosen **Alphanumeric** or **Alphabetic**, then both text and numbers are treated as text, and they're

arranged according to their ASCII value. If you've chosen **Numeric, Date, Phone, Time,** or **Money,** the information is treated as numerical values. Blank fields are always last regardless of whether the information is being treated as text or numerical values.

ASCII is a standard for assigning numerical values to the letters of the alphabet, numbers, punctuation marks, and symbols (you'll find a complete list of characters and their ASCII order in the Appendix).

The ASCII order of the letters of the alphabet is the same as normal alphabetical order.

Numbers and most symbols come before the letters of the alphabet. Say, for example, you have a list of characters that looks like this:

a * 9 ? 5 z M 0 !

If you ordered them according to their ASCII value, the list would look like this:

! * 0 5 9 ? a M z

ASCII treats every digit in a number separately, just as it treats every letter in a word separately. For example, *abacus* doesn't come after *ant* even though it's a bigger word than *ant,* because *b,* the second letter in *abacus,* comes before *n,* the second letter in *ant.* In the same way, when *1213* and *19* are ordered according to their ASCII values, *1213* comes before *19* even though it's a larger number, because *2,* its second digit, comes before *9,* the second digit in *19.* The numerical value of a number doesn't matter; it's the ASCII value of each of its digits taken individually that determines where it belongs.

Sort Up

Use **Sort Up** to arrange text from first to last (that is, from lowest ASCII value to highest ASCII value), and values from smallest to largest.

Sort Up arranges all the records in a list based on the information in a single column.

To use **Sort Up:**

- Select the column you want to use as the basis for the sorting.

- Choose **Sort Up** from the **Sort** menu.

The records in the list are rearranged according to the order of the information in the column you selected.

Sort Down

Use **Sort Down** to arrange text from last to first (that is, from highest ASCII value to lowest ASCII value), and values from largest to smallest.

Sort Down arranges all the records in a list based on the information in a single column.

To use **Sort Down:**

- Select the column you want to use as the basis for the sorting.

- Choose **Sort Down** from the **Sort** menu.

The records in the list are rearranged according to the order of the information in the column you selected.

Reports
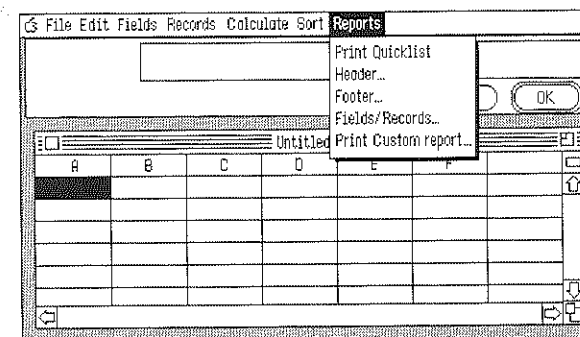
Print QuickList

Use **Print QuickList** to print a list in its row-and-column format.

Print QuickList is different from **Print. Print QuickList** always prints a list as rows and columns regardless of whether a form or the row-and-column format is displayed. **Print,** on the other hand, produces a printed copy that matches the format that's displayed. **Print QuickList** also prints the name of the list at the top of the page and the page number at the bottom. **Print** does neither. (For more information, see "Print" under "File.")

To stop printing once it has started, hold down the *command* key and type a period.

To use **Print QuickList:**

- Choose **Print QuickList** from the **Reports** menu.

The dialog box that appears is just like the one that appears when you use the **Print** function. See "Print" under "File" for complete information about the options in the dialog box.

Header

Use **Header** to create a header for a custom report. A header is text that appears at the top of every page of the report.

To use **Header:**

- Choose one of the **Form** options from the **Records** menu, or click the form box. If the list is displayed in the row-and-column format, **Header** is dimmed, and you can't choose it.

- Choose **Header** from the **Reports** menu.

This dialog box appears:

```
                    Header definition

Print:                          Justification:
  ☐ date           ◯ Left   ◯ Centered  ◯ Right
  ☐ page number    ◯ Left   ◯ Centered  ◯ Right
  ☒ text           ◯ Left   ◉ Centered  ◯ Right
  [                                            ]
  ☒ Print Header   ◉ from page one
                   ◯ from page two

                           ( Cancel )  ( OK )
```

These are the options you can choose:

Print:

   date. Select **date** if you want the date to appear as part of the header.

   page number. Select **page number** if you want the page number to appear as part of the header.

   text. Select **text** if you want to add text to the header. Type the text in the space below **text.**

Alignment:

   Left. Select **Left** if you want the date, page number, or text to be even with the left margin.

   Centered. Select **Centered** if you want the date, page number, or text to be evenly spaced between the left and right margins.

   Right. Select **Right** if you want the date, page number, or text to be even with the right margin.

Print Header. Select **Print Header** if you want the header you've created to be printed on the report. If you don't want the header to be printed, click the check box next to **Print Header** to remove the X that appears there.

   from page one. Select **from page one** if you want the header to be printed on every page of the report.

   from page two. Select **from page two** if you want the header to be printed on every page of the report except the first one.

The buttons give you these choices:

Cancel. Click **Cancel** to return to the list without creating a header. If you've made changes to a header you created earlier, all the changes are canceled.

OK. Click **OK** when you have the header set up the way you want it to be.

Footer

Use **Footer** to create a footer for a custom report. A footer is text that appears at the bottom of every page of the report.

To use **Footer:**

- Choose one of the **Form** options from the **Records** menu, or click the form box. If the list is displayed in the row-and-column format, **Footer** is dimmed, and you can't choose it.

- Choose **Footer** from the **Reports** menu.

The dialog box that appears is the same as the Header dialog box. The options you can choose from are explained above.

Fields/Records

Use **Fields/Records** to set up the way you want fields and records to appear when you print the custom report.

To use **Fields/Records:**

- Choose one of the **Form** options from the **Records** menu, or click the form box. If the list is displayed in the row-and-column format, **Fields/Records** is dimmed, and you can't choose it.

- Choose **Fields/Records** from the **Reports** menu.

This dialog box appears:

```
                    Fields/Records definition

Top margin :        [ 10 ] pixels  Bottom margin :      [ 10 ] pixels

Records per page :      ● One              ○ Multiple

Fields :                ● Fixed            ○ Floating

Space between records :             [ 10 ] pixels

☐ Draw line between records

                                    ( Cancel )  ( OK )
```
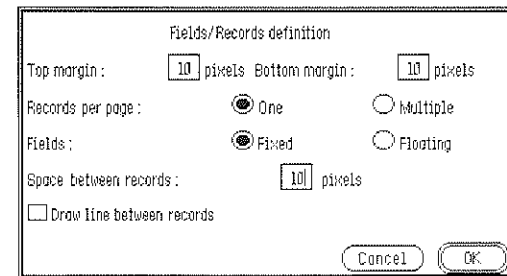
These are the settings you can choose from:

Top margin: ___ pixels. Type the number of pixels you want to appear between the top edge of the paper and the first line of the first record. If you've created a header, it's printed within the top margin.

Bottom margin: ___ pixels. Type the number of pixels you want to appear between the bottom of the last record on a page and the bottom edge of the paper. If you've created a footer, it's printed within the bottom margin.

Records per page:

One. Select **One** if you want only one record printed on each page regardless of how short the record is.

Multiple. Select **Multiple** if you want as many complete records printed on a page as fit. If a record won't fit completely in the space that's left at the bottom of a page, the entire record is moved to the top of the next page.

Fields:

Fixed. Select **Fixed** to leave the same amount of space for a field every time it's printed. Fixed-length fields always begin and end in exactly the same place regardless of the length of the information in the field. Use **Fixed** if you're printing information you want to be aligned in columns.

For example, if you have a form that looks like this:

You'd want the report to look like this:

But if you have a form that looks like this:

You wouldn't want the records to look like this:

Floating. Select **Floating** to limit the length of a field each time it's printed to the length of the information the field contains.

For example, an address that's printed with floating fields rather than fixed fields looks like this:
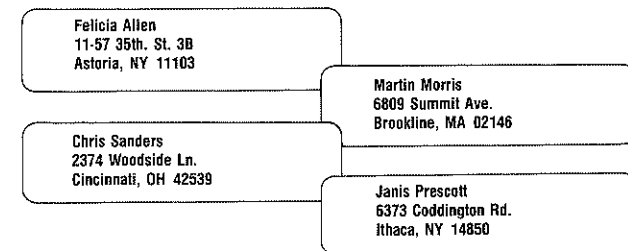
Space between records: ___ pixels. Type the number of pixels you want between the bottom of one record and the top of the next.

Draw line between records. Select **Draw line between records** if you want *List Plus* to draw a horizontal line between the bottom of one record and the top of the next.

The buttons in the box give you these choices:

Cancel. Click **Cancel** if you want to return to the list without making any changes to the setting in the Fields/Records dialog box. Any settings that you changed are returned to the way they were when the dialog box appeared.

OK. Click **OK** when you have the settings the way you want them to be.

Print Custom Report

Use **Print Custom Report** to print a report using the settings in the Header, Footer, and Fields/Records dialog boxes.

Print Custom Report is different from **Print. Print Custom Report** lets you add headers and footers, set top and bottom margins, print more than one record on a page, and choose fixed or floating fields. **Print** lets you do none of those things. (For more information, see "Print" under "File.")

To use **Print Custom Report:**

- Choose one of the **Form** options from the **Records** menu, or click the form box. If the list is displayed in the row-and-column format, **Print Custom Report** is dimmed, and you can't choose it.

- Choose **Print Custom Report** from the **Reports** menu.

The dialog box that appears is just like the one that appears when you use the **Print** function. See "Print" under "File" for complete information about the options in the dialog box.

To stop printing once it has started, hold down the *command* key and type a period.

List Plus *Glossary*

active window

The window that's in front of all the others: its title bar has four parallel lines stretching from one end to the other. It's the window where you're currently working.

Apple menu

The menu at the far left end of the menu bar; it appears when you select the Apple.

button

A symbol in a dialog box that you can click to make something happen. To find out what a specific button does, see the name of the button.

Cancel button

The button in a dialog box that lets you leave the dialog box without carrying out a command.

caps lock

After you press the *caps lock* key, any letter that you type appears in uppercase without you having to hold the *shift* key down. Press the *caps lock* key, and the keyboard returns to normal. The *caps lock* key doesn't affect numbers or symbols.

catalog

The list of files that are on a disk. Catalogs appear in the Open and Save As dialog boxes.

cell

The rectangular space where an item of information appears in a list. A cell is the place where a row and a column cross. A cell is the equivalent of a field on a form.

change size box

A box at the bottom-right corner of some active windows. Dragging the change size box changes the size of the window.

character keys

Character keys repeat when you hold them down. The character keys are: letters, numbers, symbols, punctuation, *return*, *tab*, and the *spacebar*.

check box

The small box or circle next to an option in a dialog box that you click to select or cancel an option.

choose

To pick a command from a menu.

click

To position the pointer on something and then press and quickly release the button on the mouse.

Clipboard

The place where information you've cut or copied is placed. The information stays on the Clipboard even after you've pasted it elsewhere in the document until you cut or copy another section of information.

close

To remove a window from the screen.

close box

The small square on the left side of the title bar of an active window. Click it to close the window.

column

The part of a list that runs from top to bottom. A column contains information that's all the same type (for example, names or addresses or phone numbers). The name of a column in a list appears as the name of a field on a form.

command

A command is a choice you make from a menu that causes some action to take place, or a combination of the *command* key and a letter on the keyboard that causes the same action.

command key

A key that, when held down while another key is pressed, causes a command to take effect, or when held down, lets you drag a window to a new location without activating it.

constant

A value or set of characters that stays the same each time a formula is calculated.

cursor

A blinking vertical bar that marks the spot in a list where something will be added or removed. The cursor is also found in some dialog boxes.

cut

To remove information from a list by selecting it and then choosing **Cut** from the **Edit** menu. The information you cut is placed on the Clipboard. See also Clipboard.

delete

The key that moves the cursor backwards, erasing the character that's to the left of it.

desktop

The working environment — the menu bar and the grey area on the screen.

dialog box

A box with a message that asks you for a decision or for more information. Sometimes the message informs you that you can't do what you're trying to do or warns you that what you're about to do will destroy some information.

dimmed

A dimmed command, menu title, or option is one that appears gray rather than black. It means that you can't use the item.

double-click

To position the pointer on something and then quickly press and release the mouse button twice.

drag

To position the pointer on something and hold down the mouse button while you move the mouse. You release the mouse button to choose a menu item or to select information.

enter

A key that confirms or ends an entry or sometimes a command. **Note:** If you're using an Apple II that has been upgraded to an Apple IIGS, there's no *enter* key.

field

The space where an individual item of information appears on a form.

Finder

A program that gives you access to the entire Apple IIGS system. The Finder displays all the parts of the system as icons on a desktop. To start an application, you double-click the icon that represents it.

folder

A file you create where you can keep together lists that are related (for example, a list and several smaller lists derived from it).

font

A complete collection of letters, numbers, punctuation marks, and other symbols with a characteristic appearance. The font *List Plus* uses is Shaston.

footer

The bottom margin of a report, which is repeated on every page. It can include text, page numbers, the date, and the time.

form

A way of arranging information from a list so that each record is displayed separately (rather than in the row-and-column format of a list). Each cell in the list appears as the name of one of those fields.

form box

The box just above the vertical scroll bar that you can use to switch between viewing a list organized in rows and columns and viewing each record on a single form.

full size box

A box at the right edge of a list's title bar that gives you a full screen view of the list when you click it. Clicking it a second time returns you to the standard desktop view.

header

The top margin of a report, which is repeated on every page. It can include text, page numbers, the date, and the time.

highlight

To change the color of a background to make something stand out from the rest of a document. Highlighting usually shows that something has been selected or chosen.

icon

A simple small picture that represents an object (such as a folder or a diskette).

launcher

The program that gives you access to the entire Apple IIGS system. The launcher shows you a list of the files on the disk that's in the disk drive and lets you choose the one you want to start. See also Finder.

list

A collection of information organized in rows and columns.

list window

A window that displays a list.

logical value

TRUE or FALSE. A logical value indicates whether the statement made by a formula is true or false for a specific set of numbers, characters, or other logical values.

memory

The place in the computer's main unit that stores information while you're working on it.

menu

A list of commands that appears when you point to and press a menu title in the menu bar. Dragging through the menu and releasing the mouse button while a command is highlighted chooses that command.

menu bar

The horizontal strip at the top of the screen that contains menu titles.

menu title

A word or phrase in the menu bar that designates one menu. Pressing on the menu title causes the title to be highlighted and its menu to appear below it.

open

To retrieve a list you've saved on a disk.

option

A key used like the *shift* key to give you an alternate interpretation to another key you type.

paste

To place the contents of the Clipboard — whatever was last cut or copied — in the cell you've selected or at the place marked by the cursor.

pointer

A small arrow on the screen that follows the movement of the mouse.

press

To position the pointer on something and then hold down the mouse button without moving the mouse. In reference to keys, it means to strike the key lightly, holding it down only if you want to repeat a character.

record

The items of information grouped together in a single row in a list.

relational operator

An operator that lets you compare two separate pieces of information.

report

A printed list of all or some of the information in a list.

return

A key that moves the highlight to the first cell in the next row. It's also used in some cases to confirm or terminate a command or an entry.

row

The part of a list that runs from side to side. A row contains one item of information of each type (for example, a single name, address, and phone number that all belong to the same person). All the items in a row appear together on a single form, each in its own field.

save

To store information on a disk.

scroll

To move a list or directory in its window so that a different part of it is visible. You can also scroll the directory in the Open dialog box.

scroll arrow

An arrow on either end of the scroll bar. Clicking a scroll arrow moves the list or directory one line. Pressing a scroll arrow scrolls continuously.

scroll bar

A rectangular bar that may be along the right or bottom of an active window. Clicking or dragging in the scroll bar causes the view of the list or directory to change.

scroll box

The white box in the scroll bar. The position in the scroll bar indicates the position of what's in the window relative to the entire list.

select

To designate where the next action will take place. You use the mouse techniques of clicking, double-clicking, and dragging to select something.

shift

The key you press to type letters in uppercase and that causes the upper symbol to appear when you press a number or symbol key.

Glossary

shift-click

A technique that lets you extend or shorten selected text: you position the pointer at the end of the text you want to select, then hold down the *shift* key and click the mouse button.

sort

To arrange all the records (or rows) in a list in order.

spacebar

The long, unlabeled bar on the keyboard that you press to type a space.

tab key

The key you press when you've finished entering information in a cell to move to the next cell to the right. You also use the *tab* key to move to the next space when you're entering information in a dialog box with more than one space for information.

title bar

The horizontal bar at the top of a window that shows the name of the window's contents and lets you move the window.

window

The area that displays information on the desktop. You view a list through a window. You can open or close a window, move it around on the desktop, and sometimes change its size, scroll through it, and edit its contents.

List Plus Appendix

ASCII Values

33 !	56 8	79 O
34 "	57 9	80 P
35 #	58 :	81 Q
36 $	59 ;	82 R
37 %	60 <	83 S
38 &	61 =	84 T
39 ' (apostrophe)	62 >	85 U
40 (	63 ?	86 V
41)	64 @	87 W
42 *	65 A	88 X
43 +	66 B	89 Y
44 , (comma)	67 C	90 Z
45 - (hyphen)	68 D	91 [
46 .	69 E	92 \
47 /	70 F	93]
48 0 (zero)	71 G	94 ^
49 1	72 H	95 _ (underscore)
50 2	73 I	96 ` (grave accent)
51 3	74 J	123 {
52 4	75 K	124 |
53 5	76 L	125 }
54 6	77 M	126 ~
55 7	78 N	

Note: The lowercase letters of the alphabet are assigned in ASCII to the numbers 97 through 122. *List Plus* doesn't distinguish between uppercase and lowercase letters, so all letters are treated as if they're uppercase.

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