hotCider

Success with Appleworks

June 1986 Edition

10 easy-to-use applications on a disk that will get the power of AppleWorks working for you!

hotCider

Programs for your Apple II
from *inCider* Magazine

June 1986 Edition

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INTRODUCTION

Good things come in small packages. New things, too. In hotCider Volume IV, we blaze a new path. This neat little package holds a disk of ten ready-to-fill templates for the AppleWorks data base, spreadsheet, and word processor. Each template has a filled-in twin that you can try your hand at before you tackle the real thing—and this booklet explains how to do it. If you're new to AppleWorks, playing around with the examples can get you well on your way to true proficiency. If you're already working well with AppleWorks, you'll find shortcuts and techniques that can make you even better.

The AppleWorks Orchard

Volume IV is a collection of business and personal applications, but the line isn't sharply drawn. The package starts with a customer mailing-list data base that's easily adaptable to personal use. It ends with a personal-expenses spreadsheet that's easily adaptable to business use. In between, you'll find a price-quotation spreadsheet, a form letter integrated with the quotation spreadsheet, a price-volume spreadsheet, a customer-sales data base, a checkbook spreadsheet, a loan-amortization spreadsheet, a company newsletter produced on the word processor, and a personal-budget spreadsheet.

What You'll Need

The hotCider disk is a data disk only. Therefore, you do need the AppleWorks Startup and Program disks. You also need a formatted data disk to back up the hotCider disk (it's not copy-protected). Store the original in a safe place and work with the copy.

Loading the hotCider Disk

Loading the hotCider disk is the same as loading your own data disk. If you have a two-drive system, insert the hotCider disk in drive 2 on the //e or in the external drive on the //c. Boot the AppleWorks program from drive 1 on the //e or from the built-in drive on the //c. If you

have a one-drive system, boot AppleWorks, then replace the Program disk with the hotCider disk.

At the AppleWorks Main Menu, press the return key twice to confirm *Add files to the Desktop* and *Get files from The current disk.* You now see the hotCider menu, which lists two types of files—those with the extension .EX and those without. The EX, which stands for example, identifies the files that contain practice information. The other files are ready for your entries. I recommend you start with the example file to get a good understanding of how everything works.

Keystrokes

When you see such key combinations as OA-N, hold down the open apple key and type N. With repeated combinations, such as OA-down arrow (8 times), hold down the open apple key and press the down arrow key eight times. Keys OA-1 to OA-9 jump the cursor in proportional increments—by records in a data base, rows in a spreadsheet, and lines in a word-processor document.

The AppleWorks Cursors

AppleWorks has two cursors: insert and overtype. The insert cursor is a blinking underline; the overtype, a blinking rectangle. Pressing OA-E switches from one to the other. In most cases, it doesn't matter which cursor you are working with. So that we are all at the same place, work with the insert cursor unless the instructions say otherwise.

Thanks

My thanks to Debbie de Peyster, Editor in Chief of *inCider,* for asking me to do the AppleWorks hotCider; to Margaret Baker-Salmon, who designed the booklet; and to Robin Florence for her help on this project. I'm delighted to be able to put into print my appreciation to everyone at *inCider* for their smooth handling of my "AppleWorks in Action" column every month, in particular to Eileen Terrill, Lafe Low, Peter Bjornsen, and Paul Statt.

Ruth K. Witkin

Ruth K. Witkin is a consultant in computer applications for business. She is the author of Managing Your Business With Multiplan *(Microsoft Press),* Managing With AppleWorks *(Howard W. Sams & Co.),* Personal Money Management With Multiplan *(Hayden Books), and* Personal Money Management With AppleWorks *(Hayden Books).*

MAIL LIST

Organize your address lists and print mailing labels.

Category:
Data Base

MAIL LIST is a data base designed to generate mailing labels. These labels speed the task of handling everyday and special correspondence with customers, suppliers, and personal contacts. To keep it simple, MAIL LIST contains only those categories needed for mailing labels. You can have up to 30 categories, including phone number, type of company, sales representative, purchases to date, and so on. Figure 1 shows some of the labels in the sample data base.

The MAIL LIST template is ready for your information and can be customized to suit your needs. One caution, though: If you insert or delete categories, the custom screen layout and the report format will vanish, and you will have to recreate them. Your best approach is to play around with MAIL LIST.EX until you get a good feel for how it works, then modify MAIL LIST.

Label Paper

AppleWorks prints one label across *only*, not multi-column labels. In developing MAIL LIST, I used fanfold, pressure-sensitive paper in a standard 3½ inches wide by ¹⁵⁄₁₆ inch high, which comfortably holds five lines of information. The label strip, also standard, is 12 inches long.

Checking the Printer Settings

The printer settings shown in Figure 2 are typical for most printers. Before you start, check the printer settings on your AppleWorks Program disk. From the Main Menu, select *Other Activities*. Then select *Specify information about your printer(s)* and under the *Change printer specifications* category, select your printer number. You are now in the Change A Printer screen. The prompts at the bottom of the screen tell how to change a setting. If something is amiss after you print the

labels, for example, only one label is printed on a page, change the top-of-page setting from *Yes* to *No*. If that doesn't work, refer to your printer manual.

```
Deena Holsberg              Joan C. Kamoto
Buyer                       President
Harbor Hardware Co.         Community Hardware Co.
1007 Crown Street           345 Community Drive
Amity Harbor NY 11453       Redford NY 11982


Philip Tuzzolino            Salvatore D'Andrea
Purchasing Manager          Partner
Ocean Beach Hardware        Redford Hardware
55 Beach Street             17 Lark Drive
Crabogue NY 11876           Redford NY 11982


John B. Gilhooley           David W. Clark
Store Manager               Partner
Oaks Hardware Co.           Abner Hardware & Paint
234 Monte Highway           30 Shore Road
Creston NY 11943            Abner NY 11999
```

Figure 1. A few of the labels produced by the sample records in the MAIL LIST.EX data base—arranged by zip code. When printed, the records appear in single-column format.

```
Disk: Drive 2                CHANGE A PRINTER    Escape: Printer Information
_____
| Main Menu            |_____
| |                    |                                               |
| | Other Activities     |_____|    |
| | |                    |                                        |     |
| | | Printer Information  |_____|     |__
| | | |                    |                                |      |
| | | | Change A Printer     |_____|     |__
| | | | |                                             |      |
| | | | |                                             |      |
| | | | | Printer name: ImageWriter (Slot 1)          |      |
| | | | |                                             |      |
| | | | | Printer type: Apple Imagewriter             |      |
| | | | |                                             |      |
| | | | | 1.  Needs line feed after each Return    No |      |
|_|_| | | 2.  Accepts top-of-page commands         Yes |      |
   |_| | | 3.  Stop at end of each page             No  |      |
      |_| | 4.  Platen width                    8.0 inches |
         |_| |                                             |
            |_|_____|
_____
Type number, or use arrows, then press Return                    51K Avail.
```

Figure 2. The Change A Printer screen showing the AppleWorks standard settings.

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PLAYING AROUND WITH THE EXAMPLE

When you load MAIL LIST.EX from the hotCider menu, AppleWorks brings up the Review/Add/Change screen containing 14 customer records in the multiple-record layout. The custom screen layout gives most of the entries the room they need to be displayed completely. Let's take a quick tour without changing anything.

Press OA-N. You are now in the Change Name/Category screen with the cursor on the M in MAIL LIST.EX. This is where you enter the category names, later insert or delete categories, or change the file name. Keeping the first and last name categories and city, state, and zip code categories separate gives you full flexibility when you arrange or sort records.

To move up to these categories, press Return. The cursor is now on the F in First MI. Press the down arrow key two or three times; the cursor skips through the categories. Now pretend you want to insert a category before **Title**. Press OA-I; the right half of the screen explains the consequences. AppleWorks, intent on saving you from yourself, asks if you really want this to happen and proposes *No*. Good answer. Press the return key for the screen to return to normal.

Return to the Review/Add/Change screen by pressing the escape key. Press the return key and the cursor jumps to the category to the right. Now press OA-tab and the cursor jumps to the previous category. Use the down arrow key, then the return key or OA-tab to place your cursor on any entry in the second record (Lou Campanelli).

Press OA-Z to have the Campanelli record appear in the single-record layout. Place the cursor on the **First MI** category. If you overshoot and get into Record 1, just press the down arrow key. Now switch to the overtype cursor (remember, OA-E toggles between the cursors). Type your first name and press the return key to move the cursor to the **Last** category. Type your last name and press the return key again. Continue in this way, typing over the existing entries with your entries. If what you type isn't as long as the existing entry, press OA-Y to erase the excess characters. Press the return key after the final entry, as well.

Now let's steer a course toward printing. Press OA-P. The Report Menu screen is where you tell AppleWorks what type of report to create with the records in the data base. Naturally, this one's a labels report. Press the return key to bring up the Report Catalog screen which shows CUSTOMER LABELS.

Again, press Return. The Report Format screen shows the format for mailing labels. To print them properly, I combined two groups of categories—first and last names, and city, state, and zip. The less than sign (<) tells AppleWorks to left-justify the entry in the category, no matter what length the entry in the preceding category happens to be. This prevents truncated entries or gaps between entries.

Press OA-O to see the margin settings in the Printer Options screen. The left margin controls the horizontal placement. With the left sprocket on my Imagewriter as far left as it could go and the right sprocket shifted toward the center, a .4-inch left margin produced a well-balanced look. The paper length setting is interesting. Think of each label as a complete page and all the labels as a whole collection of pages. The paper length, therefore, is 1 inch ($\frac{15}{16}$-inch high plus $\frac{1}{16}$-inch between labels). Now press the escape key to return to the Report Format screen.

Press OA-P. You are now in the Print The Report screen. To get an idea of what the labels will look like on paper, preview them by selecting *The screen* option. The first three labels are looking good. Press the return key again. Here's the next three labels. To cycle through the rest of the labels, keep pressing the return key. After the last label, AppleWorks brings you back to the Report Format screen.

Now load your label paper. Typically, the print shield should be flush with the top of the first label. Printers are different, though, and a fraction of an inch up or down can position your label just right. Now turn on your printer. Press OA-P, select your printer number, and press Return twice. The printer starts whirring and there you have your labels. Your tour of MAIL LIST.EX is complete. Press escape three times to return to the hotCider menu.

WORKING WITH THE TEMPLATE

The first thing AppleWorks tells you when you load MAIL LIST is that the file doesn't contain any information and you will automatically go into the Insert New Records feature when you press the return key. When you do, you see Record 1, which is active but empty, so there's a dash in each category.

If you want to insert or delete categories, now is the time to do it. These instructions assume you know how to recreate the custom screen layout and labels report format. If you're not changing anything, skip to *Setting the Standard Values.*

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Inserting or Deleting Categories

To enter the Change Name/Category screen, press escape, OA-N, and then the return key. Insert or delete categories to your heart's content. Then, when you're finished, press OA-S to save the file. This brings up the no-information-in-the-file message. Pressing the return key brings you back to the Insert New Records screen—with your new categories listed.

Setting the Standard Values

Scan your documents for entries that are common to most or all of them. AppleWorks can type this information into each record automatically. Press OA-V to bring up the Set Standard Values screen. Type each standard entry and be sure to press the return key after each one. Now press the escape key to return to Record 1 in the Insert New Records screen.

Inserting New Records

Type in the rest of the information in Record 1. Press Return after the last entry, and AppleWorks brings up Record 2. Type the next batch of entries. Just overtype any standard entries that don't apply. After your last record, press OA-S to store the data base. When the file is saved, AppleWorks returns you to your last entry in the Review/Add/ Change screen.

Arranging the Records

Suppose you have a large number of customers. It's easy to scan a long list arranged alphabetically by company name. Press the return key until the cursor is in the **Company** category. Now press OA-A. AppleWorks proposes *A to Z*, which is what you want, so press the return key again.

Sometimes it's economical to give the post office bundles of mail sorted by zip code. Since you can't see the zip code category in the multiple-record layout, press OA-Z to go to the single-record layout and arrange categories there (place the cursor on the Zip entry in any record) or press OA-P, then **1** to go to the Report Format screen (place the cursor on the < before Zip). Start the Arrange command (OA-A) and select the order.

Printing the Labels

Now turn on your printer. Press OA-P and follow the screen prompts to print your labels. When you are in the Report Format screen, press OA-P again, then follow the next prompts.■

PRICE QUOTE

Prepare professional-looking request-for-quotation reports.

Category:
Spreadsheet

Companies, like any other consumers of goods and services, shop around for the best prices. If your business sells something to other businesses, you're likely to get your fair share of RFQs (requests for quotation). The PRICE QUOTE spreadsheet makes it easy to prepare clear, consistent, competitive quotes that can help your business be more successful.

PRICE QUOTE has a special feature—a lookup table that, in the example, contains hardware supplies and wholesale prices. Your lookup table can, of course, contain anything. When you enter an item number, the formulas find the unit price in the lookup table, enter it into the quote, and calculate the intended price, subtotal, discount, and total quote.

How a Lookup Table Works

A lookup table consists of two rows or two columns of cells. One row or column contains scan numbers; the other, the corresponding numbers. A lookup formula searches the scan cells for a number you designate and retrieves the corresponding number, saving you the time of looking it up and entering it manually.

If the scan cells are in a row, the formula searches from left to right until it finds the largest number that is less than or equal to your number and retrieves the number from the cell immediately below. If the scan cells are in a column, the formula searches the table from top to bottom and retrieves the number from the cell to the immediate right. There are only two rules in creating an AppleWorks lookup table:

1) The scan numbers (those a formula looks up) must be in ascending order. The corresponding numbers (those a formula retrieves) can be in any order.

2) The scan cells and the corresponding cells must be next to each other (no columns or rows in between).

PLAYING AROUND WITH THE EXAMPLE

Load PRICE QUOTE.EX from the hotCider menu, and AppleWorks brings up the Review/Add/Change screen containing the spreadsheet shown in the Figure. First, print the spreadsheet. I set the side margins to .8 inch and the top margin to .5 inch. You can see these settings in the Printer Options screen. Now turn on your printer. Press OA-P to start the Print command, press the return key to confirm *All*, and follow the screen prompts.

```
File:   PRICE QUOTE.EX                              Page  1
                                                   9-13-86

Quote to Bob Nissen, Nissen Brothers              RFQ 23451
===========================================================
                                         Unit     Extended
   Qty    Item #   Description           Price     Price
-----------------------------------------------------------
   48      259     Phillips Screwdrivers $2.50    $120.00
   24      250     Crescent Wrenches     $6.75    $162.00
   24      210     Harris Drill Sets     $32.55   $781.20
   12      283     Cartons 20d Common Nails $65.00 $780.00
-----------------------------------------------------------
                                     Subtotal    $1,843.20
                                     Discount       $92.16
                                     Total       $1,751.04

PRICE LOOKUP TABLE
=========================================
Item    Price    Description
-----------------------------------------
 210    32.55    Harris Drill Set
 250     6.75    Crescent Wrench
 259     2.50    Phillips Screwdriver
 276    15.75    Wood Chisel Set
 283    65.00    Carton 20d Common Nails
 287    72.50    Harding Belt Sander
 291   125.00    Romex 3x#12 Cable (1000´)
 292      NA
```

Figure. *The PRICE QUOTE.EX spreadsheet. The shaded areas show the base cell location of the formulas.*

The Formats

The standard format is now Commas with no decimal places, which places a number one character shy of the right edge of the cell and

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produces a better alignment with the headings. I overrode the standard for the cells that show dollar amounts. When you press OA-?, you can see these settings at the end of the Help screen. Automatic recalculation is on.

The Formulas

The Table shows the formulas. The Unit Price and Discount formulas deserve a closer look. Place the cursor on E6 to see the lookup formula at the bottom of the screen. The formula looks at B6, scans A19 to A26 until it finds a matching number in A21, then retrieves the price in B21, the corresponding cell. Because the cell layout is *D2* (dollars, two decimal places), the price appears in dollars and cents. *Protect-N* means that E6, like all the other formula cells, is protected against inadvertent change.

To see the lookup formula in action, let's suppose this customer asked for a quote on 12 wood chisel sets instead of 48 Phillips screwdrivers. Place the cursor on D6 and type **Wood Chisel Sets**. Move the cursor to A6 and type **12**, then move the cursor to B6 and type **276**, the item number. Keep an eye on E6 and press the return key. The formula finds 276 in the lookup table, plunks $15.75 into E6, and AppleWorks instantly recalculates everything.

Formula Name	Location*	Formula**	Description
Unit Price	E6 to E9	@LOOKUP (B6,A19...A26)	Retrieves the price in the lookup table (A19 to A26) corresponding to the item number.
Extended Price	F6 to F9	+ A6*E6	Multiplies the quantity by the unit price.
Subtotal	F11	@SUM(F10...F5)	Adds the entries in F6 to F9.†
Discount	F12	@IF(F11 > = 1500,F11*.05,0)	Calculates a 5 percent discount on purchases of $1,500 or more or enters a zero on anything less.
Total	F13	+ F11 − F12	Subtracts the discount from the subtotal.
Lookup Table "Cap"	B26	@NA	Tells the lookup formula to enter NA instead of the last price if you type an item number larger than the largest number in the table. Prevents misleading results.

*The formula is entered in the first cell shown (base cell) and copied to the others.

**How the formula looks in the base cell. When it's copied, AppleWorks adjusts the relative cell locations accordingly.

†The formula includes the lines in F5 and F10, which tells AppleWorks to add the entries in any rows you later insert between rows 5 and 10.

Table. The formulas in the PRICE QUOTE spreadsheet.

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Next, move your cursor to F12 and look at the formula. Customers receive a discount on purchases of $1,500 or more, no discount for anything less—an either-or situation that an If formula handles perfectly. What if Nissen Brothers asked for a quote on four cartons of nails instead of 12? Move your cursor to A9 and type 4. Keep an eye on F12 and press the return key. Presto. The subtotal is now less than $1,500, so the number $92.16 that was in F12 is now $0.00.

Inserting Rows for More Entries

Clearly, you'll need more than four entry rows for some quotes. For practice, insert three rows between rows 9 and 10. Place your cursor on A10, then press OA-I. Now press the return key to select *Rows*. Type 3 and press Return again. Now move your cursor to F14 and look at the contents line. The formula that added the entries in F5 to F10 now adds the entries in F5 to F13.

Next, copy the price formulas into the empty rows. Place the cursor on E9. Press OA-C, press the return key to select *Within worksheet*, press right arrow, and press the return key again. Now highlight the area: Press the down arrow key, type a period, press down arrow twice, and press Return. Next, tell AppleWorks which cells are *No change* and which are *Relative*: type **R** for cell B9, press Return twice for A22 and A29, and type **R** twice for A9 and E9. The formulas have no numbers to work with, so NA appears. The subtotal, discount, and total formulas, because they refer to cells that contain NA, display NA, too.

To see the cells come to life, enter quantities in A10 to A12 and item numbers in B10 to B12. If an item number is less than 210 or greater than 292 (the range of the item numbers), NA will remain in the cell.

You can increase the number of rows in the lookup table in the same way. Just insert them anywhere between rows 22 and 29, so the @NA formula now in B29 continues to "cap" the table.

You'll want the original PRICE QUOTE.EX when you "cut and paste" it into a letter in the QUOTE LETTER chapter (p. 12), so save this modified version under another file name or just let it vanish into oblivion.

WORKING WITH THE TEMPLATE

The PRICE QUOTE template contains the same formats and formulas as PRICE QUOTE.EX. After you enter your own information in the lookup table and customize it in other ways, your best approach is to

keep it as a master, store it under a different file name for each quote, and make your entries on the copy. Try it now. If you're working with the insert cursor, switch to the overtype cursor. Now press OA-N to start the Name command. Type **QUOTEMASTER** and press Return. Press OA-S to store QUOTEMASTER. You now have PRICE QUOTE for your first quote and QUOTEMASTER for all the others.

If you have more rows than you need in the quote area, delete (OA-D) the extras so the Totals formulas continue to work properly. Otherwise, you'll end up with NA in the formula cells.

Understandably, you don't want a lookup table printed on a quote to a customer. All you have to do is place the cursor in row 1 before you start the print command, select *Rows*, highlight the quote area, and proceed from there.■

QUOTE LETTER

Integrate your spreadsheet price quote with a customized form letter.

Category:
Word Processor

QUOTE LETTER, a response to a request for a quotation, merges a form letter and a piece of the PRICE QUOTE spreadsheet (p. 7) into a single, seamless document. But there's something about this form letter that's even more special than that. While the letter is being printed, AppleWorks stops the printer so you can type in personalized information, continues along its merry way, then stops the printer several more times. If you haven't worked with keyboard input and "cut and paste," this is a good time to try it.

EXAMINING THE EXAMPLE

When you load QUOTE LETTER.EX from the hotCider menu, AppleWorks brings up the Review/Add/Change screen containing the document shown in the Figure. Run the cursor down its length, then up again, so you can get acquainted. Now press OA-Z to display the printer options. The only ones not shown here are the printer pauses. You'll see them in the QUOTE LETTER template.

First, print the letter so you can see what the finished product looks like. I've increased the standard top margin to allow room for the letterhead, reduced the left and right margins to give the spreadsheet enough room to spread out, and reduced the bottom margin so the entire document prints on one page. The *Justified* indicator tells AppleWorks to adjust the spacing so the long lines print with a smooth right edge. Turn on your printer. Press OA-P to select the Print command, confirm *Beginning*, select the printer, then confirm one copy.

PLAYING AROUND WITH THE TEMPLATE

When you load QUOTE LETTER, load PRICE QUOTE.EX, too, so they are both on the Desktop at the same time. Bring QUOTE LETTER to the screen. The first thing you notice is a bunch of carets down the left side. These are some of the places where the printer pauses for keyboard input. The cursor is on a caret, so you see *Enter Keyboard*, not a line and column number, at the bottom of the screen.

Working with the Quotation Spreadsheet

Now display the price quote example. Press OA-Q to bring up the Desktop Index, highlight PRICE QUOTE.EX, and press the return key. First, keep the header from printing: Press OA-O to bring up the Printer Options screen, type **PH**, and press the return key. Now press the escape key to return to the spreadsheet.

The next step is to "cut" the quote rows in the spreadsheet and print them to the clipboard, which holds information destined for another file. Move the cursor to row 3 and press OA-P to start the Print command. Now type **R** to select *Rows*, press OA-5, then the down arrow key to highlight rows 3 to 14, and press the return key. Type the number that selects *The clipboard (for the Word Processor)* and press the return key.

AppleWorks confirms that the spreadsheet is indeed on the clipboard and can now be transferred to a word processor document. Switch to the Desktop Index and bring QUOTE LETTER back to the screen. Now place the cursor on line 27 column 1. Press OA-M and type **F** to select *From clipboard (paste)* to "paste" the spreadsheet into the letter.

Printing the Personalized Letter

Here comes the fun part. Be sure your printer is on. Start the print command (OA-P) and follow the prompts. After you confirm one copy, AppleWorks highlights the first caret and asks you to type something. There's no need to hurry. If you make a typo, the delete key backs up the cursor to erase it, and the printer pauses while you type in the entry. Now type in the entries highlighted in the Figure: the date; the recipient's full name, title, company, and address; the name in the salutation; the company name and date in the opening paragraph; and the recipient's first name in the closing paragraph. After an entry is correct, press the return key to continue to the next one.

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Rocky Hill Hardware Supply Co.
5 Main Street
Abner, New York 11999

(516) 555-0505

September 19, 1986

Mr. Robert J. Nissen
Owner
Nissen Brothers, Inc.
905 Linden Mall
Abner, New York 11999

Dear Bob:

We are pleased to submit the following quote to Nissen Brothers,
per your request of September 12, 1986.

We've just introduced a new Phillips screwdriver, catalog #259,
to replace #256. It's stronger and has a wider grip that fits
the hand remarkably well. Better yet, the price is 35 cents less
per piece, a savings of $4.20 per dozen.

Qty	Item #	Description	Unit Price	Extended Price
48	259	Phillips Screwdrivers	$2.50	$120.00
24	250	Crescent Wrenches	$6.75	$162.00
24	210	Harris Drill Sets	$32.55	$781.20
12	283	Cartons 20d Common Nails	$65.00	$780.00
			Subtotal	$1,843.20
			Discount	$92.16
			Total	$1,751.04

We appreciate your business, Bob. Please call me or Ron Dugan
with any questions.

Cordially,

Herbert C. McCall
President

Figure. *The PRICE QUOTE spreadsheet "cut and pasted" into a form letter to a customer. The shaded areas show the information typed in from the keyboard during printing.*

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To customize the form letter, type over the existing text. To get rid of a caret, place the cursor on the character to the right and press the delete key. To insert a caret, place the cursor on the character to the right, press OA-O to bring up the Printer Options screen, type **EK**, and press the return key. Press escape to return to the letter.

Your letter may be longer than this one. Before printing, preview the page breaks by pressing OA-K and choosing your printer. If anything needs changing (for example, a margin setting), place the cursor on the margin indicator, bring up the Printer Options screen, and change the setting.■

PRICE VOLUME

Perform a price-volume analysis to determine your highest profit potential.

Category:

Spreadsheet

Highest price equals greatest profit. Right? Well, not necessarily. If you set too high a price, sales volume can plummet to the point where you start to lose money. If you set too low a price, you may sell in greater quantity but be unable to cover your costs. Profit is a delicate balance of costs, selling price, and volume. The PRICE VOLUME spreadsheet can help you strike that balance.

PLAYING AROUND WITH THE EXAMPLE

Load PRICE VOLUME.EX from the hotCider menu, and AppleWorks brings up the Review/Add/Change screen containing the spreadsheet shown in the Figure. Most of the numbers are dollar amounts. Dollar signs often crowd a spreadsheet, so I set a standard value of Commas with zero decimal places and formatted some cells for Commas with two decimal places.

PRICE VOLUME prints at the standard ten characters to the inch. I changed the side and top margins to position it properly on the page. Turn on your printer. Press OA-P to start the Print command, confirm *All*, select your printer, enter today's date, and confirm one copy.

How PRICE VOLUME Works

Let's pretend you are about to market a new product. You have to enter only the numbers in B3 to B8; everything else is generated by formulas. The total fixed costs of this product ($26,500) and the variable costs per unit ($7.50) are facts that come from financial reports. The other numbers are intelligent guesses. At a wholesale price of $22.75 per unit, you expect to sell 12,000 units. If you increase the unit price

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by $1, you assume that volume will fall by 650 units and that each escalation will affect volume in the same way. The results are interesting. Though Test 4 shows the highest profit per unit, the pairing of price and volume in Test 3 shows the greatest profit potential.

```
File:    PRICE VOLUME.EX                                    Page  1
                                                           7-26-86

                        PRICE-VOLUME ANALYSIS
=================================================================
Selling Price per Unit         22.75
Selling Price Increase          1.00
Volume in Units                12,000
Volume Decrease                   650
Total Fixed Costs              26,500
Variable Costs per Unit          7.50
=================================================================
Price-Volume Calculations      Test 1    Test 2    Test 3    Test 4
-----------------------------------------------------------------
Selling Price per Unit          22.75     23.75     24.75     25.75
Volume in Units                12,000    11,350    10,700    10,050
Fixed Costs per Unit             2.21      2.33      2.48      2.64
Total Fixed Costs              26,500    26,500    26,500    26,500
Total Variable Costs           90,000    85,125    80,250    75,375

Sales Income                  273,000   269,562   264,825   258,788
Cost of Goods Sold            116,500   111,625   106,750   101,875
                             --------- --------- --------- ---------
Total Profit                  156,500   157,938   158,075   156,912
Profit per Unit                 13.04     13.92     14.77     15.61
=================================================================
```

Figure. The PRICE VOLUME.EX spreadsheet with practice numbers. The shaded areas show the base cell locations of the formulas.

Increasing the Number of Tests

If four tests aren't enough, it's easy to create more, for example, Tests 5 and 6. To get a full view of the action, position the spreadsheet so that column B is at the left of the screen. Now place the cursor on E9 and press OA-C to start the Copy command. First, confirm *Within worksheet* by pressing the return key. Next, highlight E9 to E23 (the cells to copy from) by pressing OA-9, then the return key again. Finally, tell AppleWorks to copy into F9 and G9 by pressing right arrow, typing a period, pressing right arrow again, then Return.

AppleWorks now highlights D12 and asks if it is a *No change* or *Relative* cell reference. To select *No change*, you press Return; to select *Relative*, you type **R**. Identify D12 as relative by typing **R**. As the other cells are highlighted, press Return (for B4), type **R** (for D13),

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press Return twice (for B6 and B7), type **R** (for E13), press Return twice (for B7 and B8), and type **R** for the remaining nine cells. The new test cells now have the same formats and cell protection as the old, because AppleWorks copied them along with the formulas.

The next step is to edit the Test labels. Place the cursor on F10 and press OA-U. Press the right arrow key five times. If you are working with the insert cursor, press OA-E to switch to the overtype cursor. Type **5** and press the return key. Edit the title in G10 in the same way.

And finally, increase the widths of columns F and G so they match the others: Place the cursor on F10 and press OA-L to start the Layout command. Type **C**, press the right arrow key, and press the return key. Type **C** again and press OA-right arrow twice. Press the return key. To save this version of the spreadsheet, press OA-S.

Formula Name	Location*	Formula**	Description
Selling Price per Unit (Test 1)	B12	+ B3	Copies the selling price per unit from B3.
Volume in Units (Test 1)	B13	+ B5	Copies the volume in units from B5.
Fixed Costs per Unit	B14 to E14	+ B7/B13	Divides the total fixed costs by the volume in units.
Total Fixed Costs	B15 to E15	+ B7	Copies the total fixed costs from B7.
Total Variable Costs	B16 to E16	+ B8*B13	Multiplies the variable costs per unit by the volume in units.
Sales Income	B18 to E18	+ B12*B13	Multiplies the selling price per unit by the volume in units.
Cost of Goods Sold	B19 to E19	+ B15 + B16	Adds the total fixed costs and total variable costs.
Total Profit	B21 to E21	+ B18 - B19	Subtracts the cost of goods sold from the sales income.
Profit per Unit	B22 to E22	+ B21/B13	Divides the total profit by the volume in units.
Selling Price per Unit (Test 2)	C12 to E12	+ B12 + B4	Increases the selling price by the amount in B4.
Volume in Units (Test 2)	C13 to E13	+ B13 - B6	Decreases the volume by the amount in B6.

*The formula is entered in the first cell shown (base cell) and copied to the others.

**How the formula looks in the base cell. When it's copied, AppleWorks adjusts the relative cell locations accordingly.

***Table.** The formulas in the PRICE VOLUME spreadsheet.

WORKING WITH THE TEMPLATE

The PRICE VOLUME template contains the same formats and formulas as PRICE VOLUME.EX. When you enter the fixed and variable costs of a product, an assumed starting price, starting volume, price increase, and how much that price increase may reduce volume, the formulas calculate the volume, fixed costs per unit, total variable costs, sales income, total profit, and profit per unit in each price-volume test.

Cells B3 to B8 are your "what if" playground. Think of a product, then enter some reasonable numbers. Automatic recalculation is on, so you'll see instant results. If you happen to wander into "forbidden territory"—the formula cells—you won't hurt anything because those cells are protected against accidental change.■

CUSTOMERS

Determine who your best sellers and buyers are.

Category:

Data Base

CUSTOMERS is an AppleWorks data base for a fictional company that installs small vending machines (gumballs, candy, toys, trinkets) in high traffic areas, mainly supermarket, discount, and variety chain stores. This kind of data base makes it easy to keep track of customers, analyze where sales are coming from, determine which salespeople are the real producers, stay in touch with key customer contacts, send out marketing material, and provide prompt, personalized service.

PLAYING AROUND WITH THE EXAMPLE

When you load CUSTOMERS.EX from the hotCider menu, AppleWorks brings up the Review/Add/Change screen containing the sample customer records. The custom screen layout allows seven categories (two more than the standard AppleWorks five) to fit on the screen and gives the entries as much space as they need.

The Categories

Press OA-N to bring up the Change Name/Category screen. This data base contains 21 categories, six of which are spares (dubbed, aptly enough, SPARE). A spare is a safety net, and it's a good idea to have several in every data base. If you later remember a category you can't live without, you can overtype SPARE with a category name and make your entries. Without a spare, you'll have to insert a category, which causes your custom screen layouts and report formats to vanish.

Here's what the category abbreviations stand for: ACC# is the account number, B# is the code number for the company's type of business, LYTD$ is the last year-to-date sales, YTD$ is the current year-to-date sales, and REP is the sales representative. Press the escape key to return to the Review/Add/Change screen.

The Single-Record Layout

Press OA-Z to get in the single-record layout, which shows all the entries in a record. The number 1 in the B# category identifies Ace Supermarkets as a food chain. As you go through more records, you'll see 2 for a variety chain and 3 for a discount chain. These numbers serve the same purpose as the description in the BUSINESS category but take up less room on a report. Scan the next few records by pressing OA-down arrow a few times.

Standard Values

Records often have at least one entry that's common to most or all of them, for example, a state or a zip code. They're called *standard values*. When you set a standard value, AppleWorks types the entry into each record. Many of the contacts in this data base are president of the company, so I made **President** a standard value. To see it in the Set Standard Values screen, press OA-V. When a standard entry outlives its usefulness, all you have to do is delete it, which affects future records only, not existing ones. Now press the escape key to return to the Review/Add/Change screen.

The Reports

CUSTOMERS contains three report formats that produce the following reports:

● A master account list that contains pertinent information for each customer.

● A sales-to-date report that shows the dollar difference between the sales in a two-year period and, in a second version, how much each salesperson brought in during both years.

● A notes report that incorporates comments and reminders from and to the sales staff.

The Master Account List

Figure 1 shows the master account list. To see the report format, press OA-P. You are now in the Report Menu screen. Press the return key to *Get a report format,* and here's the Report Catalog screen. Press the return key again to select MASTER ACCOUNT LIST. The Report Format screen appears with an array of commands and cursor movements and the first three entries in the first seven categories. The 9's

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in column A indicate that the account numbers are right-justified, which prevents an unsightly jog at the right edge of the column.

It would be great to be able to print all 15 active categories, but there's a limit to how many can fit across a page. This report, therefore, contains only the account number, company name, street, city, state, zip, phone, contact, and business code. I deleted the others—title, business, last year-to-date, year-to-date, and all the spares. These types of deletions are temporary. Press the right arrow key until the cursor is atop *Len97*, which shows the print width of the remaining categories.

The deletions are stored in the Insert A Category screen. Let's suppose you want the sales representative's initials in this report. With your cursor on the *Len* indicator, press OA-I, then type **5** to choose *REP* and press the return key. Presto. The REP category is inserted to the left of the cursor position. Sending it into limbo again is just as easy. With your cursor on the REP category, press OA-D.

The master account list prints double spaced at 12 characters per inch. Turn on your printer. Type OA-P to start the Print command, select your printer, enter a date, and confirm one copy. After printing the report, AppleWorks returns you to the Report Format screen.

```
File:    CUSTOMERS.EX                                                      Page  1
Report:  MASTER ACCOUNT LIST                                              8-2-86
ACC  COMPANY              STREET              CITY      STA ZIP     PHONE          CONTACT          B#
---  ------------------   ------------------  --------- --- ------- -------------  --------------   --

179  Ace Supermarkets     72 Harrison         Concord   CT  06623   203-232-4560   Gil Freeman       1

 85  Allied Grocers       52-A William St.    Hillsburg NY  14107   518-555-0787   Evelyn Aven       1

153  American Stores      333 Sheffield St.   Stoville  NY  11456   516-555-8765   Ollie O'Day      .2

142  Arbor Sales Co.      567 12th St.        Lincoln   NJ  08904   201-555-2300   Ben W. Smith      3

 43  Crown Supermarts     105 Columbus Ave.   Boston    MA  02110   617-555-0220   Homer Capella     1

 56  Dollar Shops Inc.    12 Elman St.        Miami     FL  33110   305-555-0600   Don Johnson       3

 17  Express Marts        89 Federal Way      Byron     NY  12345   914-555-7890   Glenn Cabral      1

 87  Family Centers       123 Apple Square    Ellsworth NJ  07215   609-555-9876   Fay L. Byrd       2

 22  Key Markets          5 Grand Ave.        Tandy     MD  20643   301-555-2621   Ken Wolin         1

 63  Off The Shelf        90 Adams St.        Addison   CT  06520   203-555-9008   Connie Dowd       3

 24  Stanley Shops        1001 Main St.       Carlton   NH  03462   603-555-6543   Stanley Harris    2
```

Figure 1. The master account list produced with the records in the CUSTOMERS.EX data base.

The Sales-to-Date Report: Version 1

Now press the escape key to return to the Report Menu. Press the return key to *Get a report format*. Type **2** and press Return again to

bring up the SALES-TO-DATE report format. This report demonstrates the kinds of calculations available in the AppleWorks data base. The categories are account number, company name, state, business, last year-to-date sales, year-to-date sales, difference between sales, representative, and contact.

The slew of 9's means different things. In column A, the 9's indicate that the account numbers are right-justified, as in the Master Account list. In columns E and F, the 9's and the double lines indicate that the numbers are totalled. In column G—which looks like any other category but exists only in this report—they indicate a *calculated category* containing a formula that subtracts LYTD$ from YTD$ for each customer. Again, the double lines show that the dollar difference (DIFF$) is totalled.

Use the right arrow key to move the cursor to column G. To see the formula, press OA-K, type **E** to *Edit* column G, and press the return key to keep the category name. You now see $F-E$, which tells AppleWorks to subtract each number in column E from the corresponding number in column F. Press the escape key.

Viewing the Sales Report on Screen

You can see the results of the calculations both on screen and when you print the report. Bring them on screen first. Press OA-P, choose *The screen*, and press the return key twice. To see the rest of the report, press the return key again. This time last year, the company had $221,697 in sales, this year, $247,382, an increase of $25,685. Now press the return key to return to the Report Format screen. Turn on your printer and print this report as you did the master account list.

The Sales-to-Date Report: Version 2

Figure 2 shows a second version of the Sales-to-Date report. A simple two-step process produces the total sales for each salesperson. AppleWorks calls this kind of calculation *group totals*. First, arrange the REP entries in alphabetical order, which groups the customers by salesperson: Move the cursor to column H, press OA-A, and press the return key to choose *From A to Z*. Next, tell AppleWorks to print all the records, not only the totals, on one page: With your cursor still in column H, press OA-G, then press the return key twice. The message just above the double line explains the grouping.

To see this report on screen, press OA-P, select *The screen*, and

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press the return key twice. Sales representative CS brought in a total of $92,469 last year and $99,269 this year, an increase of $6,800. RJN picked up a new customer (press the return key to see the rest of the report) and went from $87,791 to $102,318, an increase of $14,527 despite the fact that Family Centers fell behind. RKW went from $41,437 to $45,795, an increase of $4,358. When you enter new sales figures, the calculations are updated automatically. Press the return key to return to the Report Format screen. Now press OA-G to remove the grouping. Print (OA-P) this report as you did the others.

```
File:    CUSTOMERS.EX                                              Page  1
Report: SALES-TO-DATE                                             8-2-86
ACC   COMPANY              STAT BUSINESS   LYTD$     YTD$    DIFF$    REP   CONTACT
---   ------------------   ---- ---------  ------   ------   ------   ----- --------------

179   Ace Supermarkets     CT   Food       33722    35999    2277     CS    Gil Freeman

 43   Crown Supermarts     MA   Food       19517    18203   -1314     CS    Homer Capella

 63   Off The Shelf        CT   Discount   25000    28567    3567     CS    Connie Dowd

 24   Stanley Shops        NH   Variety    14230    16500    2270     CS    Stanley Harris
                                           92469    99269    6800

 85   Allied Grocers       NY   Food       32100    32645     545     RJN   Evelyn Aven

153   American Stores      NY   Variety        0     9321    9321     RJN   Ollie O'Day

142   Arbor Sales Co.      NJ   Discount   28560    32742    4182     RJN   Ben W. Smith

 17   Express Marts        NY   Food       14567    16540    1973     RJN   Glenn Cabral

 87   Family Centers       NJ   Variety    12564    11070   -1494     RJN   Fay L. Byrd
                                           87791   102318   14527

 56   Dollar Shops Inc.    FL   Discount   30450    32345    1895     RKW   Don Johnson

 22   Key Markets          MD   Food       10987    13450    2463     RKW   Ken Wolin
                                           41437    45795    4358

                                          221697*  247382*  25685*
```

Figure 2. *The sales-to-date report containing group totals and a calculated category.*

The Notes Report

The third report contains important comments and reminders to and from the sales staff. Press the escape key, then the return key. You are, once again, in the Report Catalog screen. Type **3** and press the return key again to select the NOTES report. Hold down the right arrow key and you can see the notes category in column H. Print this report in the same way as the others. Because you arranged the records by REP earlier, they are printed in that order now.

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Selecting Records for Printing

Let's say you want to send your regional sales office a list of customers headquartered in New York. Move the cursor to column D. Now press OA-R. This brings up the Select Records screen and all the categories. Type **5** to select the STATE category and press the return key. You now have a choice of several criteria. *Equals* will do nicely, so press the return key again. Your comparison information is NY. Type **NY** and press the return key. AppleWorks asks if you have more criteria (*and, or*, or *through*). The answer is no, so press the escape key. The Report Format screen returns.

In the same way that you viewed all the records on screen, view the selected ones now, then print them to get the full effect.

WORKING WITH THE TEMPLATE

Now you can load CUSTOMERS, the template awaiting your entries. To work with the template, follow the steps as described in MAIL LIST (p. 4).■

CHECKBOOK

Keep an up-to-date record of your financial transactions without a calculator.

Category:

Spreadsheet

CHECKBOOK reconciles your checkbook, keeps a running balance, calculates the maximum balance and average balance, and produces an annual summary of your checks and deposits. All you do is type in your checks and deposits, tick off the transactions that cleared the bank, copy the ones that didn't clear to another area of the spreadsheet, and enter the bank service charges and credits.

PLAYING AROUND WITH THE EXAMPLE

Load CHECKBOOK.EX from the hotCider menu, and AppleWorks brings up the electronic checkbook shown in the Figure. To squeeze all 11 columns onto one sheet of letter-size paper, I adjusted the column widths and set the character size at 12 characters per inch. Now turn on your printer and print the spreadsheet: Press OA-P, confirm *All*, select your printer and confirm one copy.

The Formats

The standard value, as usual, is my favorite Commas with two decimal places. The 1's in columns F and H are the "tick marks" that indicate a check or deposit accounted for on the bank statement. I gave the tick-mark cells and those containing the check numbers the *Appropriate* format. A lean column C prevents the right-justified numbers in column B from bumping into the left-justified text in column C.

About the Formulas

The Table shows the formulas. The Outstanding Check formula, entered in J7, contains the If function, which produces one of two possible

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answers. The Test statement looks at F7 to see if it equals 1, meaning that the check is debited to your account. If F7 contains a tick mark, the Then statement enters a zero in J7. If F7 is empty, the Else statement enters the amount of the check. The Outstanding Deposit formula, also an If formula, does for deposits what the Outstanding Check formula does for checks. When the formulas are copied down their columns, they work with each check and deposit in the same way.

File: CHECKBOOK.EX   Page 1

Account 42-A-3955   ELECTRONIC CHECKBOOK

CURRENT PERIOD TRANSACTIONS			Check		Deposit			*** Outstanding ***	
Date	Check#	Issued To	Amount	C	Amount	D	Balance	Check	Deposit
1986		OPENING BALANCE----------------------------------)					1,437.78		
July 1	423	Equity Life Insurance	456.72	1			981.06	0.00	0.00
July 2	424	Blue Star Medical Ins	189.00	1			792.06	0.00	0.00
July 2		Deposit			1,234.56	1	2,026.62	0.00	0.00
July 2	425	Vistacard	420.79	1			1,605.83	0.00	0.00
July 2	426	NY State Tax	62.00	1			1,543.83	0.00	0.00
July 5		Deposit			478.76	1	2,022.59	0.00	0.00
July 12	427	Westwind Oil Co	126.34	1			1,896.25	0.00	0.00
July 19	428	VOID					1,896.25	0.00	0.00
July 19	429	Shoreline Trust	668.00	1			1,228.25	0.00	0.00
July 27	430	Gotham Computer Ctr	336.76	1			891.49	0.00	0.00
July 27		Deposit			1,234.56	1	2,126.05	0.00	0.00
July 27	431	Abner Supermarket	96.23				2,029.82	96.23	0.00
July 27	432	inCider	38.00				1,991.82	38.00	0.00
Aug 2	433	The Nissen Group	350.00	1			1,641.82	0.00	0.00
Aug 3		Deposit			25.00		1,666.82	0.00	25.00
Aug 3	434	Ben Weissman	86.00				1,580.82	86.00	0.00
							1,580.82	0.00	0.00
							1,580.82	0.00	0.00
							1,580.82	0.00	0.00
							1,580.82	0.00	0.00
							1,580.82	0.00	0.00
		CLOSING BALANCE----------------------------------)					1,580.82		

PREVIOUS PERIOD OUTSTANDING			Check	C	Deposit	D		Check	Deposit
June 23	412	Country Printers	15.00					15.00	0.00
June 29	414	LI Telephone	53.43	1				0.00	0.00
								0.00	0.00
								0.00	0.00
								0.00	0.00
								0.00	0.00
								0.00	0.00

RECONCILIATION		Y-T-D	CHECKS	DEPOSITS
Checkbook Closing Balance:	1,580.82	January	2,376.44	2,570.00
Plus bank credits	0.00	February	1,234.78	2,134.00
Less bank charges	14.00	March	2,256.23	1,980.00
	---------	April	2,789.50	1,678.90
Adjusted Checkbook Balance	1,566.82	May	1,987.00	2,476.00
		June	2,133.80	2,903.00
Bank Statement Balance:	1,777.05	July	2,829.84	2,972.88
Plus deposits in transit	25.00	August		
Less outstanding checks	235.23	September		
	---------	October		
Adjusted Bank Statement Balance	1,566.82	November		
Variance (Checkbook minus Statement),	.00	December		
Maximum Balance During Month	2,126.05		---------	---------
Average Balance During Month	1,601.04	Totals	15,606.79	16,714.78

Figure. The CHECKBOOK.EX spreadsheet.

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All the formulas are protected against accidental change except for the Total Checks and Total Deposits formulas. To allow you to overtype both formulas at the end of each period, J49 and K49 on CHECK-BOOK.EX (J43 and K43 on CHECKBOOK) have partial (*Values only*) protection. More about that shortly.

Formula Name	Location*	Formula**	Description†
Running Balance	I7 to I28	I6 + G7 - E7	Adds a deposit to, and subtracts a check from, the opening balance.
Outstanding Check	J7 to J28	@IF(F7 = 1,0,E7)	Produces one of two answers, either a zero or the amount of an outstanding check.
Outstanding Deposit	K7 to K28	@IF(H7 = 1,0,G7)	Produces one of two answers, either a zero or the amount of an outstanding deposit.
Closing Balance	I29	+ I28	Copies the amount in the cell above it.
Checkbook Closing Balance	E43	+ I28	Copies the closing balance from the formula in I28.
Adjusted Checkbook Balance	E47 and E53	+ E43 + E44 − E45	Adds the bank credits to, and deducts the bank charges from, the checkbook balance. In E53, adds the deposits in transit to, and subtracts the outstanding checks from, the bank statement balance to produce the adjusted bank statement balance.
Deposits In Transit	E50	@SUM(K7...K39)	Adds the outstanding deposits to produce the total deposits not yet credited to the account.
Outstanding Checks	E51	@SUM(J7...J39)	Adds the outstanding checks to produce the total checks not yet deducted from the account.
Variance (Checkbook Minus Statement)	E54	+ E47 − E53	Subtracts the adjusted bank statement balance from the adjusted checkbook balance.
Maximum Balance During Month	E55	@MAX(I6...I29)	Retrieves the largest number in I6 to I29.
Average Balance During the Period	E56	@AVG(I6...I29)	Computes the average balance in your checking account.
Total Checks	J49	@SUM(E7...E29)	Adds the checks in E7 to E29.
Total Deposits	K49	@SUM(G7...G29)	Adds the deposits in G7 to G29.
Totals for the Year	J56 and K56	@SUM(J55...J43)	Adds the checks in J54 to J43. In K56, adds the deposits.

*The formula is entered in the first cell shown (base cell) and copied to the others.

**How the formula looks in the base cell. When it's copied, AppleWorks adjusts the relative cells accordingly.

†The formula's function in the base cell. In its copied locations, the formula works the cells relative to it.

Table. The formulas in the CHECKBOOK spreadsheet.

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Automatic recalculation is turned off, so any changes you make are reflected only when you turn on automatic recalculation (OA-V) or press OA-K. I changed the order of recalculation from the standard columns to rows, which calculates the formulas from left to right (instead of top to bottom) and suits the layout of this spreadsheet.

At the Start of a New Period

Let's assume the July reconciliation checks out perfectly and you're ready to start a new period. The first step is to print the spreadsheet for your records, which you've already done. Next, follow these steps:

1) Copy the Total Checks and Total Deposits formulas into the cells below—in this case, August. The formulas work with the same cells every period—the checks in E7 to E29 and the deposits in G7 to G29. Therefore, each cell reference is *No change* (press Return four times).

2) When you blank out the July information, all the formulas will recalculate to zero. You want a record of the total checks and deposits in July, so overtype the July Total Checks and Total Deposits formulas with the numbers they generated. For example, in J49, you would type **2829.84**, and in K49, **2972.88**.

3) Blank out (OA-B) each entry in the *Previous Period* area that has a tick mark beside it (for example, the telephone bill in row 34). Then copy any entry in the *Current Period* section that doesn't have a tick mark into the *Previous Period* area (for example, the checks for Abner Supermarket, inCider, and Ben Weissman, and the $25 deposit).

4) Blank out all the old information in the *Current Period* area, including the opening balance in I6 and the bank statement balance in E49.

5) Most of the blanked cells are in the standard format, which means they are unaffected by blanking. Cells with a nonstandard format, however, lose their format when they are blanked. Reformat the following cells for *Appropriate*: check numbers in column B, check tick marks in column F, and deposit tick marks in column H. (Put the cursor on the first value in the appropriate column, then follow this sequence: OA-L, **B**, down arrow to highlight the block, Return, **V**, **A**.) You could eliminate the blanking and formatting steps by just overtyping the old information, but that's risky. If you overlook a number, you are likely to spend the time you thought you'd saved trying to figure out why your checkbook doesn't balance.

6) Start the period where the last one left off. Refer to your printout and type the previous closing balance into I6. Press OA-K to recalculate the spreadsheet. You're now all set for the next period.

WORKING WITH THE TEMPLATE

CHECKBOOK contains the same formats and formulas as CHECK-BOOK.EX. If you're eager to get started and headed directly for this section, it's worthwhile to review the information in the practice example first. ■

LOAN

Discover the long and the short of loan-payment schedules.

Category:
Spreadsheet

Most long-term loans—those with a term of more than one year—are amortized. Amortization provides for periodic payments of principal and interest in equal installments sufficient to retire the debt at maturity. This lets you repay the loan gradually over its life instead of having it fall due all at once. The LOAN spreadsheet handles terms from one to 36 months, which is ideal if you're thinking about a car loan. Later on, you'll learn how to expand it to calculate loans that are amortized over 20 or 30 years, which is invaluable when you plan a home purchase, real-estate investment, or business expansion.

PLAYING AROUND WITH THE EXAMPLE

When you load LOAN.EX from the hotCider menu, AppleWorks brings up the spreadsheet shown in the Figure. Like Clark Kent and Superman, LOAN is mild-mannered on the outside but does spectacular things. All you do is enter three numbers—loan amount, interest rate, and term—and the formulas instantly produce the monthly loan payment, annual loan payment, total loan payment and, for each month of the loan, the month numbers, interest paid, principal paid, and principal remaining.

Printing the Spreadsheet

LOAN prints at the standard ten characters per inch. I increased the top margin and changed the left and right margins to center it on the page. You can see my settings in the Printer Options screen (OA-O). Now turn on your printer and print the spreadsheet: Press OA-P, confirm *All*, choose your printer, type today's date, and press Return twice.

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The Formats

I used the Commas format in this spreadsheet for a variety of reasons. Though most of the numbers are dollar amounts, dollar signs aren't really needed. To make the large numbers easy to read, I set a standard value of Commas with two decimal places. In C4 (term in years), I overrode the standard with Commas with no decimal places, which places the number a tad before the right edge of the cell. Obviously, this number will never be large enough to need commas, but the other format choices—Fixed and Appropriate—bring the number flush to the right edge, which creates an unsightly jog with the numbers above and below. Because AppleWorks doesn't center numbers, I formatted the month numbers for Commas with no decimal places to get a better alignment with the heading in column A. In C5, the Commas format with one decimal place lets you type a whole number for the interest rate instead of a percentage.

The Formulas

The Table shows the formulas, which are all protected against accidental change. Here's an explanation of the more exotic ones:

The Monthly Loan Payment formula in C6 uses the equation Payment = Loan*Rate^Term to calculate equal monthly payments including principal and interest during the life of the loan. To get the monthly interest rate, the formula multiplies the annual rate by 12, which appears as C5/(100*12). To convert this into months, the formula multiplies the term by 12, which appears as C4*12.

The Principal Paid formula, entered in C13, uses the If function to prevent a series of negative numbers from appearing in the column after the loan is liquidated. The Test statement compares the term in months with the month number in A13. If A13 is less than or equal to the term in months, the Then statement subtracts the interest paid in the first month from the monthly loan payment. If A13 is greater than the term in months, the Else statement enters a zero. The If function in the Principal Remaining formula in the second month (D14) serves the same purpose—to prevent negative numbers from appearing in the principal-remaining column after the loan is liquidated.

The Order of Calculation

The AppleWorks standard calculation is downward in a column. To produce accurate answers, I changed the order of calculation so the

formulas are now calculated across rows. AppleWorks works with the precise values stored in a cell, not necessarily with the number that's displayed. As a result, you'll sometimes see *(.00)* in the last cell in column D, meaning the remainder is less than a penny. Don't be concerned about it. The calculations are correct.

Formula Name	Location*	Formula**	Description†
Monthly Loan Payment	C6	+ C3*C5/(100*12)/ (1 − (1 + (C5/(100* 12))^(− C4*12)))	Amortizes the loan in equal monthly installments.
Annual Loan Payment	C7	+ C6*12	Multiplies the monthly loan payment by 12.
Total Loan Payment	C8	+ C6*C4*12	Multiplies the monthly loan payment by the term in months.
Month Numbers	A14 to A48	1 + A13	Adds 1 to the number in the cell above it.
Interest Paid in Month 1	B13	+ C3*C5/100/12	Multiplies the amount of the loan by the monthly interest rate (the annual interest rate in C5 divided by 12).
Interest Paid in Month 2	B14 to B48	+ D13*C5/100/12	Multiplies the principal remaining at the end of the first month by the monthly interest rate.
Principal Paid	C13 to C48	@IF(A13 < = (C4*12), C6-B13,0)	Produces one of two possible answers, either the principal paid at the end of the month or a zero.
Principal Remaining in Month 1	D13	+ C3 − C13	Subtracts the principal paid in the first month from the amount of the loan.
Principal Remaining in Month 2	D14 to D48	@IF(A14 < = (C4*12), D13-C14,0)	Produces one of two possible answers, either the principal remaining at the end of the second month or a zero.

*The formula is entered in the first cell shown (base cell) and copied to the others.

**How the formula looks in the base cell. When it's copied, AppleWorks adjusts the relative cells accordingly.

†The formula's function in the base cell. In its copied locations, the formula works with the cells relative to it.

Table. The formulas in the LOAN spreadsheet.

WORKING WITH THE TEMPLATE

LOAN contains the same formats and formulas as LOAN.EX. All you do is enter your numbers in C3, C4, and C5; press OA-K; and sit back while the formulas do the work.

It's just as easy to calculate a 30-year loan. Using LOAN as a base,

LOAN AMORTIZATION SCHEDULE
===

Amount of Loan	14,000.00
Term in Years	3
Annual Interest Rate (%)	11.9
Monthly Loan Payment	464.33
Annual Loan Payment	5,571.98
Total Loan Payment	16,715.95

===

End of Month	Interest Paid	Principal Paid	Principal Remaining
1	138.83	325.50	13,674.50
2	135.61	328.73	13,345.77
3	132.35	331.99	13,013.79
4	129.05	335.28	12,678.51
5	125.73	338.60	12,339.91
6	122.37	341.96	11,997.95
7	118.98	345.35	11,652.59
8	115.55	348.78	11,303.82
9	112.10	352.24	10,951.58
10	108.60	355.73	10,595.85
11	105.08	359.26	10,236.59
12	101.51	362.82	9,873.78
13	97.91	366.42	9,507.36
14	94.28	370.05	9,137.31
15	90.61	373.72	8,763.59
16	86.91	377.43	8,386.16
17	83.16	381.17	8,004.99
18	79.38	384.95	7,620.04
19	75.57	388.77	7,231.28
20	71.71	392.62	6,838.65
21	67.82	396.52	6,442.14
22	63.88	400.45	6,041.69
23	59.91	404.42	5,637.27
24	55.90	408.43	5,228.84
25	51.85	412.48	4,816.37
26	47.76	416.57	4,399.80
27	43.63	420.70	3,979.10
28	39.46	424.87	3,554.22
29	35.25	429.09	3,125.14
30	30.99	433.34	2,691.80
31	26.69	437.64	2,254.16
32	22.35	441.98	1,812.18
33	17.97	446.36	1,365.82
34	13.54	450.79	915.03
35	9.07	455.26	459.77
36	4.56	459.77	.00

Figure. The LOAN.EX spreadsheet. The shaded areas show the base cell locations of the formulas.

you can create two new spreadsheets, each calculating 180 months of the loan. I developed the following instructions on my //c with 128K of memory. With less memory, you may need more than two spreadsheets. Just copy fewer rows at a time and keep a close watch on the memory indicator, which appears in the bottom right corner during the copy process and when you press OA-?. Start a new spreadsheet when the memory gets down to *5K Avail*. With more memory, you may be able to do it all on one spreadsheet.

Be sure only the LOAN spreadsheet is on the Desktop, you have a blank, formatted data disk in the drive, and automatic recalculation is turned off. Now follow these steps:

1) Display the LOAN spreadsheet. To keep the short version intact, use the Name command (OA-N) to name the long version LOAN1.

2) So that our results agree, enter these numbers: In C3, type **85000**; in C4, type **30**; in C5, type **13.5**. Press OA-K to recalculate. Cell D48 should now contain 84,235.17.

3) Copy the formulas in columns A to D down their columns: Place the cursor on A48, press OA-C, and press Return to confirm *Within worksheet*. Press OA-right arrow to highlight row 48, and press Return again. Press down arrow to move the cursor to A49, type a period, press OA-down arrow (8 times), then down arrow (10 times) to highlight rows 49 to 193, and press Return.

4) AppleWorks now asks if A47 is a *Relative* or *No change* cell reference. Except for C4, C5, and C6, all the cell references are relative. Type **R** now and each time a relative cell location is highlighted. When C4, C5, and C6 are highlighted, press the return key to select no change. There will be a brief delay between formulas. AppleWorks is working hard to copy each formula into a great many cells.

5) Press OA-K and relax while recalculation ripples down the screen. When it stops, press OA-9 to jump the cursor to row 193. You should now see *181* in A193, *843.63* in B193, *129.97* in C193, and *74,859.36* in D193. Store LOAN1 on disk. This gives you the calculations for 15 years and one month.

6) You need a second spreadsheet to calculate the remainder of the term. Rename LOAN1 as LOAN2.

7) You want to be able to enter the ending numbers from LOAN1 into LOAN2. Use the Layout command (OA-L) to change the protection in row 13 from *Nothing* to *Values only*.

8) Enter the ending numbers from LOAN1: In A13, type **181**; in B13, type **843.63**; in C13, type **129.97**; in D13, type **74859.36**. Press OA-

K. When recalculation stops, press OA-9. The numbers in the 360th month should be *10.83* in B192, *962.77* in C192, and *(.02)* in D192. The remaining principal is usually zero. Occasionally, as you see it here, it will be off by a few pennies. Not bad for 30 years of calculations. 9) LOAN1 needs an extra row, but LOAN2 doesn't. Delete row 193 (it's okay to remove the protected cells). Store LOAN2 on disk.

When you're working with these spreadsheets, try your "what ifs" on LOAN1 and jot the numbers in row 181 on a piece of paper. Then remove LOAN1 from the Desktop, load LOAN2, and type the numbers into row 13. If automatic recalculation is turned off, press OA-K to recalculate.■

NEWSLETTER

Convey news effectively and enjoyably with a newsletter.

Category:
Word Processor

Good communication with employees is the glue that holds a company together. One of the best ways to communicate is through a company newsletter. Properly done, a newsletter creates good will, gets the word out on important matters, and involves employees in the workings of a company. It doesn't have to be fancy and it shouldn't be frivolous— just accurate, informative reporting of the company's past achievements, current happenings, and future plans. If you have a dot-matrix printer, NEWSLETTER can get you started in the right direction.

The hotCider menu contains two versions of NEWSLETTER.EX. Version EX1 prints the newsletter name, credits, date, lines, and 'TIS THE SEASON report in the left column. Version EX2, less ambitious, prints the NAMES IN THE NEWS report, which is pasted into the right column. Combined with a piece of clip-art, they create the front page shown in the Figure.

PLAYING AROUND WITH THE EXAMPLE

When you load NEWSLETTER.EX1 from the hotCider menu, AppleWorks brings up the Review/Add/Change screen containing the document. Move the cursor up and down its length and spend a few moments getting familiar.

Printing the Document

Turn on your printer and print the document: Press OA-P to start the Print command and press the return key to confirm *Beginning*. Select your printer and confirm one copy. And here's part of the front page of "The Vollner Voice"—hot off the printer.

'TIS THE SEASON...

A lively bash for Vollner employees and their families was held in the company cafeteria on Wednesday to celebrate the Christmas-Chanukah season. The party featured an array of enticing foods from shishkabob to sandwiches, music, and all the soda anyone could drink. According to reports, the event was a smashing success.

Reporters on the scene noted the frenzied activities leading up to the party: mini-meetings to discuss the size of the candy canes and where to buy dreidles, last-minute panic because the dreidles hadn't arrived, frantic phone calls to the caterer who didn't show up with the food until five minutes before party time.

But when the big moment arrived, everything was ready and the extra efforts of everyone involved could be seen in the lavish buffet and lovely decorations. At 3 PM, the guests started arriving. Throughout the afternoon, sounds of laughter, singing, shouting, booming music, and dancing feet were heard. And questions like "How come warm soda?" and "What's a dreidle?" and "Can't we get some air in here?"

Reliable sources have identified the employees who contributed to the success of the party: Lisa Morrell for arranging for the food and beverages; Susan Smith and Ken Wolin for setup and cleanup; Willie Chen for getting the candy canes and dreidles; Henrietta "Hank" Lopez for lugging a projector to show the slides of the Vollner 15-Year Club dinner; Jim Vinicombe for being an all-around great Santa Claus; Bob Nelson, Jeff Wennerstrom, Josh Lamhut, and all the guys in Maintenance for decorating the cafeteria and arranging the tables....and to all of YOU at Vollner for being a great group of people!

FROM THE STAFF OF THE VOLLNER VOICE: OUR VERY BEST WISHES FOR A WONDERFUL HOLIDAY SEASON AND THE HAPPIEST OF NEW YEARS.

NAMES IN THE NEWS

In this, our first issue of The Vollner Voice, we offer congratulations and continued success to the following employees who are celebrating employment anniversaries this month.

Ron Schweber, Tool & Die Maker

Ron's been with Vollner for 14 years and was the first to graduate from our Tool & Die Apprentice Program. He's a member of the Safety Committee.

Cathy Stewart, Mechanical Engineer

Cathy started in the Drafting Department and attended college at night to earn her ME degree. She's been with Vollner for 12 years.

Bob Nelson, Maintenance Supervisor

Bob reached that 10-year milestone last week. Thanks to Bob, a battery cart with jumper cables is available to employees who find themselves unable to start their car in the parking lot.

Figure. *The fornt page of "The Vollner Voice." Everything but the illustration and solid lines were created on the AppleWorks word processor.*

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The Formatting in the Document

Press OA-Z to display the printer options. Again, run the cursor up and down. Those dotted characters, dubbed *blots*, are where I pressed the return key to end a paragraph or to insert a blank line. AppleWorks shows the printer options in two ways: A caret, such as the one before *** THE VOLLNER VOICE ***, which prints the line in boldface type; and a dashed line followed by a description, such as -------*Top Margin*, which tells the printer how much space to skip before printing.

Getting the results you want is often a matter of doing the obvious first, then testing to see what works best. I wanted this newsletter to have two columns of equal width, page variety, and a professional, typeset look. After some initial planning and a few false starts—mainly the width of the columns—I finally reached the point where I could say, "That's it." Press OA-O to bring up the Printer Options screen. The highlight shows the current printer settings; the area below, the options. Now press the escape key.

Here's what the options do and, in parentheses, where they appear in the newsletter:

● The top and bottom margins allow everything to print on one page (lines 1 and 2). At the newsletter name and credits, the left and right margins allow ½ inch of space (lines 3 and 4). At 'TIS THE SEASON and after, the right margin stops the printing 4.2 inches from the right edge (line 25).

● VOLLNER VOICE is centered and printed as large as AppleWorks can make it—four characters to the inch (lines 5 and 6).

● Written and Published by. . . and the dashed lines are unjustified and proportionally spaced (lines 8 and 9). Proportional spacing gives each character—skinny "i" or chubby "w"—only the room it needs, unlike standard spacing, which gives every character the same amount of room. AppleWorks has two kinds of proportional spacing—P1 and P2. P1 characters are slightly narrower.

● The 'TIS THE SEASON heading is printed at eight characters to the inch (line 20).

● The rest of the text is proportionally spaced and justified to produce an even right edge (lines 23 and 24).

● VOLLNER VOICE, Written and Published by. . ., and 'TIS THE SEASON are printed in boldface type (lines 7, 14, and 21). Boldface cancels itself at the end of a line, so there's no end code. In AppleWorks, the same caret can indicate different printer options. To

see what a caret stands for, just place the cursor on top of it and, at the bottom of the screen, AppleWorks describes what it does.

When you printed the document earlier, AppleWorks produced the *End of Page 1* indicator in line 75. It disappears when you change anything and reappears when you print again.

WORKING WITH THE TEMPLATE

When you load NEWSLETTER, you'll find the same text and formats as NEWSLETTER.EX1, because a template containing only the printer options could be confusing. Overtype the existing text as much as possible.

I've used a company newsletter as an example. The format is, of course, well-suited to spread the news about a computer SIG, civic association, chess club, drama group, or bowling league. Gather your thoughts, let the creative juices flow, take your time, and—above all—relax. Nobody's looking over your shoulder. Here are some helpful hints:

● You can work with or without the blots and printer options on the screen. Pressing OA-Z turns them on and off.

● Use the overtype cursor. If you need to insert a missing character, switch to the insert cursor. If you make a typo, press the delete key to back up the cursor and erase the character before it. Use the Delete command (OA-D) to delete chunks of text.

● Word wraparound makes a word that can't fit on a line move down to the beginning of the next line automatically.

● Where you see a blot or an empty line, use the down arrow key to skip over it to the next piece of text.

● Every once in a while, take time out to print the document. When you're finished, use OA-K to calculate the page breaks. Then change whatever printer options are necessary.

These keys move the cursor: Left arrow and right arrow move the cursor one character at a time in the direction of the arrow. Down arrow and up arrow move the cursor one line at a time. OA-left arrow and OA-right arrow hop the cursor from word to word. OA-up arrow and OA-down arrow jump the cursor vertically one screenful at a time. Keys OA-1 through OA-9 jump the cursor vertically in proportional increments. ■

BUDGET

Wise spending begins with planned spending.

Category:
Spreadsheet

BUDGET is a spreadsheet loaded with categories that make it easy to pinpoint where your money goes and where it should go. You project your expenses, record them when they're made, and compare your projections with your spending. If something is out of line, you adjust either your plan or your spending. BUDGET can help you spend less, save more or, at the very least, save something.

PLAYING AROUND WITH THE EXAMPLE

Load BUDGET.EX from the hotCider menu, and AppleWorks brings up the monthly budget spreadsheet shown in the Figure. BUDGET prints at the standard ten characters to the inch. I changed the top and bottom margins so the first page stops at the end of a category, and increased the side margins to center the spreadsheet on the page. You can see these settings when you press OA-O to bring up the Printer Options screen.

Now turn on your printer. Press OA-P to start the Print command. Confirm *All*, select your printer, and confirm one copy.

The Formats and the Formulas

Instead of using dollar signs, which often crowd a spreadsheet, I set a standard value of Commas with two decimal places, and overrode the standard to display the numbers in column E as a percent with one decimal place.

The Table shows the formulas. Each SUM formula includes the cell above it (which contains the line) and the empty cell above the first number in the category. With this technique, if you insert a row anywhere within this range, AppleWorks adjusts the SUM formula to add the new entries along with the old. The formulas are protected

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against any inadvertent change. If you happen to wander into formula territory, AppleWorks won't accept the number you type. Automatic recalculation is turned off.

Formula Name	Location*	Formula**	Description†
Total Savings & Investments	B15	@SUM(B14...B9)	Adds the four entries in the Savings & Investments category.
Total Household	B25	@SUM(B24...B17)	Adds the six entries in the Household category.
Total Transportation	B42	@SUM(B41...B35)	Adds the five entries in the Transportation category.
Income Taxes (not withheld)	B57	@SUM(B56...B52)	Adds the three entries in the Income Taxes category.
Total Monthly Expenses	B107	+ B15 + B25 + B33 + B42 + B50 + B57 + B64 + B71 + B79 + B89 + B97 + B105	Adds the total of each expense category.
Under (Over) Budget	D10	+ B10 − C10	Subtracts what you actually put into bank savings and credit union from the amount you budgeted.
Budget As a Percent of Income	E10	+ B10/B4	Calculates the amount you budget for bank savings and credit union as a percent of your net income.
Budget Under (Over) Income	C110	+ B4 − B107	Subtracts the total budgeted from your monthly income.
Spent Under (Over) Budget	C111	+ B107 − C107	Subtracts the total amount you spent from the budgeted amount.
Cash Flow	C112	+ B4 − C107	Subtracts the amount you spent from your monthly income.

*The formula is entered in the cell shown (base cell) and copied to other cells that sum the same number of entries or perform the same function.

**How the formula looks in the base cell. When it's copied, AppleWorks adjusts the relative cells accordingly.

†The formula's function in the base cell. In its copied locations, it works with other categories.

Table. The formulas in the BUDGET spreadsheet.

Opening a Second Window

The Window command lets you keep two distant areas of the spreadsheet on screen at the same time. While you work in one window, you can view the results in the other. For example, knowing what's in cells C110, C111, and C112 is important when you plan a budget.

To see how it works, press OA-9 to jump the cursor to row 113.

MONTHLY BUDGET
August 1986

NET INCOME		3,385.42		

EXPENSES	Amount Budgeted	Amount Spent	Und(Over) Budget	Budget as % of Inc
Savings & Investments:				
Bank, credit union	25.00	0.00	25.00	.7%
Stocks & bonds	50.00	50.00	0.00	1.5%
Mutual funds	50.00	25.00	25.00	1.5%
Other investments	0.00	0.00	0.00	0.0%
Total Savings/Investments	125.00	75.00	50.00	3.7%
Household:				
Mortgage or rent	654.15	654.15	0.00	19.3%
Taxes, insurance	48.23	48.23	0.00	1.4%
Utilities	86.00	97.89	(11.89)	2.5%
Phone	35.00	43.12	(8.12)	1.0%
Maintenance, repairs	50.00	0.00	50.00	1.5%
Furnishings, improvements	359.00	387.00	(28.00)	10.6%
Total Household	1,232.38	1,230.39	1.99	36.4%
Personal:				
Food, beverages	425.00	446.72	(21.72)	12.6%
Clothing	100.00	64.00	36.00	3.0%
Grooming	18.00	18.00	0.00	.5%
Miscellaneous	50.00	32.78	17.22	1.5%
Total Personal	593.00	561.50	31.50	17.5%
Transportation:				
Commutation	101.00	113.00	(12.00)	3.0%
Gasoline	45.00	36.50	8.50	1.3%
Parking, tolls	50.00	27.83	22.17	1.5%
Car repairs, maintenance	20.00	123.45	(103.45)	.6%
Car registration, license	0.00	0.00	0.00	0.0%
Total Transportation	216.00	300.78	(84.78)	6.4%
Insurance:				
Life, disability	186.00	186.00	0.00	5.5%
Car	0.00	0.00	0.00	0.0%
Medical, dental	103.00	103.00	0.00	3.0%
Personal property	0.00	0.00	0.00	0.0%
Total Insurance	289.00	289.00	0.00	8.5%
Income Taxes (not withheld):				
Federal	110.00	110.00	0.00	3.2%
State	17.00	17.00	0.00	.5%
Local	6.00	6.00	0.00	.2%
Total Income Taxes	133.00	133.00	0.00	3.9%

Figure. *The BUDGET.EX spreadsheet with practice numbers. The shaded areas show the base cell locations of the formulas.*

Move the cursor to row 95, which positions row 112 at the bottom of the screen. Now place the cursor on row 109. Press OA-W to bring up the Windows screen, and press **T** to select *Top and bottom.* Press down arrow three times so row 112 is visible. Now press OA-J to

Loans & Debts:				
Car loan	168.00	168.00	0.00	5.0%
College loan	119.00	119.00	0.00	3.5%
Other loans, debts	0.00	0.00	0.00	0.0%
Total Loans/Debts	287.00	287.00	0.00	8.5%
Health Care (unreimbursed):				
Doctor	30.00	55.00	(25.00)	.9%
Dentist	65.00	45.00	20.00	1.9%
Medication	18.00	22.00	(4.00)	.5%
Total Health Care	113.00	122.00	(9.00)	3.3%
Educational & Professional:				
Tuition, books, board	0.00	0.00	0.00	0.0%
Day care, lessons	150.00	150.00	0.00	4.4%
Memberships	15.00	15.00	0.00	.4%
Books, periodicals	35.00	27.00	8.00	1.0%
Total Educ/Professional	200.00	192.00	8.00	5.9%
Recreation:				
Meals out	65.00	86.48	(21.48)	1.9%
Movies, plays	28.00	36.00	(8.00)	.8%
Sports, hobbies	35.00	19.75	15.25	1.0%
Vacation	0.00	0.00	0.00	0.0%
Baby sitter	22.00	20.00	2.00	.6%
Cable TV	37.00	37.00	0.00	1.1%
Total Recreation	187.00	199.23	(12.23)	5.5%
Gifts & Contributions:				
Holidays	0.00	0.00	0.00	0.0%
Weddings, birthdays	50.00	50.00	0.00	1.5%
Political	50.00	0.00	50.00	1.5%
Charitable	10.00	0.00	10.00	.3%
Total Gifts/Contributions	110.00	50.00	60.00	3.2%
Other Expenses:				
Children's allowances	20.00	20.00	0.00	.6%
Legal, financial services	0.00	0.00	0.00	0.0%
Child support	0.00	0.00	0.00	0.0%
Alimony	0.00	0.00	0.00	0.0%
Total Other Expenses	20.00	20.00	0.00	.6%
Total Monthly Expenses	3,505.38	3,459.90	45.48	103.5%

```
BUDGET UNDER (OVER) INCOME        (119.96)
SPENT UNDER (OVER) BUDGET           45.48
CASH FLOW THIS MONTH               (74.48)
```

jump the cursor into the top window.

Next, switch to the overtype cursor. Press OA-3. Overtype the numbers in the following cells: In B29 (Clothing), type **50**; then move the cursor to C29, type **55**, and press Return. Press OA-K to recalculate. Now press OA-7. Place the cursor on B82 (Meals out) and type **48**; move the cursor to C82, type **48**, and press Return. Press OA-K again. The budget was over your income by $52.96 but you underspent by

$25.96, which resulted in a negative cash flow of $27.00. Cash flow is what came in minus what went out.

Now close the second window: Leave your cursor where it is, press OA-W, and press the return key to confirm one window. A spreadsheet saved with a second window looks the same as you left it the next time you load it. The printed spreadsheet, however, won't show even a trace of another window.

WORKING WITH THE TEMPLATE

BUDGET contains the same formats and formulas as BUDGET.EX. To make this spreadsheet truly yours, delete the categories that don't apply and insert the ones that do. Make the expense titles specific. For example, if you have one mutual fund account, replace the generic "Mutual funds" (A12) with the fund name. If you have more than one account, consider inserting a row for each one.

After you insert rows, copy the formulas in columns D and E into the new cells. When you copy, AppleWorks highlights each cell reference and asks if it is *Relative* or *No change*. The first three cell references are relative, so type **R** three times. The fourth, B4, is no change, so press Return. AppleWorks will adjust the sum formulas automatically. When you delete rows, AppleWorks advises that you are about to remove protected cells—the formula cells in columns D and E. Go right ahead and remove them.

It's a good idea to keep BUDGET as a master spreadsheet. At the start of a new month, use the Name (OA-N) command to copy it under another name (for example, BUDGET1, BUDGET2, and so on). Then enter your net income in B4 and your projections in column B. At the end of the month (or as you go along), enter what you spent in column C. To see the results, turn on automatic recalculation (OA-V) or press OA-K.■

EXPENSES

Organize your finances by category.

Category:
Spreadsheet

EXPENSES is an easy way to keep track of your yearly expenses and cash flow. At the end of each month, refer to a printout of the BUDGET spreadsheet and just type in the total of what you spent in each category.

PLAYING AROUND WITH THE EXAMPLE

When you load EXPENSES.EX from the hotCider menu, AppleWorks brings up the annual expense summary spreadsheet shown in the Figure. EXPENSES prints at 12 characters to the inch. I changed the margins to center it left and right and start the header ½ inch from the top of the page. You can see these settings in the Printer Options screen. Now turn on your printer. Press OA-P to start the Print command. Confirm *All*, select your printer, type today's date and press Return, and press Return again to confirm one copy.

The Formats and the Formulas

I set a standard value of Commas with two decimal places. The formulas (shown in the Table) sum the entries in the categories and produce the cash flow. All the formulas are protected against accidental change. Automatic recalculation is turned off. If you change a number, simply press OA-K to recalculate manually.

Fixing the Titles on Screen

Let's suppose you are about to type in the entries for June. Move the cursor to column G. Only one problem—you can't see the category titles anymore. It would be nice to anchor those titles in place. AppleWorks to the rescue. Press OA-left arrow twice, then place the

Formula Name	Location*	Formula**	Description
Income and Monthly Expense Totals	H5, H8 to H19, and H21	@SUM(G5...B5)	Adds the income and expenses from January to June.
Expense Totals	B21 to H21, B44 to G44	@SUM(B20...B7)	Adds the expenses in each category.
Cash Flow	B23 to H23, B46 to H46	+ B5 – B21	Subtracts the monthly expenses from the monthly income.
Cumulative Income Total	H28, H31 to H42	+ H5 + @SUM(G28...B28)	Adds the total expenses in the first six months and the last six months.

*The formula is entered in the first cell shown (base cell) and copied to the other cells.

**How the formula looks in the base cell. When it's copied, AppleWorks adjusts the relative cells accordingly.

Table. The formulas in the EXPENSES spreadsheet.

ANNUAL EXPENSE SUMMARY

1986	January	February	March	April	May	June	Totals
NET INCOME	3,050.72	3,050.72	3,050.72	3,050.72	3,050.72	3,050.72	18,304.32
EXPENSES							
Savings & Invest	150.00	200.00	225.00	225.00	225.00	300.00	1,325.00
Household	1,020.29	1,288.59	925.75	1,012.55	912.50	924.76	6,084.44
Personal	438.78	381.50	423.67	407.50	412.10	398.70	2,462.25
Transportation	261.50	282.00	215.50	398.70	172.45	179.67	1,509.82
Insurance	289.00	0.00	0.00	289.00	0.00	0.00	578.00
Income Taxes	50.00	50.00	50.00	50.00	50.00	50.00	300.00
Loans/Debts	0.00	124.00	124.00	124.00	124.00	124.00	620.00
Health Care	73.00	44.23	0.00	125.86	0.00	35.42	278.51
Educ/Professional	202.00	120.00	120.00	134.00	110.00	0.00	686.00
Recreation	151.80	179.20	76.25	134.70	125.30	114.24	781.49
Gifts/Contributions	50.00	0.00	50.00	15.00	90.00	75.00	280.00
Other Expenses	76.24	89.25	133.75	175.20	94.56	17.76	586.76
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Expense Totals	2,762.61	2,758.77	2,343.92	3,091.51	2,315.91	2,219.55	15,492.27
CASH FLOW	288.11	291.95	706.80	(40.79)	734.81	831.17	2,812.05

	July	August	September	October	November	December	Totals
NET INCOME	3,050.72	3,385.42					24,740.46
EXPENSES							
Savings & Invest	200.00	75.00					1,600.00
Household	1,288.59	1,230.39					8,603.42
Personal	381.56	561.50					3,405.31
Transportation	304.77	300.78					2,114.77
Insurance	289.00	289.00					1,156.00
Income Taxes	50.00	133.00					483.00
Loans/Debts	287.00	287.00					1,194.00
Health Care	36.55	122.00					437.06
Educ/Professional	192.00	192.00					1,070.00
Recreation	162.75	199.23					1,143.47
Gifts/Contributions	0.00	50.00					330.00
Other Expenses	33.25	20.00					640.01
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Expense Totals	3,224.87	3,459.90	0.00	0.00	0.00	0.00	22,177.04
CASH FLOW	(174.15)	(74.48)	0.00	0.00	0.00	0.00	2,563.42

Figure. The EXPENSES.EX spreadsheet with practice entries. The shaded areas show the base cell locations of the formulas.

cursor on B1. Press OA-T to bring up the Titles screen. Now type **L** to select *Left side.* Hold down OA-right arrow and you can see that the titles are indeed fixed in place. You now know exactly which category you're in. Restore the spreadsheet by pressing OA-T and pressing Return.

WORKING WITH THE TEMPLATE

EXPENSES contains the same formats and formulas as EXPENSES.EX. Use the same approach as you did with BUDGET—customize the spreadsheet by deleting and inserting categories and change the titles where necessary. Then copy EXPENSES under a different file name and use the copy for your entries. To see the results, turn on automatic recalculation (OA-V) or press OA-K.■

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- ► **Build a Mailing List**
- ► **Prepare a Price Quote**
- ► **Personalized Form Letter**
- ► **Create a Customer Database**
- ► **Publish a Company Newsletter**
- ► **Plan a Home or Business Budget**
- ► **Figure a Loan Amortization**
- ► **Prepare an Annual Expense Summary**
- ► **Analyze your Personal or Business Balance Sheet**