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Support for AppleWorks and ///EZ Pieces Users

How to Print on 1.75-inch Labels

Dear NAUG:

I have spent hours trying to figure out how to print from AppleWorks onto the 1.75-inch high labels supplied by MECC. AppleWorks lets me set the label length to either 1.7 inches or 1.8 inches, but not to 1.75 inches. As a result, I get two or three acceptable labels, then they "creep" off the top or bottom of the label. Is there any way to use AppleWorks to print on these labels?

Sophia Wilding
Ogden, Utah

[Ed: The trick is to tell AppleWorks to print on every other label and run your labels through the printer twice, printing on every other label each time. Here's how:]

Change the Paper Length Command so AppleWorks thinks that each label is 3.5-inches high. Then insert blank lines into the label report so each label contains 15 lines; that is the maximum label length you can establish in AppleWorks. Also set your printer so the "Accepts top of page command" is set to "No". With these settings, AppleWorks will print on every other label and stop when it runs out of labels. Then feed the labels back into the printer, line up the print head with the first blank label, and continue printing. AppleWorks will print on the remaining blank labels.

You can use this same technique to print on 1/2-inch high file folder labels. AppleWorks will not accept a page length of .5 inches. Instead, set the page length to 1-inch and print on every other label. Then re-insert the labels and print on the blanks.]

Problems with TimeOut TeleComm

Dear Cathleen,

I am having problems using TimeOut TeleComm. Sometimes the program locks up my computer. I also can't get it to transfer files correctly. Are these known problems with the program?

Nancy Barnes
Palm Springs, Florida

[Ed: Although TeleComm has exceptional potential, AppleWorks users are getting inconsistent results with the program. While some users like the program, the current version does not work properly on all systems. In addition, some important features, like file transfers, are unreliable on most Apple II computers.]

Mark de Jong, the author of TeleComm, is working on a new version of the program. However, TeleComm is a surprisingly complex product that must deal with AppleWorks, with different serial interface cards in Apple IIe computers, with different serial ports in the Apple IIc and IIgs, and with different modems. Mr. de Jong wants to be certain that the new version is robust and stable; developing version 1.2 is taking far longer than anyone expected.

Beagle plans to send NAUG replacement disks when they release TeleComm 1.2. If you own TimeOut TeleComm, send your original disks to NAUG with a self-addressed, stamped return mailer. We will replace those disks with version 1.2 when we receive the update from Beagle.]

AppleWorks Forum

Editor: Cathleen Merritt

Associate Editor: Warren Williams

Page Layout: Nanette Luoma

Publisher: The National AppleWorks Users Group

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The "AppleWorks Forum" (ISSN 0893-4118) is published monthly for \$29 per year by the National AppleWorks Users Group, 49068 Harvest Dr., Plymouth, MI 48170.

Second Class postage paid at Plymouth, MI, and additional mailing offices.
POSTMASTER: Send address changes to AppleWorks Forum, NAUG, Box 87453, Canton, MI 48187

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. **NAUG** provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the **AppleWorks Forum**.

Letters...

How to Add Rows to a Spreadsheet

Dear NAUG:

What is the best way to design a spreadsheet that can accommodate additional rows of data?

Steve Bent

Galloway Township, New Jersey

[Ed: The best approach is to build extra blank rows into the spreadsheet when you design the original model. Make certain that you include enough rows to accommodate the largest number of records you ever expect to use. Then copy the formulas into all those rows. Put your totals and averages at the bottom of the blank rows; you can always delete the blank rows later.]

If you do not want blank rows in your model, develop the template so it includes a row of equal signs or other non-value characters above and below the rows that contain data. (See the example in Figure 1.) Then write the formulas in the bottom row so they refer to cells one row above and one row below the last cell that contains values. Now you can use the Apple-I command to insert rows anywhere in the spreadsheet, the formulas will automatically adjust to include all the rows in the model.

Inserting the equal signs and adjusting the cell references in the formulas has another benefit; it lets you use the Apple-A command to rearrange the rows of data. For example, if the formula in Figure 1 read @AVG(D7... D15), AppleWorks would not correctly adjust the formula if you rearranged the rows. However, if you write the formula @AVG(D6... D16), you can rearrange rows 7 through 15 any way you like; the formula in row 17 will compute the correct average. (For more information about this concept, see the article entitled "How to Write Spreadsheet Formulas So You Can Use Arrange" in the January 1987 issue of the AppleWorks Forum.)]

Figure 1: Suggested Cell References for @AVG

```

File: FIGURE.1          REVIEW/ADD/CHANGE          Escape: Main Menu
-----A-----B-----C---D---E---F---G---H---I---J---K---L-----
1| Semester: Winter, 1991
2|   Class: Ethics
3|
4| Last      First      |          |          |          |
5| Name      Name      |  1    2    3    |  1    2    3    4    |
6|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|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How to Maintain Your Electronic Index

Dear Cathleen,

I have all the back issues of the *AppleWorks Forum* and find that my copy of NAUG's Electronic Index is indispensable when I need an article on a particular topic. I update the index monthly by entering the information that appears in the back of each issue of the newsletter. Everything usually goes smoothly, with one exception. You sometimes publish a list of keywords that is too long to fit in the keywords category in the file. Of course, I can omit some keywords, but I'd rather have a complete file that matches the one distributed by NAUG. How can I enter all of those keywords?

Aaron Bush
Houston, Texas

[Ed: To accommodate a long list of keywords, create two records for any article that has more words than will fit in a single record. Create the record once and enter as many keywords as will fit. Then issue an Apple-C command to make one copy of the record, move the cursor to the keyword category on the new copy, and issue an Apple-Y command to "Yank" (delete) the original entries. Then enter the remaining keywords.]

Introduction to AppleWorks GS

Easy-to-follow activities help you learn by doing.

Explore the basics of AppleWorks GS.

Introduction to AppleWorks GS is a collection of practical explorations designed to introduce basic *AppleWorks GS* concepts and features. Learn about *Works'* fully integrated modules—word processing, spreadsheet, database, page layout, graphics, and communications—as you successfully design and implement a simulated school fund-raiser. Each fund-raising activity focuses on a particular *AppleWorks GS* module. So as you complete each hands-on project, you become a more knowledgeable and skilled user.

The Introduction to AppleWorks GS advantage.

The nine explorations in *Introduction to AppleWorks GS* are designed as independent units that can be used as the basis for a workshop, as a text, or for self-paced, independent study. In no time, you'll be making better and more efficient use of *AppleWorks GS* and your Apple IIGS computer.

Product #T-646-3. Includes a manual and 3.5" activity disk. *AppleWorks GS* must be purchased separately.

Six versatile modules in one all-around package.



Word Processing

- includes a built-in spell checker and thesaurus
- merges information from database documents



Spreadsheet

- generates charts and graphs
- utilizes powerful calculation features



Database

- stores graphics and text
- designs and prints reports
- creates templates and mailing labels



Page Layout

- combines text and graphics by using master pages, multiple text columns, guides, and graphics tools



Graphics

- includes painting, drawing, and editing tools



Communications

- allows for the exchange of information between computers

Hardware Requirements

Apple® IIGS with ROM 01 and 1.25 mb or ROM 03 and 1.125 mb of memory, two 3.5" disk drives, and a color monitor. An ImageWriter printer with color ribbon is recommended but is optional.

Introduction to AppleWorks® GS Order Form

Name _____

Title _____

Address _____

City _____ State _____ Zip _____

Phone (____) _____



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St. Paul, MN 55126

Call: 800/228-3504 or 612/481-3500 ext. 527

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Charge this order to my charge account as I have indicated, to be paid according to the current terms of that account.



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Minnesota residents
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TOTAL

Authorized Charge Card Signature

For a Faster AppleWorks

by Pete Ross

Serious AppleWorks users don't like to wait while the program recalculates a spreadsheet, sorts data base records, or reformats a document. They want faster operations from their Apple II systems. In this article, Pete Ross examines the operating speed of AppleWorks running on systems equipped with three different Apple II accelerators.

Those of us with Apple II computers are constantly told that our hardware is old and slow. Dealers, manufacturers, and our friends try to tempt us with faster, more powerful equipment. But we are reluctant to leave the comfortable world of our Apple II. We like our machines and particularly appreciate the convenience, ease-of-use, and functionality of AppleWorks.

If this describes your situation, perhaps you should consider a different alternative. Instead of buying new hardware and software, why not spend \$100-\$300 and speed up your existing system?

In this article, I compare the speed of AppleWorks running on five different hardware platforms:

1. A standard Apple IIe.
2. An Apple IIe equipped with a 4-megahertz Zip Chip.
3. An Apple IIe equipped with an 8-megahertz Zip Chip.
4. A standard Apple IIGs.
5. An Apple IIGs equipped with an Applied Engineering TransWarp GS card.

I think you will find some of the results of these tests surprising.

The Zip Chip

The Zip Chip replaces the 65C02 central processing unit (CPU) built into Apple II+, IIe, IIC, and Laser 128 computers. Since the Zip Chip replaces the CPU on the motherboard, it does not use any

slots in a II+ or IIe and even works in the slot-less Apple IIC and Laser 128.

The chip includes a faster 65C02 processor and high speed RAM which it uses to store frequently used program code and data. Zip Technology manufactures two chips: the Zip Chip 4000, which runs at 4-megahertz, and the Zip Chip 8000 which runs at 8-megahertz. The 4000 lists for \$125; the 8000 lists for \$199. Both products are available from mail order vendors at significant discounts.

The TransWarp GS

The Applied Engineering TransWarp GS is an accelerator card that fits into slot 3 in the Apple IIGs. The card contains a replacement 65C816 processor, static RAM to serve as a high speed cache for instructions and data, and on-board firmware that you can access from the IIGs Control Panel. TransWarp GS cards run at either 6.25 or 7 megahertz and have a suggest retail price of \$399.

"I think you will find some of the results of these tests surprising."

Zip Chip — Documentation and Utilities

The Zip Chip comes packed in a small box with a manual, a tool designed to help you remove the original CPU in your Apple, and a disk of utility programs. The only difference in the packaging between the 4000 and 8000 products is a sticker on the 8-megahertz package.

The documentation is brief but adequate. The manual describes how to install the Zip Chip in different computers, including a description of how to

Late News about Apple IIe Accelerators

Applied Engineering recently announced that they were discontinuing development and production of their TransWarp II and TransWarp III accelerators for Apple IIe computers. The company also announced that it would resume production of its original 4-megahertz TransWarp board and would reduce the suggested list price of that product to \$119. NAUG tested a TransWarp card in August of 1987 and found the board's speed to be comparable to that of the 4-megahertz Zip Chip. The TransWarp card is compatible with all Apple IIe hardware configurations, requires a slot in the computer, and is not compatible with Apple IIc and Laser 128 systems.

open and close the Apple IIc case and how to install a Zip Chip in IIc's equipped with an expanded memory board.

The Utilities Disk that comes with the chip contains both ProDOS and DOS 3.3 versions of the utility programs. Programs on this disk let you test and change both the speed of the chip and the speed with which the Zip Chip addresses each slot in the computer.

Configuring the Zip Chip is a good news/bad news situation. The bad news is that if your computer requires it, the Zip Chip must be configured each time you power up your Apple; the Zip Chip does not have DIP switches or on-board firmware that lets you make the configuration settings permanent.

The good news is that most users will not need to configure the Zip Chip for their systems. All I had to do was install the chip in my computer, turn on the power, and watch AppleWorks and all my other programs fly. Even if you need to configure the Zip Chip when you start your Apple, you can install the ZIP.SYSTEM file on your bootup disk which will automatically configure the Zip Chip each time you boot the computer. Then ZIP.SYSTEM runs AppleWorks or any other program you specify. If you ever have to reboot, you can hold the Space Bar while doing a warm boot and the system will preserve the Zip Chip settings.

The Utilities Disk contains several other programs which are described in a text file on the disk, not in

the manual. Like the packaging, the text file also has not caught up with the technology, referring only to the older 4-megahertz chip. One utility (ZREAD) reads the chip's status but incorrectly shows the 8-megahertz chip's speed to be 4-megahertz. Another utility lets you turn the chip on or off. These programs are identical for both the Zip 4000 and 8000 chips, and all but the speed test worked correctly with both products.

TransWarp GS — Documentation and Utilities

The TransWarp GS comes packed in a styrofoam box that includes the board and a 23-page manual. The well organized, easy-to-read documentation explains how to install and configure the card and gives helpful troubleshooting and technical information.

Firmware on the TransWarp GS board installs itself as a desk accessory on your system. You access this firmware and configure the TransWarp GS by entering an Apple-Control-Escape to display the Desk Accessories Menu. Then you can set the speed of your system ("TransWarp" or "Normal"), configure the board for your peripheral devices, or test the system.

Brain Surgery

Installing the Zip Chip or the TransWarp GS card is a relatively simple, albeit nerve wracking, process, particularly when you pry the original CPU from its socket on the motherboard. I performed the operation three times without anything worse than a couple of slightly bent pins which I straightened with tweezers. *[Ed: Follow the directions carefully, including grounding yourself. Use non-conducting tweezers when you straighten the pins.]* I held my breath each time until the system started properly. If this task is beyond you, your dealer will do it for a small fee.

In theory, the Zip Chips should work in the Laser 128, an Apple IIc clone. However, my old Laser 128 had many soldered pieces of shielding between the case and the motherboard. When I abandoned the installation process and asked a Laser dealer to help, I was turned down. It seems that the CPU was soldered into the motherboard of my early Laser. *[Ed: Only the earliest Laser 128 computers had*

Hardware Review...

soldered CPU's. If you have an old Laser 128, we suggest that you open the case to determine if your CPU is socketed or soldered. If it is soldered, do not try to install a Zip Chip.]

Running the Accelerator

When you boot a Zip Chip-equipped Apple, the system pauses for about two seconds before booting and then chirps (the chirp instead of the familiar beep reminds you that the Zip Chip is working). If you want to run at normal speed (for example, to play a game), you must press the Escape Key during the two seconds between power on and the chirp. Unfortunately, you cannot change the Zip Chip's speed while you are running a program.

When you boot an accelerated IIGS, the TransWarp GS displays a TransWarp logo on the screen and then runs at the speed you set on the IIGS Control Panel. You can access the Control Panel at any time and toggle the system between normal and TransWarp speed.

Timing Tests

I tested the impact of these products on the operating speed of AppleWorks. I repeated each test until I recorded five consecutive trials within a tenth of a second of each other and I averaged those five times. [Ed: The times for Apple IIC computers should be identical to those for the IIE.]

AppleWorks Word Processor

I loaded a 41 page, 98K (107K on the desktop) file into memory and conducted three tests:

1. With the cursor at the top of the document, I issued an Apple-F command to find a character at the end of the file.
2. I issued an Apple-K command to calculate the page breaks.
3. I changed the format of the document from 10 cpi to 12 cpi.

AppleWorks Data Base

I loaded a 127K (136K on the desktop), 1615

Zip Chips and Apple Memory Cards

If you have an Apple Memory Expansion Card in your Apple IIE or IIC, you might find that the 8-megahertz Zip Chip is not compatible with your system. Unfortunately, some of these cards cannot sustain the fast speeds required by your accelerated computer.

If you own one of these cards and your computer does not work after installing a Zip Chip, remove the memory expansion card from the computer and boot your system. If the computer runs normally without the card, the Zip Chip is operating correctly. If you have an Apple IIC, Chinook Technology can upgrade your card so it is compatible with the 8-megahertz Zip Chip. The upgrade costs \$25. Contact Chinook at (303) 678-5544.

If the 8-megahertz Zip Chip is not compatible with the Apple Memory Expansion Card in your IIE, contact Zip Technology at (213) 337-1313 to see if they can supply a Zip Chip that is compatible with your system.

record file into memory and conducted the following three tests:

1. I issued an Apple-A command to sort the data numerically based on a category containing random numbers.
2. I issued an Apple-F command to find a text item anywhere in the data.
3. I issued an Apple-R command to select records which contained entries in one category that matched text I specified.

AppleWorks Spreadsheet

I loaded a 110K (112K on the desktop) file into memory. Each of the 3,992 spreadsheet cells (except cell A1) contained a formula dependent on a value derived from the value in cell A1. I set recalculation to automatic and used this spreadsheet for three tests:

1. I entered a new value in cell A1 which caused the entire spreadsheet to recalculate.
2. I issued an Apple-A command to arrange 998 spreadsheet rows, four columns wide, in inverse order and recalculate the spreadsheet.
3. I issued an Apple-F command from cell A1 to find a text item in cell D999.

Figure 1: Word Processor

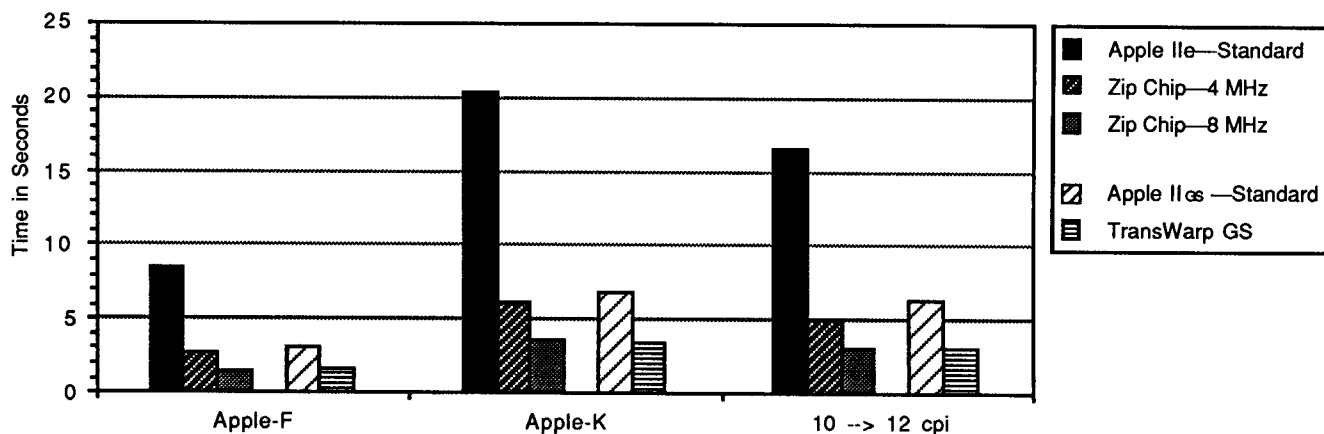


Figure 2: Data Base

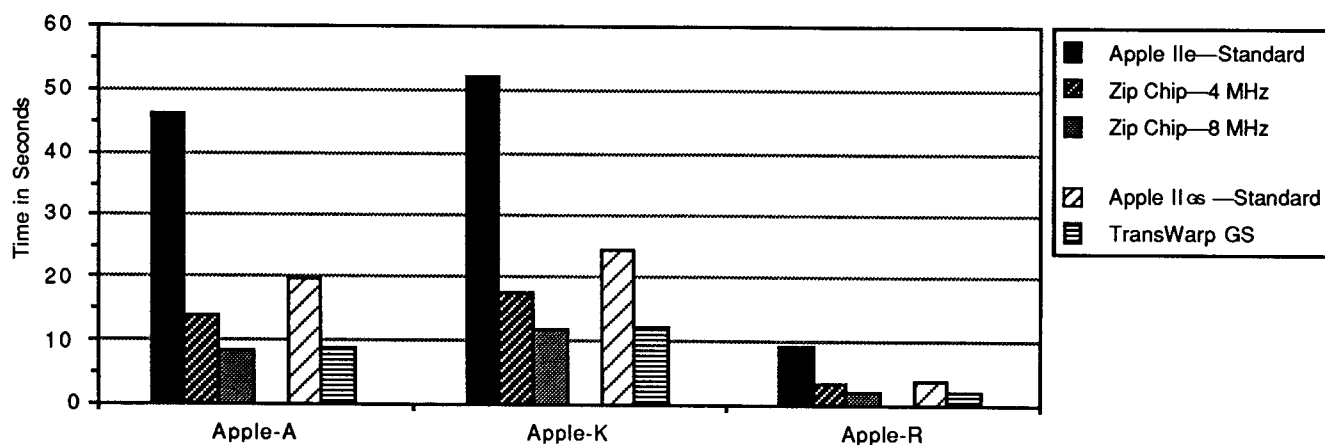
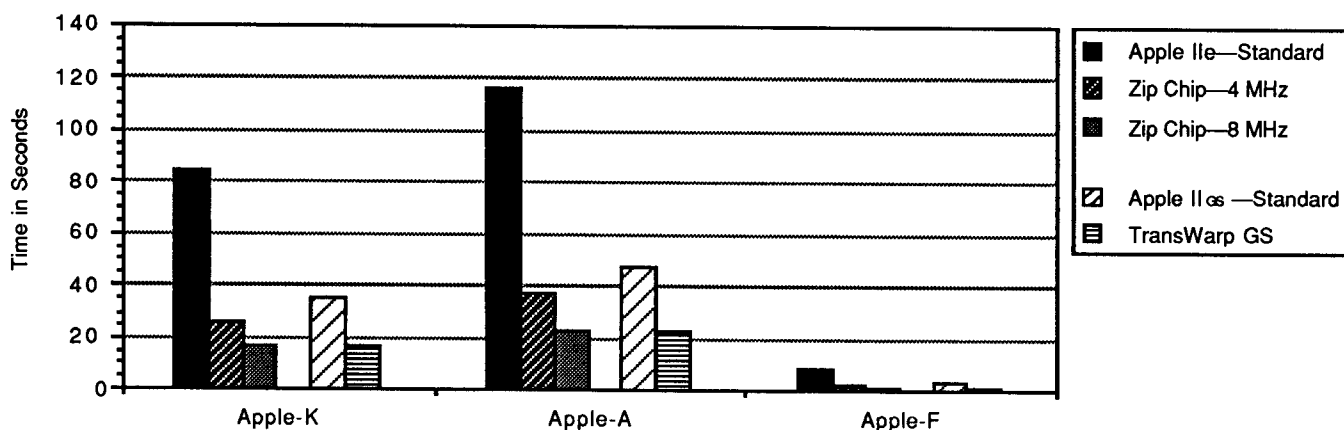


Figure 3: Spreadsheet



Hardware Review...

Results

The graphs in *Figures 1-3* summarize the results of these tests. As you can see from these graphs, the accelerated systems ran significantly faster than the standard computers. The biggest single gain in performance occurred when I installed a 4-megahertz Zip Chip in an Apple IIe. That \$125 upgrade to your IIe or IIC gives you performance that is faster than the speed of AppleWorks running on an unaccelerated Apple IIGs.

For the fastest performance, you need either the 8-megahertz Zip Chip in a IIe or IIC, or a TransWarp GS accelerator in a IIGs. Both accelerators yielded almost identical operating times in these practical tests. The table in *Figure 4* lists the five tested configurations in rank order based on their speed.

Although these products speed up the internal operations of the Apple, they do not accelerate disk access or printing. If much of what you do requires frequent disk access (e.g., checking the spelling of a word processor document), the accelerators do not help much and you should consider a hard disk or more memory that you can use as a RAM disk.

[Ed: Note, however, that these accelerators dramatically speed up RAM disk operations. When we put the AppleWorks spelling dictionaries on a RAM disk, it took an 8-megahertz Zip Chip-equipped Apple IIC approximately three seconds to check the spelling of a five page word processor document. NAUG will publish articles on how to use a RAM disk with AppleWorks 3.0 in upcoming issues of the AppleWorks Forum.]

Conclusions

As the graphs in *Figures 1-3* suggest, using a relatively inexpensive 4-megahertz Zip Chip on an Apple IIe is an inexpensive way to get significant speed gains with the program. You end up with a system that runs AppleWorks somewhat faster than an unaccelerated Apple IIGs.

For the fastest operation, you should install either an 8-megahertz Zip Chip in your IIe or IIC, or a TransWarp GS card in your IIGs. Even before doing the timing tests, it was apparent that AppleWorks,

Figure 4: Rank Order by Speed

fastest	{ Apple IIGs; TransWarp GS Apple IIe; 8-megahertz Zip Chip Apple IIe; 4-megahertz Zip Chip Apple IIGs; no accelerator	Tied
	...	
slowest	Apple IIe; no accelerator	

running on the 8-megahertz Zip Chip-equipped IIe had all the crispness and instant response that I enjoyed on my significantly more expensive TransWarp GS-equipped IIGs. Had the 8-megahertz Zip Chip been available when I purchased my IIGs, I might still be working with the IIe.

[Pete Ross is a Speech and Drama teacher and Chairperson of the Language Arts Department at a Westland, Michigan, junior high school.]

Reprints from NAUG

NAUG recently published reprints of its series of Novice Notes articles entitled "How to Get Started with the Data Base Module". These articles, originally published in the November 1989 through February 1990 issues of the *AppleWorks Forum*, are popular with AppleWorks educators. The reprints are bound into a 24-page, 3-hole punched booklet.

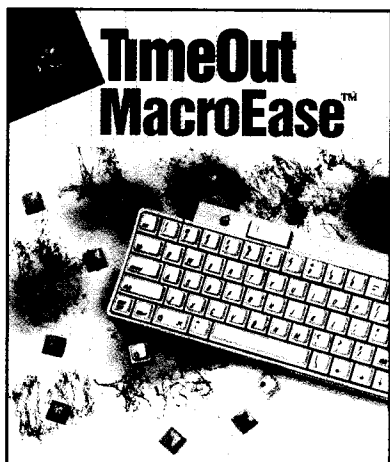
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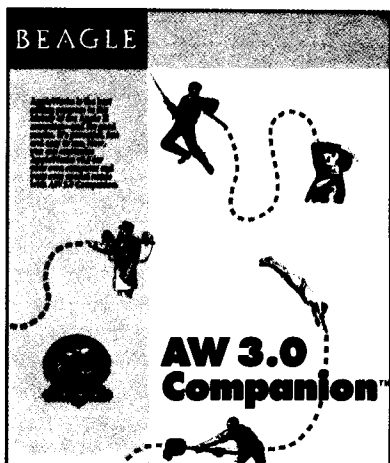
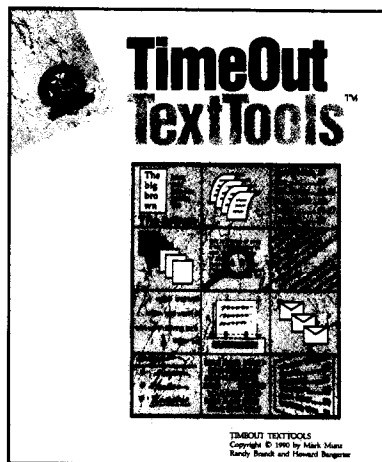
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The Ins and Outs of the AppleWorks Organizer

by Randy Brandt

This is the second in a series of articles that describe the internal workings of AppleWorks 3.0. These articles will help intermediate and advanced AppleWorks users understand why the program behaves the way it does. Mr. Brandt is one of the authors of AppleWorks 3.0.

Last month I described what happens between the moment you launch AppleWorks and the time the Main Menu appears on the screen. This month I will describe the Organizer, a collection of routines which manages the Main Menu and controls all disk access and desktop file management functions within AppleWorks. The Organizer is the “control center” for all AppleWorks functions not involving file editing and printing. In its role, the Organizer calls all the segments it needs to accomplish its desired tasks.

The quickest way to get to the Organizer from anywhere in AppleWorks is to enter an Apple-Q. That loads the Organizer into memory and displays the Desktop Index. Then you can press the Escape Key to access the Main Menu.

Some of the Organizer’s functions are simple. Creating a subdirectory or changing the default data disk takes very little code and leaves little to the imagination. This article will focus on the more complex and esoteric activities.

Changing Standard Settings

One segment of the Organizer modifies the standard settings and controls everything stored in the file SEG.ER, the file that contains the user’s Environment Record. SEG.ER stores printer information (such as the codes for underlining), serial port settings on a IIc, and all of the user-definable options such as preloading, spelling checker settings, the date/time format, and the default data disk location.

To save time, the Organizer only updates SEG.ER when you leave the Select Standard Settings Menu. If you change one or two settings and then lose power, those changes will not be reflected the next time you boot AppleWorks; this is the price you pay to avoid disk activity every time you choose a menu item.

The Organizer also stores the last bootup date of AppleWorks, which is why SEG.ER always sports a recent modification date.

“And you thought that saving a file was as simple as pressing an Apple-S!”

Formatting disks

Another module in the AppleWorks Organizer lets users format 3.5-inch, 5.25-inch, and RAM disks. Lissner included this option in AppleWorks so you could format a new disk and save a file if you run out of disk space while you work. (As AppleWorks GS users know, without a format option there is no easy way to store a file if you run out of disk space while you are working.)

The format segment of the Organizer checks the disk type of the device you want to format. If it is a valid device, the Organizer checks if it is a SmartPort device. If so, it calls the format routine built into the SmartPort controller. If the device is a Disk II, AppleWorks uses its own code to format the disk.

The one disadvantage of using the AppleWorks formatter is that it does not write ProDOS boot blocks on the disk. Thus, you cannot use these disks to boot your computer, even if you copy the

A Historical Note

Robert (then Ruppert) Lissner originally wrote QuickFile as a stand-alone data base program which he later enhanced by first adding a word processor and then a spreadsheet module. In 1983, Apple released the first version of AppleWorks for the Apple II but decided not to release the Apple III-compatible version of the program. Lissner sold the rights to the Apple III version to Haba Systems which marketed the program as ///EZ Pieces. Files developed with ///EZ Pieces are identical to those developed with AppleWorks 2.1 or earlier; you can read files created by one program with the other version of the program. ///EZ Pieces is still available for Apple III computers for \$59.95 from Sun Remarketing, Box 4059, Logan, Utah 84231; (800) 821-3221. *[Ed: For more information about the origins of AppleWorks, see the letter from Robert Lissner to NAUG published in the November 1988 issue of the AppleWorks Forum.]*

PRODOS file onto the disk. (If you ever copy PRODOS onto a disk and still cannot boot your computer with the disk, it is possible that you originally formatted that disk with AppleWorks.) TimeOut FileMaster solves this problem by adding the 1K of necessary bootup code so that the resulting disks are bootable.

Converting Files

The Organizer includes several segments that can convert data files generated by other programs into AppleWorks format.

The simplest of the conversion segments changes ASCII text files into AppleWorks format. This is easy, since the Organizer merely has to divide lines which would be too long for the word processor and convert any non-text characters into “#” symbols. Otherwise it just reads the text.

Many AppleWorks users utilize this conversion capability to salvage portions of damaged files; they read in the raw data from the damaged file as if it contained only text and then edit that file. You should try loading an AppleWorks word processor file onto the desktop with this technique. In addition to the text, you will see the file's rulers, special

codes, and extra characters which indicate the length of each line.

The Organizer can also generate AppleWorks spreadsheet files from Data Interchange Format (DIF) files. A DIF file is little more than a text file which makes “rows” and “columns” sound intimidating by calling them “vectors” and “tuples”. DIF files also contain a header with information that is important for the conversion process.

Unfortunately, AppleWorks can only read DIF files in column (vector) order, even though the spreadsheet lets you create DIF files in either column or row order. You should remember this when you create DIF files that you plan to import into AppleWorks.

The Organizer can convert both text and DIF files into AppleWorks data base format. However, like the spreadsheet, the Organizer only reads data base DIF files in column order.

The program can convert text files into AppleWorks data base files in two ways. If you used tabs to separate categories, the Organizer looks for a Return character and automatically calculates the number of categories per record; if you did not use tabs, you must specify the number of categories in each record.

Changes in AppleWorks 3.0

The latest version of AppleWorks includes two major changes in the program's Organizer. First, the AppleWorks 3.0 Organizer lets you navigate through the subdirectories on a disk instead of forcing you to type in a full pathname. That is an important feature for the growing number of AppleWorks users with hard drives and 3.5-inch disk drives.

Second, the AppleWorks 3.0 Organizer no longer includes the routines that convert QuickFile files into AppleWorks data base files or convert VisiCalc files into AppleWorks spreadsheet files. We deleted these routines to save disk space since we knew that few users needed these options. (If you miss these features, use an earlier version of AppleWorks to import these files. The files you import and save as AppleWorks files are still readable by AppleWorks 3.0.)

Generating a File List

Every time AppleWorks needs a list of files on the disk, it calls FCList. FCList is an Organizer routine that AppleWorks uses when you list files, delete files, add files to the desktop, list subdirectories, or when you choose a new custom dictionary or generate a list of files for a TimeOut application. Here is how FCList works:

1. The routine that calls FCList sets up a table indicating which file types should be listed and whether the user can change drives. Then it calls FCList.
2. FCList checks if the current disk or path is valid. If not, it gives the user the option to try another disk.
3. FCList reads the directory and checks every file to see if it satisfies the restrictions placed by the caller. It adds any files that meet these requirements to a table in memory. This continues until FCList reads the entire directory or its limit of 170 files.
4. The routine groups the files by type, and sorts them alphabetically within each type.
5. Once the file list is visible, the user can choose files or change drives. If the user changes a subdirectory or presses the Tab Key to switch devices, the Organizer sets a new pathname and returns FCList to step 3 above. If the user presses the Escape or Return Keys, FCList returns to the routine that called FCList and lets it do what it wants with the updated file table. If the user selected files, the table indicates which files were picked by the user.

The existence of FCList helps explain why there is a noticeable delay between the time you request a list of files and the time when the list appears. The delay is caused by steps 3 and 4 which load all the file names into memory and sorts them. (By contrast, the directory appears immediately if you type "CAT" from Applesoft BASIC, since the files are not stored in memory and are not sorted.) By storing the list in memory, AppleWorks lets the user scroll back and forth through the list with no additional disk access. That is not possible with directory displays such as those provided by BASIC's CAT command.

Saving Files

The Organizer uses a single segment to manage the saving of all three types of AppleWorks. The Organizer follows these steps when you save a file:

1. The Save segment makes certain it can use the current drive. If there is no disk in the drive or if the disk is write protected or not properly formatted, the segment prompts the user to select another drive.
2. Unless you used the Apple-S "Quick Save" command, the Organizer checks the disk to see if a file by that name already exists. If a file with the same name exists, it checks if the disk file is the same type as the one you are trying to save. If the file types do not match, it stops the save process and displays a warning message. If the file is the same type, the routine gives the user the option to cancel the save.
3. The Save routine saves the file under a temporary file name. On the single-user version of AppleWorks, it assigns the name `AWTEMP.00000000` to the file. The network version of AppleWorks 3.0 replaces the zeroes with the user's ID number.

This is a conservative approach to saving files. By saving the new file under a temporary name, AppleWorks lets you change your mind and cancel the save. This approach also preserves the original file if there is insufficient space on the disk or if a disk failure or power outage occurs during the saving process.

4. Next, the Organizer calls the appropriate routine for the specific file type being saved. This segment writes a special "header" at the beginning of the file; the header contains information about the cursor position, the number of reports, and other details that must be stored with each AppleWorks file. *[Ed: The details of every AppleWorks file type and the specific contents of the header records were released by Claris Corporation and are available from NAUG. Ask for the 27-page publication entitled "AppleWorks File Formats"; \$10 for NAUG members and \$12.50 for non-members. These prices include shipping and handling.]*

5. If the file contains information that renders it incompatible with pre-3.0 versions of AppleWorks, the program writes an illegal record at the beginning of the file. Older versions of AppleWorks cannot read that record and will refuse to load the file.
6. The Organizer then starts to write the file's records (a line in the AppleWorks word processor, a record in the data base module, and a row in the spreadsheet) onto the disk. After it writes each record, AppleWorks checks if the user is frantically pounding the Escape Key. If so, it deletes the temporary file and aborts the save operation. If not, the save continues to the next record until all records are written.
7. If file "tags" are present, AppleWorks then writes the tag onto the disk. (Tags are used by enhancement products to store extra information that "tags along" with the AppleWorks file. For example, TimeOut Graph stores its spreadsheet graph settings in tags, so you no longer need separate graph files as in pre-3.0 versions. Outliner 3.0 from JEM Software uses tags to store outline information in word processor files, and DoubleData uses tags to store the extra data base information it needs to let you store up to sixty categories in a record.)
8. Now the Organizer removes the "You can press Escape to cancel the Save" message from the screen; the program is about to engage in a series of uninterruptable operations.
9. AppleWorks then deletes the original file and renames AWTEMP.000000 to the real file name. Finally, it changes the desktop file's status to indicate that it was saved.

And you thought that saving a file was as simple as pressing an Apple-S!

Loading Files

While the process of loading files onto the desktop is not as complex as that used to save files, it still requires many more operations than one might expect. Fortunately, as with saving files, the Organizer uses a single set of routines to load all three types of AppleWorks files onto the desktop. Here are the steps followed by AppleWorks when you

ask to load a file onto the desktop from a disk:

1. The Organizer invokes the FCList routines as described in the section entitled "Generating a File List" earlier in this article.
2. After you choose one or more files, AppleWorks tests the first selected file to determine if that name is already in use on the desktop. If so, the Organizer displays a message and gives you the option to cancel loading that file.
3. AppleWorks initializes the file's memory pointers to accept data. (I will discuss memory management in next month's article.)
4. The program reads the standard 300-byte header from the disk.
5. If it is loading a data base file, AppleWorks reads each report format and stores that report format on the desktop. There is no equivalent to this step for word processor and spreadsheet files.
6. The Organizer reads a record from the disk and stores the data on the desktop. This consists of one line in a word processor document, one record in a data base file, or one row in a spreadsheet.
7. AppleWorks then checks if the user pressed the Escape Key to cancel the load. (We added this feature to AppleWorks 3.0 so you could abort loading if you accidentally picked a monstrous file you didn't really want.) If the user does not press the Escape Key, AppleWorks repeats step 6 until all the records are loaded into memory.
8. AppleWorks loads any tags at the end of the file into memory.
9. Finally, AppleWorks stores the memory pointers for the file's data on the desktop.

This leaves you with a complete AppleWorks file loaded into desktop memory.

The Desktop Index

Internally, the Apple-Q Desktop Index is simply a less obtrusive version of the Main Menu. However, your only options are to pick a file or to Escape to the full Main Menu, which is already in memory, even though most of your file is still visible on the screen.

Inside AppleWorks...

Pressing the Escape Key, Down Arrow, and then the Return Key from within a file accomplishes the same thing, but the beauty of Apple-Q is that it takes you to the Organizer from anywhere in AppleWorks, no matter how many levels into a menu you have ventured.

Highlights

This month you learned (a) why SEG.ER always has a recent modification date, (b) why you cannot boot your computer with a disk formatted with AppleWorks, (c) how to save DIF files that are readable by AppleWorks, (d) how AppleWorks generates sorted file lists, (e) how files are loaded and saved, and (f) how to transfer QuickFile and VisiCalc files into AppleWorks 3.0.

Next month, I will describe memory management in AppleWorks.

[Randy Brandt, an author of AppleWorks 3.0, is the developer of TimeOut UltraMacros and numerous other TimeOut modules. He also owns JEM Software, publishers of AppleWorks enhancements such as SpellCopy and DoubleData.]

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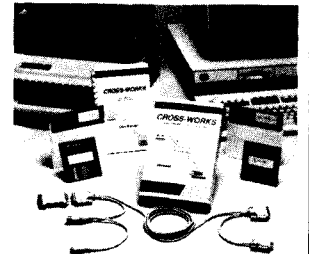
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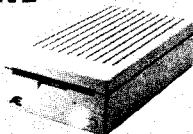


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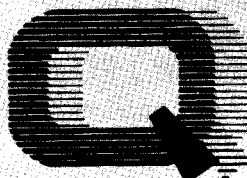
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News about AppleWorks Products

A2 Central

A2 Central now distributes Cirtech's new 20-megabyte and 40-megabyte Apple II-compatible internal hard disk drives. Unlike other internal drives that replace the power supply and mount permanently in your computer, the Cirtech drives fit in a peripheral slot of any Apple II+, IIe, or IIGS system. That makes the drive portable; you can move the drive (and all your programs and data) between computers. The drives have an average access time of 28 milliseconds, load AppleWorks 3.0 in 13 seconds, and support multiple operating systems. The drives also include a SCSI port that can be used to connect up to seven external SCSI devices. The 20-megabyte drive costs \$695, the 40-megabyte unit is \$895. [*A2 Central, Box 11250, Overland Park, Kansas 66207; (913) 469-6502.*]

Applied Engineering

Applied Engineering recently discontinued their TransWarp II and TransWarp III accelerator boards for Apple II+ and IIe computers. Instead, the company will resume manufacturing the original TransWarp board and has lowered its list price to \$119. Applied will also continue to manufacture the TransWarp GS, an accelerator for the Apple IIGS.

Applied Engineering also announced the release of a new version of the AW3 Expander, a program that lets AppleWorks manage larger word processor and data base files. In addition, the Expander automatically segments large data files onto two or more floppy disks and adds a print buffer to AppleWorks. This is a maintenance release that fixes problems with the first release of this program. Owners of earlier versions of the AW 3 Expander should return their original AW3 Expander disk to Applied and request the update.

Applied ships the AW3 Expander with all its Apple II memory boards. Owners of the AW2 Expander and AppleWorks Super Desktop Expander can upgrade to the AW 3 Expander for \$29. [*Applied Engineering, Box 5100, Carrollton, Texas 75011; (214) 241-6060.*]

Beagle Bros

Beagle Bros recently released version 1.1 of TimeOut TextTools. Version 1.1 is a maintenance release that fixes problems in version 1.0 of that program. NAUG members who ordered TextTools from any source should return the original disks and a self-addressed, stamped mailer to NAUG; we will send you replacement disks supplied by Beagle. Include your NAUG membership number with your request.

Beagle also released PickFonts, a new TimeOut module by Mark Munz that makes it easier to use TimeOut SuperFonts. PickFonts lets you select the fonts you want in a document from a list. Beagle now includes PickFonts on the SuperFonts disk. NAUG members can get PickFonts from any of NAUG's Beagle Buddies: Bruce Shanker, 1279 Boyd Road, Warminster, PA 18974-2260; Oliver Roosevelt, Box 303, Fairforest, SC 29336; Joe Connelly, 32148 Camborne Lane, Livonia, MI 48154; Pete Ross, 35026 Currier, Wayne, MI 48184-2348. Include your original SuperFonts disk and \$2.50 for a 5.25-inch disk, \$3.50 for a 3.5-inch disk. Non-members can get PickFonts from their local Beagle Buddy or directly from Beagle for \$15. [*Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, California 92121; Outside California: (800) 345-1750. In California: (800) 992-4022.*]

Quality Computers

Quality Computers recently announced a Teacher Bonus Program that gives teachers points for hardware and software bought from Quality. You can use the points to purchase additional hardware or other items sold by the company. Contact Quality for the necessary registration materials. Quality Computers also moved to larger quarters; note their new address and technical support telephone number. [*Quality Computers, 20200 Nine Mile Road, St. Clair Shores, Michigan 48080; (800) 443-6697. Technical support: (313) 774-7740.*]



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Macros that Prepare Frequency Distributions

by William Neef

Macros generally serve one of four functions:

1. They capture keystrokes to save time when you do a repetitive operation.
2. They add commands to AppleWorks, such as the <sa-D> macro built into UltraMacros that deletes the current word.
3. They let you create utilities, like the alarm clock macro that appeared in last month's article in this series.
4. They perform tasks not easily accomplished in AppleWorks.

This month we feature a set of macros submitted by Florence Cook, of Kansas City, Missouri, that serves the last of these four purposes. Ms. Cook's macros automatically generate a frequency distribution from any set of numbers that appear in a spreadsheet column. *Figure 1* presents a sample of the output generated by these macros, *Figure 2* contains the macros.

These macros count the number of A, B, C, D, and F grades in a set of scores and print that summary at the bottom of the spreadsheet.

Ms. Cook's grading criteria are as follows:

Score	Grade
89.5 or higher	A
79.5 - 89.49	B
69.5 - 79.49	C
59.5 - 69.49	D
below 59.5	F

Figure 1: Gradebook with Frequency Distribution

File: GRADEBOOK		REVIEW/ADD/CHANGE					Escape: Main Menu						
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Last	First	Tests										
2	Name	Name	1	2	3	Average							
3													
4	Adams	John	85	85	80	83.3							
5	Adams	John Q.	80	85	80	81.7							
6	Harrison	William	70	75	70	71.7							
7	Jackson	Andrew	75	70	75	73.3							
8	Jefferson	Thomas	80	80	90	83.3							
9	Madison	James	75	80	80	78.3							
10	Monroe	James	85	85	80	83.3							
11	Van Buren	Martin	65	70	70	68.3							
12	Washington	George	90	85	85	86.7							
13													
14							A =	0	<div>Frequency distribution produced by macros.</div>				
15							B =	5					
16							C =	3					
17							D =	1					
18							F =	0					

Alt: (Label, Layout-L) Last

Type entry or use ⌘ commands

⌘-H for Help

Of course, you can easily redesign the macro to accommodate different grade ranges or to perform a similar counting function for any other set of numeric entries (e.g., to count the number of stocks in your portfolio that are winners and losers).

How It Works

To use these macros, enter an asterisk in the cell below the column of numbers you want to summarize in the table. Then move the cursor to the first number in the column and issue a <sa-G>. The <sa-G> macro does the following:

1. Turns off cell protection (so you can write in protected cells).
2. Resets all variables to zero.
3. Stores the current position of the cursor in variables X and Y (so subroutine <sa-ctrl-H> can return to those coordinates later).

My Favorite Macro...

4. Checks if the current cell contains an asterisk (if it does, it calls macro <sa-ctrl-G>, the macro that creates the frequency distribution and turns cell protection back on).
5. Checks if the current cell is blank, in which case it skips the cell.
6. Checks the contents of the current cell and increments the A, B, C, D, or F counter by a value of one.
7. Returns to step 4 above.

Relocating the Cursor

After printing the frequency table, the <ctrl-G> macro calls the <ctrl-H> subroutine which returns the cursor to the top of the list of numbers. <ctrl-H> accomplishes its task by jumping to a row near the top of the spreadsheet and testing if that row number is greater or less than the original row number. The subroutine then moves the cursor up or down one row and repeats the test and movement until the cursor rests in the original row position.

Calling Subroutines

The <ctrl-G> and <ctrl-H> macros are defined as <asr> macros; macros you can only call from other macros, not from the keyboard. There are two ways to call <asr> subroutines. The <goto> token lets you call the subroutine from within any macro that was itself called by another macro. Therefore, Ms. Cook could have used <goto> to call the <ctrl-H> subroutine from within the <ctrl-G> macro. The other way to call an <asr> macro is to make the call directly from within a macro, as Ms. Cook does with the <then sa-ctrl-G> statement in the <ba-G> macro. This statement functions as an implied "gosub", a command that is not necessary in Ultra-Macros.

[William Neef is a retired purchasing agent for Welding Metals, Inc. He is Treasurer of the Apple Jackson Users Group in Jackson, Michigan.]

Figure 2: Frequency Distribution Macros

```

start
<ba-G>:asp :      { Define the main macro that counts letter grades. }
oa-V>pn<         { Turn off cell protection. }
clear :           { Set all grade counters to zero. }
posn X,Y :        { Store current cell position in variables X and Y. }
begin :           { All 6 repeats return to here. }
$1 = cell :       { Read contents of the current cell into variable $1. }
if $1 = "*" :     { If at the end of the list... }
then sa-ctrl-G :  { ...goto subroutine that creates the summary chart. }
else :            { If not at the bottom... }
if $1 = "" :      { ...if the cell is blank... }
down : rpt :     { ...move down to next cell, repeat from "begin" token. }
else :           { ...if the cell not blank... }
K = val $1 :      { ...store the value in variable K. }
if K > 89.49 :    { If the cell contains a value greater than 89.49... }
A = A + 1 :       { ...increment counter "A" by one and... }
down : rpt :     { ...move to the next cell and repeat the process. }
else :           { If the value is not greater than 89.49... }
if K > 79.49 :    { ...test if K is greater than 79.49 }
B = B + 1 :       { If K greater than 79.49, increment counter "B" by one and... }
down : rpt :     { ...move to the next cell and repeat the process. }
else :           { If the value is not greater than 79.49... }
if K > 69.49 :    { ...test if K is greater than 69.49 }
C = C + 1 :       { If K greater than 69.49, increment counter "C" by one and... }
down : rpt :     { ...move to the next cell and repeat the process. }
else :           { If the value is not greater than 69.49... }
if K > 59.49 :    { ...test if K is greater than 59.49 }
D = D + 1 :       { If K greater than 59.49, increment counter "D" by one and... }
down : rpt :     { ...move to the next cell and repeat the process. }
else :           { If we get here, the student's score is less than 59.49... }
F = F + 1 :       { ...increment counter "F" by one and... }
down : rpt>|     { ...move to the next cell and repeat the process. }

<ctrl-G>:casr :   { Define subroutine that prints the summary chart. }
down : down: down: { Leave some blank cells at the bottom of the chart. }
left :           { Position the cursor one column to the left. }
print "A = " : right : { Print the label "A =" and re-position the cursor. }
print A : down : left : { Print the number of A grades and re-position the cursor. }
print "B = " : right : { Print the label "B =" and re-position the cursor. }
print B : down : left : { Print the number of B grades and re-position the cursor. }
print "C = " : right : { Print the label "C =" and re-position the cursor. }
print C : down : left : { Print the number of C grades and re-position the cursor. }
print "D = " : right : { Print the label "D =" and re-position the cursor. }
print D : down : left : { Print the number of D grades and re-position the cursor. }
print "F = " : right : { Print the label "F =" and re-position the cursor. }
print F : rtn :   { Print the number of F grades. }
oa-V>PY<         { Turn protection back on. }
sa-ctrl-H>|      { Go to the subroutine that repositions the cursor. }

<ctrl-H>:casr :   { Define subroutine that returns the cursor to top of list. }
oa-2 :           { Jump to near the top of the worksheet. }
begin :           { The repeats return here. }
posn X,Z :        { Store coordinates of current cell in variables X and Z. }
if Z > Y :         { If the current row is below the start row... }
then : up : rpt : { ...move up a row and repeat the test. }
else :            { Otherwise... }
if Z < Y :         { ...if the current row is above the start row... }
then : down : rpt : { ...move down a row and repeat the test. }
else :            { If you are not too low or too high, you are in correct row... }
stop>|           { ...stop macro without returning to subroutine that called it. }

```

How to Add Vertical Lines to a Spreadsheet

by Warren Williams and Cathleen Merritt

This is the fifth in a series of articles designed to help novices use the AppleWorks spreadsheet module. This article describes how to enhance your spreadsheets by inserting vertical lines between columns.

If you completed the tutorials in the earlier articles in this series, you now know how to design and execute a useful template. This month, we will describe how to enhance the format of your spreadsheet templates by inserting vertical lines between columns. We will assume that you developed the gradebook template we described in the earlier articles in this series. *Figure 1* depicts the spreadsheet template you developed in the previous articles; *Figure 2* depicts that template enhanced with vertical lines.

Figure 1: Gradebook Template Developed Earlier

File: GRADEBOOK		REVIEW/ADD/CHANGE				Escape: Main Menu			
1	Semester:								
2	Class:								
3									
4									
5	Last	First	Tests			Homework		Average	Weight
6	Name	Name	1	2	3	1	2	3	4
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									

J8: (Value, Layout-F1) @AVG(C8...E8)

Type entry or use ⌘ commands

⌘-? for Help

As you can see from *Figure 2*, vertical lines enhance the approachability and readability of a spreadsheet template. While you must execute more than a dozen steps to create your first vertical line, the process is easy to understand and follow. In addition, once you create your first line, you can use it repeatedly in any spreadsheet.

How to Add Vertical Lines

The procedures we describe will have you create a spreadsheet template that contains a vertical line (see *Figure 3*). Then you can use the AppleWorks clipboard to copy that line into any spreadsheet. This approach only works with AppleWorks 3.0; we will assume that you are using the current version of the program. Follow these steps to develop the vertical line template:

1. Press the Escape Key to return to the Main Menu.
2. Select choice #1, "Add files to the desktop", and indicate that you want to create a new spreadsheet called "LINE".
3. Next, you will type a vertical line character into cell A1. The vertical line character is on the keyboard. On an Apple IIc or IIe it is immediately above the Return Key. On an Apple IIGs, the vertical line character is to the right of the Space Bar. You must hold down the Shift Key to type the vertical line.

The spreadsheet module only accepts characters that are values (numbers and mathematical symbols such as "+" or "-") or letters. Of course, the vertical line character is neither. If you hold down the Shift Key and press the Vertical Line

Key, AppleWorks will beep.

In the second article in this series, you learned that by typing a quotation mark ("), you can get AppleWorks to accept whatever you enter as a label. You used that technique to enter the equal signs in row 7.

Type a quotation mark and then hold down the Shift Key and enter a vertical line character in cell A1. Then press the Return Key.

4. Now you will copy the vertical line into the other cells in the column. Leave the cursor in cell A1 and issue a Copy Command (Apple-C).
5. Press the Return Key to indicate that you want to copy "Within the worksheet".
6. Press the Return Key again to indicate that the cursor is already in the source cell.
7. AppleWorks will ask for the destination. Press the Down-Arrow Key once to move the cursor to the next blank cell in the column and press the Period Key to indicate that the cell is the beginning of a range of cells.
8. Hold down the Apple Key and press the Down-Arrow Key 15 times to highlight all the rows from row 1 through row 220. (That will make the vertical line longer than you will ever need. Later you will "crop" the line to the size you need.) Then press the Return Key.
9. Now you will center the line within the column. When you copy a column to the clipboard, AppleWorks retains the format of the cells you copy. Thus, by centering the line in the template, you eliminate the need to center the line each time you import it into a new spreadsheet.

With the cursor on any cell in column A, issue an Apple-L command, indicate that you want to change the layout of a column and that you

Figure 2: Enhanced Gradebook Template

File: GRADEBOOK		REVIEW/ADD/CHANGE										Escape: Main Menu		
A B C D E F G H I J K L M N O P														
1	Semester:													
2	Class:													
3														
4														
5														
6	Last Name	First Name	1 Tests		2 3		1 Homework		2 3 4		Average Tests Homework		Weight Avg.	
7														
8											ERROR ERROR		ERROR	
9											ERROR ERROR		ERROR	
10											ERROR ERROR		ERROR	
11											ERROR ERROR		ERROR	
12											ERROR ERROR		ERROR	
13											ERROR ERROR		ERROR	
14											ERROR ERROR		ERROR	
15											ERROR ERROR		ERROR	
16											ERROR ERROR		ERROR	
17											ERROR ERROR		ERROR	
18											ERROR ERROR		ERROR	

Type entry or use ⌘ commands ⌘-? for Help

want to change the layout of labels. Then select "Center" from the Labels Format Menu.

Your LINE spreadsheet should now look like the example in Figure 3.

10. Issue an Apple-S command to save the LINE template on your data disk. Whenever you need a vertical line, all you need do is copy that line to the clipboard and transfer the line into your spreadsheet.

Using the Line Template

Now you will transfer the vertical line into your gradebook template. Proceed as follows:

1. With the LINE spreadsheet on the screen, put the cursor anywhere in column A and copy the column to the clipboard.
2. Issue an Apple-Q command and switch to the GRADEBOOK spreadsheet.
3. Put the cursor in column C of the GRADEBOOK and issue an Apple-C command. Copy the vertical line from the clipboard.
4. Now you will make column C three characters wide. (Although some users like to put vertical lines in columns that are one character wide, we prefer to center the vertical line in columns that are three characters wide. This insures that letters or numbers from adjacent cells do not immediately abut the vertical line character.)

With the cursor anywhere in column C, issue an Apple-L command and indicate that you

Novice Notes...

want to change the layout of a column. Then press the Return Key to select column C.

- Press the letter "C" to select "Column Width" and use the Apple and Left-Arrow Keys to make the column three characters wide.
- The line in your gradebook extends from cell C1 through cell C220. Since you want the line to extend from cell C5 through cell C43, you must blank cells C1 through C4 and cells C44 through C220.

Put the cursor in cell C1 and issue an Apple-B command. Indicate that you want to blank a "block". Then press the Down-Arrow Key three times to highlight cells C1 through C4. Press the Return Key to blank those cells.

Then put the cursor in cell C44, issue another Apple-B command, and select "block". Then issue an Apple-9 to highlight all the cells to the bottom of the spreadsheet and press the Return Key.

- Now it is time to fix the equal signs in row 7 of column C. Put the cursor in cell C7, type a quotation mark, then an equal sign, a vertical line character, and another equal sign.
- Issue an Apple-S command to save your work.

Your gradebook template should now look like the example in *Figure 4*.

Creating the Remaining Vertical Lines

It is easy to prepare the remaining three vertical lines for the gradebook. All you need do is copy the line from column C onto the clipboard, put the cursor where you want the line to appear, and copy the line from the clipboard. Follow these steps:

- Put the cursor in cell C1, issue a Copy Command, and copy column C to the clipboard.
- Put the cursor in cell G1, issue a Copy Command, and copy the vertical line from the clipboard.

Figure 3: Line Spreadsheet

File: LINE	REVIEW/ADD/CHANGE				Escape: Main Menu
1	A	B	C	D	E
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Alt: (Label, Layout-C) |

Type entry or use ⌘ commands ⌘-? for Help

Figure 4: Gradebook with One Vertical Line

File: GRADEBOOK	REVIEW/ADD/CHANGE				Escape: Main Menu
1	A	B	C	D	E
2	Semester:				
3	Class:				
4					
5	Last	First		Tests	Homework
6	Name	Name		1 2 3	1 2 3 4
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

C1

Type entry or use ⌘ commands ⌘-? for Help

- Issue an Apple-L command, indicate you want to change a column, press the Return Key to select column G, indicate you want to change the column width, and use the Apple and Arrow Keys to make the column three characters wide.
- Repeat steps 2 and 3 wherever you want to insert a vertical line. When you are done, your spreadsheet should look like the example in *Figure 2*.

Conclusion

This month you learned how to insert vertical lines between columns in your spreadsheet templates. Next month we will describe how to include summary boxes and how to design your models so you can use AppleWorks' Arrange Command.

An Introduction to Relational Reporting

by Dan Verkade

This is the first in a series of articles that describe how to use TimeOut ReportWriter to enhance the AppleWorks data base module. The writer is the developer of ReportWriter.

Ask five computer users to define the term “relational data base”, and you will get five different definitions. Each definition would contain elements of the other four, but no two would be identical. Still, the chances are that all five definitions would be correct.

These differences stem from variations in the functionality of the many relational data base programs available to computer users. Since each program offers different features, users form different opinions about what to expect from a relational data base program. These differences make it impossible to formulate a single, strict definition of the phrase “relational data base”.

Despite these differences, most designers and users agree that relational data base programs share a single important attribute: they let users integrate the data from two or more data files based on a “relationship” between those files.

Flat Files

Before examining relational concepts, we should look at a simpler, non-relational data base; the data base module in AppleWorks. Non-relational data bases are called “flat file” data bases. The flat file concept is simple. When you use AppleWorks, all data goes into a single file. The data is organized into different categories, and you always store similar data in the same place in every record. For ex-

Figure 1: Name and Address File

Name: D. MacDougal
Name: Don Janisse
Name: Helen Blakeney
Name: Joe Anderson
Address: 504 Tamarack St.
City: Los Angeles
State: CA
Zip: 90345

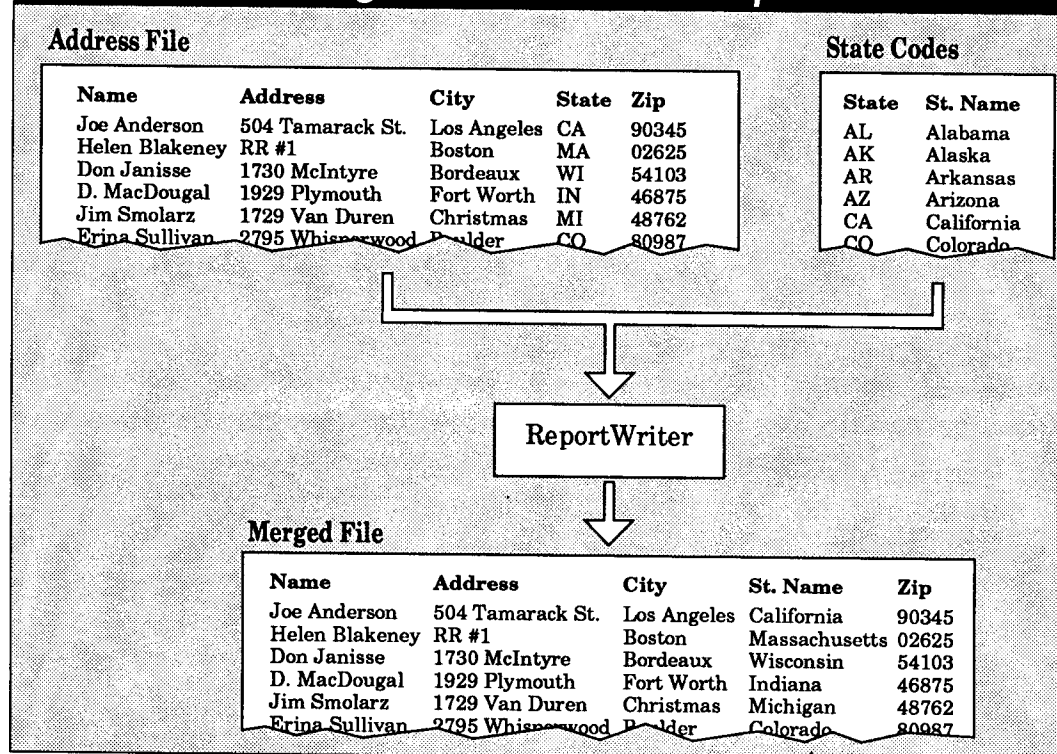
Figure 2: A Two-Dimensional Table

Name	Address	City	State	Zip
Joe Anderson	504 Tamarack St.	Los Angeles	CA	90345
Helen Blakeney	RR #1	Boston	MA	02625
Don Janisse	1730 McIntyre	Bordeaux	WI	54103
D. MacDougal	1929 Plymouth	Fort Worth	IN	46875
Jim Smolarz	1729 Van Duren	Christmas	MI	48762
Erina Sullivan	2795 Whisperwood	Boulder	CO	80987

ample, all names are always in the same category, addresses are in another category, and cities in a third. Pictorially, a name and address file would look like the example in *Figure 1*.

“Flat file” programs take their name from the fact that you can copy all the data into a two-dimensional table. For example, you can translate the mailing list data in *Figure 1* into the table that appears in *Figure 2*. In this example, the data for each person appears in each row and the data for each category falls in a separate column. This table has no “depth”; no linkages to other records or files.

Figure 3: Combining Files to Produce a Report



Now imagine being able to look up the state name based on the two-letter code. You could then print the complete state name without entering that data into every record. That would let you circumvent the disadvantages of flat files; you would only need to create a single list containing the names of the 50 states. Then you could combine the two lists when you print.

Relational Files

That is one of the features offered by relational data base pro-

grams; programs that let you combine data from two files. However, switching to a relational data base program means abandoning the comfortable, easy-to-use world of AppleWorks.

Flat file programs like AppleWorks have an important advantage: they are easy to learn and use. The logic regarding what information goes into which category is readily apparent; their primary limitation is the number of categories supported by the program.

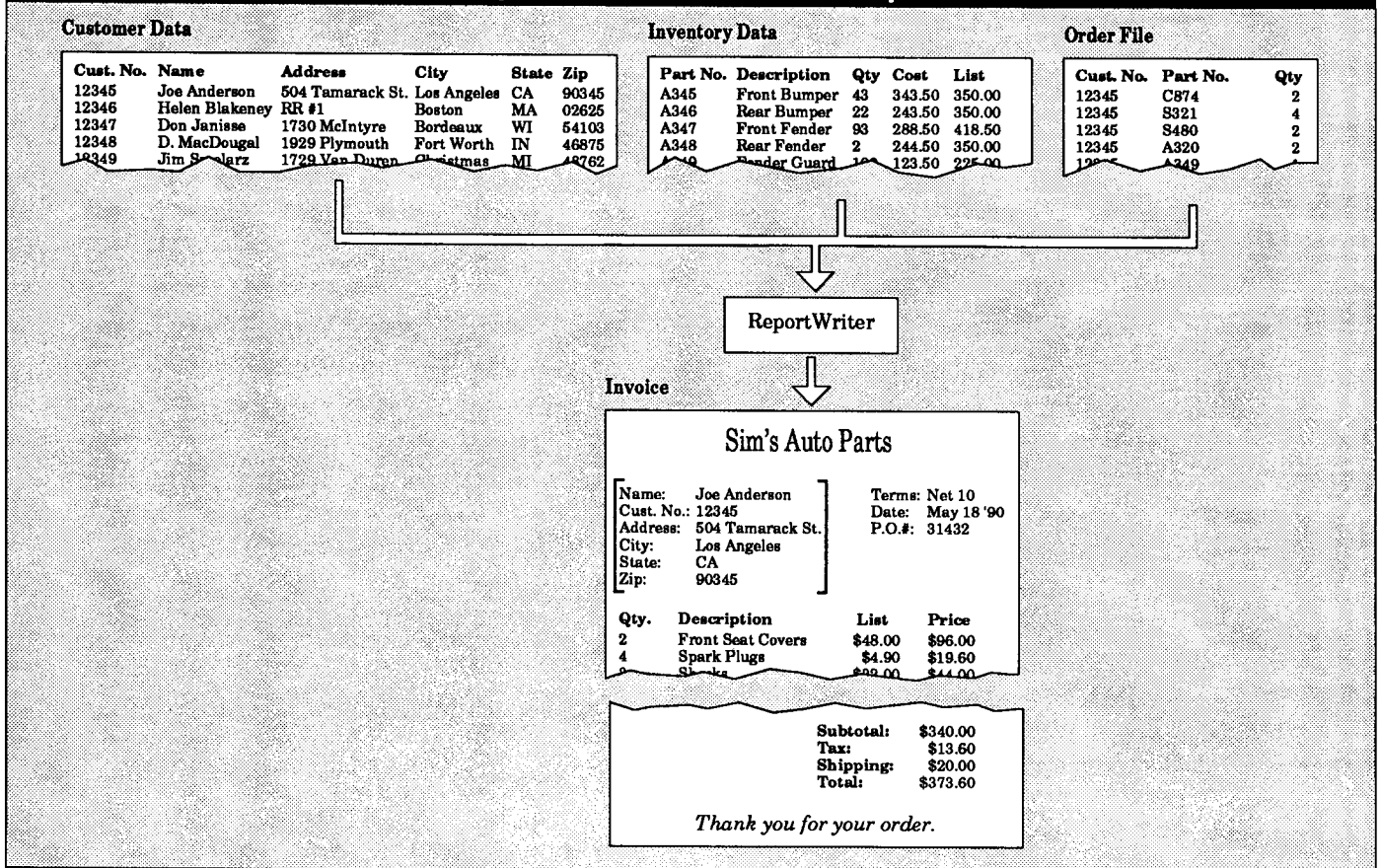
This simplicity is also the root of the disadvantages of flat file programs. For example, consider a mailing list that contains two-letter codes in place of the state name, such as CA for California. Suppose that you have 2,000 names in a list and you decide that you want the complete state names instead of abbreviations. If you have an extra category, you can add the state name to each record. However, this "solution" has four disadvantages. First, it uses one of your limited number of categories. Second, entering all the state names requires a significant amount of work. Third, the revised file will require additional desktop and disk storage capacity. (If the average state name contains eight characters, your file size and desktop requirement will both increase by at least 16K.) Finally, in the unlikely event that a state changed its name, you would have to change all the records in that state to reflect the new state name.

Fortunately, there is another alternative. You can use AppleWorks and a "relational report generator" to produce the final report.

TimeOut ReportWriter is such a program. You can think of ReportWriter as a "post-processor" that adds relational power to the AppleWorks data base reporting process. ReportWriter lets you produce complex reports that combine data from up to ten AppleWorks files. Yet you enter and maintain all your data with AppleWorks.

Schematically, the process of reporting is simple. When you are ready to print the mailing list, you tell ReportWriter to combine the name and address information from one file with the state name from the second file. ReportWriter will match the state code in the name and address record with the corresponding state code in the states file and will print the complete state name instead of the two-letter code. Figure 3 depicts this process.

Figure 4: Sample Invoice Report Generated with ReportWriter



The power of relational reporting addresses each of the four disadvantages associated with flat file data bases. First, since you can generate reports from more than one file, relational reporting gives you access to more than 30 categories in your AppleWorks report. Second, relational reporting reduces the amount of data you must enter into your files. Third, by entering less data, you reduce the size of your files. Finally, relational reporting makes it easier to update the data when you have to change many records a file.

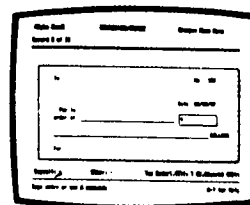
Conclusion

Relational reporting is a powerful tool. For example, consider the implications of relational reporting for a business application such as generating invoices. You could keep all your customer data in one file and maintain the inventory data in another file. Finally, you could enter sales data into a third file. You could then generate invoices that combine data from all three files and can automatically update your inventory. Figure 4 depicts the report you could generate from these three files.

Future articles in this series will describe how to generate these reports. Next month you will learn how to generate a simple, non-relational report with ReportWriter. In the end, this will all become clear the old fashioned way, as you learn by doing.

[Dan Verkade is the developer of TimeOut ReportWriter, DoubleData, and other popular AppleWorks enhancements.]

CHECK IT OUT



A CURE FOR BILL PAYING HEADACHES ... Inside AppleWorks a check like interface permits entry of data plus financial and tax reporting. It prints any type personal, business or Quicken checks. Alpha Check loads through its own menu or Beagle Bros. timeOut system (Read about us in the May inCider pg. 48).
Runs inside AppleWorks® 2.0, 2.1, 3.0
Alpha Check Only \$49.95
Plus \$3.50 Shipping and handling

ACTAsoft

(818) 996-6731 or (818) 786-9760
19700 Wells Dr., Woodland Hills, CA 91364

AppleWorks GS 1.1 Review: The Page Layout Module

by John Link

*This is the third installment of John Link's review of AppleWorks GS, version 1.1. This month he describes the program's page layout module. The author assumes you read the review of the earlier version of AppleWorks GS that appeared in the January 1989 issue of the **AppleWorks Forum** and the first two installments of this review. This page was printed directly from AppleWorks GS.*

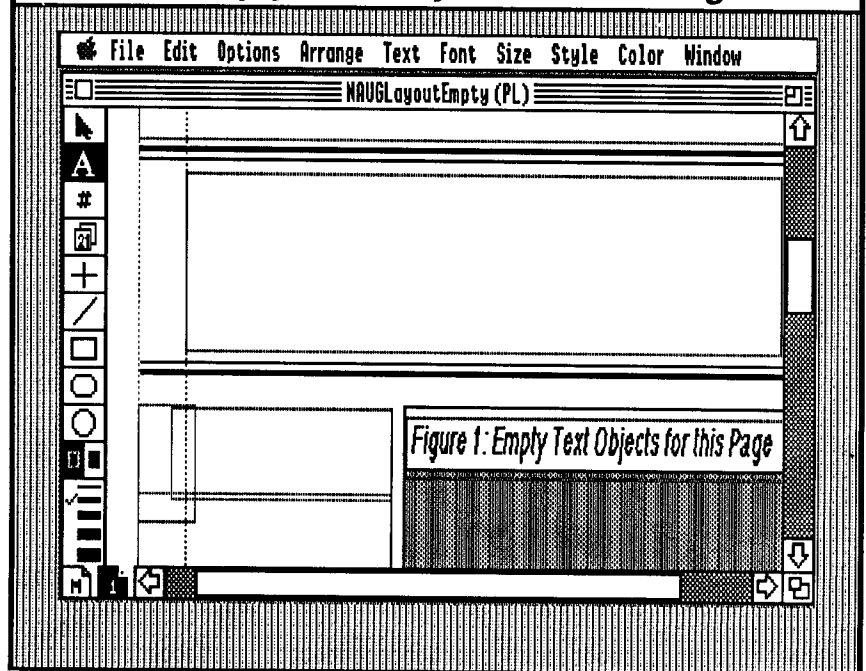
Version 1.1 of AppleWorks GS (AWGS) offers users a full-function page layout module that can incorporate text and graphics from the other AWGS modules, from AppleWorks Classic, and from most popular stand-alone graphics programs. This module gives Apple IIgs owners a special reason to consider buying the program, since many integrated programs do not include page layout functions.

Although most of the features of AWGS's page layout module were available in earlier versions of the program, the new release is significantly more stable than the earlier versions. (As reported in the January 1989 issue of the **AppleWorks Forum**, previous releases of the AWGS page layout module were subject to frequent lockups.) I have now spent hundreds of hours working with page layout in AWGS 1.1 (including the time spent preparing the 70-page manual for SuperPatch) without experiencing a single lockup.

AWGS is a powerful page layout program that offers features not available in other Apple II page layout products. For example, AWGS supports "master pages"; templates that define common elements which normally appear on every page of a document. This feature is important if you create newsletters or other multi-page documents such as books and pamphlets.

In addition, I find that importing graphics into a page layout document is easier to accomplish with AWGS

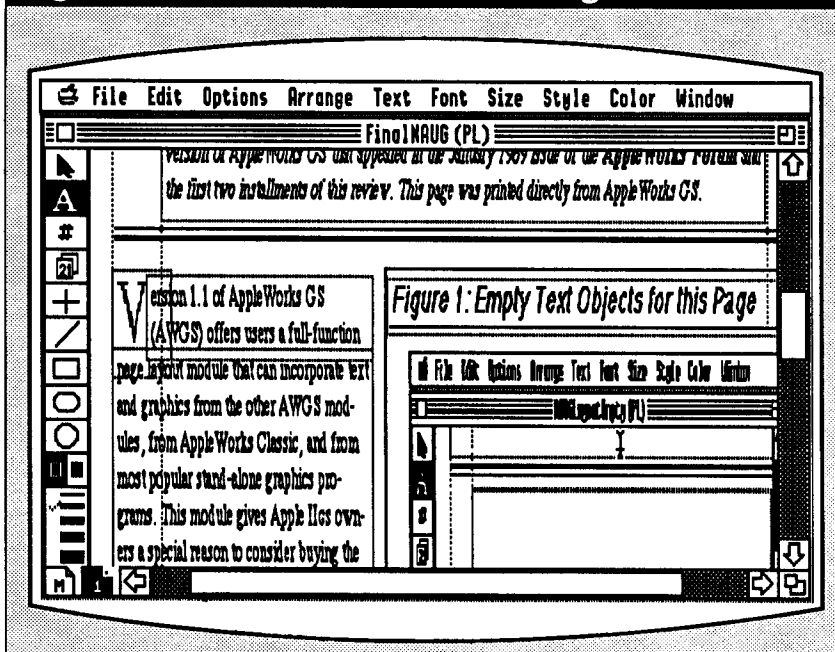
Figure 1: Empty Text Objects for this Page



than with other programs. Finally, text displayed on the AWGS screen is easier to read than the text displayed by ProDOS 8 programs, such as PublishIt!3 and Springboard Publisher.

However, AWGS requires more sophisticated hardware than the ProDOS 8 based desktop publishing programs. AWGS requires an Apple IIgs, and performs best with at least 2-megabytes of memory and a hard disk. The ProDOS 8 programs such as Publish-It!3 and Springboard Publisher require only a 128K IIe or IIc and two 5.25-inch drives, although they, too, perform better with more memory and a hard disk drive.

Figure 2: Screen Shot of First Page of Article



Functionality

Once you understand the basic concepts of page layout and design, the operation of the AWGS page layout module is direct and simple.

As with most page layout programs, you must think in terms of "objects". Objects can contain text imported from a word processor, graphics created with the AWGS graphics module (or most other paint or draw programs), page numbers, headers, footers, and decorative elements. This gives you precise control over the dimensions and placement of the items on the page.

Figure 1 depicts the AWGS page layout screen after I defined a page (in this case, the first page of this article). *Figure 2* depicts the same screen after I imported the actual text and finished the graphics.

Importing Graphics

AWGS makes it easy to import graphics created in the graphics module or with other graphics programs. You define the "container" for the graphic as you import it. AWGS dynamically displays the graphic perfectly adjusted to the dimensions of the box, even if they are radically different than the dimensions and proportions of the original graphic. You can crop or resize the box and the program will automatically redraw all the elements to fit the

new scale and proportions. For example, I created the computer screen graphic in *Figure 1* by saving that screen as a 640x200 SuperHires picture, then by importing the graphic as described here. It was simple, easy, and automatic.

The page layout module stores virtually all the information contained in the original full size graphic. Thus, it can resize and re-proportion graphic objects with minimal distortion and loss of detail. If you resize a graphic, AWGS uses the original data to ensure that the newly defined display is of the highest quality.

The price you pay for this flexibility is speed; AWGS slows down dramatically when you scroll past a section of a document which displays a reduced size graphic. That is because AWGS must

move through significantly more data than appears on the screen. If you ever decide to change the proportions of a graphic, you will be glad AWGS retains all that information. Until then, it can be annoying.

Tools and Commands

You access most of AWGS' features through its pull down menus. These features include creating master pages, duplicating objects, inserting and deleting pages, toggling between actual size and whole page displays, hiding/showing tools, rulers, and guides, setting guides for printer margins, defining columns and their spacing, locking/unlocking guides, setting the number of the first page, arranging the order of overlapping objects, flipping and rotating objects, selecting fonts, setting type size and display styles, determining the space between lines of text, and finally, selecting colors.

AWGS offers eleven tools you can use to manipulate objects, text, and graphics. The selection arrow lets you resize and reposition any object in a document. The page number and date tools tell AWGS to print the page number and date in the currently specified font. AWGS automatically calculates the correct page numbers. It also updates each date location every time you open the document.

The drawing tools include a tool which draws true horizontal and vertical lines, a straight line tool for all other lines, a rectangle, rounded rectangle, and an oval tool (which also draws perfect circles). You use the filled/hollow icon to control whether the objects created with the drawing tools are filled or hollow.

Objects drawn with these tools appear jagged on the screen, but are constructed mathematically instead of being "bit mapped" and thus print to the highest resolution supported by your printer.

Importing Text

Once you create a text object on the page, you can import text into that object. You can create and link any number of text objects either before or after you import the text. If you import more text than will fit into your existing text objects, AWGS stores the extra text in memory as part of the document even though it does not appear on the screen. Unfortunately, AWGS does not notify you that there is an overflow; you must check the last text object in the chain to see if AWGS

can display all the text in the file. To display the overflow, you create additional text objects (and pages if necessary) and link those objects to the original set. AWGS will automatically flow the stored text into the new objects.

You can use the text tool to type and edit text inside the page layout module. Like most page layout programs, AWGS accepts text slowly and does not offer the usual amenities which accompany full fledged word processors. However, the text manipulation capability of the page layout module is satisfactory for minor editing.

What You See Is Almost What You Get

AWGS uses the super high resolution Apple IIGS screen and standard IIGS fonts for text display. This is both an advantage and a problem. The problem is that the IIGS screen offers far better resolution in the horizontal dimension than the vertical. Thus, there is twice the data in the computer's memory concerning the horizontal aspect of a one inch square of screen than for the vertical aspect. The

standard way to compensate for this disparity is to stretch the screen vertically so that information about both dimensions is equal. Standard IIGS fonts are designed to accommodate these differences; they generate their best output when they are stretched on the screen and printed in the condensed mode. However, this causes their appearance on the screen to differ significantly from the final output. Programs such as Publish-It!3 use special fonts that appear normal on the screen and produce normal output. However, such fonts are more coarse and difficult to read on the screen.

AWGS lets you use any of hundreds of fonts in the public domain, as long as the font is constructed according to the standard guidelines. In addition, you can use any of the popular font editors to alter these fonts or to create your own personalized fonts.

Selecting "condensed" in the Page Setup Menu elongates the text displayed on the screen. This is a minor annoyance when you work with text-only

documents. However, the disproportionate screen display makes it more difficult to work with graphic objects because you must adjust the height of all imported graphic images so they look too tall on the screen, otherwise they will print as if they were squashed.

Output

No matter how many tools and how flexible a program's structure, the final determiner of the real world utility of a page layout program is the quality of its output. Although quality is determined primarily by the printer you use, print drivers also play a role in determining the output generated by your printer.

To examine AWGS' printing capability, look at the first page of this article, which was printed directly from AWGS on a LaserWriter. That page did not go through NAUG's usual layout procedures, which use Macintosh computers.

AWGS uses Apple's standard Appletalk driver for the LaserWriter. That driver is good, although it justifies text only by adjusting the size of the spaces between words. This technique works well for relatively long lines of text, but shorter lines can suffer when justification is limited to this one

*"To examine
AWGS' output,
look at the
first page of
this article."*

Figure 3: Page Layout Output on an ImageWriter

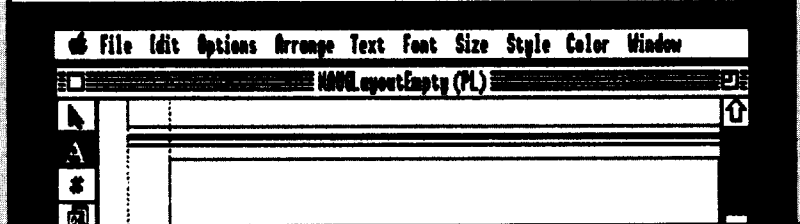
AppleWorks GS 1.1 Review: The Page Layout Module

by John Link

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Version 1.1 of AppleWorks GS (AWGS) offers users a full-function page layout module that can incorporate text and graphics from the other AWGS modules, from AppleWorks Classic, and from most popular stand-alone graphics programs. This module gives Apple IIGs owners a special reason to consider buying the

Figure 1: Empty Text Objects for this Page



technique. Owners of LaserWriters would appreciate a driver which began adjusting the space between characters after the space between words exceeded a predetermined size.

Claris supplies its own driver for the Apple ImageWriter to address some of the quality problems in Apple's ImageWriter driver. In addition, the Claris driver provides faster output by using the ImageWriter's bi-directional printing capability. The AWGS driver also provides a convenient cancel key that is not found in Apple's driver.

Figure 3 presents a portion of the first page of this article printed on an ImageWriter. The printing speed of AWGS on the ImageWriter depends on how much memory you have in your computer and whether you used an accelerator in your system. Printing time for the page in Figure 3 ranged from six minutes on a TransWarp GS equipped Apple IIGs with 4-megabytes of RAM, to as long as 16 minutes on a 1.25-megabyte IIGs without an accelerator.

Limitations

Unfortunately, the AWGS page layout module is not without its faults. For example, some page layout

tasks (e.g., producing a book-length document) would be easier if AWGS let you create default text objects on the master pages and automatically created enough linked pages to accommodate any text you decided to import. However, creating and linking pages is not difficult, even with large documents. (To overcome this limitation, create a "dummy" document with a large number of linked text objects in place. Flow your text into the dummy file and then delete all the unused pages. Finally, save the document under a different name or in a different directory to preserve the original template.)

Although AWGS makes it easy to mix text and graphics on a single page, the program does not automatically wrap text around graphics. Fortunately, the version 1.1 Update Manual describes how to accomplish this task manually. I followed those procedures when preparing the first page of this article.

I found a few bugs and minor problems in AWGS' page layout module.

One of the bugs appears when you change the leading between lines in a document. The most efficient way to change the line spacing of a complete

How to Generate Headlines

One feature often included in page layout programs is the ability to change the space between characters. This feature is especially useful when you produce headlines and section headers that use large point sizes and which you want to be especially prominent. To improve the attention getting power of these elements, add a space between each character as you type, and two or three spaces between words. Then select the same font family in a smaller size and replace each of the extra spaces with a smaller space character. This produces attractive output if the header is left justified or centered; it does not work with right justified text.

document is to select all the text in the document and use the "Set Spacing" option in the Text Menu to set a new line spacing value. Several times after I executed this procedure on long documents (thirty or more pages), I found that clicking on a section of text toward the end of the document would not work properly. The cursor would be on one line, but when I tried to select a number of lines, the selection would begin several lines further down the page. If you plan to work on large documents and use leading other than the default 16 points, I suggest that you keep careful backups of your work or change the line spacing on just a few paragraphs at a time.

The second problem shows itself when AWGS asks if you want to retain the original pallet when you import 320-mode graphics. If you respond "Yes", AWGS occasionally ruins your document as color "leaks" outside the graphic boundary, invading even the menu bar, and making most menu items unreadable. There is no way to rectify this problem once it occurs. I quickly learned to always answer "No", and had no further problems. (Note: This bug affects both the page layout and graphics modules.) *[Ed: Pages 52-54 of the AWGS 1.1 Update Manual describes a procedure that handles some occurrences of this problem.]*

Both the screen prompts and the manual suggest that you can adjust the leading to any value you wish, the program will not set the leading to one

point greater than the type size. Instead, AWGS substitutes 2 points without telling you it has rejected your entry. In addition, AWGS never accepts line leading of less than 12 points, no matter how small the type you select. Again, the program accepts your command but does not execute it.

A few problems appeared when I ran the program on a system equipped with the minimum 1.25-megabytes of RAM required by AWGS. Some operations slowed dramatically. On two occasions the 1.25-megabyte computer could only print a document in the preferred "Better Text" mode if I rebooted the system. And when I worked with the minimum 1.25-megabytes of RAM, AWGS did not always correctly manage the printing of the headline or the 14-point bold italics on the page. All these problems disappeared when I deleted some undisplayed text (thereby reducing the amount of memory used by the document), rebooted the computer, and reprinted the page. Clearly, you will need more than 1.25-megabytes of RAM if you plan to produce significant newsletters and other documents with AWGS.

Summary

Overall, I rate AWGS' page layout module as "excellent", which is why I selected the program to produce the entire manual for my SuperPatch enhancements to AppleWorks. If you own or have access to a LaserWriter, AWGS' page layout capabilities alone could be sufficient reason to buy the program. Those with ImageWriters should expect output comparable in quality and speed to that produced by SuperFonts, but AWGS offers you exceptional control over the design of your pages and provides layout options far greater than those available in the AppleWorks Classic environment.

[John Link is a Professor of Art at Western Michigan University. He is the developer of SuperPatch and is an AppleWorks consultant.]

Electronic Forum Users Guide

NAUG recently released a new 16-page Users Guide for the Electronic Forum that describes the commands and features available on the board. For a free copy, send a self-addressed, stamped #10 envelope to: Users Guide, NAUG, Box 87453, Canton, Michigan 48187.

Special Offers for NAUG Members

NAUG members now qualify for the following new special offers. When you call or write, identify yourself as a NAUG member and give your NAUG membership number from the mailing label on this issue of the *AppleWorks Forum*.

Norwich Data Systems: NAUG members can get a \$10 discount on PlusWorks 3.0, a set of AppleWorks patches and enhancements that modify AppleWorks 3.0 so it runs on Apple II+, Franklin, and other Apple II+-compatible computers. Unlike earlier versions of PlusWorks, the latest version of the program requires at least 128K of RAM.

PlusWorks 3.0 usually retails for \$49.95. However NAUG members can buy the program directly from the developer for \$39.95 plus \$3 s/h. Owners of earlier versions of PlusWorks can upgrade to version 3.0 for \$20 including shipping/handling. If you are upgrading, call the company's 800 number for details.

Schools with under-utilized Apple II+ computers should consider getting PlusWorks and running AppleWorks on these systems. If you have 64K of memory in these computers, get an older version of PlusWorks that modifies AppleWorks 2.1 to run on those computers; the newest version of PlusWorks requires at least 128K of RAM. (You can upgrade 48K Apple II+'s to 64K for as little as \$25 from mail order dealers.)

[Norwich Data Services, Box 356, East Norwich, New York 11732; (800) 221-3826. For technical service or support, call evenings at (201) 679-0594.]

Que Corporation: NAUG members can now purchase any Que book directly from the publisher for 35% off the regular retail price. Que publishes three books of interest to AppleWorks users: "Using AppleWorks" by Aron and Aron (list price: \$21.95), "AppleWorks QuickStart" by the Que staff (list price: \$19.95), and "Using AppleWorks GS" by Murray (list price: \$21.95). To order, call (800) 428-5331 and ask for extension APL. Que

Figure 1: Zip Chip Prices

	New List	Previous List	NAUG Member
Zip Chip (4-MHz)	\$125	\$149	\$94
Zip Chip (8-MHz)	\$199	\$179	\$139
Zip GS	\$299	\$349	\$275

accepts major credit cards or will bill you after shipping your book. Add actual shipping costs to all prices.

Zip Technology: Despite long delays, Zip Technology has now replaced all NAUG members' defective 4-megahertz Zip Chips. While the delay was extremely discouraging for Zip Chip owners, we commend the company for its tenacity during those difficult times and for fulfilling its responsibility to its customers.

Until September 15, 1990 NAUG members can get significant discounts on accelerator products from Zip Technology. *Figure 1* presents the list prices for these products and the special prices available to NAUG members.

NAUG has confirmed that Zip Technology has sufficient stock of the 4-megahertz and 8-megahertz Zip Chips to meet expected orders. Although Zip expects to be able to ship the Zip GS product by publication date, NAUG has not yet received a sample of this product and cannot confirm its availability. We continue to advise our members to not order the Zip GS product until we can verify that the company has sufficient quantity in stock to meet orders.

To order a Zip product at the special NAUG discount, contact one of the following vendors; do not order directly from Zip:

C.D.A.: (800) 526-5313; Computer Direct: (800) 289-9473; Memory Plus: (602) 820-8819; Programs Plus: (800) 832-3201; Quality Computers (800) 443-6697.

Help with Beagle Bros Enhancements

by Nanette Luoma

How to Use This List

To the left of each volunteer's name are numbers indicating the utilities the consultant supports. Volunteers are listed alphabetically by state.

- | | |
|--------------------|------------------|
| 1 = DeskTools | 9 = ReportWriter |
| 2 = DeskTools II | 10 = SideSpread |
| 3 = FileMaster | 11 = SpreadTools |
| 4 = Graph | 12 = SuperFonts |
| 5 = gs Font Editor | 13 = TeleComm |
| 6 = Point to Point | 14 = Thesaurus |
| 7 = PowerPack | 15 = UltraMacros |
| 8 = QuickSpell | |

Alabama

	City	Home	Work
1-5,7-12,14-15	Norma Gradwohl	Mobile	205-343-4905 205-343-4905

Arizona

1-4,7-15	Clay Evitts	Tucson	602-885-9789 602-296-5491
4,8,10,12	Bill Holmes	Chandler	602-899-4841 602-786-7170

California

1,6,8,15	Dan Balsley	San Ramon	415-829-5085
8,12,14,15	Brian Blue	Danville	415-838-0997 415-954-6002
1-4,7-15	James Davis	Hayward	415-489-7024
3,12,15	Don Farrar	Pleasant Hill	415-932-5509
1-4,6-15	Dave Gair	Los Angeles	213-469-9916 213-469-9916
8	Jim Gentilucci	Los Osos	805-528-5049
1-3,10	Lucien LaCour	Woodland Hills	818-348-7787
1-4,8,10-12,14,15	Berenice Malby	Corona del Mar	714-640-7369
1-3,5,7,8,10-12,14,15	Will Nelken	San Rafael	415-459-0845 415-456-1795
1-3	Jesus Orosco	Milpitas	408-270-1011 408-945-4344

Colorado

1,8,14,15	Gary P. Armour	Littleton	303-933-9493 303-972-4665
8,11,15	Lyle Graff	Littleton	303-794-5970 303-977-4557
8	John Lefebvre	Thornton	303-451-5558 303-457-2852
8,12,14,15	John Loren	Littleton	303-978-0603
15	Dr. Larry Thaete	Boulder	303-939-9072 303-492-2717

Connecticut

3,4,7,8,10-12,14,15	William Delaney	Enfield	203-745-4048 203-749-8391
12	Martin Knight	Middletown	203-346-9698 203-347-8594

Delaware

15	W. Henry Linton	Wilmington	302-478-3740
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Florida

1-5,7-15	H. Clay Bailey III	Jacksonville	904-744-2499 904-725-3477
1-4,7,8,10-12,14,15	Michael Childers	Hollywood	305-866-5475 305-624-2400
1-4,7,8,10-12,14-15	Bruce Pfeffer	Tallahassee	904-385-3447 386-2685
1-15	Jeff Strichard	Ft. Lauderdale	305-587-9590
1-4,7,8,10-12,14,15	Mike Ungerman	Oviedo	407-366-0060 407-366-0156

Illinois

12,15	Mark Baniak	Park Ridge	312-825-6301 312-292-4116
1-5,7-8,10,12,14-15	George Duffey	Bloomington	708-894-0849 708-451-3106
1-3,8,12,14	Susan Husar	Chicago	312-631-5884
15	Bowen Schumacher	Winnetka	312-501-3314

Indiana

	City	Home	Work
1-3,7-8,10,12	Jack Countryman	Greensburg	812-663-4998
1-4,7-10,12,14,15	Kevin Gold	Indianapolis	317-290-8948 317-543-7098
8	Laura J. Kelley	Gwynneville	317-763-7290

Iowa

3,4,8,10,12,15	Keith King	Ft. Madison	319-372-9521
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Kentucky

3,4,11,12	Donald L. Corson	Louisville	812-256-3517 502-473-3083
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Louisiana

1,3,6-8,10,12-15	Charles Fryling, Jr	Baton Rouge	504-766-3120 504-388-1473
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Maryland

2-4,10,12,14,15	Raymond Greenberg	Darnestown	301-330-4912 301-353-4959
1-3,7-10,12-15	Ben Maser	Owings Mills	301-252-7884 301-887-0717
1-15	Ray L. Settle	Arnold	301-647-9192 301-887-0106

Massachusetts

1-3,8,14	Donald McCabe	Westport	401-294-6256 508-636-2611
6,8,14	Chuck Scheffren	Marblehead	617-631-2787 617-728-7553
15	Ed Stutsman	Shutesbury	413-259-1217

Michigan

4,6,8,10,14	Jim Anker	Auburn Hills	313-391-0033 313-544-5344
1,3,4,7-11,15	Michael McMinn	Swartz Creek	313-655-4442 313-232-6541
1,8,10,12,14,15	Pete Ross	Wayne	313-728-8269
8,14	Deborah Williams	Grosse Ile	313-671-0267 313-675-1550

Minnesota

1-5,7,8,10-15	James Hirsch	Coon Rapids	612-421-8393 612-422-5572
1,8,12,15	David Johnson	Minneapolis	612-824-2728 612-824-2728
3,4,15	Dick Kenfield	Hopkins	612-938-4382
8,10,12,14-15	Sandra Redding	Marshall	507-532-2959

Missouri

1-5,7,8,10-12,14,15	Whit Crowley	Manchester	314-394-7955
1-5,7-12,15	Bob Suits	Columbia	314-445-6082

Montana

3,7,8,11,14-15	Steve Bernbaum	Sheperd	406-373-6393
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Nebraska

1-15	Jim Corbin	Bellevue	402-291-7285 402-331-7312
1-12,14,15	Dr. John W. Kelley	Omaha	402-397-3485
1-3,7,8,10-12,14,15	Larry B. McEwen	Hastings	402-463-2267 402-461-7550

Nevada

1-8,10-15	Keith Johnson	Sparks	702-359-2543 702-784-4812
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New Hampshire

1-3,7-12,14,15	Phil Kirkpatrick	Keene	603-352-0640
8,12,14	Bob Skinner	Plymouth	603-536-3626

New Jersey

1-4,6-15	Pete Crosta	Nutley	201-667-6369 201-677-4050
1,5-6	Jay Hubschman	Fairfield	201-575-1968 201-624-8046
1,8,10,12,14,15	Link Keur	Augusta	201-875-2568 201-992-7000

New Mexico

1-4,7-12,14,15	Willis George, Jr.	Albuquerque	505-897-4886 505-883-9743
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Beagle Bros...

		City	Home	Work
New York				
1,2,4,7,8,10-12,14,15	Bob Beer	Coram	516-928-6870	
1-2,4,8,10,12-14	Linda Doscher	West Nyack	914-358-7064	
3,4,7,8,10,14	David W. Gagnon	Gowanda	716-532-4870	
3,4,7-12,15	Carlos M. Madan	Morrisonville	518-562-0779	518-359-3322
1-15	Larry Merow	Sayville	516-567-0603	516-422-0315
1-5,7-12,14,15	James L. Nicoll	Pittsford	716-381-9480	716-546-6732
8	Frances Snedeker	Larchmont	914-834-3081	
3,4,8,10,12,14	Jerry Taylor	Rochester	716-964-3319	
1,3,4,6,8,10,12,15	Terry Williamson	Orchard Park	716-662-5104	716-873-9750

North Carolina				
3-5,7-10,12	Marc Apfelstadt	Greensboro	919-282-1494	919-334-5970
1-4,7,8,10-12,14,15	Terry W. Robertson	Charlotte	704-536-4261	704-377-3939

Ohio				
1-4,7,8,10-12,14,15	Jason Chao	Cleveland Hts.	216-321-5451	216-844-3791
3,7,8,12,14	Don E. Fisher	Dayton	513-890-0428	513-461-2444
4,8,14,15	Jason Fogt	Lakeview	513-843-5779	
1-3,7,8,10,11,15	Carman Greco	St. Clairsville	614-695-5026	
1-4,7-11,14,15	Robert J. Netro	Canton	216-477-3667	
1-5,7-15	Ltc. Robert Weis	Beavercreek	513-429-4169	513-257-6836

Oklahoma				
1-3,8,10,12,14	Rev. Jerry Venable	Guymon	405-338-3723	405-338-3616

Oregon				
1,3,4,7,8,10,12,14,15	Jim Emig	Portland	503-771-1916	503-280-5666
1,4,8	Dave Lomax	Lake Oswego	503-636-7289	

Pennsylvania				
1-3,5-15	Martin Friedman	Broomall	215-353-2753	
15	William D. Hall	Philadelphia	215-824-1160	215-441-0800
1-3,7,8,14	Joel Perlish	Havertown	215-789-7673	
15	Charles Schultes	Lehighton	215-377-5169	215-377-6180
1-15	Bruce Shanker	Warminster	215-674-0118	
3,7,8,12,14,15	Hal Shapiro	Eagleville	215-630-8936	215-922-0500

Rhode Island				
12	Robert J Ricard	Cranston	401-781-5202	

Tennessee				
1-3,7	Bob Evridge	Knoxville	615-693-8817	615-693-9242
6	Joel Goldman	Nashville	615-352-3617	

Texas				
6	Larry Jones	El Paso	915-533-3302	915-565-3016
1-3,7,8,14,15	Joseph Kline	Lubbock	806-796-0829	

Vermont				
3,7,8,14,15	Douglas C. Corey	Middlebury	802-388-6209	802-388-4021
4,8,10,12,15	Linda Metzke	Concord	802-748-3298	802-626-9371

Virginia				
7-8,10,12,14-15	Peter Pfeiffer	Herndon	703-437-1985	703-834-3618

Wisconsin				
7,8,15	Debby Henning	Sharon	414-736-9229	
15	Todd Novakofski	Ladysmith	715-532-7430	715-532-6202

Australia				
1-3,6,8,10,11,14,15	Dr. Jules S. Black	Bondi Junction	612-327-7501	612-389-8881
5,10,12	Ralph Morgan	Tweed Heads	075-369352	

Canada				
3,4,6,10,11	John Carson	Montreal	514-965-0886	
7	Patrick M. Duffy	Lethbridge	403-329-4211	
1-3,7-8,10-12,14,15	Jean Guy Mariage	Shannon	418-844-2932	418-844-5268
1-3,7,8,12,14,15	Terry Price	Schomberg	416-939-8104	
5,8,10,12	Robert Sutherland	Toronto	416-465-2945	
1,2,7,8,12,15	Nick Van Helsdingen	Tranquillity Base		604-296-3260

England				
4,7,15	Andrew Letchford	Plymouth	0752766435	44752766435

Israel				
12,14,15	Bernard Katz	Ramat Aviv	(03) 425-011	(03) 752-1133

Mexico				
1-4,6-15	Harve Thorn	Mexico City	525-554-4283	525-516-7568

New Zealand				
7,8,12,15	H.P.H. Harrison	Tauranga	075-442-842	075-778-000

Saudi Arabia				
3,6,8,15	Ken Burnell	Dhahran	3-878-9173	3-875-0051
6	James Hanushek	Dhahran	3-878-4075	3-877-1533

Venezuela				
1-4,7-12,14-15	Omar Quintero	Caracas	02-241-1366	02-291-2526

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