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Support for AppleWorks and ///EZ Pieces Users

Z-RAM Clock with AppleWorks 3.0

Dear Cathleen:

Applied Engineering's Z-RAM Ultra II card for Apple IIc computers adds extra memory and a clock to the computer. The board comes with a clock driver program that patches AppleWorks so it can time and date stamp your files and display the clock on the screen. However, the clock driver does not work with AppleWorks 3.0.

Here is how owners of Z-RAM Ultra cards can get at least partial functionality from the clock.

Install the clock driver on AppleWorks 2.x and then copy the file AECLK.SYSTEM from your working copy of AppleWorks 2.x onto AppleWorks 3.0. The time will not show on the AppleWorks screen, but the system will date and time stamp the files you save on disk.

AECLK.SYSTEM has to be the first system file on the AppleWorks Startup Disk, so follow these steps to install the clock driver:

1. Format a blank disk and name it /APPLEWORKS.
2. Use a file copy program and copy ProDOS from your AppleWorks 3.0 Startup Disk onto this new disk.
3. Copy the file AECLK.SYSTEM from your working copy of AppleWorks 2.0 or 2.1 onto the new disk.
4. Use the file copy program to copy the remaining files from your AppleWorks 3.0 Startup Disk onto this new disk.

Bruce Condit
Carlisle, Pennsylvania

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**.

Transfer Files from Macintosh to AppleWorks

Dear NAUG:

Transferring files from AppleWorks 2.x and earlier to Microsoft Works is relatively easy using the Works-to-Works translator and the procedures described in the November 1988 issue of the **AppleWorks Forum**. But going from the Macintosh to AppleWorks has not been easy. Now, AppleWorks 3.0's ability to correctly handle tabs gives us the tools we need for the second half of this file transfer process.

Here is how you can transfer Macintosh files into AppleWorks 3.0:

1. Save the Macintosh document in ASCII format.
2. Launch Apple File Exchange on the Macintosh and transfer the file onto a ProDOS formatted 3.5-inch disk.
3. Use the new ProDOS ASCII file to create a new AppleWorks word processor, data base, or spreadsheet file.

AppleWorks 3.0's ability to handle tabs also lets you export AppleWorks files into any Macintosh program that accepts ASCII files. Save your AppleWorks 3.0 file in ASCII format, launch the Macintosh File Exchange program on the Macintosh, and convert the ProDOS ASCII file into Macintosh format. You can then read the file into almost any Macintosh word processing, data base, or spreadsheet application including Works, Word, MacWrite II, and Excel.

James Hirsch
Coon Rapids, Minnesota

Using AppleWorks 3.0 Files with 2.x

Dear NAUG:

Word processor users who switch between AppleWorks 3.0 and earlier versions of AppleWorks are in for an unpleasant surprise. The word processor files you create with AppleWorks 3.0 might not be

Letters...

compatible with earlier versions of the program, even if you don't use 3.0's new formatting and tabbing features. A simple press of the Tab Key at the beginning of a paragraph is enough to make a file irretrievable with earlier versions of AppleWorks. Erasing the tab marker doesn't help; you still cannot read the file with AppleWorks 2.1 or earlier.

If you cannot read a 3.0 document with earlier versions of AppleWorks, you can transfer the text in that file into a new document. Here's how:

1. Boot up AppleWorks 3.0, load the file onto the desktop, and remove all the tabs and formatting commands from the document.
2. Copy the entire document onto the clipboard.
3. Create a new word processor document.
4. Copy or move the text from the clipboard into the new document.
5. Issue an Apple-S command to save the file.

You should now be able to read that file with earlier versions of AppleWorks.

Everett B. Young
South Gate, California

[Ed: If you are comfortable working with text (ASCII) files, you can also "print" the file as a text file on the disk and use that file to create a new word processor document. This approach doesn't require you to remove the formatting options from the original document.]

Counting Words with AppleWorks 3.0

Dear Cathy,

I do some professional writing and need to know the number of words in each document I produce. Before AppleWorks 3.0, I used the Word Count program included on the TimeOut QuickSpell disk to determine the length of a manuscript. Is there any way to get AppleWorks 3.0 to count the number of words in a word processor file?

James Rawlinson
Plymouth, Michigan

[Ed: The Spell Checker built into AppleWorks 3.0 can tell you the number of words in a document. Follow these steps:

1. *Issue an Apple-V command to verify the spelling of the document.*
2. *Select "Options" at the "Check spelling?" prompt.*
3. *Select "Summary" at the "Spelling options?" prompt.*
4. *Select "Only" from the "Spelling summary" prompt.*

That will return you to the "Check spelling?" prompt. Select "All" and AppleWorks will read the document and display a summary that includes the total number of words in the file.]

Septegenairians Belong in NAUG

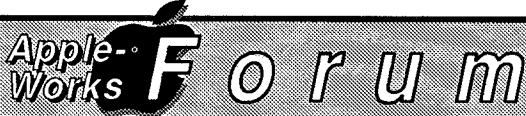
Dear Cathy,

I'm not sure I should be in your group. The fact is, I'm pushing 70 so close my blood type is now Senile Positive and the only reason I remembered to write you is that I forgot my daily dose of Milk of Amnesia which I need to forget my age.

I join with great expectations, now that I know how to turn on my Ile.

If after reading this you still accept me for membership, you probably need the money.

J. S. Kipnis
Magnolia, Texas

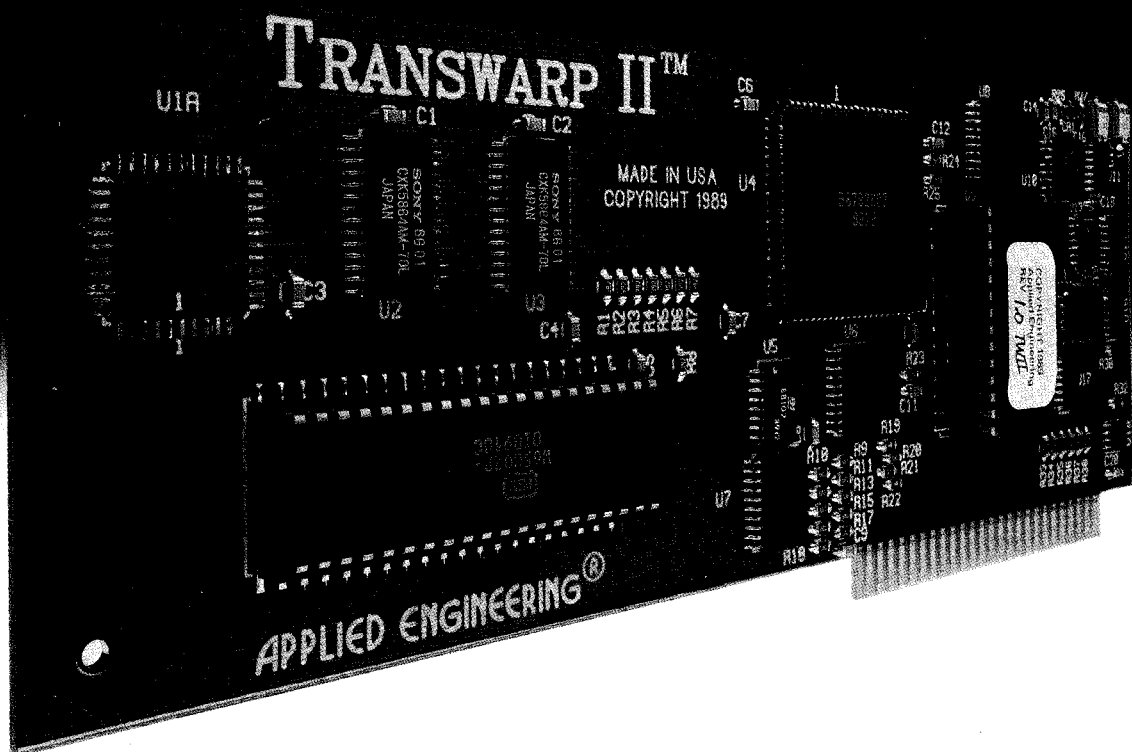


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How to Incorporate Scanned Images into AppleWorks

by Irene Fogel

This is the last in a series of three articles that describe how to integrate graphics into AppleWorks word processor documents. The first two articles describe how to use TimeOut SuperFonts to prepare overhead transparencies and incorporate graphics into AppleWorks word processor files. This article describes how to include scanned images in your documents.

The first two articles in this series describe how to use TimeOut SuperFonts to integrate graphics in AppleWorks word processor documents. Those techniques let you use AppleWorks to produce an attractive blend of graphic images and Macintosh-quality text. (See *Figure 1* on page 8 of the December 1989 issue of the *AppleWorks Forum* for an attractive example of the integration of text and graphics.)

The earlier articles assume you start with a digitized version of a graphic image on disk. But what if you want to include a map, picture, or diagram in your output? In this article, I will describe how to incorporate original art into word processor documents. *Figure 1* presents an example of a document you can prepare using these techniques. *Figure 2* contains a full size reproduction of the original map I used to produce the graphic in *Figure 1*.

What You Need

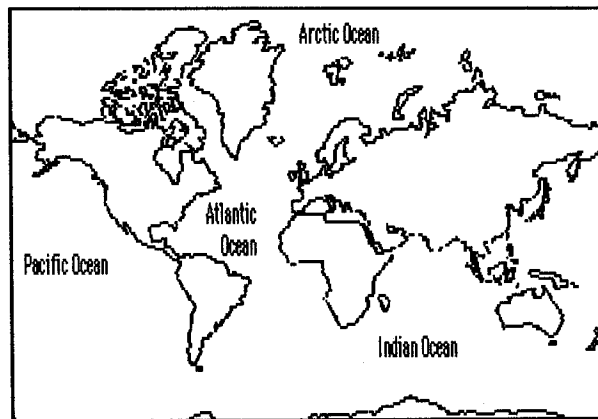
You probably have most of what you need for this process. First, you need an ImageWriter I, ImageWriter II, or Wide-carriage ImageWriter printer connected to an Apple II or Laser computer. You also need at least two 5.25-inch disk drives or one 3.5-inch drive, some blank disks, AppleWorks 2.0 or later, TimeOut SuperFonts, and TimeOut Paint.

Highly desirable options include a mouse that makes it easy to use TimeOut Paint to enhance your images, and more than 128K of RAM so you can incorporate more than one or two graphics into a document.

Figure 1: Document with Sample Scanned Image

Worksheet: Topic VIII. Water, Energy and Climate

The Earth's Major Oceans



Questions:

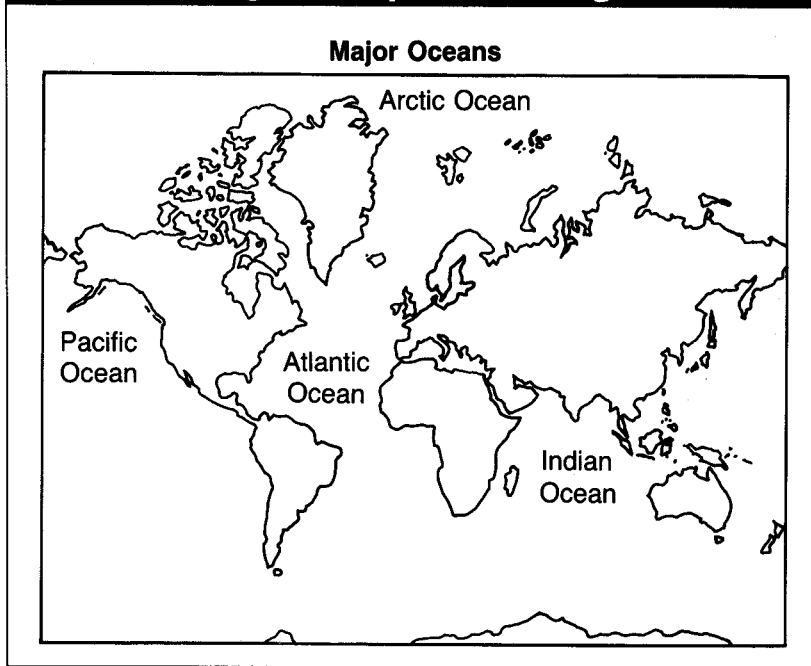
1. What two oceans border the Continental United States?

_____ and _____

2. Which major ocean is south of Asia? _____

Central to the digitizing process is a device you probably do not own; a digital scanner such as the ThunderScan from Thunderware. The \$219 list price (I paid \$159 from Programs Plus) ThunderScan package includes a scanner, which resembles an ImageWriter printer ribbon cartridge with an attached cable, a plastic "scan key", 5.25-inch and

Figure 2: Original Map Used in Figure 1



2. Use TimeOut Paint to enhance the Double-Res Screen Image, determine how you want to crop the image, and save the image as a Double-HiRes graphic on a disk.
3. Use AppleWorks to create a file with both text and SuperFonts commands.
4. Use SuperFonts to print the document.

Here is how to proceed:

1. Start by preparing several blank ProDOS-formatted disks. Scanned images use a lot of disk space, and you will need to store a Scan Image file, a Double-Res Screen file, and a Double-HiRes Paint file of each image. If you use 5.25-inch disks, you should save only one scanned image on each disk. If you use 3.5-inch disks, plan on no more than six images per disk.

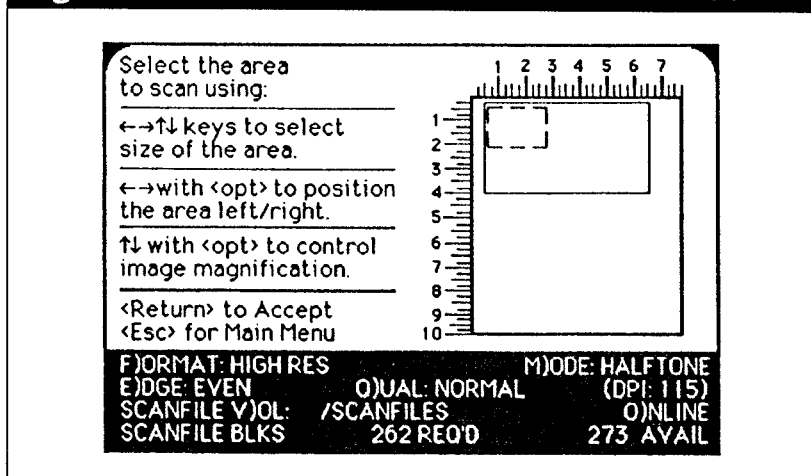
Assign a different name to each volume when you format the disks (otherwise you will get error messages later in the process). I call my disks "A", "B", "C", and so forth.

2. Remove the ribbon from your ImageWriter and install the ThunderScan scanning head in the printer. The documentation gives excellent directions, including pictures to help you set up the unit. The process only takes a minute after you practice a few times.

The cable connects to the computer's game port, and the plastic "scan key" fits into the semicircular recess normally occupied by the magnet on the printer cover. This lets the printer work with the cover off.

3. Look at the "art" you want to scan and determine the approximate size of the portion of the image you want to digitize. You will need this information in step #6 below.
4. Insert the art into the printer. If your original is smaller than an 8.5" x 11" page, use double-sided tape and tape the art to tractor feed paper.

Figure 3: ThunderScan Scan Select Screen



3.5-inch disks with the ThunderScan software, and documentation. The scanner replaces the ribbon in the ImageWriter and connects to your computer. The combination of the scanner and software has the ability to store digitized images as files on any ProDOS-formatted 5.25-inch, 3.5-inch, or hard disk.

Overview of the Process

Integrating scanned images into AppleWorks is a four-step process:

1. Scan the graphic and save the digitized image as a "Scan Image" and then a "Double-Res Screen file" on a data disk.

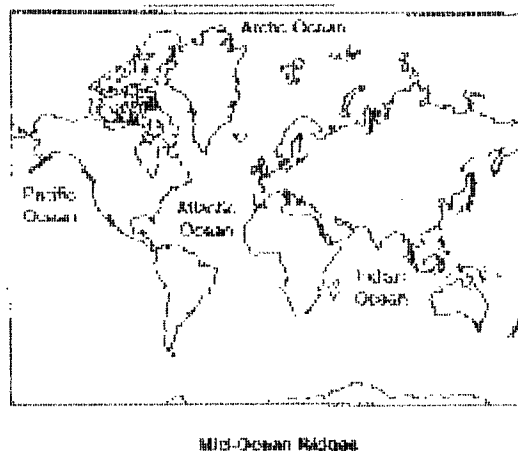
AppleWorks Applications...

Then load the paper over the sprockets as you normally would for printing, making certain the image faces the scanner. This technique insures the art will feed evenly and improves the quality of the scanned image. I use this method to scan any small document, including small photographs.

5. Boot the ThunderScan disk and select "N" from the Main Menu to indicate you want to do a new scan.
6. ThunderScan shows you a "Scan Select" screen (see *Figure 3*). Use the Arrow Keys to select the area you want to scan. Press the Return Key when you are done.
7. Set the scanning options listed at the bottom of the Scan Select Screen. Each setting is a toggle. Press the appropriate letter until the desired setting appears on the screen.
 - A. Press "F" (for "format") to indicate you want to store the image as a "Double-Res" graphic.
 - B. Enter an "M" to change the mode to "Line Art" if you are scanning a black and white diagram without shading or to "Halftone" if you are scanning a photograph or a colored or shaded image.
 - C. Enter a "V" (for "volume") to specify the name of the data disk on which you want to store the scanned image.
 - D. Enter an "E" to specify you want an "even edge".
 - E. Enter a "Q" to toggle to high quality. This setting significantly lengthens the scanning and processing time, but dramatically improves your AppleWorks output.
8. Press the Solid Apple Key and Up-Arrow or Down-Arrow Keys to increase or decrease the image size. The dashed rectangle will change size with respect to the solid rectangle to help you visualize the magnification you specified for the image.

Scanning in the Double-Res format, a setting of 125 dots per inch will produce an image the same size as the original. (Note that this differs

Figure 4: Printout Directly from ThunderScan



from the recommended setting of 115 dots per inch that appears in the ThunderScan documentation. While 115 dpi is the correct setting if you print with ThunderScan, 125 is the correct setting for a full size image when you print with SuperFonts.)

When the scan is complete, you can print either at the magnification you selected or at 50% of that magnification. Although you can use SuperFonts to crop and position the image on an AppleWorks page, you cannot change the magnification beyond those two settings when you print.

9. Focus the scanner by turning the dial on top of the digitizing cartridge until the highest number appears on the focusing screen on the computer.
10. Press the Return Key to begin the scan. The print head and scanner will move back and forth and scan the image into the computer. The process is slow, but it is fun to watch the image appear on the screen as the scan progresses.
11. Press the Escape Key to return to the ThunderScan Main Menu. Then enter an "S" to select "Save" and press the Return Key. Type the name you want to assign to this file and press Return.

ThunderScan only renames the file at this point; it actually saved the file on your disk during the scanning process.

12. Now you can preview the image by printing the file directly from ThunderScan (see *Figure 4*). Don't be disappointed with the print-out. The quality will improve when you enhance the image with TimeOut Paint and print with SuperFonts. Compare the quality of the original graphic in *Figure 4* with the final image in *Figure 1*.
13. Follow the on-screen prompts to enhance the brightness and contrast of the image. Experiment with these settings; I usually get better results if I increase the brightness slightly. Then save the graphic as a "Double-Res screen".

There are times when I load a Scan Image file or a Double-Res screen file and all I get is a hodgepodge of jumbled symbols. This is less likely to occur if you save the scan as a Scan Image and then immediately as a Double-Res screen before changing the brightness and contrast. Then re-save the Double-Res image after making your adjustments.

Using Paint

Now you can use TimeOut Paint to enhance the image and help you determine the cropping coordinates to use with SuperFonts. Proceed as follows:

1. Boot your computer with a copy of AppleWorks enhanced with TimeOut Paint and SuperFonts.
2. Issue an Open-Apple-Escape command to access the TimeOut Menu and select Paint.
3. Insert the disk with the Double-Res screen file into a drive and select the Open Command from the File Menu in the Menu Bar across the top of the screen. You can then use Paint's tools to modify and crop the image. If you have a mouse, just point and click. If you do not have a mouse, the Arrow Keys will move the pointer; the Solid-Apple (or Option) Key substitutes for the mouse button.

I made the following changes to produce the map in *Figure 1*:

1. I used the FatBits Command on the Goodies Menu to magnify the image.
2. I straightened the border lines and improved the contours.

Figure 5: File that Generates Figure 1

```
File: Oceans                      Review/Add/Change          Escape: Main Menu  
====|=====|=====|=====|=====|=====|=====|=====|  
<1=Geneva.14>  
<2=Geneva.12>  
<p1=/B/map.N>  
<1>Worksheet: Topic VIII. Water, Energy and Climate  
-----Centered  
                ^The Earth's Major Oceans^  
-----Unjustified  
<p1,12,00,480,162>  
  
<2>Questions:  
    1. What two oceans border the Continental United States?  
       _____ and _____  
  
    2. Which major ocean is south of Asia? _____
```

```
Type entry or use @ commands      Line 1 Column 1      39K Avail.
```

3. I used the Eraser (on the Tools Menu) to delete the names of the oceans and to clean up any stray dots in the graphic. I could also use "Marquis" on the Tools Menu and then Cut on the Edit Menu to delete larger segments of the image.
 4. I used the Font Command from the Goodies Menu to import the font Geneva.10 from my SuperFonts disk into Paint. Then I rewrote the names of the oceans using the Text Command from the Tools Menu.
 5. I had to crop the graphic because it was slightly smaller than the Paint screen; if I did not crop the image, the extra space around the edge would appear as a black area. You can crop the image with either Paint or SuperFonts; I use Paint to determine the coordinates for the cropping but do the actual cropping with SuperFonts.
- Follow these steps to use Paint to determine the coordinates of the corners of the cropped image:
- A. Use the Coordinates Command from the Goodies Menu to display the position of the cursor. Paint will display two numbers in the Menu Bar. Those numbers represent the position of the cursor on the X and Y axes.
 - B. Move the cursor to the top left-most position you want to include in the graphic and note the coordinates.

- C. Repeat this process for the lower right-most point you want to include in the image.
- D. Select "Save As..." from the File Menu and save the graphic under a new name on the same disk. Paint will save the graphic as a Double Hi-Res image.

Printing the Document

Next, you will create an AppleWorks file that includes the SuperFonts commands necessary to print the final document. *Figure 5* depicts the AppleWorks file that generated the printout in *Figure 1*.

Start the word processor document with the commands necessary to load your fonts and graphic images into SuperFonts. The line `<p1=/B/map.N>` in *Figure 5* tells SuperFonts to load the file named "map.N" from the disk named "B" and call that graphic "P1".

The line `<P1,12,00,480,162>` says "Print picture P1 here. Crop the image so the upper left-hand corner starts with coordinate 12,00 and the lower right-hand corner ends at 480,162." (These are the coordinates I wrote down when looking at the image with Paint.) You can also use AppleWorks' Center Command or SuperFonts' Right Justify Command to reposition the picture on the printed page. You can even use SuperFonts' Inverse Begin (`<nb>`) and Inverse End (`<ne>`) commands to print a negative image of the graphic.

Finally, select SuperFonts from the TimeOut Menu and print the document. I changed the page setup to get Tall Adjusted output and set the Print Quality to "High" to produce the document in *Figure 1*.

Figure 6 illustrates a second use of the same "Major Oceans" scan I used in *Figure 1*. To pro-

Figure 6: Document with Cropped Scanned

Test: Topic XII

Row _____

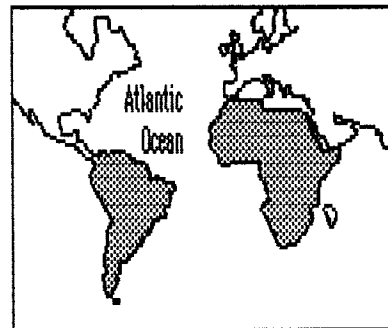
The Earth's Crust

Name _____

Part I: Multiple choice

Directions: For each statement or question, select the word or expression that of those given, best completes the statement or answers the question. Darken in the number of the box on the answer sheet provided.

Base your answers to questions 1 and 2 on your knowledge of earth science, the *Earth Science Reference Tables* and the diagram below.



1. Which statement is best supported by the diagram of South America and Africa?

1. The continents seem to fit together.
2. South America is much larger than Africa.
3. The Pacific Ocean is located between South America and Africa.
4. Africa is a much older continent than South America.

2. The mid-ocean ridge which is located between the continents of South America and Africa can best be described as a site of

1. magnetic field reversals
2. deep ocean depths
3. frequent crustal activity
4. erosion caused by destructive forces

Products Mentioned in this Article

TimeOut SuperFonts; Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, California 92121; (619) 452-5500, \$69.95.

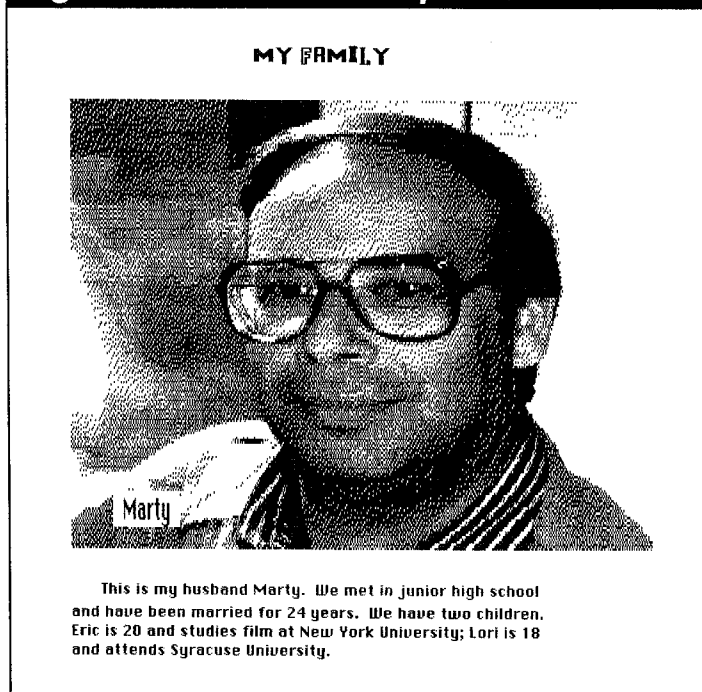
TimeOut Paint; Beagle Bros (included free with SuperFonts).

ThunderScan; Thunderware, 21 Orinda Way, Orinda, California 94563; (415) 254-6581, \$219.

These products are available at significant discounts from mail order vendors.

duce *Figure 6*, I used Paint to open the original Double-Res screen file that I saved with ThunderScan. Then I used Paint to redraw the borders and erase the outside portions of the map. I changed the default pattern by using the Patterns Command

Figure 7: Scanned Snapshot and Text



from the Goodies Menu; then I used the Fill Command from the Tools Menu to place the pattern in the continents.

Finally, *Figure 7* demonstrates another capability of ThunderScan and SuperFonts; the ability to incorporate scanned photographs with text. The image in *Figure 7* is enlarged from a color snapshot. Think of the possibilities: You can have your students bring in photographs and then incorporate their own images into reports they write with AppleWorks. What motivation!

Conclusion

As with any new equipment and software, it takes a while to get comfortable operating the ThunderScan and incorporating scanned images into your documents. But the process is easy to learn and adds an important feature to the increasingly flexible AppleWorks environment. ■

[Irene Fogel is a science teacher at Great Neck North High School in Great Neck, New York.]

Apple-Return in AppleWorks 3.0

by Mark Munz and Randy Brandt

Here are two ideas that can save you time when you want to save or remove all the files on your AppleWorks 3.0 desktop:

Saving all files: AppleWorks 3.0 makes it easy to save all the files on the desktop. Follow these steps:

1. Return to the AppleWorks 3.0 Main Menu and select choice #3 ("Save Desktop files to disk").
2. Enter an Apple-Right Arrow to select all the files.
3. Enter an Apple-Return. AppleWorks 3.0 will save all the desktop files onto their original disks or subdirectories without asking you to respond to any prompts. If you press Return instead of Apple-Return, AppleWorks 3.0 functions like earlier versions of the program and warns you before it saves any file it already finds on your disk.

Clearing the desktop: AppleWorks 3.0 can automatically save all changed and new files and remove all the files from your AppleWorks desktop. Here's how:

1. Return to the AppleWorks Main Menu and select choice #4 ("Remove files from the Desktop").
2. Enter an Apple-Right Arrow to select all the files.
3. Enter an Apple-Return. AppleWorks 3.0 will save all the changed or new files onto their original disks or subdirectories and then will remove all the files from the desktop. If you press Return instead of Apple-Return, AppleWorks 3.0 functions like earlier versions of the program and asks one question about each new file and two questions about each changed file on the desktop before doing the save. ■

How to Get Started with the Data Base Module — Part 3

by Cathleen Merritt

This is the third in a series of articles designed to help novices get started with the AppleWorks data base module. This article describes how to create tables format reports. The author assumes you created the name and address file described in the first two articles in this series.

The first two articles in this series described how to create a data base file and how to enter and edit data in that file. They also described how to select records from the file and how to rearrange the records. This month, you will learn how to use the data base to produce printed output, called “reports”.

AppleWorks produces two types of reports; “tables format reports” and “labels format reports”. *Figures 1* and *2* present examples of each report using data from the ADDRESS-ES data base described in the first two articles in this series.

Tables format reports are similar in function and style to the data base module’s multiple record layout display. You use tables format reports to produce lists of the data in the file.

Labels format reports are comparable to AppleWorks’ single record layout display. Just as the single record layout lets you display the categories anywhere on the AppleWorks screen, labels format reports let you print data anywhere in a 2.5 inch by 13.2 inch printing area. You can use labels format reports to print address labels (as in *Figure 2*), or to print checks, W-2 forms, and any other data that fits within the allowable printing area.

Figure 1: Sample Tables Format Report

File:	ADDRESSES					Page 1
Report:	t.Addresses					
TITLE	FNAME	LNAME	ADDRESS1	CITY	STATE	ZIP
Mr.	Ian	Bernhard	123 Anywhere Street	Bowling Green	OH	43402
Mr.	Aaron	Bush	1000 Holden Road	Houston	TX	77019
Ms.	Meredith	Bush	432 Amesbury Park	Medford	NJ	08055
Mrs.	Randi	Bush	111 NW 12th Street	N. Miami Beach	FL	33179
Mr.	Kenneth	Cohen	100 Kensington Court	East Brunswick	NJ	08816
Mr.	Tom	Esch	800 Zeeb Road	Ann Arbor	MI	48103
Mr.	Devon	Greene	1234 Avenue M	Brooklyn	NY	11236
Ms.	Ashley	Mason	1000 N. Clover	Chicago	IL	60614
Mr.	Michael	Merritt	555 Goforit Road	Plymouth	MI	48170
Ms.	Lynn	Rawlinson	600 Holyoke Road	Plymouth	MI	48170
Ms.	Lisa	Williams	654 Pretty Lane	Melville	NY	11747

Figure 2: Sample Labels Format Report

Mr. Ian Bernhard 123 Anywhere Street Greenville OH 43402	Mr. Aaron Bush 1000 Holden Road Houston TX 77019	Ms. Meredith Bush 432 Amesbury Park Medford NJ 08055
Mrs. Randi Bush 111 NW 12th Street N. Miami FL 33179	Mr. Kenneth Cohen 100 Kensington Court Brunswick NJ 08816	Mr. Tom Esch 800 Zeeb Road Ann Arbor MI 48103
Mr. Devon Greene 1234 Avenue M Brooklyn NY 11236	Ms. Ashley Mason 1000 N. Clover Chicago IL 60614	Mr. Michael Merritt 555 Goforit Road Plymouth MI 48170

In this article, I will describe how to generate tables format reports. Next month, you will learn how to prepare labels format reports.

Some Background

Like most data base programs, AppleWorks divides the reporting process into two steps. First, you “define”, (i.e. specify) the report format. That tells

Figure 3: Telephone List Report

File:	ADDRESSES		Page 1
Report:	t.PHONELIST		
INAME	FNAME	AREA	PHONE
Bernhard	Ian	419	123-4567
Bush	Aaron	713	777-9876
Bush	Meredith	609	666-1111
Bush	Randi	305	544-1111
Cohen	Kenneth	201	222-1111
Esch	Tom	313	999-8888
Greene	Devon	718	123-4567
Mason	Ashley	312	655-4488
Merritt	Michael	313	555-1212
Rawlinson	Lynn	313	444-5555
Williams	Lisa	516	321-3210

AppleWorks (a) whether you want to generate a tables format or labels format report, (b) which records to print, and (c) what data you want to appear in the report. For example, the report format might say that you want to print only people with birthdays in January. In addition, you could specify that each person's last name should appear first in a column 15 characters wide, followed by each person's first name in a column 10 characters wide.

AppleWorks remembers the format for each report; you can use the format to generate similar reports in the future. AppleWorks 2.1 and earlier remembers up to eight report formats for each data file; AppleWorks 3.0 stores up to 20 different report formats.

The second step is printing the report. This involves arranging the records in the order you want them to appear and then issuing a print command.

A Tutorial

The best way to learn how to generate reports is to work at the computer. Load the ADDRESSES data base file onto the desktop; I will describe how to generate the telephone list report that appears in *Figure 3*.

First, you will create the format for the report, then you will print the output. Follow these steps:

1. Issue an Apple-P command to go to the Report Menu. The Report Menu lets you specify if you want to use an existing report format or create a new report. There are no report formats in your file, so indicate you want to create a tables format report and press the Return Key.

2. AppleWorks requires a name for each report format; you should use this name to differentiate between the formats you save with the file. Enter "t.PHONE LIST" as the name for the report. The "t" reminds you this is a tables format report. It is easier to identify the correct report format if you start the name of all tables format reports with "t." and all labels format reports with "l."
3. AppleWorks displays the Report Format screen that appears in *Figure 4*. The top of the screen displays the file name and any record selection rules in effect. You did not specify any selection rules, so the screen displays "Selection: All records".

The middle of the screen displays the commands you can use to modify the report format.

The bottom of the screen displays the heading for each column and the first three records that will appear in the report.

4. You want to print each person's last name, first name, area code, and telephone number, but not their address. So start by deleting the categories you don't want in the final listing. Here is how:

The cursor is flashing in the TITLE category. Issue an Apple-D command to delete that category. (The TITLE column will disappear from the screen, but the data remains intact. Remember that you are defining the format for the report, not manipulating the data in the file.) The Report Format screen reminds you that the Apple-D command deletes a category from the report.

You can always insert a previously deleted category by issuing an Apple-I command, but we will not need that command in this tutorial.

5. Press the Tab Key to move the cursor to the ADDRESS1 category. Enter an Apple-D to delete that category.
6. Repeat this process for all other categories you do not want in the report. These include ADDRESS2, CITY, STATE, ZIP, CODES, BDATE, and all the extra categories. The Tab Key moves the cursor to the right; Apple-Tab moves the cursor to the left.

Novice Notes...

- You want the printout to display last names in the first column followed by first names, but the columns are presently in the opposite order. Put the cursor on the LNAME column, hold down the Apple Key and press the Comma Key. (You can remember the function of this key because of the "<" symbol above the comma.) That jumps the LNAME category to the left and puts it in front of the column of first names.

- AppleWorks automatically makes each column 12 characters wide. While that is suitable for the LNAME and FNAME categories, it is not appropriate for the AREA CODE and PHONE categories.

Move the cursor to the AREA CODE category, then hold down the Apple Key and press the Left Arrow Key to narrow the column. Make the column four characters wide so it truncates the column heading to AREA.

Tab to the PHONE category and make that column eight characters wide.

You now designated which categories will appear in the listing, the order in which they will appear, and the width of each column in the report. Next you will specify which records you want to appear in the report.

- Issue an Apple-R command to invoke AppleWorks' Record Selection Rules feature. Just as the Apple-R command lets you limit the screen display to selected records, so Apple-R lets you

Figure 4: Sample Tables Report Format Screen

```

File: ADDRESSES                                REPORT FORMAT                                Escape: Report Menu
Report: t.PHONE LIST
Selection: All records

=====
--> or <--      Move cursor                      A-J      Right justify this category
> A <          Switch category positions         A-K      Define a calculated category
--> A <--      Change column width               A-N      Change report name and/or title
A-A            Arrange (sort) on this category   A-O      Printer options
A-D            Delete this category               A-P      Print the report
A-G            Add/remove group totals            A-R      Change record selection rules
A-I            Insert a prev. deleted category    A-T      Add/remove category totals
=====

TITLE          FNAME          LNAME          ADDRESS1        ADDRESS2        CITY          S
-A-----      -B-----      -C-----      -D-----      -E-----      -F-----      -
Mr.            Ian            Bernhard       123 Anywhere                    Bowling Gree   O
Mr.            Aaron          Bush           1000 Holden                    Houston        T
Ms.            Meredith       Bush           432 Amesbury                    Medford        N
=====
Use options shown above to change report format                                1017K Avail.

```

Figure 5: Printer Options Menu for Tables Reports

```

File: ADDRESSES                                REPORT FORMAT                                Escape: Report Menu
Report: t.PHONE LIST

=====
-----Left and right margins-----
PW: Platen Width          8.0 inches
LM: Left Margin           0.0 inches
RM: Right Margin          0.0 inches
CI: Chars per Inch        10

-----Top and bottom margins-----
PL: Paper Length          11.0 inches
TM: Top Margin            0.0 inches
BM: Bottom Margin         2.0 inches
LI: Lines per Inch        6

Line width                8.0 inches
Char per line (est)       80

Printing length           9.0 inches
Lines per page            54

-----Formatting options-----
SC: Send Special Codes to printer              No
PD: Print a Dash when an entry is blank         No
PH: Print report Header at top of each page     Yes
      Single, Double or Triple Spacing (SS/DS/TS)  SS

=====
Type a two letter option code                                1016K Avail.

```

specify which records will print in a report. I described how to use the Apple-R command in last month's article.

You are preparing a report that lists everyone's telephone number, so there is no reason to include people who do not have telephone number entries in the data base file. Issue an Apple-R command and select all records where PHONE "is not blank".

Other Commands that Work with Tables Format Reports

The tables format report you developed in this article uses the Apple-< and Apple-> commands to switch category positions, and the Apple-A, Apple-D, Apple-O, and Apple-R commands. Here is a brief description of the other commands you can use when defining a tables report format:

Apple-G: Lets you “group” the records. Use this command to force blank lines between groups or to put each group on a different page. You must first issue an Apple-A command to arrange the records on the category you will use to group the records.

Apple-I: Inserts a category that you previously deleted with the Apple-D command.

Apple-J: Right justifies the data in any column you specify. Put the cursor on the column you want to right justify and issue an Apple-J. AppleWorks will replace the sample data on the screen with a series of 9's, but the program will print correctly.

Apple-K: Inserts a new calculated category in the report based on calculations you specify in response to prompts that will appear on the screen. If the Apple-K command does not work properly, make certain all categories used in the calculation include numeric data, not text.

Apple-N: Lets you change the name of the report format. Also lets you print any single line of text at the top of the report.

Apple-T: Calculates subtotals and totals for any numeric categories you specify.

Your selection rule will appear at the top of the screen, just as it does when you invoke the Apple-R command in single or multiple record layout display.

10. Now that you specified the categories and records that will appear in the report, you can invoke the printing options you want applied to this report.

Issue an Apple-O command to go to the Printer Options Menu (see *Figure 5*).

Most of the settings on this menu should be familiar because of your experience with the Apple-O command in the word processor module. The commands at the bottom of the screen let advanced users send special codes to their printer to get boldface, italics, and other special characters. They also let you control whether or not AppleWorks will print the name of the file and report, the date, page number, and column headings at the top of each page.

Your printed report will not fill the entire page, so there is no reason to start printing at the left edge of the paper. Type “LM” to issue a Left Margin Command and reset the left margin to 1.0 inches.

11. Press the Escape Key to return to the Report Format screen.

That completes the process of generating the report format. Issue an Apple-S command to save your work.

Print the Report

Now that you defined the report format, you can organize the records in the file and print the report. Follow these steps:

1. You already specified the records you want to print and the format for the report. However, AppleWorks does not automatically sort the records in the data base file before it prints; you must use the Apple-A command to arrange the records.

If you use AppleWorks 2.1 or earlier, put the cursor in the FNAME category, issue an Apple-A command and indicate you want to sort from “A to Z”. Then put the cursor in the LNAME category and repeat this process.

If you use AppleWorks 3.0, put the cursor in any category, issue an Apple-A command, and indicate you want to sort on “Several categories”. Select the LNAME category and sort from “A to Z”. Then repeat this process for the FNAME category. Finally, indicate you want to “Arrange file now” to complete the sort.

AppleWorks will rearrange the data in the file. Note that the three sample records on the

Checklist for Tables Format Reports

You don't have to follow a strict sequence when you enter the commands necessary to generate a report format. For example, you can enter the commands in alphabetical order as they appear on the Report Format screen, or use any other pattern to help you remember the necessary operations.

Here is the sequence I use when developing a report:

1. Delete unnecessary categories with Apple-D.
2. Change the position of columns with Apple-< and Apple->.
3. Change the column widths with Apple-Right Arrow and Apple-Left Arrow.
4. Right justify numeric data with Apple-J.
5. Specify the selection rules with Apple-R.
6. Arrange the records with Apple-A.
7. Insert calculated categories with Apple-K.
8. Total numeric categories with Apple-T.
9. Group the data with Apple-G.
10. Print a title at the top with Apple-N.
11. Set the printer options with Apple-O.
12. Print the report with Apple-P.

Report Format screen are now in alphabetical order.

Remember that you must sort the records each time you print a report. The sequence of the records is part of the data file, not part of the report format.

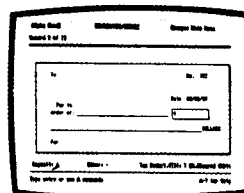
2. Issue an Apple-P command to print the report. This report is relatively narrow and will fit on your computer monitor, so I suggest you print the report "To the screen" to preview your work. If you like what you see, press the Escape Key to return to the Report Format screen, issue another Apple-P command, and send the report to your printer.

Conclusion

You now know how to produce a simple tables format report. The tables format report is a powerful reporting tool. Just as you will continue to learn techniques to enhance your ability to enter, locate, and edit data in the AppleWorks data base module, so you will learn additional commands and techniques as you generate reports.

Next month, I will conclude this series by describing how to generate labels format reports.

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AppleWorks and the LaserWriter: An Advanced Discussion — Part 4

by John Link and Warren Williams

This article describes how to get high quality output from the serial port on almost any Apple II or Apple II-compatible computer running AppleWorks. Apple IIc, IIc Plus, and Laser computer owners can use these techniques to get high quality LaserWriter output previously not available from those computers. Using the serial port also reduces the costs for Apple IIGs and Apple IIe owners. The authors assume you read the previous articles in this series.

If you implemented the suggestions in our previous articles, you now get attractive, proportionally spaced Palatino output from AppleWorks on an Apple LaserWriter printer.

Our earlier articles assume you connected your computer to the printer over an AppleTalk network. This month, we will describe how to get the same high quality output by connecting a cable directly from your computer's serial port to the LaserWriter.

Why Use the Serial Port?

The benefits of using your computer's serial port depends on the system you own. Apple IIc, IIc Plus, and Laser 128 computers cannot use AppleTalk. Owners of those systems can use the procedures described in this article to get the same high-quality LaserWriter output previously available only to owners of more expensive equipment. *Figure 1* depicts an example of LaserWriter output from the second author's IIc computer. (Owners of IIc, IIc Plus, and Laser computers should read the sidebar entitled "Special Procedures for Apple IIc and Laser Computers" later in this article.)

Apple IIe and IIGs owners can access AppleTalk, but will save money by connecting the LaserWriter to the serial port on the computer. The procedures outlined in this article save Apple IIe owners more

Figure 1: LaserWriter Output from an Apple IIc

EXECUTIVE SUMMARY

Normal Curve Equivalents (NCEs) put all grades on a single scale with 50 as the average score nationally. You can look across a graph of NCEs and immediately see the relative performance of students in every grade.

Grade equivalents do not put everyone on the same scale. The average grade equivalent nationally is different for every grade level, so it is not appropriate to use grade equivalents to compare different grades. In addition, GEUs can be misleading. When you use GEUs, a child who is at the 40th percentile nationally in each grade level appears to fall further behind in GEUs as he progresses to upper grades even though he remains in the same relative

than \$400; the cost of the LocalTalk connectors and the Apple Workstation card required to connect a IIe to the network. Apple IIGs owners save approximately \$150 for the LocalTalk connectors and cable.

Even Apple IIGs and IIe owners who use AppleTalk should read this article. Next month we will assume you know these techniques when we describe how to use Don Lancaster's LaserWriter utilities to address the full power of PostScript from AppleWorks.

Assumptions

We assume you already patched your working copy of AppleWorks following the directions that ap-

Advanced Techniques...

peared in last month's issue of the *AppleWorks Forum*. If you did not install those patches, do so now. Alternatively, you can get NAUG's AppleWorks/LaserWriter Patch Disk (\$4 plus \$2 s/h). This bootable, 5.25-inch disk automatically patches AppleWorks so it can produce fully justified, proportionally-spaced output in the Palatino font on a LaserWriter.

In addition, we assume you followed the directions that appeared in the November 1989 issue of the *AppleWorks Forum* and prepared a patched version of the Apple Computer's ImageWriter Emulator (IWEM) program to generate Palatino instead of Times output. If you did not install those patches, you will find two versions of the modified IWEM program on the AppleWorks/LaserWriter Patch Disk. One version (IWEM) produces Palatino output on a LaserWriter connected to an AppleTalk network. The other version (IWEM Serial) produces similar output on a LaserWriter connected to an Apple II computer's serial port. Note that the IWEM Serial file on the AppleWorks/LaserWriter Patch Disk also includes the patches we describe in this month's article.

An Overview

Here is an overview of the steps you must follow to produce high quality output through the serial port on your computer:

1. Configure the LaserWriter for 9600 baud operation and connect the serial port on the printer to a serial port on the computer.
2. Patch Apple's ImageWriter Emulator program (IWEM) so it accepts data differently.
3. Configure AppleWorks so it can send the patched IWEM file to the printer.
4. Configure AppleWorks to print on the LaserWriter.
5. Use AppleWorks to send the patched IWEM file to the printer.
6. Send a test page to the LaserWriter to reset the top and bottom margins.
7. Send your AppleWorks output to the LaserWriter as if it were an ImageWriter.

This list of steps can be daunting. Fortunately, steps #1-4 configure your system; you do these procedures only once. Then you execute steps #5-7 when you start each day's work. The daily procedures take less than two minutes to implement.

Technical Background

In step #2 you will install two patches in Apple's ImageWriter Emulator. The first patch changes one of its default values so the emulator generates line feeds at the end of each line. If you do not change this default, the LaserWriter prints all the text from each page on a single line. This gives you one very dark line and lots of white space for notes and doodles and is not generally acceptable output.

The second patch adds two statements to the end of the emulator program to force the LaserWriter to enter an endless loop. You make this change so the printer does not "time out" and is always ready to accept data from your computer's serial port.

Each time you turn on the LaserWriter, the printer restores its default values and operates normally. Once you download the revised emulator, your changes remain in effect until you turn off the LaserWriter.

While you can use AppleWorks 3.0 for your work and printing, AppleWorks 3.0 adds data to each new word processor file it creates. You must use AppleWorks 2.1 or earlier to prepare the serial version of the ImageWriter Emulator. Then you can use any version of AppleWorks to download the revised IWEM file to the printer. After you download the revised IWEM file, you can get LaserWriter output from AppleWorks or any software that prints on an ImageWriter, including graphics programs.

Step One: Configuration

The first step is to configure your computer and the LaserWriter so they communicate at 9600 baud. Then you use a serial cable to connect the computer to the printer.

If you have an Apple IIe, set the jumper block on the Super Serial Card so it points to Terminal (see *Figure 2*) and set the DIP switches so they match those in *Figure 3*.

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The default settings for the printer port on the Apple IIGs work correctly with the LaserWriter; you do not have to access the Control Panel to change those settings.

The Apple IIc, IIc Plus, and Laser 128 do not have DIP switch settings. AppleWorks will configure these computers automatically when you send output to the printer.

Setting the Printer

Next, you must set the printer so it communicates through its serial port at 9600 baud. If you have a LaserWriter or LaserWriter Plus, turn the rotary switch on the back of the printer to "9600" (see the diagram on page 7 of the September 1989 issue of the *AppleWorks Forum*). If you have a LaserWriter NT or NTX, set the switches so they correspond to the diagram that appears on page 26 of the October 1989 issue.

Connecting the Computer and Printer

Use an ImageWriter I printer cable to connect the computer and LaserWriter. Unfortunately, not all ImageWriter printer cables work correctly. (Your link to the LaserWriter requires more pins and wires in the cable than a standard ImageWriter connection, and many cable makers save money by only including the wires you need for the ImageWriter.)

If your computer does not drive the LaserWriter, suspect your cable. For example, the principal author could not print from a IIGs with his standard ImageWriter I cable. However, the MPIW106 "Mac+/I.W.1" cable he ordered from Quality Computers solved this problem. The second author was able to use any of his Apple IIc to ImageWriter I printer cables to get output on the LaserWriter.

Step Two: Patching IWEM

Next, you must patch the ImageWriter Emulator (IWEM) program so the LaserWriter will handle the data coming from your computer's serial port. Do-it-yourselfers should follow the directions below

Figure 2: Location of Jumper Block on the Super Serial Card

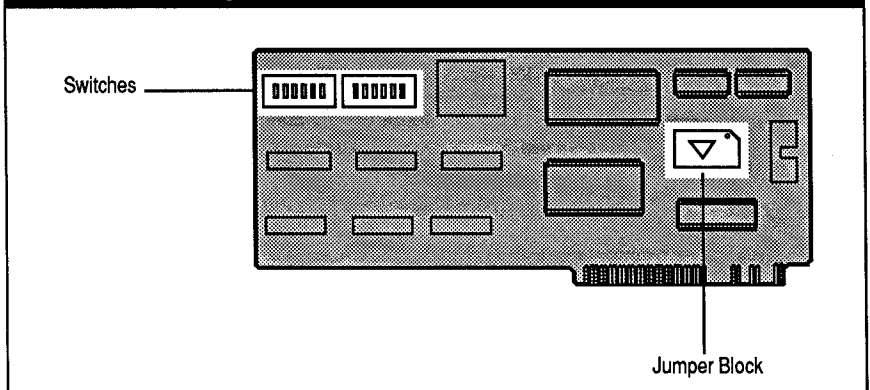
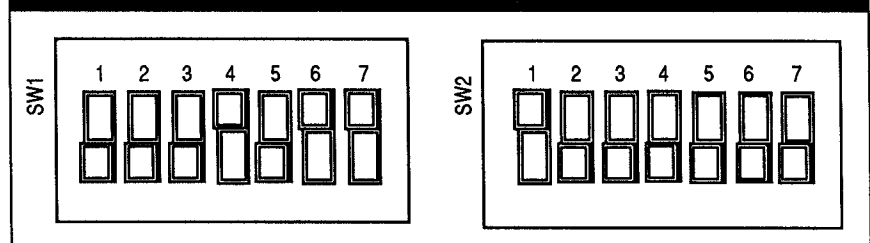


Figure 3: Super Serial Card Settings to Connect to a LaserWriter



to prepare a modified copy of IWEM. We also put a patched version of IWEM on the AppleWorks/LaserWriter Patch Disk described above. If you have the "IWEM Serial" file from the AppleWorks/LaserWriter Patch Disk, proceed to step #3 below.

Do-it-yourselfers who follow these procedures will need a copy of Apple's ImageWriter Emulator program (IWEM) modified as suggested in the November 1989 issue of the *AppleWorks Forum*. You will also need a blank 3.5-inch or 5.25-inch disk.

You will load your previously modified IWEM file into AppleWorks. Then you will use AppleWorks as a text editor to install two patches to the program. Finally, you will save the modified IWEM file on a separate 5.25-inch or 3.5-inch disk. Follow these steps:

1. Boot your computer with AppleWorks 2.1 or earlier and select #1, "Add Files to the Desktop" from the Main Menu.
2. Insert the disk that contains the IWEM file you patched following the directions in last month's article. Load that file on your AppleWorks desktop.

Special Procedures for Apple IIc and Laser Computers

Apple IIc, IIc Plus, and Laser computers do not support the XON/XOFF handshaking protocol (sometimes called "software handshaking") normally used by a LaserWriter. As a result, the LaserWriter does not work properly with these computers when you print long documents (more than 5,000 characters). The first two pages print correctly, then the LaserWriter prints portions of some pages and skips others. Finally, the LaserWriter locks up and does not accept further input.

Fortunately, there is a work-around that makes it easy to use the LaserWriter with Apple IIc and Laser 128-series computers. The trick is to send one page of data to the printer at a time and not overwhelm the printer with input.

Fortunately, it is easy to control the flow of information to the computer with AppleWorks. Simply set the "Stop at the end of each page" setting on the Change A Printer Menu to "Yes". Then AppleWorks will send a single page of information to the printer and wait for you to press the Space Bar before sending more data. You control the flow of information by waiting the appropriate length of time before pressing the Space Bar.

You send two types of files to the printer. At the beginning of each session you use the "PS Sender" printer (a Silentype printer) to download the "IWEM Serial" emulator. The default settings for the Silentype are correct for this setup; that is, the settings assume you want to stop at the end of each page. When you "print" the "IWEM Serial" file on the LaserWriter, count to five slowly before you send each new page. If you pace yourself correctly, a blank page will print at the end of this procedure. If the blank page does not appear, you went too quickly; recycle the printer and start again. It takes about two minutes to send the "IWEM Serial" file to the printer, but you do this only once each day when you turn on the LaserWriter.

Most of your printing consists of documents you send to the LaserWriter printer that is defined as an ImageWriter. The default settings for the ImageWriter assume the printer has continuous feed paper. When you change the "Stop at the end of each page" setting to "Yes", AppleWorks will send one page of text and then wait for you to press the Space Bar. You should never try to "store" more than two pages of text in the LaserWriter when you print.

Here is how to control the flow of text to the printer after you change the "Stop at the end of each page" setting:

Issue an Apple-P and select the LaserWriter printer. AppleWorks will send the first page to the printer and will display the "Press Space Bar to continue" prompt. Press the Space Bar to send the second page of text. If the document is two pages or less, you can now return to AppleWorks while the printer processes the job. If the document is more than two pages long, you must wait for the first page to print before you can press the Space Bar to send the third page. (It takes the LaserWriter a little less than three minutes to construct and print a full page of text.) Continue the process of waiting for a page to print before pressing the Space Bar to send the next page to the printer. In that way you will never exceed the printer's 5,000 character limit.

Apple IIe and IIGS computers support the XON/XOFF protocol. If you have a IIe or IIGS, you should configure the Silentype and the ImageWriter printers so the "Stop at end of each page" command is set to "No". These computers will manage the flow of information to the printer and will not overwhelm the system.

3. Issue an Apple-N command and rename the file "IWEM Serial".
4. Issue an Apple-F command and find the third instance of the text `/autoLF?` (do not include the quotation marks). This occurs on line 912. Line 912 reads:

```
/autoLF? false def
```

Use AppleWorks to change the line so it reads:

```
/autoLF? true def
```

This turns on automatic line feeds.

5. Issue another Apple-F command to find the next instance of `/autoLF?`. The cursor should find line 942 that reads:

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```
/autoLF? false store
```

Use AppleWorks to change the line so it reads:

```
/autoLF? true store
```

This turns on automatic line feeds after the printer is reset.

Now you will add two lines to the end of the ImageWriter Emulator so it waits continuously for input from the serial port. Follow these steps:

6. Issue an Apple-9 command to move to the end of the file. The last line, line number 1614, reads

```
%%EndProcSet
```
7. Insert a blank line after line 1614 so the cursor rests on line 1616.
8. Enter the following into line 1616:

```
statusdict /waittimeout 0 put
```
9. Insert another blank line and enter the following into line 1618:

```
_WBJ_
```
10. Add two more carriage returns so the cursor rests on line 1621.
11. Issue an Apple-S command to save the file as an AppleWorks word processor document called "IWEM Serial" on a formatted data disk. (You do not have to save this document as a text (ASCII) file; you will send the document to the LaserWriter as a word processor document.)

Step Three: Configure AppleWorks to Download IWEM Serial

Now you will configure AppleWorks so it can download the customized ImageWriter Emulator to the LaserWriter. Use your working copy of any version of AppleWorks for this part of the process.

This involves adding a Silentype printer to the AppleWorks Printer Menu. Later, you will use that printer to download the "IWEM Serial" PostScript program. (You use a Silentype because AppleWorks does not send printer codes to Silentype printers.)

If you have an Apple IIe or IIGS, you will also change the printer interface card setting so the LaserWriter can accept long documents.

LaserWriter Quality Output for \$1000

If you believe most Apple Computer dealers, you will have to give up AppleWorks and spend almost \$9,000 to get high quality output from a computer. (List prices are \$4,000 for a Macintosh, \$5,000 for a LaserWriter NT, and \$250 for software.) But there are less expensive alternatives that work with AppleWorks.

If you want to use all Apple equipment, you can connect a used LaserWriter Plus to your Apple II and get high quality output. (See *Figure 1* for sample output from an Apple IIc and a LaserWriter Plus.) Used LaserWriter Plus printers start at \$650 if they are close to needing a refurbishing. (We don't recommend standard LaserWriters because they cannot print in Palatino.)

Another alternative is to sacrifice PostScript capability and buy one of the new "personal" laser printers advertised for the IBM market. Toshiba, Epson, and other manufacturers offer laser printers that emulate Epson dot matrix printers and carry list prices of less than \$1,500. All can connect to the serial port of any Apple II computer, and all are available from mail order vendors at significant discounts. [Ed: NAUG will publish an article on how to use a personal laser printer with AppleWorks in a forthcoming issue of the *AppleWorks Forum*.]

Proceed as follows:

1. Boot the computer with your working copy of AppleWorks.
2. With the Main Menu on the screen, select #5, "Other Activities".
3. With the Other Activities Menu on the screen, select #7, "Specify information about your printer(s)".
4. With the Printer Information Menu on the screen, select #2 to indicate you want to "Add a printer".
5. With the Add A Printer Menu on the screen, select #4 to indicate you want to add a Silentype printer.
6. Name the printer "PS Sender" (for PostScript Sender) and indicate that you access the printer with the port connected to the LaserWriter.

Advanced Techniques...

7. Apple IIe and IIGs only: You must change the interface card settings so the LaserWriter can handle long documents. Without this change, the LaserWriter becomes unreliable with documents containing more than 5,000 characters. Replace the default "Control-I 80N" setting with "Control-I XE Return". Also change the "Stop at the end of each page" setting to "No".

Apple IIc, IIc Plus, and Laser 128: These computers do not support the protocol that makes it easier to handle large documents. Owners of these computers should skip this step. Instead, read the sidebar entitled "Special Procedures for Apple IIc and Laser Computers" for information about how to manage large files.

You can now use your copy of AppleWorks to download the "IWEM Serial" ImageWriter Emulator to the LaserWriter.

Unfortunately, the first page you print with the emulator does not have the correct top and bottom margins. You should print a "dummy" document immediately after downloading the emulator. That document will print with incorrect top and bottom margins, but all following documents will print correctly.

Follow these steps to create the "dummy" document:

1. Indicate you want to create a new document for the word processor. Call the document "A.PRINT.ME".
2. Set the top and bottom margins to 1.0 inches.
3. Type any three or four words. Your document now consists of the margin settings and a few words of text.
4. Issue an Apple-S command to save the file on the same disk that contains the IWEM Serial file.

Step Four: Configure AppleWorks to Print on the LaserWriter

Next, you must add an ImageWriter printer to the AppleWorks Printer Menu. Later, you will select that printer to print on the LaserWriter.

Proceed as follows:

1. Boot the computer with your working copy of AppleWorks.

2. With the Main Menu on the screen, select #5, "Other Activities".
3. With the Other Activities Menu on the screen, select #7, "Specify information about your printer(s)".
4. With the Printer Information Menu on the screen, select #2 to indicate you want to "Add a printer".
5. With the Add A Printer Menu on the screen, indicate you want to add an ImageWriter printer. If you use AppleWorks 3.0, indicate you want to add an ImageWriter II printer to the Printer Menu.
6. Name the printer "LaserWriter" and indicate which port you use to access the LaserWriter.
7. Apple IIe and IIGs: Select #5 from the Change A Printer Menu and change the interface card setting from "Control-I 80N" to "Control-I XE Return". Apple IIc, IIc Plus, and Laser 128 owners should skip this step.

Any document you send to this printer will print on the LaserWriter in the Palatino font if you specify the Proportional-1 option.

Your system is now configured for Laser printing.

Step Five: Download the IWEM Serial Emulator

Follow these steps each time you turn on the power to the LaserWriter:

1. Boot the computer with your working copy of AppleWorks.
2. Load the files "IWEM Serial" and "A.PRINT.ME" from your data disk onto the AppleWorks desktop.
3. Get the file "IWEM Serial" on the screen and issue an Apple-P command to print the file. Select "PS Sender" as your printer and "print" the document. The LaserWriter will print a page acknowledging receipt of the ImageWriter Emulator.

Step Six: Print a Test Page

Get the file A.PRINT.ME on the screen, issue an Apple-P command, and print this page on the

Advanced Techniques...

Quick Tip: Develop a Word Processor Template

Each document you print on the LaserWriter can begin with any AppleWorks command that works with an ImageWriter. For example, you will probably set the top and bottom margins to 1.0 inches and issue a command to use the P1 font (your modified IWEM emulator produces Palatino output in response to the P1 command), and get fully justified output in every document.

Rather than enter these commands each time you start a new document, create a word processor file called A.STARTUP that contains these commands but no text. When you want to start a new document, load the file A.STARTUP from the disk onto the AppleWorks desktop, issue an Apple-N command to rename the file, and enter your text. You can use a disk utility program such as Copy II+ or TimeOut FileMaster to lock the A.STARTUP template so you do not inadvertently overwrite the original file.

UltraMacros users can write a macro that generates all the commands you use to start a new document.

LaserWriter printer listed on your AppleWorks Printer Menu. The LaserWriter will print this page with incorrect top and bottom margins, but all following pages will print correctly.

The emulator now operates as a persisting body of PostScript commands locked in an endless loop. Your LaserWriter will print AppleWorks documents, mousetext, foreign characters, 72 dpi graphics, and just about anything else you can do with an ImageWriter with a quality that far exceeds the best output available from the ImageWriter.

Step Seven: Using AppleWorks

Now use AppleWorks as you normally do, but insert the following commands at the beginning of each document:

-----Top Margin: 1.0 inches
-----Bottom Margin: 1.0 inches
-----Proportional-1
-----Justify

When you are ready to print, select the LaserWriter printer from the Printer Menu and you will get high quality Palatino printouts. All functions that work correctly with proportional fonts on the ImageWriter work reasonably well on the LaserWriter. For example, the first left justified tab in each line

will work well with proportional fonts, but additional tabs will not work correctly. Centering works correctly, and right justified lines (a feature of AppleWorks 3.0) are close, but not exactly right justified. As with the ImageWriter, do not use a proportionally spaced font if you want to produce a heavily formatted document.

Conclusion

This month you learned how to get high quality output from a LaserWriter connected to your computer's serial port. Next month, we will describe how to use Don Lancaster's LaserWriter Utilities to produce commercial-quality letterheads with a LaserWriter printer.

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

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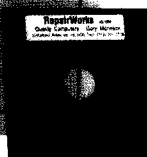
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Macro Token List for TimeOut UltraMacros

By Mark Munz

This is the final article in a series that describes how to use TimeOut UltraMacros. This article summarizes the purpose and syntax of each UltraMacros command. Unless otherwise noted, all tokens work with AppleWorks 2.0 and later. A single asterisk means the token works only with AppleWorks 3.0. A double asterisk indicates the token only works with AppleWorks 2.0 and 2.1.

<u>Command</u>	<u>Syntax and Description</u>	<u>Issue</u>
<adb>	<adb> Define macro domain as data base.	Nov. '88
<ahead>	<ahead> Find first blank space to right of cursor.	Sep. '89
<all>	<all> Define macro domain as all modules.	Nov. '88
<and>*	<if A=B and A<C then msg 'okay' : else : bell : endif> If A = B and A < C, then print "okay", otherwise sound the bell.	Nov. '89
<asp>	<asp> Define macro domain as spreadsheet.	Nov. '88
<asr>*	<asr> Define macro as a subroutine; you cannot call an <asr> macro from the keyboard.	Nov. '89
<ato>**	<ato> Define macro domain as a TimeOut application.	Nov. '88
<awp>	<awp> Define macro domain as word processor.	Nov. '88
<back>	<back> Find first blank space to left of cursor.	Sep. '89
<begin>	<begin> Start of loop.	Jun. '89
<bell>	<bell:bell> Sound the AppleWorks buzzer twice.	Feb. '89

Macro Primer...

<cell>	<\$2=cell> Read the contents of the current data base entry, spreadsheet cell, or word processor line into variable \$2.	Apr. '89
<chr\$>	<\$5=chr\$27> Store a press of the Escape Key into variable \$5.	May '89
<clear>	<clear> Clear all numeric and string variables.	Sep. '89
<cls>*	<cls> Clear the screen between the line of hyphens or the tab ruler at the top and the line of hyphens at the bottom.	Nov. '89
<ctrl-@>	<ctrl-@> Stop recording a macro.	Oct. '88
<date>	<date> Send today's date to AppleWorks in the format January 1, 1990.	Apr. '89
	<\$2 = date> Store today's date in the format January 1, 1990 in variable \$2.	Apr. '89
<date2>	<date2> Send today's date to AppleWorks in the format 01/01/90.	Apr. '89
	<\$6 = date2> Store today's date in the format 01/01/90 in variable \$6.	Apr. '89
<dec>	<dec> Decrement character at the current cursor position.	Sep. '89
<disk>	<all: disk: msg \$Ø> Store the disk name in \$Ø and display the disk name.	Sep. '89
<display>*	<display Ø> Turn off the screen display.	Nov. '89
	<display 1> Resume normal screen display.	Nov. '89
<else>	<if A=B then msg 'yes' : else msg 'no' : elseoff> If A equals B, display "yes". If A does not equal B, display "no".	Aug. '89
<elseoff>	<if \$4="Forum" then bell : elseoff> Signal the end of an <if> expression. Functionally equivalent to <endif>.	Mar. '89
<endif>*	<if \$1 = "N" then bell : endif> Signal the end of an <if> expression. Functionally equivalent to <elseoff>.	Mar. '89
<endmacro>*	<endmacro> Exit the current macro and proceed as if the macro was completed.	Nov. '89
<exit>*	<exit> Force macro to skip past the next <rpt> command.	Nov. '89

<find>	<code><oa-q : \$Ø="Sales.June," : find></code> Move highlight cursor to the file "Sales.June" in the Desktop Index. In AppleWorks 3.x, a successful <find> sets Z=1; and unsuccessful <find> sets Z=Ø. Also forces the cursor to the next carriage return marker in the word processor.	Apr. '89
<findpo>	<code><findpo></code> Move cursor to the next caret mark in the word processor.	Sep. '89
<first>*	<code><first></code> Put the cursor at the beginning of the current line, on the first category of the current record, or in column A in a spreadsheet.	Nov. '89
<getstr>	<code><\$4=getstr 5></code> Store user entry of up to 5 characters in variable \$4.	Mar. '89
<getvar>*	<code><getvar 1></code> Replace the current variable settings with the settings in variable set #1.	Nov. '89
<goto>	<code><goto ba-1></code> Jump immediately to macro Both-Apple-1.	Mar. '89
<id#>	<code><A=id#></code> Set variable A equal to the ID number of the active TimeOut module. If no module is active, set A=Ø.	Sep. '89
<if>	<code><if \$4="Forum" then bell : endif></code> Sound AppleWorks buzzer if statement is true.	Mar. '89
<ifnot>	<code><ifnot A=B : bell : elseoff></code> Sound bell if A does not equal B.	Aug. '89
<inc>	<code><inc></code> Increment the character at the current cursor position.	Sept. '89
<input>	<code><oa-F : rtn : input : rtn></code> Let the user enter text to find. User presses the Return Key to signify "end of input".	Feb. '89
<insert>	<code><insert></code> Turn on the insert cursor.	Sep. '89
<key>	<code><key>**</code> Pause macro execution until a key is pressed.	Feb. '89
	<code><x=key></code> Store the ASCII value of the next keypress into numeric variable x.	Feb. '89
<keyto>*	<code><keyto n></code> Accept input until either the Escape Key or the key with the ASCII value n is pressed. Set Z=Ø if user pressed Escape; Z=n if input terminates with keystroke n.	Nov. '89
<last>*	<code><last></code> Put the cursor at the end of the current line, at the end of the record, or in the last column.	Nov. '89

Macro Primer...

<launch>*	<i><launch "check.macros"></i> Launch the task file "check.macros".	Nov. '89
<lc>	<i><lc></i> Change character under the cursor to lower case.	Sep. '89
<left>	<i><\$3 = left \$1,5></i> Store the first five characters from variable \$1 in variable \$3.	May '89
<len>	<i><Q = len \$2></i> Put a count of the number of characters stored in variable \$2 into numeric variable Q.	May '89
<mid>*	<i><\$Ø = mid \$1,5,10></i> Extract the first ten characters starting with the fifth character in variable \$1 and store the result in variable \$Ø.	Nov. '89
<msg>	<i><msg 'working'></i> Display the word "working" at the bottom of the screen in inverse.	Feb. '89
	<i><msg "working"></i> Display "working" at the bottom of the screen in normal text.	Feb. '89
<msgxy>*	<i><msgxy Ø,2 : msg "Hello there" : msgxy Ø,128></i> Display "Hello there" starting at column Ø, row 2 and reset message cursor to bottom of screen.	Nov. '89
<nosleep>	<i><nosleep></i> Cancel the currently defined sleeping macro.	Sep. '89
<oa-x>	<i><oa-x></i> With AppleWorks 2.x, starts recording a keyboard macro. Macro recording terminates with Control-@. With AppleWorks 3.x, <oa-x> toggles macro recording on and off.	Oct. '88
<onerr>	<i><onerr goto sa-x></i> Go to macro Solid-Apple-x when AppleWorks normally beeps.	Jun. '89
	<i><onerr off></i> Returns UltraMacros to its normal condition (ignoring all AppleWorks warning beeps).	Jun. '89
	<i><onerr stop></i> Stop the current macro when AppleWorks normally beeps.	Jun. '89
<or>*	<i><if A=B or A<B then msg 'okay' : else : bell : endif></i> If A=B or A<B, print "okay", otherwise sound the bell.	Nov. '89
<path>	<i><all: path: msg \$Ø></i> Display the full pathname of the current file.	Sep. '89
<peek>	<i><Z = peek \$7DFØ></i> Store the current value of memory location \$7DFØ in variable Z.	Sep. '89
<peekword>*	<i><X=peekword \$8522></i> Store the current value of memory locations \$8522 and \$8523 in variable X.	Nov. '89

Macro Primer...

<poke>	<poke \$C6C,Ø> Put a value of zero into memory location \$C6C.	Sep. '89
<pokeword>*	<pokeword \$3ØØ, Ø> Put a value of zero into memory locations \$3ØØ and \$3Ø1.	Nov. '89
<posn>	<posn A,B> Word Processor: Store the column position of the cursor in numeric variable A and the row position of the cursor in variable B. Data Base: Store the current category number in A and the record number in B. Spreadsheet: Store the current column number in A and row number in B.	May '89
<pr#>	<pr# 1> Send future output to the first printer on your printer list.	Sep. '89
<print>	<print \$1> Send the contents of \$1 to AppleWorks as keystrokes.	Mar. '89
<putvar>*	<putvar 1> Save the current variable settings into the space for variable set #1.	Nov. '89
<read>	<read> Store the character at the current cursor position into variable \$Ø.	Sep. '89
<recall>	<recall> Put data stored in the current file with <store> in variable \$Ø.	Sep. '89
<right>	<\$5 = right \$2,7> Store the last seven characters from variable \$2 into variable \$5.	May '89
<rpt>	<all: msg 'repeat' : rpt> Tell UltraMacros to re-execute the instructions in the macro.	Jun. '89
<screen>	<\$3=screen 1,2Ø,5> Read five characters from the screen beginning at first column of line 2Ø into location \$3.	Apr. '89
<store>	<\$Ø=getstr 15: rtn: store> Store first 15 characters of variable \$Ø in a special area within the current word processor, data base, or spreadsheet file. Stored text is displayed at bottom right corner of the screen.	Sep. '89
<str\$>	<\$1 = str\$ A> Convert the number currently stored in variable A into a string of text and store that string in variable \$1.	May '89
<then>	<if A=B then msg 'yes' : elseoff> If A equals B then execute all steps between then and elseoff.	Aug. '89
<time>	<time> Send the time to AppleWorks in the format 3:10 pm. <\$2 = time> Store the time in the format 3:10 pm in variable \$2.	Apr. '89

Macro Primer...

<time24>	<time24> Send the time to AppleWorks in the format 15:10.	May '89
	<\$2 = time24> Store the time in the format 15:10 in variable \$2.	Apr. '89
<uc>	<uc> Change character under the cursor to upper case.	Sep. '89
<val>	<V = val \$3> If string variable \$3 starts with numeric characters, store the numeric equivalent of those characters in variable V.	May '89
<wake>	<wake sa-Q at 05:00> Start macro Solid-Apple-Q at 5:00 am.	Sep. '89
<zoom>	<zoom> Force zoom out display.	Aug. '89

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Applied Engineering: Applied Engineering recently released the TransWarp II accelerator card for Apple II+ and IIe computers. According to Applied, the TransWarp II is more than twice as fast as the original TransWarp card and accelerates Apple II+ and IIe computers so they run memory-based AppleWorks operations approximately six times faster than on a standard system. (That would make AppleWorks run twice as fast on a TransWarp II-equipped IIe than on a standard Apple IIgs.) The card plugs into any available peripheral slot, including slot 3, and includes built-in firmware that lets you change both the speed of the processor and the speed at which the card accesses the individual slots on the computer. The TransWarp II list price remains unchanged at \$169. Applied Engineering, Box 5100, Carrollton, Texas 75011; (214) 241-6060.

Beagle Bros

UltraMacros 3.1: Beagle Bros recently announced the release of version 3.1 of TimeOut UltraMacros. UltraMacros 3.1 fixes some bugs in version 3.0 and enhances the functionality of the UltraMacros clock. Unfortunately, you must recompile any Task Files written to run under version 3.0 if you switch to 3.1. If you use AlphaCheck or any other program that uses pre-compiled task files, you must update to an UltraMacros 3.1-compatible version of that program.

NAUG members who purchased UltraMacros 3.0 from any source can get a free update to version 3.1. Send NAUG an original 3.5-inch or 5.25-inch UltraMacros 3.0 disk, a cancelled check or other form of receipt dated June 1, 1989 or later, and a self-addressed return mailer with sufficient postage. We will send you a new UltraMacros 3.1 disk supplied by Beagle. We would appreciate, but do not require, a donation of \$1 to reimburse NAUG for the group's expenses.

This replacement offer is available only to members who *purchased* UltraMacros 3.0. If you *upgraded* to 3.0 from an earlier version of the program, please get version 3.1 through NAUG's Beagle Buddy program.

TeleComm 1.1: Beagle also announced the release of version 1.1 of TimeOut TeleComm, a telecommunications utility that works within AppleWorks. Version 1.1 fixes problems that occur when you use TeleComm with Apple IIc computers and with Apple Personal Modems.

NAUG members who have Apple IIc computers or Apple Personal Modems can get a free update to version 1.1. Send NAUG an original 3.5-inch or 5.25-inch TeleComm disk and a self-addressed, stamped return mailer; we will send you a replacement disk supplied by Beagle. We would appreciate, but do not require, a \$1 donation to reimburse NAUG for its expenses. Members who do not have Apple IIc computers or Apple Personal Modems should forgo this upgrade.

Checkmate Technology: Checkmate Technology, a manufacturer of Apple II memory expansion products, recently announced the release of version 1.4 of their AutoRAM System software. AutoRAM is a bootable disk that establishes a RAM disk on an auxiliary slot memory expansion card and then copies files you designate onto that RAM disk. AutoRAM is compatible with Checkmate Technology's MultiRam IIe and MultiRam CX memory expansion cards, and the company claims the program works with all auxiliary slot cards such as the RamWorks and Z-Ram Ultra cards from Applied Engineering.

The AutoRAM package, which includes MRAM Protector, a program that lets you use AutoRAM with AppleWorks 3.0, costs \$19.95 from Checkmate Technology, 509 S. Rockford Drive, Tempe, Arizona 85281; (602) 966-5802.

Get Help with AppleWorks Compatible Software and Desktop Publishing

by Nanette Luoma

Each month, the *AppleWorks Forum* lists the member-volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about other AppleWorks compatible software, and desktop publishing. Next month's issue will contain a list of members who offer help with AppleWorks applications and telecommunications.

AppleWorks Add-Ons

How to Use This List

Use this month's list to find help with other AppleWorks compatible software and desktop publishing. To the left of each volunteer's name is one or more numbers indicating the enhancements that consultant supports. Volunteers are listed alphabetically by state.

1 = 1040Works	7 = CrossWorks
2 = AutoWorks	8 = EuroWorks
3 = RAMUP	9 = Publish-It! 2
4 = SchoolWorks	10 = Springboard Publisher
5 = Sensible Grammar	11 = Medley
6 = Sensible Speller	12 = AppleWorks GS

	City	Home	Work
Arizona			
5,6	Clay Evitts	Tucson	602-885-9789 602-296-5491

California			
1,9	Brian Blue	Danville	415-838-0997 415-954-6002
1,9	Terence P. Higgins	Hayward	415-887-7499 415-887-7499
3,6	Berenice Maltby	Corona del Mar	714-640-7369
1	Will Nelken	San Rafael	415-459-0845 415-456-1795
1,7,9	Jesus Orosco	Milpitas	408-270-1011 408-945-4344

Colorado			
9	Gary P. Armour	Littleton	303-933-9493 303-972-4665
9	John Loren	Littleton	303-978-0603

Connecticut			
9,10	William Delaney	Enfield	203-745-4048 203-749-8391
9,11,12	Martin Knight	Middletown	203-346-9698 203-347-8594

Florida			
9	Virginia Bobrick	Miami	305-653-3136
3,9	Jeff Strichard	Ft. Lauderdale	305-587-9590
6	Mike Ungerman	Oviedo	407-366-0060 407-366-0156

	City	Home	Work
Iowa			
9	Stephen May	Audubon	712-563-2925 712-563-4217

Louisiana			
1,9	Charles Fryling, Jr	Baton Rouge	504-766-3120 504-388-1473

Maryland			
3	Raymond Greenberg	Darnestown	301-330-4912 301-353-4959
2	Paul Phelps	Baltimore	301-444-4086 301-291-4712
9	Ben Maser	Owings Mills	301-252-7884 301-887-0717
2,7,9,11,12	Ray L. Settle	Arnold	301-647-9192 301-887-0106

Massachusetts			
4	Donald McCabe	Westport	401-294-6256 508-636-2611

Michigan			
1	Jim Anker	Auburn Hills	313-391-0033 313-544-5344
7	James G. Reasover	Jackson	517-789-8573 517-764-1440
12	Pete Ross	Wayne	313-728-8269
9	Deborah Williams	Grosse Ile	313-671-0267 313-675-1550

Minnesota			
1	Dick Kenfield	Hopkins	612-938-4382

Mississippi			
2	Allen Jackson	New Albany	601-534-8908 601-534-2271

Missouri			
5,9,12	Whit Crowley	Manchester	314-393-7955

Nebraska			
5,6,9,11,12	Larry B. McEwen	Hastings	402-463-2267 402-461-7550

New Hampshire			
1,9	Phil Kirkpatrick	Keene	603-352-0640
4	Frank R. Savory	Derry	603-434-5407

New Jersey			
4,5	Pete Crosta	Nutley	201-667-4050 201-677-6369

New Mexico			
9	Willis George, Jr.	Albuquerque	505-897-4886 505-883-9743
9	David Selwyn	Las Cruces	505-522-7622

New York			
3,7,8,9	Bob Beer	Coram	516-928-6870
9	Steve Black	South Glens Falls	518-798-1128 518-793-9644
8	Carlos M. Madan	Morrisville	518-562-0779 518-359-3322
9,12	Larry Merow	Sayville	516-567-0603 516-422-0315
5,6,9,12	James L. Nicoll	Pittsford	716-381-9480 716-546-6732
12	Terry Williamson	Orchard Park	716-662-5104 716-873-9750

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		City	Home	Work
North Carolina				
5,9,11	Marc Apfelstadt	Greensboro	919-282-1494	919-334-5970
Ohio				
5,6	Jason Chao	Cleveland Hts.	216-321-5451	216-844-3791
10	Carman Greco	St. Clairsville	614-695-5026	
7	Robert J. Netro	Canton	216-477-3667	
9	Marcia Reed	Millbury	419-836-9291	419-836-9291
Oregon				
4,5,12	Jim Emig	Portland	503-771-1916	503-280-5666
5,6	M.W. Fox	Corvallis	503-754-7623	503-737-3628
Pennsylvania				
5,6,9,10	Martin Friedman	Broomall	215-353-2753	
6	Richard L. Gable	Pittsburgh	412-963-6158	412-963-1128
7	William D. Hall	Philadelphia	215-824-1160	215-441-0800
9-12	Bruce Shanker	Warminster	215-674-0118	
Rhode Island				
2	Robert J. Richard	Cranston	401-781-5202	
Tennessee				
5,6	Joel Goldman	Nashville	615-352-3617	
Texas				
9	Larry Jones	El Paso	915-533-3302	915-565-3016
2,5,6	Joseph Kline	Lubbock	806-796-0829	
Vermont				
9	Linda Metzke	Concord	802-748-3298	802-626-9371
Canada				
7	Jean Guy Mariage	Shannon	418-844-2932	418-844-5268
3	Terry Price	Schomberg	416-939-8104	
2	Nick Van Helsdingen	Tranquillity Base	604-296-3260	
Mexico				
4-8,9,10	Harve Thom	Mexico City	525-554-4283	525-516-7568

*We wish our members a happy, healthy, and
successful New Year.*

— From the editors and staff at NAUG

How to Update Your Electronic Index for 1990

The list below contains the January 1990 update for NAUG's Electronic Index Disk. If you have more than 128K of RAM, enter the data into the file "Forum Index.All". If you have a 128K system, follow these steps:

1. Load the file Forum Index.III on the desktop.
2. Change the name of the file to Forum Index.IV.
3. Insert one blank record.
4. Delete the non-blank records.
5. Enter the index data for the January issue into that file.
6. Delete the blank record
7. Save the file on your disk.

NAUG updates the Electronic Index Disk monthly. You can order the latest version from the NAUG Public Domain Library (\$4 per disk; \$2 postage per order) or download the latest version of the file from the NAUG bulletin board, (313) 482-8090, the NAUG area on CompuServe, or the NAUG library on America Online.

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Novice Notes • 11 • How to Get Started with the Data Base Module — Part 3 • Merritt, Cathleen • data bases; tables; reports

Advanced Techniques • 17 • AppleWorks and the LaserWriter: An Advanced Discussion — Part 4 • Link, John; Williams, Warren • LaserWriter; printing; printing effects; Apple IIc; Laser 128

Macro Primer • 26 • Macro Token List for TimeOut UltraMacros • Munz, Mark • UltraMacros; macros

AppleWorks News • 33 • New Hardware and Software for AppleWorks Users • N/A • Applied Engineering; TransWarp; UltraMacros; TeleComm; Checkmate

Members Helping Members • 34 • Get Help with AppleWorks Compatible Software and Desktop Publishing • Luoma, Nanette • Special Programs; 1040Works; RAMUP; Sensible Speller; CrossWorks; EuroWorks

Electronic Index • 35 • How to Update Your Electronic Index for 1990 • N/A • Electronic Index

New Key Words: Apple File Exchange; CrossWorks; EuroWorks; tables; TeleComm; ThunderScan; Paint; Z-RAM

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Rate: 50¢ per word per issue.

Moving?

Please let NAUG know six weeks in advance of your move to avoid missing a single issue of the *AppleWorks Forum*. Send your address change to: NAUG, Box 87453, Canton, Michigan 48187.

Use UltraMacros?

Next month, NAUG will begin to publish a series of articles entitled "My Favorite Macro". Send your favorite macros and a description of how they work to:

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