ON THREE®

The Magazine For Apple III Owners and Users

Volume 4, Number 11

November 1987
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User Groups

New Technology

Technical Support

512K Memory Upgrades

New Word Processors

Desktop Managers

Spreadsheets

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Note Pad - This handy tool has multiple pages per note, word wrap, automatic repagination, pick up and paste, and many other features usually found only in a word processing program. On-line help screens (a standard Desktop Manager feature) make using the Note Pad effortless as well as convenient.

Appointment Calendar - Set multiple appointments daily through December 31, 1999. As your appointment is due, a reminder appears on your screen regardless of what application you're using. The daily and weekly appointments are shown at a glance and, as with all Desktop Manager options, help screens are only two keystrokes away.

Calculator - A powerful electronic workhorse, the Calculator has full 16-digit accuracy and advanced functions such as SIN, COS, TAN, LOG's, x to a power, square root pi, memory and base conversions in addition to the basic add, subtract, multiply and divide functions. Also, you can invoke a simulated scrolling paper tape for printing later or pasting into another document.

Disk Manager

Disk Manager

File Commands	Device Commands
List Directory	List All Devices
Copy File	Copy Volume
Delete File	Format Disk
Rename File	Rename Volume
Lock/Unlock	Verify Volume

*? = Help

Use Arrow keys to SELECT, Press RETURN to RUN. ESCAPE to EXIT.

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The Magazine For Apple III Owners and Users

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ON THE COVER:

THANKFUL ///'ERS! While America is thankful for its freedom this month, ///'ers can join in the fun and be thankful for the many blessings in the /// world, including this month's articles.

Smart users select the

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  - *VisiCalc*
  - */// E-Z Pieces*

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Selector /// is a state-of-the art program switcher.

A program switcher is a utility that functions as your computerized personal secretary. Its purpose is to make instantly available to you, without rebooting, a wide range of applications programs stored on your hard disk or high capacity floppy (such as UniDisk). Programs such as AppleWriter ///, Quick File /// and more than two dozen others.

Each time you require a different application, just tell your personal secretary, *Selector ///*, with a couple of keystrokes, and it will be there in seconds. No need to find your way through sub-directories or paw through a stack of floppies.

When you start your system up in the morning, just boot *Selector ///* and that's it for the day. Smart users are switching to and with *Selector ///* now.

Selector /// works with all of these programs:

- ✔ Access ///
- ✔ Access 3270
- ✔ Advanced VisiCalc
- ✔ Apple][Emulation
- ✔ AppleFile ///
- ✔ Apple Speller ///
- ✔ Apple /// Pascal
- ✔ AppleWriter ///
- ✔ Backup ///
- ✔ BPI
- ✔ Business Basic
- ✔ Business Graphics
- ✔ Cobol
- ✔ Draw ON ///
- ✔ Easyterm
- ✔ Graph'n Calc
- ✔ Haba Merge
- ✔ Keystroke Data Base *
- ✔ Keystroke Report Generator *
- ✔ Lazarus ///
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- ✔ PFS: File *
- ✔ PFS: Graph *
- ✔ PFS: Report *
- ✔ Quick File ///
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- ✔ Senior Analyst ///
- ✔ VisiCalc ///
- ✔ /// E-Z Pieces

*Indicates boot disk required in internal drive.

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Apple.Sauce

Paula Sheppard

Hard disk haven

Lately, there has been quite a few people asking about hard disks. So this month I will provide users with as much information as possible concerning hard disks.

A hard disk is a massive storage device in which a user can store almost all of his or her data on. Instead of using floppies or 3.5" disks, a person can save data to the hard disk. To give you an idea of how large a hard disk's capacity is, let's use the Sider 20 as an example. The Sider 20 can hold up to 20 million bytes of information. However, since Apple /// SOS can only handle 16 million bytes of information per disk drive, the Sider 20 is actually broken up into two hard drives of which one hold 16 million bytes and the other holds four million.

Due to the large amount of information a hard disk can hold, it is extremely important to handle one with utmost care. A hard disk can be damaged extensively if it is accidently jarred, dropped, bumped or handled roughly. Besides these precautions, you should also keep your hard disk out of direct sunlight.

Depending on the type of hard disk you have, it is advisable to never lay it on its side nor place anything, such as paper on top of it. With the Apple ProFile hard disk, it can fit neatly underneath your monitor without any questions about damage. However, a Sider or Trustor, should be kept under your desk to prevent papers from being put on it or the typical coffee spills. This position under the desk also keeps it away from direct sunlight. This is especially important to consider with Sider 20s as they do not have built-in fans to keep them cool.

Installing a hard disk is relatively simple. Just connect the interface card into one of the four expansion slots inside your Apple ///. The card will allow you to store data and programs on the hard disk drive. By following the instructions for installation a person can easily do this. But, if there is any hesitation about it, feel free to have a dealer install it. Normally, a person would place the card in slot 4. You may also want to keep in mind that you will need to configure your disk with the System Utilities' System Configuration Program (SCP) so the disk's slot assignment matches the interface card slot assignment.

Installing programs on a hard disk may take a little time, but that's nothing compared to the time that is saved from switching disks continuously everyday. Hard disk users should have a program switching utility such as Selector///or Catalyst. This will save time as well.

Is it for me?

Some people need to examine their everyday use of the Apple /// to see whether or not they need a hard disk. Generally, if you find yourself switching programs a lot during the day or running out of room on your external drives or Unidisks, it may be time to make some changes.

Here's a specific example of how a person can utilize a hard disk to its fullest:

Suppose you own a franchise of a popular clothing store and use the following programs:

System Utilities - handling files, etc.
Advanced VisiCalc - budgeting
Pfs - inventory
Mail List Manager - direct mailing list
AppleWriter - letters, small sales brochure
Apple Speller /// - check spelling
BPI Accounting - all accounting needs
BPI Payroll - bi-monthly payroll

With these eight programs, everyone who shares the only Apple /// in the office, often finds themselves flipping though a number of disks everyday. The secretary/ accountant uses at least three different programs on a daily basis. She does the accounting each day, writes letters, and in her spare time helps work on the monthly sales brochure. Meanwhile, as the franchise owner, you need to work on the budget, keep inventory and do the payroll on a regular basis. So there is not only a lot of program switching but also a lot of diskettes used in the process. That also means there is a great chance that diskettes are lost or misplaced, too.

With a hard disk, you could cut down on the number of diskettes and 3.5" disks used each day. The eight programs mentioned above, can easily be

Apple.Sauce
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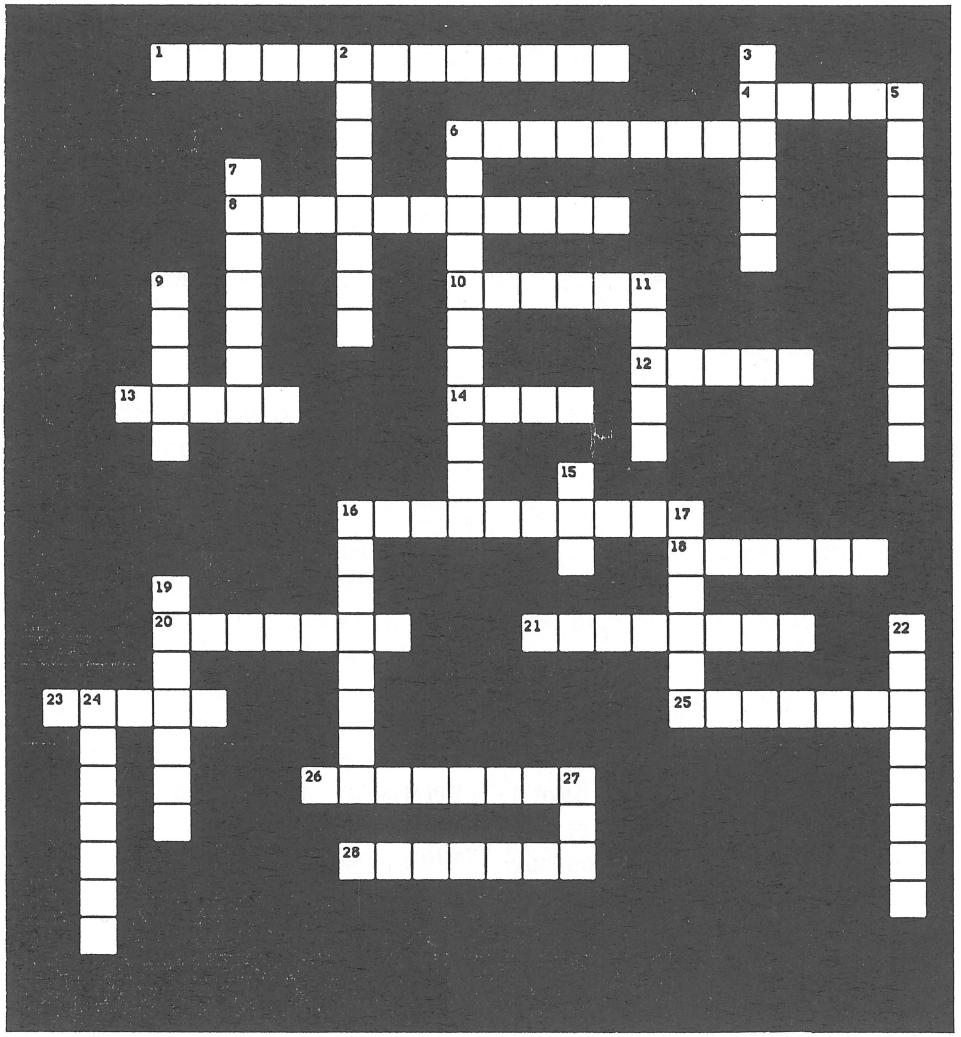

Across

1. ProFile manufacturer.
4. Data base system
6. Type of Apple /// game
8. Popular word processor
10. Used in both TDM and Power Keys modules
12. Used to move Pascal onto another disk
13. Catalyst manufacturers.
14. Designed Graph-n-Calc
16. Module on TDM Super Disk No. 1
18. _____ /// is a type of communications program.
20. Apple Computer's programmer Rob Turner's former employer
21. Program now owned by Lotus.
23. Omnis 3 developers
26. Draw ON ///, TGM are _____ programs
28. Mel Astrahan's top-selling Apple /// game

Down

2. A switching utility
3. The ASCII chart is a TDM _____.
5. New word processor
6. Black Jack game
7. The Graphics _____.
11. Another name for TDM Accessories' Disks.
15. Abbrev. for one of ON THREE's products
16. Program which works well with the Desktop Manager.
17. Many programs were written in this language.
19. Another Apple language.
22. Another program by Quark.
24. Program to recover lost files.
27. Bob Cook's company.

Crossword Answers on page 23

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/// E-Z Pieces

Robert Graham, Jr.

Spreadsheets the E-Z way

(Editor's Note: This is the second article in a three part series on /// E-Z Pieces. All readers are asked to read these articles in order, starting with last month's first.)

In my last article on /// E-Z Pieces, I introduced this quite remarkable program and covered the many features of its word processing program. In this installment, I will cover the spreadsheet portion of the program.

Spreadsheets for beginners

Sometimes experienced computer users, those who have no trouble with complicated word processing tasks or giant data bases, tend to shy away from spreadsheets, even though they know that spreadsheets can do some pretty amazing things.

The reason for this, I suspect, is that spreadsheets don't use "plain English." In its place, one sees formulas such as "@SUM (A4...A14)" which, at first glance, appear rather daunting. Actually, that obscure looking command simply asks the computer to add 11 figures in a column of numbers.

A spreadsheet is nothing more than a grid of memory *cells*. Into each of these cells, you can type in a label (such as *Name* or *Quantity*), a value (such as a dollar amount or a quantity), or a formula like the "@SUM" formula I showed you before. To help you find the location of a cell, all the cells are divided into columns, which are labeled alphabetically (A,B,C...) and rows, which are numbered (1,2,3...). Putting the letter of the column together with the number of the row gives you the coordinates of that cell. Thus, the coordinate A4 stands for the first column, fourth row. A14 is the first column, 14th row. And @SUM (A4...A14) is just a mathematical way of saying "Add up all the values that I've entered, starting with the cell A4 and ending with cell A14." There's no reason why any intelligent user should avoid a program as powerful as a spreadsheet, particularly when it's as easy to use as /// E-Z Pieces.

The row and column format gives great flexibility in how you lay out your spreadsheet. The /// E-Z Pieces manual gives several clear and easy-to-use examples of how to set up a spreadsheet. You can even use one of the sample spreadsheet files that are included with the program. Modify it any way you like, use ⌘N to change the file name, save it, and you've have a spreadsheet.

All the cells are divided into columns, which are labeled alphabetically and rows, which are numbered.

Once your spreadsheet is set up, you can use the most powerful (and yes, even fun) part of a spreadsheet. A user can ask "What if I got a raise?" Type in that value, and see how it effects an entire household budget.

This type of *what if* calculating is called a *forecast*. Creating forecasts is a great spreadsheet function. Forecast your household budget, business expenses, taxes, mortgage payments or anything that you slave over with a pencil, paper and calculator quickly and easily on a spreadsheet. In fact, one of the sample spreadsheet files included with /// E-Z Pieces is a loan amortization schedule. This 36K file might be worth the price of the whole program for some would-be home buyers. Simply plug in the principal, amount of payments, and interest and it automatically calculates your monthly payment and interest for every payment for the entire length of the mortgage.

Anything that is typed into a cell of a spreadsheet which begins with a letter is called a *label*. As soon as a letter is typed into a cell, /// E-Z Pieces immediately identifies it as a label. To make a number a label, simply begin the label with a quotation mark ("). The quotation will not be shown on the screen or printout.

All entries that are not labels are considered *values*. There are four types of values: numbers, pointers, functions, and formulas.

The first type is simply a number. Just like an electronic calculator, /// E-Z Pieces can show these as whole numbers or with a given amount of decimal places. They also can be shown as per-

centages and dollar signs. Three E-Z Pieces can even insert commas in very large numbers. The layout of the cells is determined by using ♁ L. You can set layout by entry, row or column.

Secondly, a pointer simply tells /// E-Z Pieces to put the value in the pointed-to cell into the new cell. Pointers always begin with the plus or minus sign.

Thirdly, a function always begins with the *at* symbol (@). This symbol is the active ingredient in spreadsheet formulas (like our old friend, @SUM in @SUM(A4...A14)). @SUM, as we already know, asks /// E-Z Pieces to add up all the values in a given set of cells. This is only one of many functions available in /// E-Z Pieces. Some others are:

@ABS (value) - Finds the absolute value of an argument
@AVG (list) - Finds the average of a list of numbers
@COUNT (list) - Counts the filled-in cells in a list
@MAX (value) - Finds the largest number in a list
@MIN (value) - Finds the smallest number in a list
@NA (cell) - Reserves a cell to be filled in later
@SQRT (value) - Finds the square root of one cell

For more advanced users, there are also financial functions like @IRR (Internal Rate of Return) and @NPV (Net Present Value), logical functions (@IF), and functions that select alternatives (@CHOOSE and @LOOKUP).

These three types of values are part of the fourth type of value - the *formula*. A formula is nothing more than a mathematical statement used to calculate numbers. Ordinarily, formulas are not shown on the spreadsheet itself, only the result of that formula is shown. To *zoom in* on the formulas, just hit ♁ Z and all of the formulas will appear.

Like any other part of /// E-Z Pieces, the best way to learn is through experience. Since learning how to use a spreadsheet is primarily a *hands on* experience, I'll only summarize some of the more important features of /// E-Z Pieces spreadsheet here.

To make a number a label, simply begin the label with a quotation mark.

Creating a spreadsheet file

To create a new file, select *Add Files to the Desktop* from the Main Menu, and "Make a New File for the Spreadsheet" from the next *folder*. After typing a name for a spreadsheet, an empty grid will appear.

Importing a spreadsheet file

The program allows you to *import* files created by /// E-Z Pieces's data base, VisiCalc and other programs that create DIF files.

Maximum file size

Spreadsheet files can contain 127 columns (labeled A to Z, and then AA, AB, AC, etc. until you get to DW). It contains up to 999 rows (labeled by number) for a total of 126,873 empty cells. Filling the cells takes up quite a bit of memory, however, and a typical 256K Apple /// will be limited to approximately 11,000 filled cells.

Moving around the worksheet

Move through the spreadsheet rapidly by using the two-speed arrow keys that are built in to the Apple ///. Using the ♁ key plus an arrow key will allow you to move one full screen (horizontally or vertically) with each key press. Using ♁ plus a number (1-9) will invoke the *ruler* function, and you can move in blocks up or down through rows (the size of the blocks depends on how many rows you have in your spreadsheet).

Entering and editing

To enter something in a cell, simply move the cursor to the cell desired and begin typing. The program knows whether you're typing a label or value by what is used as the first character (number, letter or symbol). When you're finished entering the label or value, hit RETURN, ENTER, or TAB. Both the insert and overstrike cursors are available at anytime (use ♁E to toggle between them). To type in a formula involving a number of cells, you don't have to type in each cell coordinate. Simply move the cursor to the cell coordinate, and /// E-Z Pieces will add it to the formula automatically. By pressing ♁ U, the "Use Edit" command is invoked. This allows a user to modify an entry without retyping it. This feature is particularly useful when dealing with long formulas.

Insertion and deletion

To insert up to nine rows or columns at any time, press ♁ I. To delete as many rows or columns as desired, press ♁ D. The program will change the numbering and lettering of the rows and columns automatically.

The program knows whether you're typing a label or value by what is used as the first character.

Adjustable column widths

Columns are adjustable from two to 75 characters wide (standard is nine).

Cell protection

You can protect a value or label so that

you or another user doesn't accidently change or erase it. You can remove the protection easily at any time.

Recalculation

Three E-Z Pieces can calculate by going across rows first and then down columns or by going down columns and then across rows. A user can set up a spreadsheet file so that it will automatically calculate all formulas or so that it will only calculate when it is asked to by pressing ♁ K.

Copying cells

To copy a label, value, or formula from one cell to another, use ♁ C. A program prompt asks if you want to keep the formula absolute, or change it, relative to its new position. If you choose to make it relative, the program will automatically change it.

Blanking cells, rows and columns

The program allows you to *blank* cells, rows, columns, and blocks of your worksheet by using the ♁ B command. This command will work even if you have made entries in the cells you want to blank.

Finding cells

In a large worksheet, it sometimes becomes difficult to find a particular label or value quickly. Using ♁ F, the Find command is invoked to find coordinates or text (even partial text) and bring your cursor to the new position.

Creating windows

To view two parts of the spreadsheet on the screen at one time, /// E-Z Pieces allows the user to create windows, using ♁ W. The windows can be side by side or up and down. Using ♁ J, you can *jump* between to the two windows. The windows can also be synchronized. If you move past the end of the first window, the second window will follow.

Printing a spreadsheet

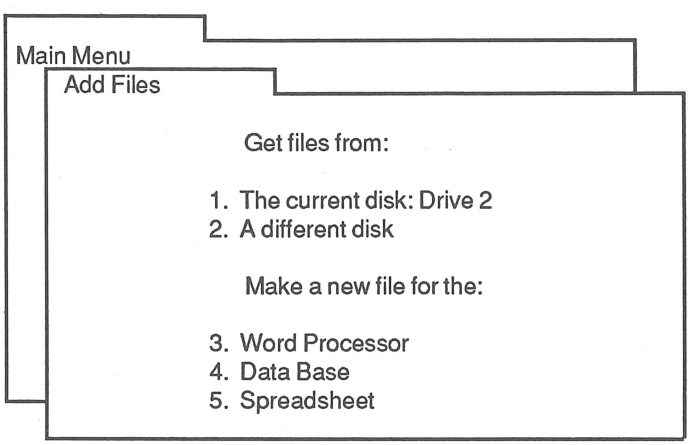
The type of *on screen* spreadsheet that we've been working with is called a *worksheet.* In order to print this worksheet, just create a report. Creating a report with /// E-Z Pieces is relatively painless. A user must decide what information should be in the report,

Spreadsheets
(continued on page 25)

New to the /// community?

Welcome aboard! Have you been thinking about buying a word processing, data base and spreadsheet program? We have just one program for you that does it all!

Three E-Z Pieces is not merely a word processor but it combines the three most common computer applications into one package. Get ready for word processing, data base and spreadsheets. All sections use similiar commands and easy to follow pop-up menus.



Speed - Although the spreadsheet is not as powerful as Advanced VisiCalc, it is much faster. **Loading** and **saving files is** from **20 to 30 times faster.**

Efficiency - The data base section is just like the popular QuickFile ///, but better. It can handle as many as **3,000 records per file** and double the number of fields per record. Look forward to sophisticated record selection, sorting and printing combined with lightning fast sorts and searches - all in /// E-Z Pieces data base!

Comparison - The word processor rivals programs like AppleWriter and Word Juggler in speed and in use. Advanced options such as the ability to cut and paste information between your data base, spreadsheet and word processor make the program a must for all ///'ers.

/// E-Z Pieces

$135 plus $3.50 s/h

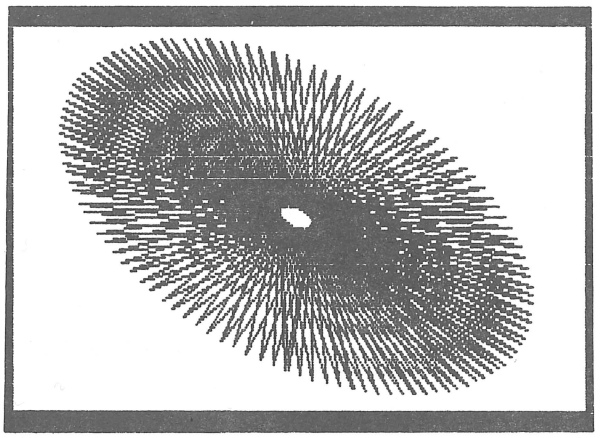
Draw ON /// -
The Graphics Tool for the Apple ///

$179 plus $5 s/h

ON THREE is very proud to announce Draw On ///. **Draw ON** brings the power of LisaDraw and MacPaint to your Apple ///. Powerful cut and paste facilities let you create almost anything that you can visualize. Very fast, **Draw ON** lets you "pick up" objects on the screen and "Drag" them around in real-time. This is the most exciting package ever for the ///. With **Draw ON** you can become a one person graphic arts studio!

Since it works in any of the Apple ///'s color or B/W graphic modes and can quickly print out any picture you create, **Draw ON** is the first program to fully take advantage of the Apple ///'s tremendous graphic capabilities. Complex, pseudo three-dimensional figures are easy to create as you can place objects in front of or behind previously drawn objects. CAD is also possible with the powerful "rubber-banding" and grids available.

Ever been bored with some of the graphics that your business charting programs create? Would you like to add different titles? Change the "Look" of the graphs? Use different colors or even texture your graphs? It's all a snap with **Draw ON** /// ! Built-in help screens help you master this powerful program and there is a top quality instruction manual that rivals the beautiful books that Apple itself makes.



This picture was created with an Apple /// and Draw ON ///. The program requires an Apple /// with 256K or an Apple /// plus.

Don't Miss Out On This Offer!

Fly high with . . . Super Desktop!

That's right! ON THREE's new Super Desktop Manager™ Accessories Disks No. 1 and No. 2 are worth jumping off skyscrapers for. But don't go that far, just call ON THREE's order line today!

Disk No. 1 contains:

***Printer Setup** - Allows you to send complex control codes to your printer via easy to use menus.

***TypeWriter** - Turns your Apple /// into an intelligent typewriter.
***Labeler** - Prints labels you define, one at a time or even multiple copies.
***New Desktop Setup** - Allows better control over the ClipBoard.

***Make Subdirectory** - The one we forgot in the Disk Manager.
***Screen Dump** - Prints a copy of your current text screen at any time.
***Menu Manager** - gives the Desktop Manager's main menu submenus, so you can have an infinite number of accessories on your trusty old Apple ///.

Priced separately, they would cost over $250. Order your copy today for only $39.95 plus $2 s/h.

Please specify disk when ordering!

Disk No. 2 contains:

***Show Time** - Now you don't have to go back to System Utilities to change the time or date. Plus, there is an elapsed timer included in this module!
***Change File Type** - This module allows you to change the file type in the disk directory.
***Change Font** - You can now change screen fonts while using TDM.
***File View** - Ever wanted to view another file within a file? This module lets you do just that.
***File Print** - Besides viewing a file within a file, you can print it, too.
***Print Screen** - Just like Screen Dump, but better! You can opt to Print Screen, Form Feed Printer or Line Feed Printer.
The disk also contains Reload & Exit, PKASO U commands and the Warning Module.

Order the latest TDM disk - No. 2 - for only $24.95 plus $3 s/h.

KidWord ///

David Ottalini

A word processor for youngsters

The Apple /// is a great computer but there aren't many programs written specifically for kids in native mode. It's not hard to understand why, since the /// was originally designed as a business computer. These days, the /// is what's called an *aging* machine that is being *retired* to the home. Or it may have become the *second* computer in the house, after Mom and Dad *upgraded* to a Mac or IIGS (or Heaven Forbid! a Big Blue machine).

That means the kids are probably going to be using our /// more and more. And face it, that means mostly in emulation mode. With the Titan cards, they will have access to virtually all the Apple II software they could desire. But how about native mode? I started scrounging around and found an old issue of *InCider* with a program called Kidword, written by Michael A. Seeds. As published in the October, 1984 issue, Kidword was a very basic word processing program that allowed the user to type a screen full of text, move around the screen and print out what's been typed.

It was a good, simple program and something I decided would be of use to the Apple /// community as well. So I've adapted Kidword to Business Basic, renamed it Kidword /// and added a few things to make it even easier to use. Because the program is in Business Basic, you can make it into a turn-key system simply by renaming it "Hello" on your BB startup disk, include it with SOS.Kernel, SOS.Interp and SOS.Driver. You will also need the invokable module "Readcrt.Inv," but more on that later. You can also adapt it to your own needs as you desire. Just keep in mind this is your basic no-frills word processing program and what you see is basically what you get.

The program is broken up into three parts. The first is the screen set-up. The second is the main routine that sets down how Kidword /// allows you to process words. And the third part is the print program. Kidword /// is a 40 column mode word processor so that it's easier for kids to read while typing. It also prints in 40 columns. The screen set-up may be recognizable; it's taken from the Apple /// System Demonstration program. If you have a color monitor, it should really add some color to your child's word processing world.

If you have a color monitor, it should really add some color to your child's word processing world.

On the Monitor ///, the border looks like shaded blocks.

When the program begins, the border is created one block at a time starting from the top left part of your screen. It moves right, then down, left and up. The Kidword /// banner appears and you're ready to start typing. There is a cursor and the words typed will continue from one line to the next. Thus, you will have words breaking off on one line to finish on the next if you're not careful. The next to last line has a little reminder that you're reaching the end and if you don't finish what you're typing on the last line, Kidword /// will wrap back to the last line over and over, writing over what went before. So plan carefully!

To move the cursor, you must use the CONTROL key and U for up, D for down, L for left and R for right. To clear the screen and start over, simply hit the ESCAPE key. To quit the program and return to Business Basic, hit CONTROL Q, either upper or lower case.

For printing, make sure the "Readcrt.Inv" invokable module is included on your disk in the internal disk drive (.D1). It's what makes it possible for any printer to print out the copy from your screen using the .Printer device driver installed in the SOS.Driver file (you could make it print to disk if you so choose, simply by changing line 550 from ".Printer" to ".D1/filename" or ".D2/filename"). All you have to do to print is hit CONTROL P and you're on your way. The program automatically prints and then clears the screen so you may start anew.

When you print, by the way, the border will not be included. But the "Kidword ///" banner will be (again in 40 column mode).

This really is a fun little program I think kids will enjoy using. It allows them to

easily and quickly write a note and print it without having to worry about a lot of other problems. Just imagine all the fun (and mischief!) they can get into writing Mommy and Daddy all kinds of things. Of course, you could always retaliate by writing something back....

```
3  REM ***********************************************************
4  REM                KIDWORD ///                                  *
5  REM          Adapted by Dave Ottalini, August 1985, Oct. 1987   *
6  REM            From an original program                         *
7  REM          By M.Seeds In InCIDER, October 1984                *
8  REM  With help from Taylor Pohlman's first "Third BASIC" article *
9  REM       In the October 1981 issue of "SOFTALK" magazine       *
10  REM          and the Apple /// system Demo Disk.                *
11  REM                Copyright (c) 1987                           *
12  REM                    by ON THREE                              *
13  REM ***********************************************************
14  TEXT
15  LEFT=8:RIGHT=9:DOWN=10:UP=11
20  COLORS$=CHR$(19)+CHR$(15)+CHR$(20)+CHR$(1)
30  PRINT CHR$(16);"1";:REM SET 40-COLUMN, 16 COLOR MODE
35  PRINT CHR$(1);:REM SET VIEWPORT
40  PRINT COLORS$
45  HOME:VPOS=2:HPOS=2
50  PRINT CHR$(21);CHR$(0);:COLOR=5
55  FOR X=2 TO 38:GOSUB 200:PRINT CHR$(RIGHT);:NEXT
60  FOR Y=2 TO 22:GOSUB 200:PRINT CHR$(DOWN);:NEXT
65  FOR X=39 TO 3 STEP-1:GOSUB 200:PRINT CHR$(LEFT);:NEXT
70  FOR Y=23 TO 3 STEP-1:GOSUB 200:PRINT CHR$(UP);:NEXT
73  PRINT CHR$(21);CHR$(13);:REM STANDARD TEXT OPTIONS ON
74  PRINT CHR$(05):REM TURN ON CURSOR
75  PRINT COLORS$;:WINDOW 4,4 TO 38,22
80  HOME:PRINT"          KIDWORD ///          "
85  GOTO 520
200  COLOR=COLOR+1:PRINT CHR$(20);CHR$(COLOR);" ";
210  RETURN
520  WX=2:WY=3
590  REM
600  REM ***  MAIN PROGRAM LOOP ***
602  REM
605  IF VPOS=18 THEN PRINT CHR$(7):REM DELETE IF YOU DON'T LIKE THIS!
610  VPOS=WY:HPOS=WX:GET W$
620  W=ASC(W$)
635  IF W<32 THEN 639
637  VPOS=WY:HPOS=WX:PRINT CHR$(W):WX=WX+1:GOTO 690
639  IF W=17 THEN TEXT:HOME:END:REM CONTROL Q TO QUIT TO BASIC
640  IF W=21 THEN WY=WY-1:REM CONTROL D FOR DOWN
650  IF W=12 THEN WX=WX-1:REM MOVE LEFT ONE SPACE WITH CONTROL L
655  IF W=16 THEN GOSUB 40000:REM CONTROL P TO PRINT
660  IF W=18 THEN WX=WX+1:REM MOVE RIGHT ONE SPACE WITH CONTROL R
665  IF W=13 THEN WY=WY+1:WX=2:REM RETURN
670  IF W=4 THEN WY=WY+1:REM MOVE CURSOR UP WITH CONTROL U
675  IF W=27 THEN GOTO 10:REM ESCAPE TO START OVER
677  REM
680  IF WX<1 THEN WX=34:WY=WY-1
690  IF WX>34 THEN WX=1:WY=WY+1
700  IF WY>18 THEN WY=18:WX=WX-1
710  IF WY<1 THEN WY=1
715  REM
900  GOTO 600
39990  REM
39995  REM TO HAVE "READCRT.INV" AVAILABLE
40000  REM *** PRINT SCREEN ***
40010  OPEN#1 AS OUTPUT,".PRINTER"
40015  PRINT CHR$(06)
40020  INVOKE"READCRT.INV"
40100  FOR VERTICAL=1 TO 20
40105   VPOS=VERTICAL
40110   FOR HORIZONTAL=1 TO 35
40120    HPOS=HORIZONTAL
40125    PERFORM READC(@VALUE%)
40130    PRINT#1;CHR$(VALUE%);
40160    NEXT HORIZONTAL
40170   PRINT#1
40180   NEXT VERTICAL
40190  CLOSE
40200  GOTO 10
```

-///-///-///-

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Toolkit

Earl T. Brelje

Toolkit for programmers, hackers

So, you have decided you want to learn assembly programming on your Apple ///. Where do you start? How do you start? Have you ever found a book on assembly language programming for the ///?

If you have started, you realize how much work it is just to get an input from the keyboard, it then has to be checked for valid keys, and then some action performed. Getting a screen display is not quite so much work, but still not easy. The biggest advantage of BASIC or Pascal is simply the fact that with the built in routines, a lot of time is saved in the actual coding and debugging of your program.

Someone has already written the routines, in assembly, for keyboard and screen operations, plus a whole lot more. The average user of an Apple /// is probably not interested in writing a new word processor or database, but has several specific things for the computer to do. If written in BASIC or Pascal, one must load Basic or Pascal first, then run the program. Since the program will usually be short and for a specific purpose, this adds a lot of time to the running of any program.

The solution is a new language to provide the necessary routines for keyboard, screen and error handling, etc., thereby allowing the programer to work on the specific requirements of the needed program, but with these added features, convenient access to the program, easy to use with on-line help screens, fast running, easy to expand or modify the program to the user's need, and all of this in an assembly language program.

By now you should have guessed that I have been describing The Desktop Manager Toolkit. The TDM Toolkit is in some ways like a language, the built-in routines can easily be accessed and used by any programmer. It provides the new or experienced assembly programmer with some very powerful and easy to use tools.

To use the tool kit simply .INCLUDE the file TDM.EQUS.TEXT (List 1) in the program before assembling it. This file consists of a jump table and the necessary .BLOCK statements to save 6K bytes of space in your module.

List 1. Jump table for Toolkit

```
Init_Tools          .EQU   3812
Get_A_Key           .EQU   Init_Tools+3
No_Wait_Key         .EQU   Get_A_Key+3
User_Screen_Res     .EQU   No_Wait_Key+3
Menu_Screen_Res     .EQU   User_Screen_Res+3
Direct_Exit         .EQU   Menu_Screen_Res+3
Sub_Load            .EQU   Direct_Exit+3
Make_IO_Ptr         .EQU   Sub_Load+3
Input               .EQU   Make_IO_Ptr+3
Folders             .EQU   Input+3
Errors              .EQU   Folders+3
Res_1               .EQU   Errors+3
Res_2               .EQU   Res_1+3
Res_3               .EQU   Res_2+3
Res_4               .EQU   Res_3+3
Res_5               .EQU   Res_4+3
Plus a lot of       .BLOCK 256. statements
```

After assembling the new Desktop module, move it into the Desktop subdirectory, select the *Toolkit Merge* module from the Desktop Menu. Give the Merge module the name of your option, and the Toolkit will be installed in the module. By simply merging the Toolkit to your module, you save assembly time, about 15 minutes every time you have to re-assemble your module.

It provides the new or experienced assembly programmer with some very powerful and easy-to-use tools.

To use any routine in the table, simply do a JSR (Return Jump) to the label in the jump table. The first one should be a JSR INIT_TOOLS instruction. This will allow the Toolkit to setup various things it needs to operate. When control is returned to the program the X register will contain the open file reference number for .CONSOLE and the Y register will contain the device number for .CONSOLE.

Routines in the Toolkit

Get_A_Key, No_Wait_Key

These two routines do essentially the same thing, get a key from the user. Get_A_Key will wait for the user to type a key, on return to your program the A register will contain the ASCII value of the keypress. No_Wait_Key will not wait for the user to type a keypress, if the type-ahead buffer contains a keypress, it will be in the A register, if there was no keypress, the A register will contain a 00. Because of this, you will not be able

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to ask the user to type an ASCII null, Hex. 00 - CONTROL-SHIFT @. I can not remember ever using this keystroke, so this should not cause any hardship. The No_Wait_Key routine is especially useful if you want to update the screen while waiting for the keystroke, e.g. updating a clock.

To set up your own buffer requires an indirect zero-page pointer.

User_Screen_Res, Menu_Screen_Res

If you display a folder or in any way disturb the user's screen, jumping to these routines will allow you to easily restore the user's screen, with or without the Desktop Menu displayed.

Direct_Exit

To leave a module, normally one will issue a RTS command. This will return you to the Desktop Manager. Then press ESCAPE to return to the application program. If the Direct_Exit routine is called, TDM Toolkit will handle restoring the application program, and then return directly to it without going through the Desktop Menu.

Sub_Load

Normally a module should not be longer the 20.25K. If longer than this, The Desktop Manager will automatically save 11.75K of information to a disk file before loading your accessory. The main disadvantage of this is that your module will take extra seconds to load. Unless a person absolutely must have the complete module loaded at one time, break it into smaller sections and then load them as they are needed. To have TDM load a file, set up a table containing the file you want loaded and the starting address to load it at, load the X and Y registers with the table address and then JSR SUB_LOAD. The file will be loaded and then run.

Make_IO_Ptr

Certain file operations, such as *Opening a file*, require a 1,024 byte IO Buffer allocated to the file being opened. Normally one would simply request the buffer from SOS, but some applications on the /// use all available memory. Unless you provide the buffer within your module, it will fail when trying to do any file IO involving opening a file. To set up your own buffer requires an indirect zero-page pointer. To set up the zero-page pointer simply use .BLOCK statements to save the required area in your module, load the registers, A, X, an Y with the required addresses and JSR Make_IO_Ptr. When opening the file, use the extended option list for the OPEN call and the file will open correctly using the buffer you provide.

Whenever performing any IO there is a chance of an error in the operation.

Errors

Whenever performing any IO there is a chance of an error in the operation. This routine gives an easy, standard way of error reporting to the user. After an IO operation, any error that occurred will be reported in the A register. If the first instruction after the IO operation is a BNE (Branch if not equal to 0), you can check the register. If A is not equal to zero, simply store the error code from the A register along with X and Y positions for the error folder in a parameter table. Do a JSR ERRORS and a folder will be displayed along with any error message. This routine will wait for the user to press any key and then restore the screen to the state it was in before calling Errors. It is very neat, simple and timesaving.

Folders

This routine will draw a folder to your specifications, allow the user to move the folder, or move the folder and resize it to their own needs. The parameter table for a folder call is shown in list 2. To call the folders routine use the format:

```
JSR       Folders
.BYTE     Call_Number
.WORD     Parameter_Table
```

The Call_Number is a one byte variable with the following values:

00 - Draw folder
01 - Move last drawn folder
02 - Move OR Size last drawn folder

The Parameter_Table is the address of the table that defines the folder.

List 2. Parameter Table for Folders Routine

```
.BYTE Count          ;Parameter Count
.BYTE X_Postion      ;Number
.BYTE Y_Position     ;Number
.BYTE Folder_Width   ;Number
.BYTE Folder_Heigh   tNumber
.BYTE Tab_Size;      Number
.BYTE Tab_Name       ;Pointer
.BYTE Max_Left       ;Number
.BYTE Max_Up         ;Number
.BYTE Max_Right      ;Number
.BYTE Max_Down       ;Number
.WORD Screen         ;Pointer
```

The X and Y position will place the folder exactly where you want it on the screen. The folder *Width* and *Height* parameters are the inside dimensions of the folder. This is also the size of the window that will be set up, very small to full screen. After the folder call, if you write to position 00-X, 00-Y on the screen, the cursor will be positioned in the upper left corner of this window. As long as the current window is in effect, all *Writes* and *Reads* to the

screen will be inside this window. The *Tab Size* allows you to set the width of the tab. Tab name tells the *Folder* routine where to find the name you want to appear in the tab.

The *Max* parameters determine how far the user will be allowed to move the folder with the move command. The screen parameter is a pointer to a screen buffer. If, while the user is moving a folder, you do not want the original screen to be displayed, the folder routine will display whatever you have stored in this buffer.
This routine will allow you to put what you want, where you want, and when you want, without having to constantly re-assemble your program to get the look you want.

Input
This is without doubt the premier routine in the Toolkit. It allows complete flexibility in getting an input form the user.

The calling format is:

```
JSR       Input
.BYTE     00
.WORD     Parameter_Table
```

The Parameter_Table shown in list 3 sets the conditions under which the Input routine will accept keystrokes from the user.

Pointer - This is the address at which the input routine will find the required information.
Flag - This is a boolean value. 80 = True (ON) 00 = False (OFF)
Number - This is a one byte hexadecimal value.
Result_String - This buffer will hold the keystrokes the user typed.
Default_String - This buffer will hold the keystrokes displayed automatically when you call the Input routine. You can set the pointer for the Result_String and Default_String to the same buffer.
Termination_Table - This table will hold all valid keystrokes that the Input

List 3.
Parameter Table for Input routine

```
.BYTE     0D                ;Parameter count
.WORD     Result_String     ;Pointer
.WORD     Default_String    ;Pointer
.WORD     Termination_Table ;Pointer
.BYTE     Numeric_Flag      ;Flag
.BYTE     Default_Fag       ;Flag
.BYTE     Tab_Count         ;Number
.BYTE     Insert_Mode_Flag  ;Flag
.BYTE     Convert_Flag      ;Flag
.BYTE     Terminate_Flag    ;Flag
.BYTE     Max_Length        ;Number
.BYTE     X_Position        ;Number
.BYTE     Y_Position        ;Number
.BYTE     Starting_X        ;Number
```


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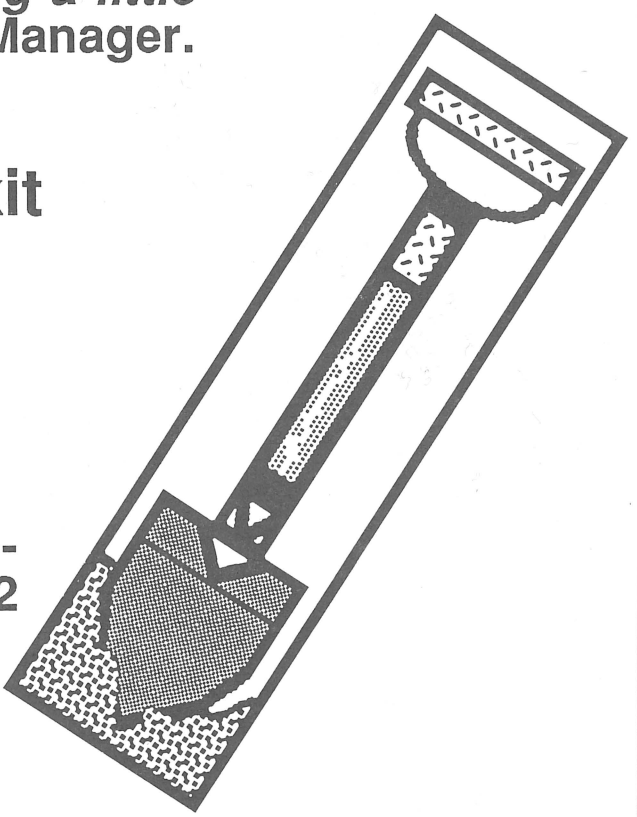


routine will terminate on. RETURN, ESCAPE, ♁ M or any other key on which you wish to terminate input. When the Input routine terminates, the A register will contain the ASCII value of the keystroke that caused the termination. By simply checking the A register, you can then determine which key caused the termination.

Numeric_Flag - If set to 80, the Input routine will allow numbers only, 00 will allow letters and numbers.
Default_Flag - Setting this flag to 80 tells the Input routine to erase the default entry when the user enters the first valid key. Set to 00 will force the user to type over the default or use the delete key.
Tab_Count - This is the number of spaces the cursor will move when the TAB key is pressed.
Insert_Mode_Flag - This flag will allow the user to toggle between edit and insert mode.
Convert_Flag - This flag will tell the Input routine to convert all letters to upper case, or allow upper/lower case.
Terminate_Flag - This flag determines if the input routine will terminate when the user types the maximum keystrokes you have set.
Max_Length - This is a value between 00-80 decimal that determines the maximum number of keystrokes the user can type.
X_Position - This is the horizontal position within the current window that the Input routine will start echoing the keystrokes as they are entered.
Y_Position - This is the vertical position to start echoing at.
Starting_X - This is the position at which the cursor should be displayed in the default string when you enter the Input routine. 00 sets the cursor to the beginning, FF will cause the cursor to always appear at the end of the default entry.

As you can see from the parameters descriptions, you can setup the input routine to be very specific as to what it will accept for input. The Toolkit provides almost everything you need, with enough variables to satisfy virtually every requirement. If at some point in

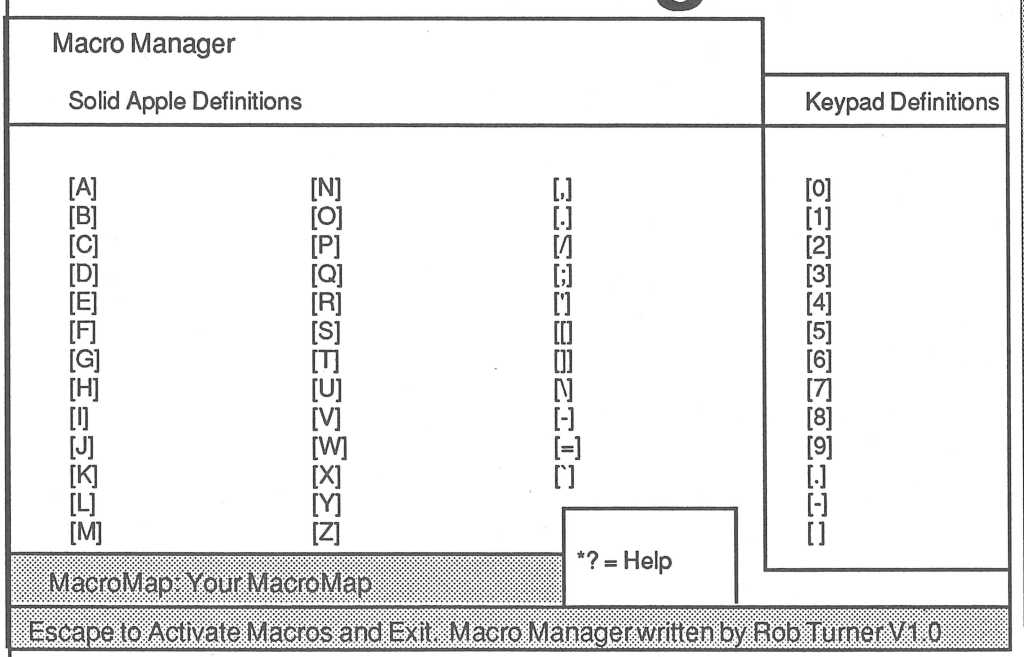
The *Toolkit* provides almost everything you need...

time, you need routines more generalized or specific than these, you will probably be advanced enough to write them yourself. Notice that in the jump

Toolkit
(continued on page 25)

ON THREE **presents...**

Macro Manager



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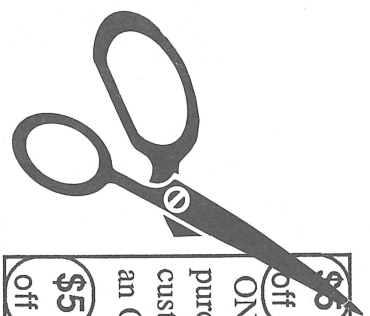

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Product	Price	S/H
ON THREE O'Clock	$49.95	$3.00
Reconditioned 512K Apple /// w/monitor ///	$1148.00	$50.00
256K Apple /// w/ monitor	$749.00	$50.00
256K Memory Upgrade, 128 to 256K	$150.00	$10.00
512K Memory Upgrade, 256K to 512K (Remit $354 and $25 credit when old board is retd.)	$354.00	$10.00
65C802 Chip	$90.00	$2.00
Other services and products		
Device Driver Writers Guide	$19.00	$3.00
Draw ON /// Printer Update	$15.00	$2.00
Dust Cover for Apple ///	$11.95	$2.00
/// Dust Cover with profile	$12.95	$2.00
Grafix Manager Update	$15.00	$2.00
I ❤ My Apple /// T-Shirts sm., med. , lg., x-lg. yellow, blue, white, silver	$11.95	$3.00
I ❤ My Apple /// Sweatshirts sm., med., lg., x-lg. yellow, blue, white, silver	$18.95	$3.00
ON THREE back issues	$5.00 ea	
ON THREE Binders	$9.95	$3.00
ON THREE subscription	$40.00 per year	
Resource Guide for the Apple /// computer	$15.00	$3.00
Service Reference Manual and Schematics for Apple ///	$99.00	$5.00
"Will Someone Please Tell Me What An Apple /// Can Do?"	$3.00	$2.00
512K or 256 Upgrade Installation (by appointment only)	$50.00	
Apple IIgs Products:		
The Desktop Manager	$39.95	$6.00
The Disk Manager*	$39.95	$3.00
The Communications Mgr.*	$49.95	$3.00

*Background accessory for TDM
**Runs as standalone or TDM accessory
#Quantity Limited

To order, call Toll-Free (800) 443-8877, in California (805) 644-3514 or write:

ON THREE, Inc.
Attn: Order Dept.
P.O. Box 3825
Ventura, CA 93006

Visa, Mastercard, American Express accepted. 3% Surcharge on American Express. California Residents add 6% sales tax. Items returned subject to 15% restocking charge. All items returned without prior authorization will be shipped back to the customer. There are ***no*** software returns allowed.

Ranntings

Richard and Lavona Rann

Examining Apple's yearling

Now that the Apple IIGS is a year old toddler, it is a good time for us to take a serious look at this newest addition to the Apple II family, and see if this youngster has anything of value for Apple /// owners. It is hard to believe that more than a year has passed since all the hoopla of the introduction. It takes awhile to evaluate a new product and put it into perspective, so it is appropriate that we analyze what we have learned since the the introduction, and share that information with you. Last year we reported that we thought this would be an exciting new Apple and we thought it should be of interest to many Apple /// owners. That has definitely not changed. Two major first impressions that have stood the test of the first year, are that a) the IIGS is a surprisingly fast and powerful Apple II, and b) it is the first Apple II that has capabilities that push it past the ///.

The IIGS was introduced to the public on Saturday, Sept. 17, 1986. In some computer stores the noon unveiling was the centerpiece of a major Apple promotion; in others, noon passed almost unnoticed. The spotty introduction was not Apple's fault. In the month prior to the introduction date, there were crews of Apple people and third party developers traveling across the U.S. giving dealers, educators, developers, and user groups previews of the GS and some of the exciting beta software.

After all the initial excitement, many questions were raised concerning how the IIGS fits into Apple's long term plans. From the consumer view, there did seem to because for asking questions because, after the first rush of promotion, Apple seemed to revert to devoting all of its marketing efforts to the introduction of the new Macs. Apple has consistently stated that the concerns are unfounded. They indicate that the reasons for spending the advertising money on MAC are that a) Apple has never had trouble selling Apple IIs, and b) they were up against a hard sell to break into the business community with MACS.

The operating system made the /// better than any machine of its time.

For a time it seemed it was possible that the IIGS would be left to flounder and be forgotten like the /// and Lisa. This past summer Apple began to take actions that have made that very unlikely. Apple is loudly indicating that the IIGS is the future of the Apple II family, and very important to Apple's future. They have been spending a good bit on promoting the IIGS. In July, they began distributing demonstration software to user groups, in an effort to make it easier for IIGS developers to reach the Apple II opinion makers. Apple worked with a promotional company to put on the AppleFair in San Francisco to bring excitement back into the Apple II line and give developers a showcase. By every indication, Apple now sees the IIGS as a product capable of holding a market for a long time. The bottom line is that Apple recognizes that the product is worth developing on into the future.

New software is coming out for the IIGS with regularity. By late summer of 1987, there were some 30 plus titles available specifically for the IIGS, and new titles being announced every week. This does not count the many thousands of Apple II programs that work better on the new IIGS than on earlier II's.

The operating system is not quite as ready as the hardware. Apple II family users can be comfortable that it does everything the older ProDOS did, but the exciting improvements have been slow in coming out. It seems that building the strength of SOS and the ease of the MAC interface was not as simple as Apple had expected. The original release ProDOS 16 was buggy and severely limited when it came to printer support other than Apple printers. As of this writing, a newer version is available, but it is still not the "real ProDOS 16" that we have been waiting for. These problems are not devastating, but they do place some limits on the usability of the machine, and serve to remind us why it isn't always smart to be the first people to buy a new technical product.

The operating system delays are more important to those of us that have used ///s than to most other potential customers. Most people agree it was not the

hardware that made the /// great but the operating system that made the /// better than any machine of its time. The heart of the /// is SOS. At the heart of the IIGS is the grandson of SOS, ProDOS 16. It is this SOS - ProDOS 16 link that provides the IIGS with many of the positive strengths that we have all loved in our ///'s. Even with the early versions of ProDOS 16, it is obvious that it is going to be one of the long term strengths of the future Apple IIs.

The *little* problems that occurred during the first year were not all related to the delayed *super new operating system.* There was a problem with the new graphics chip, and severe delays in getting enough IIGS' to dealers. It is easy to draw parallels with the problems Apple faced when introducing the Apple ///. It would be unfair and untrue to infer that the magnitude of problems was remotely near the same. Some of the problems, such as software availability, are similar, and have also been present in the first 18 months in the life of most other new machines. Many people forget that the IIGS is a radically different machine than its predecessors both in the II family and in the ///. It takes developers quite awhile to get into the swing of a new machine and start using new capabilities. The perceived "software drought" of early 1987, was nothing compared with the situation faced by early /// and MAC owners. The problems were nonetheless frustrating to early purchasers.

The /// basically ceased growing and improving a couple of years ago.

Okay, you say. The problems are normal, and the operating system is getting better with more to come. The real question is: *why should anyone who has an Apple /// think about moving to a Apple IIGS?*

The answer is simple. The /// basically ceased growing and improving a couple of years ago. Technology has not stopped, and there are more things one can expect from a microcomputer that the /// will never be able to do. The IIGS is becoming, in many ways, a "super///". Many people have indicated that it is probably what a ///e would have been with one exception - it has full support of software written for prior II's instead of prior ///'s. But, all is not lost. There is some real compatibility and a way to save a very good portion of your investment in training, procedures, data, and even some of your programming if you use Business Basic.

First, let's digress a little on why the /// may need to be joined or replaced by a newer computer. We mentioned technology. An example of a field where the /// is beginning to lag, is desktop publishing. Even with Draw ON /// and the Graphics Manager, the /// doesn't have the simple to use and powerful graphics handling capabilities required to efficiently support sophisticated desktop publishing. The IIGS may not rival the Mac in desktop publishing, but it will be able to fully support most home and small business users. Apple IIGS programs are, and can be expected to be less expensive than their MAC, or MS DOS counterparts.

There have been many software advances since the /// was discontinued. Many possibly could have been included in new or updated /// programs, but unfortunately most never will. The small base of potential customers does not justify the development cost. Of the thousands of little advances that have taken place, it is hard to give a representative example of the changes. The best way to see the impact of the changes is to look at a new program that does a function that you have been doing with older software. The differences can be astounding.

Some of the differences between Access /// and MouseTalk for the IIGS illuminate the type of changes that have occurred. Both communications programs' underlying functions are basically the same. MouseTalk has a tremendous advantage for new users. The first time you use it, it takes you through the whole process of using a communications program, in a step by step, easy to understand approach. It has little features like an easy to use text editor that lets you create or edit messages in the program (instead of going to your word processor), and one of our favorite goodies, an option that will fix blank lines for you (to simplify using bulletin board system's or network services like CompuServe™).

The macros are built into MouseTalk are simple to set up and use. You don't have to be a technical person to get maximum enjoyment from the product. Newer file transfer protocols and formats are included with simple English instructions for their use. In some ways this comparison is not fair as you can add many of these new functions to Access /// by using the Communications Manager. The point is that ease of use and functionality like this are expected by new software purchasers as a given, not as extras. For a /// owner, this is not the norm. We have great cause for joy when a good, new product comes out. Answer one question, and you will have another illustrative point. How many thesaurus programs do you know of that integrate with your Apple /// word processors? Both the IIGS and MAC have several.

One of the most important reasons that a /// owner should be interested in the

IIGS as his next machine, is the compatibility with Apple /// files. Since SOS and ProDOS are so closely related, the file structures are the same. Apple /// data can usually be read into IIGS programs. Also, programs written in Business Basic will need very little change to work under the new Basic for the IIGS.

Finally, many Apple /// programs have an Apple II version that can be used without changing your data files. This alone makes the IIGS an important consideration for many /// owners. For most of us, our data represents the biggest and most important investment in our computer systems. With the IIGS, the /// owner can utilize all data without expensive and time consuming conversions. Once the /// community thought of itself as a dead end, but a new gateway has been opened into the world of newer systems.

The trend we see is for these bridges between machines to become stronger and more numerous. The fact the IIGS is AppleTalk compatible is no mere gimmick. We use AppleTalk (which required only cables, connectors and a card for the ImageWriter II) to utilize the same printer resources from several machines (including a MAC). If we had an AppleTalk card for the ///, it would make life much simpler.

AppleTalk is not the only bridge that has opened. There are programs to convert ProDOS (remember the format is the same as SOS) files to the MAC and back. We transfer work done on the /// over to the newer machines to use new programs like GraphicWriter on the IIGS and PageMaker on the MAC. The transfer to the GS requires the /// file to be an ASCII file instead of a word processing format file, and then we just carry the diskette to the IIGS and use it.

To get to the MAC from the ///, we use a ProDOS to MAC conversion program. A file conversion the size of this article takes about two minutes. Compatibility is really there.For instance, /// E-Z Pieces spreadsheet files are directly usable in AppleWorks on the IIGS, and are quickly convertible directly into Excel on the MAC. Data can go back to the /// by reversing the process.

The IIGS is a computer designed to live happily in a post Macintosh world.

Ranntings
(continued on page 25)

The Desktop Manager™ - The Ultimate Apple IIGS Desk Accessories

The Desktop Manager is a powerful tool for your Apple® IIGS. It gives you great Desk Accessories within virtually every application that runs on your GS. These desk accessories are not the cute little puzzles that other packages provide, but powerful and full featured applications that will unclutter your desk and help you get the most out of your Apple IIGS. **The Desktop Manager** comes complete with the following accessories that can be used within virtually ALL ProDOS 8 and ProDOS 16 applications:

- Δ **Note Pad** with sophisticated word processing features such as word-wrap, automatic repagination, printing and copying. Automatically saves and loads notes.
- Δ **Calculator** with 16 digit precision, 20+ functions, memory, base conversions, degrees and radians, a scrolling 'Paper Tape' and printing capabilities!
- Δ **Envelope Labeler** lets you quickly define address labels that can be printed at any time.
- Δ **Screen Save/Print** allows you to save your graphics or text screen and print the current text screen at any time.
- Δ **Appointment Calendar** with auto-prompting. Set up to 15 appointments per day. TDM automatically notifies you of the appointment within any program!
- Δ **Printer Manager** lets you send complex controlling codes to your printer via easy to use menus. It has built-in macros and an intelligent typewriter.
- Δ **Ascii Chart** lists the decimal and hex. values for the ASCII characters. Also shows keypress equivalents.
- Δ **Pickup & Paste** Text between applications. Quickly and easily transfer info. from one program to another!

The Desktop Manager (TDM) accessories all run in the background. This means that you can be in the middle of your word processor, data base, spreadsheet, painting or almost any other application that you use on your Apple IIGS, and a simple keypress will 'Pop-Up' the TDM menu. Here you can easily select any of the available accessories and in an instant you can be using the Note Pad, Appointment Calendar, Calculator or other TDM accessories. Short cuts are even available to instantly pop-up selected accessories.

Have you ever been in the middle of your word processor and needed to multiply some numbers? Ever wanted to jot down a note or two while inside your data base? Not enough room to save your file - too bad your program can't format blank disks! All of these problems are cured with TDM. With TDM, you'll get all of the desk accessories you ever wanted inside every one of your programs.

Best of all, **The Desktop Manager** is expandable, so you can add the accessories that *you* want. New and powerful accessories that provide Macros, Communications, Disk/File management and more are available today! Coming soon as add-on accessories for TDM are a fast and powerful Spelling Checker and an Outline Processor. Don't settle for accessories that only work under a few selected applications and/or require clumsy patch programs. Order **The Desktop Manager** today and discover the true power of your IIGS.

- Δ **Runs with virtually ALL ProDos 8 & ProDOS 16 applications. No program patching required!**
- Δ **Over four man-years in development.**
- Δ **Expandable to hold thousands of accessories!**
- Δ **AppleWorks™ like folder-input for ease of use.**
- Δ **Built-in help screens in all TDM accessories.**
- Δ **Not copy-protected for your convenience.**
- Δ **Requires one 3.5 inch drive, 512K minimum.**
- Δ **Includes a free subscription to the TDM Newsletter.**

Only $89.95

Order Today!

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or send $89.95 + $6 shipping to:
ON THREE, Inc.
4478 Market St. Suites 701-702
Ventura, California 93003

Dealer inquires welcome. The Desktop Manager is a registered trademark of ON THREE, Inc. Apple IIGS is a registered trademark of Apple Computer, Inc.

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Please inform ***ON THREE*** of your move at least two months' in advance so your magazine will arrive at your new address. ***ON THREE*** can no longer give free replacement magazines to subscribers who have not notified ***ON THREE***'s office of the address change.

Here is a moving form to fill out and mail to ***ON THREE***, **P.O. Box 3825, Ventura, CA 93006.**

Old Address
Name_____
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City_____ State__
Zip_____
Phone _____
Date of move _____

New Address
Name_____
Address_____
City_____ State___
Zip_____
Phone_____

Please don't forget or you'll be out in the cold, missing a few issues of your favorite magazine!

ON THREE introduces...

DISK OF THE MONTH NO. 11 AND NO. 12

Disk No. 11 IMAGEWRITER

This disk contains Bob Consorti's printing utility ImageWriter for both Apple DMP or ImageWriter printers. Rotate your drawings and print them either large or small with this Pascal or Business Basic program. The disk also includes graphics and audio demos.

Disk No. 12 LOTTERY ///

Learn how to pick lottery numbers randomly; catalog a disk by two way scrolling the directory; and find text files on a disk, read the files to the printer, console or another disk on this DOM. It also includes programs to make beautiful designs such as random shapes and even diamonds.

Order both DOM's today and save nearly $5 off single disk price!*

*DOM's are $14.95 plus $2 s/h. Order two or more and you pay only $12.50 per disk, add $4 s/h.

NEW LOW PRICE!

Graphics Manager™ is now available for $39.95 plus $3 s/h.

If you've been holding out for a lower price on the Graphics Manager for the ///, here it is! Take advantage now. The complete graphics utility for the Apple /// interfaces to **Draw ON ///**™ and all graphic programs and allows printing enlarged or reduced portions of the graphics screen, normal or inverted, single or double density with four rotation values.

For the first time you can load directly any DOS 3.3 or ProDos Hires or double Hires graphic files (including "Print Shop") and of course SOS fotofiles or other binary graphic images.

Comes complete with full documentation and diskette containing standalone SOS interpreter and ***ON THREE***'s Desktop Manager module. All popular printers, serial and parallel interfaces supported and limited color graphics capability is included.

Driver Versions

David Ottalini

The latest driver versions

In this issue of *ON THREE*, we complete our two-part effort to bring you up-to-date on the latest versions of Apple /// programs and device drivers.

This article deals specifically with drivers, those assembly-language programs that fit into your SOS.DRIVER file and allow the Apple /// to talk and work with all its peripheral devices (such as the console, disk drive, modem, printer, etc.).

Finding the latest version for a device driver is somewhat easier than for a program, since there is a specific category for it when you are editing the driver parameters using the System Configuration Program. Luckily, those who write the drivers are usually pretty good about including a version number.

Many of these drivers can be obtained from a number of different sources, including user groups like TAU, ATGI, ATUNC and WAP. Sun Systems also sells a disk full of drivers or you can download some from Ed Gooding's Three's Company bbs or from MAUG on CompuServe if you have the proper telecommunications program. Vendors, like *ON THREE*, Pair Software and D.A. Datasystems also sell specific drivers offered as part of a particular program, like The Desktop Manager or to drive a specific device like a 3.5" Unidisk or to create a RAM drive from your Titan /// + II or IIe system.

The list below not only includes the latest version (revision) number, but also provides the amount of memory each takes up. Again, if there is a driver I have not listed, or if you can fill in a hole or two, please feel free to contact *ON THREE* or me directly (my CompuServe number is 72457,2401). We'll try to provide another update in a future issue.

Driver Name For	Source/Vendor	Size	Revision No.
.ATTACH Screen Dump	Soft-Life	1K	1.0.1
.AUDIO Audio Driver	Apple Computer	1K	1.00
.CATALYST Catalyst Program Switcher	Quark	11K	2.1.0
.CMC16CMC Hard Disk Drives	CMS	5K	1.0.0
.CONSOLE Catalyst	Quark	7K	1.3.1
.CONSOLE ONTIME Background Utility	On Three	6K	1.3.0
.CONSOLE Console Driver	Apple Computer	5K	1.3.0
.CONSOLE Power Keys	D.A. Datasystems	10K	1.0
.CONSOLE Power Keys + C&P	D.A. Datasystems	12K	1.0
.CONSOLE Powerkeys DM+	D.A. Datasystems	?	2.32
.CORVUS Corvus Hard Disk	B/T Computing	?	?
.DESKTOPMANAGER TDM Utility	On Three	16K	1.4
.DMP Apple Dot Matrix Printer	Apple Computer	1K	1.30
.EPSON Epson Printers	Apple Computer	3K	1.0.1
.FMTDx Formater Driver	Apple Computer	2K	1.30
.GRAFIX Graphics Driver	Apple Computer	5K	1.30
.ICE Space Coast Hard Disks	Space Coast Syst	?	4.0
.IMAGEWRITER Imagewriter Printer	Apple Computer	?	?
.LASERJET HP Laserjet	Sun Systems	5K	1.3.0
.MOUSE Mouse Driver	On Three	4K	1.1
.MTEK Parallel Printers	Sun Systems	4K	2.0
.ONTIME Clock Driver	On Three	2K	1.3.0
.PARALLEL Remote Terminal Driver	Apple Computer	1K	1.0.0
.PKASO (COMP) Pkaso U Graphics Card	Interactive Structures	6K	3.20
.PKASO (MINI) Pkaso U Graphics Card	Interactive Structures	1K	3.20
PPRINTS02 Print Buffer	D.A. Datasystems	5K	1.3

Driver Name For	Source/Vendor	Size	Revision No
.PPRINTS04Print Buffer	D.A. Datasystems	6K	1.3
.PPRINTS08Print Buffer	D.A. Datasystems	11K	1.3
.PPRINTS16Print Buffer	D.A. Datasystems	19K	1.3
.PPRINTS24Print Buffer	D.A. Datasystems	27K	1.3
.PPRINTS30Print Buffer	D.A. Datasystems	30K	1.3
.PRINTERParallel Printer	Apple Computer	2K	1.3.1
.PRINTERGrappler Card	Orange Micro	4K	1.0.0
.PRINTERSerial Card	Apple Computer	5K	1.1.0
.PROFILE5 MB Profile Hard Disk	Apple Computer	3K	1.30
.PROFILE10MEG10 MBProfileDisk	Apple Computer	5K	2.0
.QUARKCOM + UNUCatalyst Driver	Quark	2K	2.0.0
.QUMEQume Printers	Apple Computer	?	1.10
.RAM///+//e RAM Drive	Titan ///+//e	13K	1.0
.RAM512K RAM Drive (Regular)	On Three	5K	0.2.0
.RAM512K RAM Drive (Selector)	On Three	5K	0.2.0
.RAM128Titan ///+// system	D.A.Datasystems	1K	1.6.0 A
.RAM128Titan ///+//e system	D.A.Datasystems	1K	1.6.0 A
.RAM128FTitan ///+// system	D.A.Datasystems	2K	1.6.0 A
.RAM128FTitan ///+//e system	D.A.Datasystems	2K	1.8.0 A
.RAM140Titan ///+// system	D.A. Datasystems	13K	1.6.0 A
.RAM140Titan ///+//e system	D.A. Datasystems	13K	1.6.0 A
.RATMouse Driver	MAUG (PD)	?	1.1
.RS232Communications Driver	Apple Computer	3K	1.30
.SERDMPApple Dot Matrix Printer	Apple Computer	1K	1.3
.SERPRINTSerial Printer Driver	Apple Computer	2K	1.30
.SERPRINTERApple // Super Serial Card	Apple Computer	2K	1.10
.SIDERSider Hard Disk	On Three	3K	1.3
.SITYPE (Big)Silentype Printer	Apple Computer	7K	1.04
.SITYPE (Small) Silentype Printer	Apple Computer	5K	1.04
.SPOOLERSpooler Driver	Public Domain	5K	1.0
.SPOOLERSpooler Driver	Quark	7K	1.5.0
.SPOOLER Apple /// Spooler Driver	Advanced MicroSy		
.SPOOLSTATUSDiscourse Spooler	Quark	6K	1.5.0
.SPRINTERPrinters/Plotters	Apple Computer	3K	1.30
.TCLOCKThunderclock Card	Apple Computer	2K	1.3
.TMPDX.CODEMicroSci A-143 Driver	MicroSci	5K	1.4
.TMPFMT.CODEMicroSci Formater	MicroSci	5K	1.4
.U13.5 Unidisk Drive	On Three	4K	1.1.0
.UNCOPYPROTECT Unprotecting	On Three	1K	1.0
.UNIDRIVER3.5 UniDisk Drive	Pair Software	?	1.0

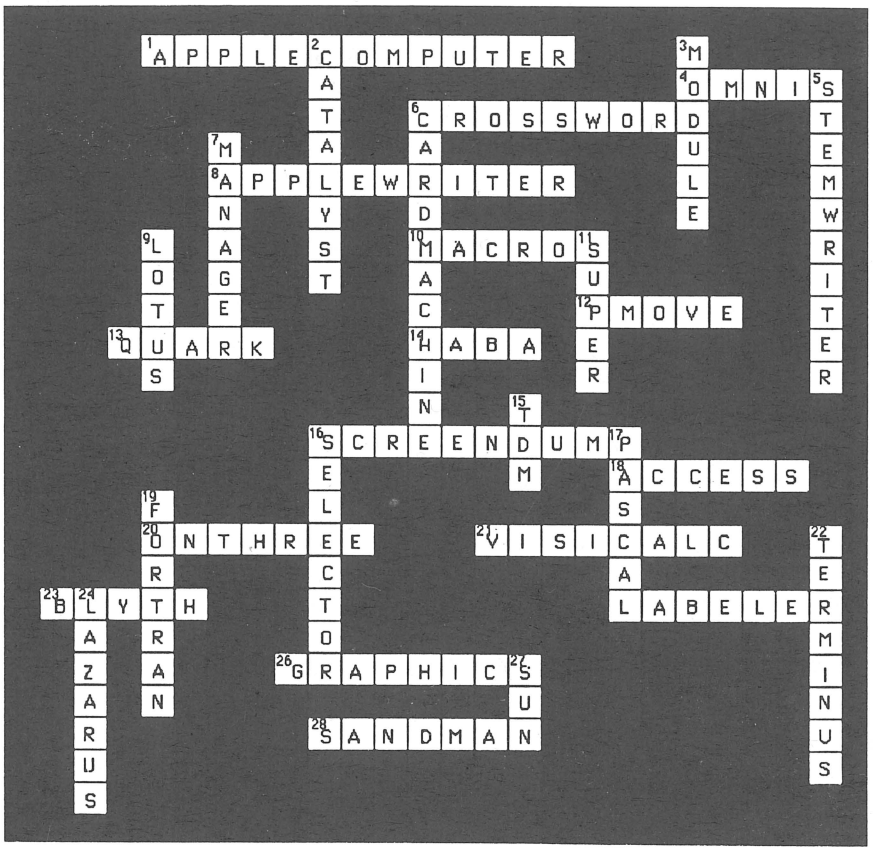
-///-///-///-

ON THREE Presents . . .

LAZARUS /// **$49.95**

File Recovery System plus $2 s/h

- A *wrong keystroke can lose hours of work*
- *The correct keystroke with* Lazarus /// *can undelete those lost files.* Need we say more?
- Not *copy-protected—Installs easily on* Selector ///, Catalyst



Answers to the Crossword from page 4

Ever feel like you are at a swap meet behind your ///?

"Swapping floppies is the disease and a hard disk is the cure!"

A hard disk is a mass storage device which allows a user an incredible amount of storage space to retrieve data with a few keystrokes. Forget the "Out of room on volume" messages that a user usually receives on other drives. But now you have decided to use a hard disk, there is one name you should keep in mind:

Sider 20 mb - $950 plus $35 s/h

from *ON THREE* and Xebec (First Class Peripherals)

Compare the speed of a Sider hard disk to a profile hard disk.

Sider —Access time —85msec

ProFile—Access time—180msec

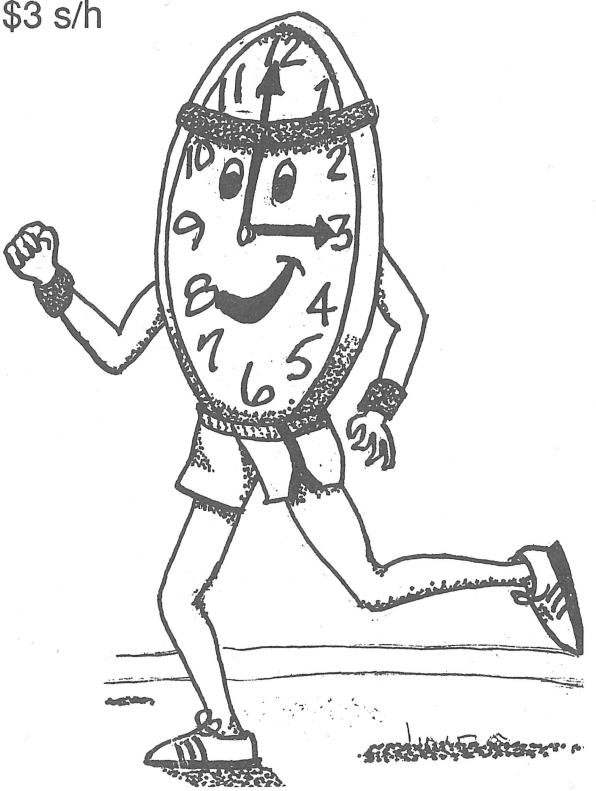
Combine a Sider with *Selector ///*, the disk switching utility, for an incredibly fast hassle-free system. For speed, accuracy and dependability at a great price, call *ON THREE* for a Sider 20!

Get off and running with the ON THREE O'Clock!

Let ON THREE O'Clock be your stop watch today!

Have you read or heard about the *ON THREE* O'Clock but you really don't know what it can do for you?

$49.95
plus $3 s/h



Imagine this -

An insurance broker is using his Apple /// for all of his small business' accounting needs. However, he can't remember when he had last entered updated information about the latest insurance firm he is representing. A client walks into the office and needs this type of information to consider switching his policy to the latest insurance company his broker is representing. What does the broker do? Well, if he doesn't have a clock chip installed, he may remember how helpful it would have been and immediately call *ON THREE* so the same problem doesn't occur again or he may already have the chip and can easily check the time and date stamped file to see when he had updated the file.

Remember, when the Apple /// was first released, the supplier of Apple Computer's clock chips could not supply a working clock. As a result, the /// did not have a clock of any sort. But, not too long after that, *ON THREE* developed a clock for the Apple /// which plugs in right where the never-released Apple clock was supposed to go.

For merely $49.95 plus shipping and handling, you won't have to worry anymore about your updated files. This easy-to-install, SOS-compatible clock can be yours. It comes with comprehensive instructions and *ON THREE*'s six-month limited warranty and it does not use any of your machine's precious slots.

With a clock installed, whenever you save or modify any type of file, the current time and date will be added to the directory listing so you can always tell a glance which file you at worked on, and when. But that's not all. Business Basic has two reserve variables, DATE$ and TIME$, which return, respectively, the current date and time to your BASIC program. These reserved variables can then be used whenever you want to print the date and/or time in a BASIC program.

Special Combination Offer

There's a great deal more you can do with *ON THREE*'s O'Clock if you have the *Desktop Manager*. Wherever you want, you can display the current date and time on the screen with one keypress. Since this is a background function, you can be word processing with AppleWriter or entering data in VisiCalc and with one keystroke you can obtain updated time information. In addition, you can use the *Desktop Manager*'s appointment calendar to enter appointments or messages. Like magic, no matter what you are doing, the system will alert you of the appointment.

The *Desktop Manager* also includes a calculator and a notepad for your convenience. Purchased together, *ON THREE* offers the clock and the *Desktop Manager* for only $165.95 plus $8 s/h.

Desktop Manager/ ON THREE O'Clock Combo
$165.95 plus $8 s/h

Spreadsheets (continued from page 7)

which format to print it in, and which printer to send it to.

Compatability with AppleWorks files

One of the great advantages of /// E-Z Pieces is its ability to share files with the very popular (and nearly identical) Apple II program called AppleWorks. However, AppleWorks v.2.0 includes some spreadsheet functions that /// E-Z Pieces lacks. If a person tries to work such an AppleWorks file in /// E-Z Pieces, ERROR will be displayed wherever the new functions are used, and in all cells that refer to them. This only applies to the newest version of AppleWorks, and only to spreadsheet files, all other files will work perfectly.

Summary

The /// E-Z Pieces spreadsheet is fast and easy-to-use. It has all the major features a spreadsheet user needs though it lacks some of the *power* and extra features available on state-of-the-art spreadsheets.

Since the advent of the original VisiCalc, spreadsheets have been an important tool for the microcomputer user. The /// E-Z Pieces spreadsheet is one that makes up in ease of use what it may lack in power, and yet gives you the ability to integrate your spreadsheet figures with the word processor and data base.

Next: The Data Base and File Integration

-///-///-///-

Toolkit (continued from page 13)

table, room is left for expansion of the toolkit routines.
With the help of routines in the Toolkit adding modules to The Desktop Manager becomes a simple matter. I am sure that like myself, many TDM users have said, if only someone would write a module to do this, that, or the other thing. Well, you can now do it yourself.

To use the Toolkit a person will need the Pascal Language System and the two volume SOS Reference Manuals. The Pascal system contains the editor and assembler to create and assemble the modules you write. The manuals describe the SOS system and all calls and parameters that can be made. Although there are no books written specifically on Apple /// assembly programming, two books I have found very helpful are: *6502 Assembly Language Programming* by Lance A. Leventhal, Osborne McGraw-Hill and *6502 Assembly Language Subroutines* by Lance A. Leventhal Winthrop Saville, Osborne McGraw-Hill. The subroutines included in the latter book can be easily included in your programs or be modified to suit your needs.

TDM Toolkit can be ordered from *ON THREE* for $19.95 plus $2 shipping. Is it worth the price? You betcha! The Toolkit provides you with the essential ingredients for any program. It allows you to spend time getting your program to do exactly what you want, instead of wasting time getting a screen display or keyboard input. It makes learning assembly language, easier, faster, and a lot of fun.

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Ranntings (continued from page 19)

Before you laugh, remember that even IBM has recently discontinued all of its microcomputers that do not have a Macintosh-like interface. The new PS/2 IBM interface is being provided by Microsoft who is licensing the look and feel from Apple. The ability to point at one file and move it to another device icon to copy it, is a strong one that will be with us for a long time. Apple did an exceptional job in defining how people really use a computer and constructing an interface that melds easily into personal habits.

The IIGS is not a perfect machine. Apple has a lot of work to do before it becomes all that it is destined to be. We need the reworked ProDOS 16, and we are anxious to see more software written to exercise its new capabilities. Apple is well on its way to melding the ease of use and flexibility of the Mac operating system with the features we liked most in SOS into a super II. Apple /// owners should give it a serious look. It is not "just another II", anymore than the /// was just a "faster II". The IIGS is one good way to make up six years in hardware and software development.

Happy birthday GS; we will enjoy watching you grow in the next few years.

-///-///-///-

Apple /// User Groups

California
Sacramento Apple /// User Group
1433 Elsdon Circle
Carmichael, CA 95608
(916) 482-6660

Orange County Apple ///
User Group
22501 Eloise Avenue
El Toro, CA 92630

LA-So. Bay Apple ///
Users Group
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Redondo Beach, CA 90277
(213) 316-7738

Apple /// Users of
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220 Redwood Highway #184
Mill Valley, CA 94941

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Apple /// S.I.G.
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Santa Clara, CA 95054
(408) 727-7652

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Computer Society Apple /// S.I.G.
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Canada V5H3X9

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Greater Tidewater Apple /// User Group
Route 2, Box 216
Hayes, VA 23072
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Apple THREE Group International
c/o H. Joseph Dobrowolski
P.O. Box 913
Langley AFB, VA 23665
(804) 865-7520

If you wish to meet other Apple /// owners and exchange ideas, contact one of the user groups listed above.

ON THREE - the only company which offers technical support for all Apple /// products for free or a minimal fee.

ON THREE, Inc. warrants all of its products and offers full technical support for a period of up to 90 days. This has always been the company's policy and **ON THREE** will continue to help valued customers as much as possible. However, lately, the abuses to the limited technical staff have been overwhelming. Every day **ON THREE** receives dozens of calls from /// users with questions on products that were purchased years ago, questions on software the caller frankly admits he/she has copied from a friend or other source but "doesn't have the manual and can you step me through the program?" Also, there are calls concerning products that were purchased from companies and dealers that have gone out of business or refuse to support Apple /// products. Due to these type of phone calls and the abuse of toll free order lines for technical support questions, **ON THREE** has changed its policy of unlimited free technical support.

For those Apple /// owners and users who are interested in technical support here are some guidelines and further information:

Technical support line: (805) 644-3514
Hours: Mon. thru Thurs. 9-noon, 1 - 5 p.m.; Friday 9-noon PST

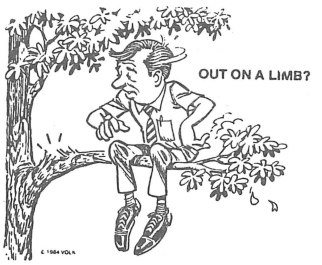
Guidelines

ON THREE offers free assistance on products purchased from **ON THREE** in the last 90 days.
ON THREE offers assistance for a minimal fee on products that:
1. Were not purchased from **ON THREE** within the last 90 days
2. Are not **ON THREE** products
3. Were obtained from an unauthorized source

When calling for technical support, be sure to give the operator your name and address, product name and purchase date. If it falls into the free assistance category, you will be transferred to a technician. If it falls into the paid support category, you will be asked for your credit card number and expiration date. The call will be timed from the second you are connected to the technician until you hang up.

Fees - $5 for the first 3 minutes and $1 per minute for each additional minute. Minimum credit billing to the customer's Visa, MC, or AE is $15.

One, Two, /// Forum



Time out!

The September issue of *ON THREE* published a letter from Don Eaton of Wentzville, MO in the "One, Two, /// Forum" section, page 31. In the letter, Don was requesting a spreadsheet template for calculating elapsed time. there are probably several ways to do this, but here is my entry.

Note: This technique will work with any spreadsheet that has the INT feature. (The original VisiCalc, Advanced VisiCalc, and MultiPlan all have this capability.)

Layout of spreadsheet

	A	B	C	D	E	F
1		start	end			elapsed
2						
3	hours					
4	min					
5	sec					

Go to cell D5 and enter the following expression:
(((C3*3600) + (C4*60) t C5) - ((B3*60) + B5))

Go to cell E3 and enter the following expression:
@INT(D5/3600)

Go to cell E4 and enter this expression:
(E3)

Go to cell F4 and enter the following expression:
@INT(E4/60)

Go to cell F5 and enter this expression:
(D5 - (F3*3600) - (F4*60))

Set the template for MANUAL calculation by typing:
/GRM

Save this template to a disk file!

Now by entering the start and end hours, minutes and seconds then press ! for the calculation, elapsed time in hours, minutes and seconds will appear in cells F3-F5.

If you work with Advanced VisiCalc, you can add a further refinement. You can hide the display in cells D5, E3 and E4 since these are only intermediate calculations and have no real value to the observer. To do this:

Go to cell D5 and type:
/AHY [RETURN] [RETURN]

Repeat this step for cells E3 and E4.

Save the template on disk!

This should do it! My daughter claims that she can do these calculaltions faster in her head, but I doubt it. Certainly there is less chance for error when the template is used.

John Lomartire,
Westport, CT

Thank you for your assistance with the question raised by Mr. Don Eaton. We appreciate your contribution in both writing and assistance to tha magazine and the Apple /// world. We would also like to congratulate you for being the first one to respond to the questionnaire, "Who Owns an Apple ///?" Hopefully, your response will be follwed by many others who enjoy the magazine.

Parallel or serial?

I was recently able to obtain a used Epson MX-100-III for use with my Apple /// computer. In order to be able to utilize the printer I need to acquire a cable that will allow it to be connected to the Apple ///'s universal parallel printer interface card (A3B002) or Port C: RS-232-C Serial Interface.

I would appreciate any information that you can provide concerning a source for such a cable.

ON THREE Presents...

Reconditioned 512K Apple ///'s with Monitor ///

Available Now!

New Low Price $1148

256K Apple /// and Monitor $749

- for yourself
- for your office
- for a friend
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plus: $50 shipping and handling

OF COURSE!
Backed by *ON THREE's*
limited 60-day warranty

Only *ON THREE* sells 512K Apple ///'s—the world's finest microcomputer. *ON THREE* provides complete support at no extra cost, plus a full line of *ON THREE* peripherals and sophisticated software.

ON THREE Presents ...

Sandman

$29.95

plus $2 shipping and handling

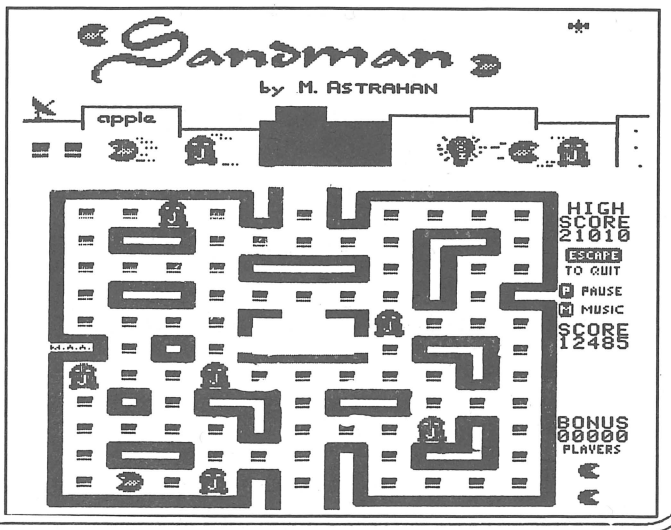
a new multi-level arcade game by Mel Astrahan

- Use with joystick, keyboard or mouse
- Can be run as a Desktop Manager background module

The objective of* SANDMAN *is to score as many points as possible. Salvage all of the Apple ///parts discarded throughout the halls of Apple's labyrinthian research lab to receive points.* WARNING! *The lab is haunted by the ghosts of* JOBs*...if they catch you, you're done for!

Your only weapon against the* JOBs *is to find the* WOZ *who wanders about the lab peeking in on various projects. For a short time following a meeting of* SANDMAN *and* WOZ *the* JOBS *turn blue and may be exorcised if you can catch them.

"—Brilliant, colorful and fast moving, Sandman will provide hours of fun."



If the problem can be resolved I would then like to order a copy of /// E-Z Pieces program from *ON THREE.*

Richard M. Mangion,
Sturbridge, MA

Prepare to call **ON THREE** *order lines for not only a copy of /// E-Z Pieces but also for other goodies which you can use for your system.*

First of all, **ON THREE** *sells a serial interface card for $34.95 plus $2 s/h. In order to use the serial card, though, you will need a modem eliminator card for $10 s/h. Also, for a parallel printer interface card you can pick up the UPIC card and cable for $195 plus $4 s/h.*

Time, again?

In regards to the forum item on figuring time, I have some suggestions. As a scientist I make sure that before I use time at all, it is in some uniform unit - seconds, minutes, etc. As a swimmer I keep track of times that are prescribed and for which I have no choice - hours, minutes, seconds, according to our funny clock system. The first thing you have to do is convert the times into a regular decimal system. This can be done on any calculator (e.g., 30 minutes is .5 hours, etc.). On good calculators, there is a way to convert hours, minutes, and seconds into tenths of hours.

However, the whole thing can be done on a spreadsheet. I use /// E-Z Pieces. If you are dealing with days, weeks, months or years, good luck, as you will have to define them in terms of hours.

Here's what you do with a spreadsheet. Enter the hours and minutes in separate columns. enter the minutes and seconds as though they were tenths of minutes; e.g., two minutes and 33 seconds = 2.33. Take the hours column, multiply it by 60 and put the result in the new column. Take the minutes column, subtract the integer value (2) and place it in a new column. Take the remaining value of the minutes, divide it by 60 and place the result in a third new column. Add the three new columns and the result will be the total time in minutes to the nearest tenth. If you insist on hours, divide the resulting minute column by 60. This idea assumes familiarity with a spreadsheet. Put the columns for raw data entry neatly together so that anyone can enter data and proof it. The rest can be made automatic.

John M. Legler,
Salt Lake City, Utah

Thank you for your input in the timely question. You offered a different approach than what John Lomartire did and that just proves that there is a lot of variety in the /// world.

ExerSOS-ing

Thank you for the information on the 65C802 microprocessor that I had asked for. I will be ordering one in the near future. Until then, I have a question for you: What is ExerSOS?

Albert G. Zaretzke,
Pasco, Wash.

Happy hard disk user!

I want to give you some thoughts about The Beginning /// article appearing in the September issue of the magazine. I think the tremendous added utility and convenience of a hard disk and a program selector are obvious but maybe it isn't obvious to first time users. Well, friends, you'd just better resign yourself to purchasing a good hard disk within a few months or you will severely restrict your computer's potential.

A follow-up comparing the hard disks around - both new and used - that can be hooked to the /// would be very useful. My own experience has been with a Davong 10mb (very good), a ProFile 5mb (disappointing) and a couple of 20mb Quark QC20's (excellent). These latter were not even mentioned in the Beginning /// article in September, but they are still easily obtainable from Sun Systems Remarketing. They also can be used on newer Apple computers (some other disks may have this advantage also), and this might be an important help in deciding to buy an expensive peripheral for the gracefully, aging Apple ///.

Roger T. Harrer,
Pocatello, Idaho

Thank you for your fine comments about hard disks. You will see in this issue that I discussed the importance of hard disks. You would be surprised at the number of calls **ON THREE** *technical department answers about hard disks. There are still quite a few of the older crowd of users who do not own hard disks. For this reason, I have stressed the importance of hard disks, once again. Perhaps in the future we can do a comparison article, like you suggested.*

-///-///-///-

grams mentioned above, can easily be installed on a hard disk and placed on the Selector /// menu. From there, they are easily accessed and the program diskettes can be put away in a safe place. Thirdly, all the data files can be copied onto the hard disk. When the secretary writes a letter, she can save it to the disk in the Unidisk and she can save it to the hard disk. It is always wise to have two copies of every data file. In case the hard disk is ever dropped, the data is still available. Hopefully, though, your hard disk will last a lifetime!

Price

The price you pay for a hard disk depends on how much memory you think you will need. Generally, a hard disk price range is from $500 to $1,000. Five megabyte hard disks can be picked up for $500 and 20 mb's can be purchased for a little under $1,000. Most come with a 90 day service warranty, which is extremely nice. If you have any questions about purchasing a Sider 20 drive, you may want to contact Dave Christenson, *ON THREE*'s service manager at (805) 644-3514.

Is it worth it?

There is no doubt that a hard disk is worth spending $500 to $1,000 on. Think of all the time saved and the organization problems you can solve with a hard disk and a program switching utility. I have never attempted to run my Apple /// without a hard disk and doubt that I would be content if I did. For most hard disk users, a hard disk is an absolute must!

-///-///-///-

DE CLASSIFIEDS

For Sale: All to be sold as one complete package. $4,000 or best offer. One /// 512K with monitor and profile. Grappler plus, Titan /// + IIe, two external drives, infax 10+ 10 Bernoulli Box with II cartridges, DMP printer, Word Juggler, Keystoke, Keystroke and Report, Catalyst, Multiplan, Backup ///, Modular 2, Basic and Pascal.

Classified Rates: $1 per word, $25 minimum. Copy must arrive 60 days prior to cover date, e.g. **November 25 for January issue.**

Subscriber Discount: 50 cents per word, $12.50 minimum.

Send ad copy with check to:

ON THREE

De Classifieds

P.O. Box 3825

Ventura, CA 93006

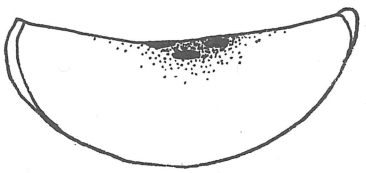
ON THREE presents...

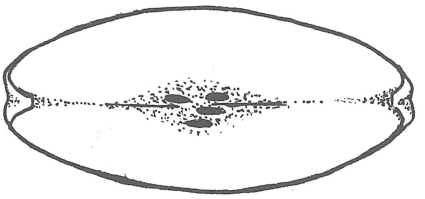
Uncopyprotect Driver

$29.95 plus $2 s/h

ON THREE has not changed its position regarding duplicating copyrighted programs for profit or to give away, but since many Apple /// software products are no longer supported, owners of AppleWriter ///, VisiCalc, and Advanced VisiCalc are facing a problem of what to do when a diskette "crashes." After much consideration ***ON THREE*** decided to proceed with a product to solve that problem. **The Uncopyprotect Driver** will allow a person to make back up floppies of the above programs. For the first time, a user can put the master disk in a safe place and boot on the duplicate.
Economically priced at **$29.95 plus $2 s/h,** the **Uncopyprotect Driver** comes with full documentation and will work with Selector /// so you will no longer require a "key" diskette. The **Driver** is sold for legitimate Archival purposes only. ***ON THREE*** does not condone and will not condone duplicating a disk for any other purpose.

Apple.Slices





"Who owns an Apple ///?"

Don't forget to send in the form seen in the September magazine's Apple.Sauce for the article, "Who owns an Apple ///?" *ON THREE* is anxiously awaiting for all ///'ers to respond to this request. We want to feature this article soon. So the sooner we receive your response, the sooner the article will appear in the magazine! Everyone who answers this questionnaire plays an important role in writing the article! We need *more than 50 percent* of all subscribers to answer before publishing any results!

Public Domain catalog

National AppleWorks Users Group (NAUG), which also supports /// E-Z Pieces Users, has announced its release of its first edition of the NAUG Public Domain catalog. According to NAUG's AppleWorks Forum editor, Cathleen Merritt, the 20 page catalog lists hundreds of templates and other AppleWorks and /// E-Z Pieces add-ons that are in the public domain and are available from NAUG.

The catalog costs $4 and includes a rebate coupon for $2, valid on a user's first order of public domain disks. For a copy of the catalog, call or write to Cathleen Merritt, NAUG, Public Domain Catalog, P.O. Box 87453, Canton, MI 48187.

The /// is for me!

ON THREE is seeking new writers who can explain why they use an Apple /// and how it unique in their working environment. Participants must submit their answers typed on one sheet of 8 1/2 x 11" paper. It can be single or double spaced. Please indent the paragraphs. The *ON THREE* staff is looking forward to responses for publication, soon! We want this to become a regular feature every month.

Program allows users to change to color monitors

In late summer, Apple Computer announced a program that allows customers to exchange an Apple Macintosh II monochrome monitor purchased by Oct. 31, 1987 for a color monitor purchased during the first quarter of 1988.

The new policy is a response to the greater than anticipated demand and the slower than expected availability of the new AppleColor™ High-Resolution RGB monitors.

New paths

ON THREE is pleased to announce the release of The Desktop Manager for the Apple IIGS. Many Apple /// users who also own Apple 's latest computer, the IIGS have been asking about the development of the Desktop Manager on the IIGS. The main system was completed in mid September as well as the Communications Manager and the Disk Manager. For prices and orders, call *ON THREE*. Others have inquired about a Graphics Manager for the Apple IIGS. There are no plans for this project. However, the Graphics Manager for the Apple IIc and IIe work fine on the Apple IIGS.

Emulating with Titan boards

Users who have purchased Titan boards are reminded that a 3.5 disk can contain both ProDos and SOS files. For instance, a person can store both an AppleWorks file and an AppleWriter /// file on the same disk by using Emulation mode for AppleWorks.

Call ON THREE's Toll Free Order Lines for all your Apple /// ordering needs.

1-800-443-8877
or in California call
1-800-331-1418

Call Three: Hotline

The Call Three Hotline is a service whereby Apple /// owners and users with questions can call an area number for answers. The individuals answering you calls are fellow Apple /// users who volunteered to help those in need over some rough spots. They are not compensated for this service, so we owe them a resounding "three cheers" for their kindness and generousity.

If you are willing and able to aid others by answering questions, please write to ON THREE and provide the necessary information. If you have questions, feel free to call our consultants listed below. Please observe the calling hours shown, and, before placing a call, double check the time zone so you don't inadvertently wake someone. No other restrictions apply to this service.

For your reference, the accompanying table lists subjects and abbreviations used in the "Subjects" column of the consultant listing.

Name	Area	Telephone	Days	Hours	Zone	Subjects
Colville Woodburn	NH	(603) 863-5590	M,Tu,Th,F	7-8 p.m.	Eastern	BB,CT,GE,MI,QU,WP
Ken Johnson	MA	(413) 536-7502	Su-Sa	6-9 p.m.	Eastern	BB,PA,MD,WP,MI
Don Loosli	MI	(313) 626-3848	M-F	9-5 p.m.	Eastern	GE,WP,SS,DB
Harry T. Hanson	NJ	(201) 467-0712	M-F	6-9 p.m.	Eastern	GE,PA,BB,CT
Edward Gooding, Sr.	VA	(804) 747-8751	Su-Sa	6-9 p.m.	Eastern	CO,SS,PR,MD,CT
Jeff Fritz	WV	(606) 353-9493	M-Sa	8-11 p.m.	Eastern	BB,DB,GE,MI,SS,TC,EP
Al Johnston	FL	(904) 739-1600	M-F	9 -6 p.m.	Eastern	GE
Paul Sanchez	FL	(305) 266-5965	Su-Sa	10-4 p.m.	Eastern	SS<PR,CT
R.B. Thompson	NC	(919) 787-1703	Su-Sa	10-10 p.m.	Eastern	BB,DB,GE,SS,WP
J.Donald Glenn	NE	(402) 291-9177	Su-Th	7-10 p.m.	Central	GE
Scott Weddel	NE	(402) 572-7543	Su-Sa	4-10 p.m.	Central	GE, TC
Jim Ferencak	IL	(312) 599-7505	M-F	10 -5 p.m.	Central	GE,EP,DB
Paul Thomas	MS	(601) 494-8736	Su-Sa	6-10 p.m.	Central	GE,AC,BB,CP,DB,FI,MI,PA,PR,SO,SS,TC, EP,WP
Earl T. Brelje	MN	(612) 455-6405	M-F	4-9 p.m.	Central	CT,DB,WP,GE,Quick File, Omnis 3
Ron Maupin	TX	(512) 280-0144	Su-Sa	8 a.m.-10pm	Central	AL,CO,CT,EP,MD,PA,QU,SS,TC,WP
Rodney Hendricks	TX	(214) 581-0524	Su-Sa	6-9 p.m.	Central	DB,EP,GE,MD,QU,SO,SS,TC,WP
Terri Wiles	CO	(303) 850-7472	Su-Sa	10-6 p.m.	Mtn	PA
William Prince	OR	(503) 254-6465	M-F	9-4 p.m.	Pacific	GR,TC,Corvus
Karl La Rue	WA	(509) 582-6459	F-Su	6-10 p.m.	Pacific	MD,GE,EP,WP,TC,SS,CP
Pat Holwagner	CA	(415) 433-2323	M-F	10-6 p.m.	Pacific	GE,SS,WP,CT,DBSU,AE,EP
Viincent F. Latona	CA	(818) 703-0330	M-F	9-5 p.m.	Pacific	GE,WP,BB,SS,AE
Dennis R. Cohen	CA	(818) 956-8559	Su M-F Sat	10-10 p.m. 7-9 p.m. noon-6	Pacific	GE,PA,MU,WP,DB,SO
Kelly C. McGrew	WA	(206)943-8533	Su-M,Th-Sa	7-9 p.m.	Pacific	DB,GR,SS,PR,MD,CT
Larry E. Kalland	AK	(907) 272-4968	Su-Sa	12n-11pm	Alaska	AC,CT,GE,SS,EP,WP
H. Van der Straeten	Belgium	(015) 205328	Su-Sa	7-10 p.m.	Europe	BB,CT,DB,GE,PA,PR,SS
Robert C. Sudduth	Germany	(0531) 35851	Su-Wed	6-9 p.m.	Europe	AL, GE, PA, SO (German or English)
Arnaud Trache	France	21 03 04 21	Sa-Su	10-7 p.m.	Europe	AC,BB,DB,AE,FI,GR,MD,PR,SS,TC,EP,OT
J. Woretshofer	Netherlands	043-611704	Su-SA	9-12 a.m	Europe	CT,FO,GE,PA,QU,SO,WP,AE,EP
Salvador Garcia	Spain	(91) 234-5068	Su-Sa	7-10 p.m.	Europe	BB,GE,PA,MD,CT

Abbreviation Table

Subject	Code	Subject	Code	Subject	Code	Subject	Code
Accounting	AC	Agriculture	AG	Assembly Lang.	AL	Business Basic	BB
Catalyst	CT	Cobol	CO	CP/M	CP	Data base	DB
Education	ED	Emulation	AE	Financial	FI	Fortran	FO
General	GE	Graphics	GR	Micro-Sci	MI	Modems	MD
Modula-2	MU	Pascal	PA	ProFile	PR	Quark	QU
SOS	SO	Spreadsheets	SS	Telcom	TC	/// E-Z Pieces	EP
Word Proc.	WP	On Three Prod.	OT				

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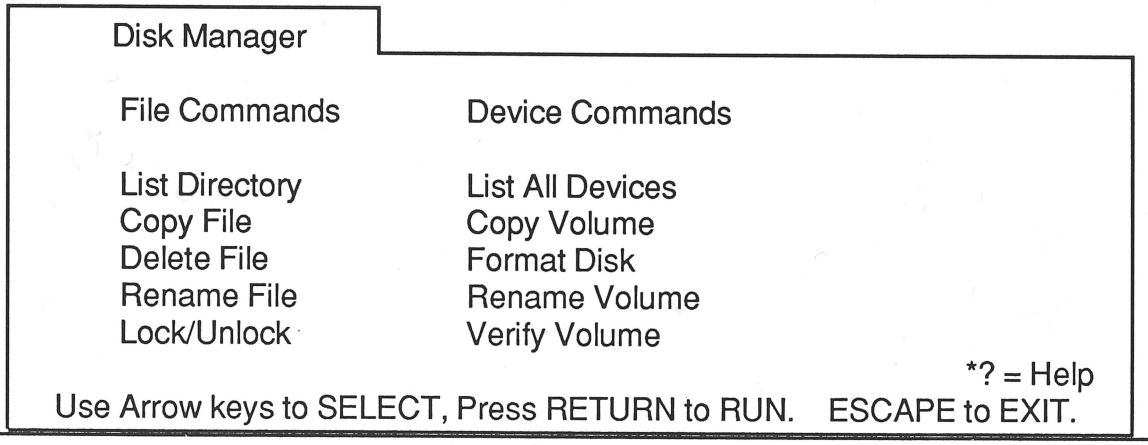

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