# ON THREE®

*The Magazine For Apple III Owners and Users*

Volume 3, Number 12

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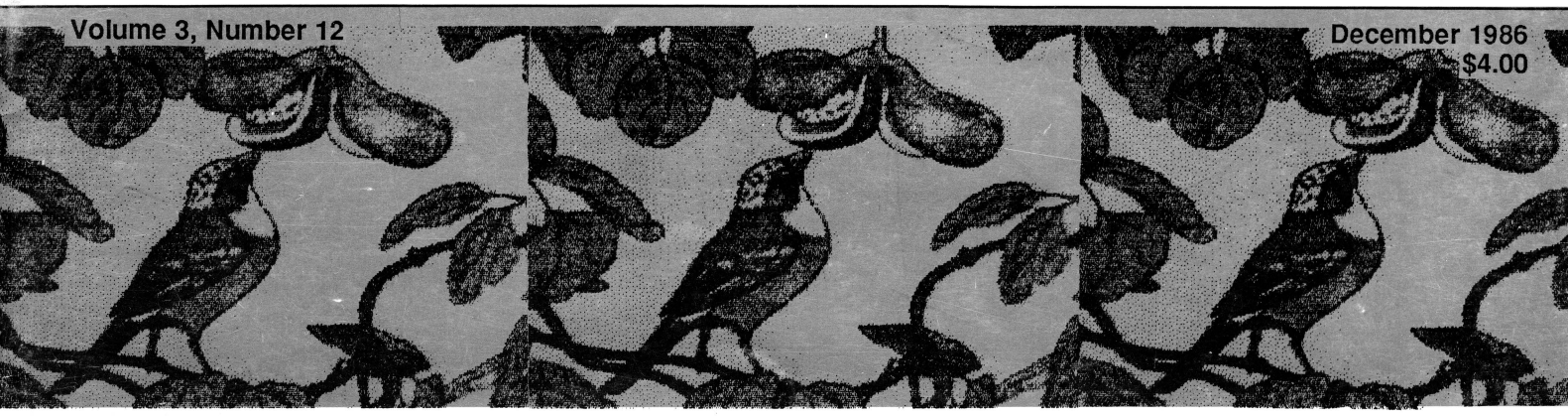


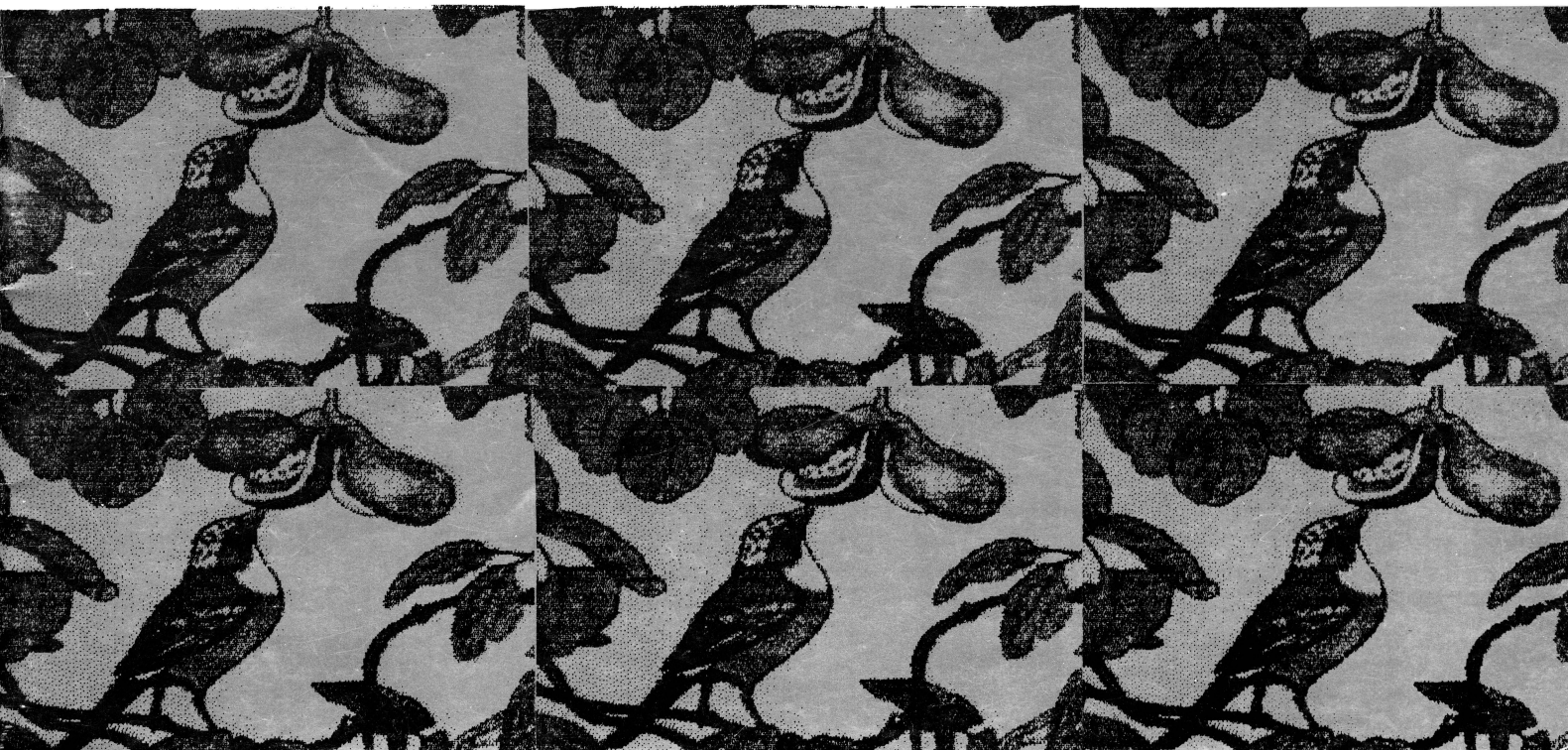
## Using System Utilities

## Desktop Module

## Graphics Manager

## Three Shorts - Fini!

## Improving Your Memory



# Disk of the Month

**What is the ultimate time-saver? Why *ON THREE's* Disk of the Month diskettes, of course. Why use your precious time typing in *ON THREE* program listings when they are available on diskette for just $14.95 (plus $2 shipping and handling) each?**

**Better yet, mix and match. Any two or more for $12.50 each (plus $4 total shipping and handling). Best bet: the works.**

***Now is the time* to start your collection of these program-filled diskettes from all issues of *ON THREE Magazine*. Bulk and group purchase rates are also available, call (805) 644-3514 to inquire about these super savers.**

## DOM #1—Extra Disk Space Plus!

This diskette contains all programs from volume I, nos. 1 and 2 of ON THREE *Magazine*. Included: Disk Pak1 with a program to give you four additional blocks of space on your data disks, and Disk Pak2, something you can't do without if you are a Pascal user, a convenient and easy way to list the files on a Pascal directory. Plus graphics and sound demos and more.

## DOM #2—Changing Printer Characters

Here is an amazing program you won't want to miss. With it you can print to the Apple Dot Matrix and compatibles such as Imagewriter or ProWriter the same characters that are shown on your video display. Many special fonts, including fancy gothic characters, can enhance your printed output. And, it comes with complete documentation. Also on DOM #2 are the other programs from issue number 3, more graphic demos plus: a program to list files from an Apple II diskette without entering emulation mode.

## DOM #3—Redefining a Keyboard

This disk is jam-packed full with programs that appeared in Volume I, No. 4 of ON THREE, and includes an easy-to-use program to redefine any or all keys on the Apple /// keyboard. Of particular interest is the ability to reassign the "\" to be the delete key so it can be used on AppleWriter /// and other programs. Also included are all the WPL programs, a disk formatting utility, a graphics sketching tool and still more that we don't have room to list here.

## DOM #4—Emulation Patch

Volume II, No. 1 had so many great programs it took two disks, DOM's 4 *and* 5, to hold them all. DOM 4 has all of the Pascal programs and the *Apple II Emulation Patch*, a way to use any Apple /// Font in emulation. Also included is the Pascal startup program for *Access* /// that lets you autodial. Another fine utility is a Pascal program and UNIT to permit calculations from within the Pascal environment. Demos haven't been forgotten either with *Radiate Graphics Demo* and *Beatles Music Demo*. To top things off, we have included a number of *Draw* ON pictures you can view with the program on DOM #5.

## DOM #5—Access Draw ON

Here we find the BASIC startup program to autodial from *Access* ///, and *Ben's SUPER Slot Machine*, along with all of the VisiCalc and WPL programs, and the *Circling Graphics Demo* which will show some of the fantastic images that *Draw* ON can create, plus still more *Draw* ON pictures, along with the *Draw* ON ///*Picture Demo* which you use to view *Draw* ON pictures.

## DOM #6—BASIC Lister Plus!

Straight from the pages of Vol. II, No. 2 is a program which will give you perfectly formatted listings of Business Basic programs, and a Pascal program to guide and assist you in selecting noises for animation and game programs. Both the *Pascal Noisemaker* and the BASIC lister come with full documentation. We've also tossed in still more *Draw* ON pictures and some new fonts, as well. You can use the *Draw* ON viewer from DOM 5 to see them.

## DOM #7—Heap Good Stuff

From Vol. ///, Nos. 1 and 2 we present a BASIC heap sort routine and demo, IMAGEHELPER, a neat graphics utility to simplify graphic image design, and a menu-driven program to pre-select printer codes and parameters.

## DOM #8—Directory Sorting

Here is what you have been waiting for, a complete BASIC and Assembly program to take those old chopped up directories and sort them out in just the order you want. Included also is *Clean.Heads*, a Pascal program which excercises your disk drive at cleaning time *and* writes a program to remind you when you last cleaned heads, plus a simple utility to read a text file and find out what the contents are without having to write a program on the spot.

## DOM #9—Music, Music, Music

Here is a great collection of programs from April through July, 1986. *Music Maker* and *Music Player* let you create and play your own Merry Melodies with alternate sets of DATA statements in BASIC. *Energy Plotter* not only plots energy consumption graphs, but contains techniques to "roll your own." In addition you will find a space game, graphics images and an assembly language subroutine to find maximum and minimum values in an integer array.

## DOM #10—Editing Character Sets

A great Pascal program to download and modify or create new fonts, this editor makes childs-play out of designing new text characters to meet your specific needs. Special math signs, foreign alphabets, you can do them all. *Football Pool* is a BASIC program to print out a grid for that office pool. All you do is type in the teams, the scores, and the participants; it does the rest. What? 3-D Video? Yes, indeed, *Stereo Spiral* shows how, using simple Business Basic subroutines. For the more technically inclined, the assembly subroutine *Pixel Inverter* does just that. Also included is *Prompt Procedure*, a collection of Pascal and assembly demos to write to the screen, and a couple of programs in WPL (Word Processing Language) to be used with AppleWriter.

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# ON THREE

*The Magazine For Apple /// Owners and Users*

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## ON: The Cover

This bird graphic demo is provided with every "Graphics Manager," a graphics program created by Mel Astrahan. An article by the same name, written by John R. Sollman, is *ON THREE Magazine's* feature article this month.

# Apple.Sauce

*lynne denicola*

### The Joy of Publishing

Does the print of this issue appear foreign to you? If it does it is because I am now a Desktop Publisher. The joys and sorrows behind that statement are commingled for me.

Joys: No more typesetter-induced headaches or nightmares. No more delays because I didn't know what they were up to or visa versa. No more panic-stricken heart stoppages after discovering a headline I failed to submit.

Sorrows: Hello, tedious hours spent composing *one* page. Hello, neck ache from crouching ever closer to the display tube in hopes of exactly aligning boxes and words and lines. Hello, glasses.

This glorious and hideous new responsibility began less than a month ago when ON THREE received its long awaited and highly anticipated LaserWriter. We had been on the waiting list for months and, when it finally arrived, were not surprised to see that it was shipped to us on the same day its production was completed. As with most of the new toys we receive here, Publisher Bob Consorti took the first crack at it, printing a flawless product advertisement among other things. I am its chief operator now, although it is linked to another computer in the building as well. It is noiseless, expeditious and produces impeccable print outs. It is also easy to maintain and service.

Before I mention the computers I used to produce these pages, I must explain my reasons for using them. Richard and Lavona Rann wrote that a wise computer user will select the best machine available for the task at hand. And with the support and generosity of ON THREE, this is what I have done.

The Apple /// cannot be beat for its business-type applications, especially its data base and word processing capabilities. For this issue, I used my Apple /// plus with 512K memory upgrade to edit and finalize all of the copy. The ///'s word processor and spelling checker cannot be surpassed.

I then used a fantastic program (also newly arrived) called "Passport," written by Karl B. Young of Apple Computer, to convert my SOS files to (drum roll please) Macintosh text files.

Yes, Macintosh. Why? Because it is the best machine for my purpose: to produce camera-ready copy with absolutely no paste up involved. The Macintosh/ LaserWriter combination is unbeatable in Desktop Publishing today. The comparative ease of text placement and abundance of programs available for this purpose make it so. I simply use PageMaker by the Aldus Corporation to create complete pages of my Apple-///-produced text. Trying to create new text with a Macintosh is unbelievably slow because it is a graphics-based computer. Sure it's nice to see what the page will look like on the console as you type, but the process is tiring and awkward. The Mac has no arrow keys and the mouse is merely an annoyance when attempting to create or edit text.

But once the text is created, displaying and moving it is simple with the Macintosh. And it is a great help seeing the finished articles as they will appear in print.

Once I am more proficient with Aldus' PageMaker, it will reduce the lead time of producing the magazine. Formerly, I received a Xerox of the typesetter's copy, created a rough paste up of it and returned those dummies to the typesetter for final layout. This wastes my energy not only in performing the task outright, but also in checking that all of the typesetting commands and layout diagrams I specified were followed and executed correctly. Now if something is amiss, it is my fault because I edit, typeset and layout the issue. It is an awesome responsibility but, with the help of my strategically chosen computers and software, what could go wrong?

### Happy Holidays!

This is my first winter spent on the west coast and I must admit I don't miss the snow yet, though friends and relatives back east do keep me abreast of the latest cold snaps and snow falls. So, from here in sunny Southern California, I and everyone at ON THREE wish you and your loved ones the happiest and safest holiday season ever.

May your errors be few and your console, bright.

# Using System Utilities

*kevin e. fitzmaurice*

It's surprising how many people believe the Apple /// and its Sophisticated Operating System (SOS) are beyond comprehension. It's even more surprising because the pathname and other SOS concepts are also used by other machines which are allegedly easier to use. Sure, if you want to do advanced programming on the Apple ///, then you must talk to SOS in both Pascal and Assembly. But that bewildering trip isn't necessary because Apple provided a diskette called Utilities with every Apple ///.

The Utilities diskette contains all the functions needed to successfully operate your Apple ///. SOS Utilities is the set of tools you need to work with disks and files and to add or change hardware. You need no understanding of programming to use these utilities. There are no cryptic commands to learn as with other systems. Instead, you only need to be able to read and spell at an acceptable level.

### Hello, SOS?

First put the Utilities disk in the built-in system disk drive and either turn on your machine, which will cause an automatic cold boot of the disk (reading the disk into memory and executing it without anything else being there), or press **CONTROL-RESET**, which will also cold boot the disk. Once booted, SOS is awake and ready to talk to you in the form of menus and simple prompts (suggestions). You will see the main menu on your screen. There are only four options for you to choose, and one of these is for quitting or ending your activity. To quit without using this command, simply remove the disk, insert a new one and press **CONTROL-RESET**.

Since you've just begun, you don't want to quit yet. But now that quitting has been covered, remaining are only three other types of work SOS can do for you: work on your devices (diskettes for the most part); work on files (hard disk files or floppy disk files); and work on SOS's drivers (peripheral interfacing).

### Working With Devices

Device handling commands are the top menu choice. To see what these are, either type D or move the cursor with the up and down arrow keys until it is on the D and press either **RETURN** or **ENTER**. Doing this presents another menu, but with six choices now.

The first menu choice, "Copy one volume onto another," lets you use SOS to copy the contents of an entire diskette onto another diskette. To do this, either type C (for copy) or move the cursor over that line and press **RETURN** or **ENTER**. You are now looking at another screen which prompts you for the name of the disk you want to copy. SOS has already supplied a name for you. You will find that SOS always guesses what names you will enter so you don't have to type them in. In this case SOS has guessed .D2. SOS assumes the disk you want to copy is in disk drive number two (first external drive), which is the most likely place for it. But, you say, SOS listed no name for the diskette (volume name). That is because SOS needs either the name or the drive number, not both. Although you could supply the name, it is easier to remember and type either .D1 or .D2 than the diskette's volume name. If you have the disk in a different drive, then move the cursor with the left arrow key over the 2 and enter the correct number.

Next, SOS asks you the name of the drive with the diskette receiving the copy. SOS suggests .D1, and if that is the case, press **RETURN** or **ENTER**. Finally, SOS asks you what name you want the copy to have. If you want it to have the same name as the one you are copying, hit **RETURN** again. Being the inquisitive system that it is, SOS asks yet another question. (When will it be able to read minds?) This time it asks whether you're sure you want to make the copy to that disk and thereby overwrite all data on it. SOS doesn't know it contains an old mess you would be delighted to get rid of, so tell it to proceed by pressing **Y** (for yes). You can make copies using only the built-in disk drive, but this is cumbersome and involves constantly shuffling diskettes. Although it's awkward, it can be done, because SOS keeps track of which diskette is which.

The other options from the Device Handling Commands Menu are even simpler to use and work very much the same way. Press **ESCAPE** once to return to that menu.

You can rename a floppy disk with a more appropriate name using the second, "Rename a volume," option. Simply insert the disk's original name or drive number when prompted and then the new name. SOS does the rest. Those new diskettes you just bought can be set up to work with SOS by using the "Format a volume" option. SOS provides names for your new disks to quicken the formatting process by using the word BLANK followed by two digits. If you are having trouble loading, running or saving data, make sure it is not the fault of bad blocks (groups of 512 bytes each) on the disk. Check for errors with the "Verify a volume" option.

You can produce a listing of the devices (drivers) you have available on any diskette with the "List devices configured" option. You can also set the date and time, which you really should have done immediately after booting the utilities. SOS uses the last date and time it had in memory to mark your files if you don't enter a new one.

Perhaps while in the midst of executing one of the above options you decide you don't want to do it. All you need do is press **ESCAPE** (the panic button) until SOS returns you to the menu you want. Let's panic and go back to the main menu (hit **ESCAPE** twice).

### Pathnames

Pathnames help you find your file in the hierarchical file structure of SOS. Do you remember the format of a simple outline? Have you used a filing system in which main files are further categorized into single subjects? Can you use the card catalog of your local library? If you answered yes to any of these questions, then you already know more than enough to successfully use the hierarchical filing system of SOS. The path through directory levels which SOS must follow to reach a file is that file's complete pathname. The number of directory levels is up to you, within limits.

File pathnames start with either a device or volume name. For example, .PROFILE is the device name for the Profile hard disk drive. To access any file on the Profile you must begin the pathname with the file's device name, .PROFILE, or its directory (volume) name, /PROFILE. All device names begin with a period so SOS will know it is dealing with a device, not an actual file.

SOS must also know where the first name in the path ends and another begins. To accomplish this, you must use delimiters. Delimiters are single characters which SOS knows are never allowed to be part of a file name. These characters are therefore called name separators or delimiters. Other delimiters could have been used, but Apple chose the backward slash (/) as the delimiter for SOS. Now we have .PROFILE/ as the device. It could also be /PROFILE/ if you're using the volume name, or .D2/ if you're using a floppy disk drive.

What follows next may be the name of the file you want. Simply enter it and you have reached the end of your path. But, the next item could also be a subdirectory name. A directory or subdirectory is not a file, but rather a general name for groups of files. Directories and subdirectories can be listed or cataloged to show the individual files they contain. Files cannot be as they are divided no further.

Let's assume you have a subdirectory for your letters. Type in the device name containing the subdirectory, .PROFILE/, followed by the subdirectory name, .PROFILE/LETTERS/, and then add the name of the specific letter you want, .PROFILE/LETTERS/SMITH. This locates the file SMITH in subdirectory LETTERS on the Profile. You summon files using pathnames like this regularly with Apple Writer /// by first pressing **CONTROL-L** to load your file to the computer screen.

### Working with Files

The second area of the Utilities package deals with all kinds of files. Choose Option F, "File handling commands," from the main menu. Here you have seven options for handling files. Beginning at the top again, choose the L option, "List files." SOS now asks what directory you want listed. I use this frequently to see what files are on my Profile. So, why not type .PROFILE over SOS's suggestion. Press **RETURN**.

You are now asked if you want ALL directory levels. If you want the main directory and only some subdirectory levels listed, type the number of subdirectory levels you want over the default ALL. Next you may choose the device to which the listing will be sent. Here the default is .CONSOLE, meaning the listing will appear on your screen. I usually type over this prompt, entering the printer device or .PRINTER. This produces a hard copy (provided my printer is on) so I can easily reference of all the files on my Profile. Should you make a mistake while typing a device or pathname, correct it by moving the cursor back over the word with the left arrow key and retyping it. Extra spaces after the word will not cause problems. Pressing **ESCAPE** here returns you to the primary File Handling Commands Menu.

The next File Menu choice is C or "Copy files." Use this to transfer files from disk to disk or even to a different subdirectory on the same disk. The "Copy

files" option can also be used to send any SOS file to the printer by merely naming the destination file as .PRINTER. The File Menu also gives the simple options necessary to delete and rename files. Just press D for "Delete files" or R for "Rename files."

A very important option is the M or "Make a new subdirectory" option. Use this to create subdirectories (subordinate to the main directory) on your disk whether it is a Profile or a floppy. If you have Version 1.2 of the System Utilities program, list the device name and then the name you'd like the subdirectory to have. In all other versions, SOS presents a default suggestion. This time it says to leave room for 25 files under your new subdirectory. You can change that by typing the number of files you think you will eventually need over it. A main directory may contain only 51 files, which may be all subdirectories, all files or a bit of each. Subdirectories may have both files and subdirectories under them as well. This allows a true hierarchical file structure to be developed using SOS. Files, of course, can only have actual data under them.

Why bother with subdirectories? First, 51 files seem like a lot on a diskette, but on a Profile the number seems minute. If you create 51 small main files, SOS will not let you create another and you will be left with a vast amount of unusable memory on your Profile. Hence the need for subdirectories. With only one main file you can have 51 subdirectories, and each of *those* can have an almost limitless number of subdirectories. You conceivably could never need another main file.

Subdirectories look like main directories but are listed under them. Therefore, the directory name must appear before the subdirectory name in the pathname to gain access to the subdirectory and the files or subdirectories under it.

Another reason for using subdirectories is that most software allows you to set a prefix pathname to load or save files. The prefix may be the device name alone or a pathname including the device as well as subdirectory names. Either way, it saves you some typing. Finally, the file names are clearer and more easily defined when made part of an orderly grouping of directories and subdirectories rather than being scattered throughout your disks.

Option W is a safety feature, "set Write protection." Using this you may protect crucial files on a disk which is not write protected while leaving others open to change. Remember, files write protected this way cannot be copied until the write protection status has been changed.

The File Menu's final feature is the P or "set Prefix" option. This is a convenience feature, saving you time and avoiding tedious and repetitious typing. The prefix is the first part of a pathname. Once the prefix has been set, SOS will supply that prefix each time it prompts you for a file name. You may supply a different one at any time and SOS won't object. Most of these operations on files are available from Apple Writer ///, Business BASIC and Pascal as well. In fact, instead of using the Pascal Filer, you may use the SOS Utilities with its superior features from Pascal instead. Simply copy the SYSTEM.START-UP file from the utilities disk to the Profile and rename it SYSTEM.FILER as you do so.

### Rules to Remember

While using System Utilities, you will most often use the device name .D1. Device names must always begin with a period followed by a letter, then any combination of letters and numbers up to a total of 15 characters. Volume names are always preceded by a backward slash (/) and must also begin with a letter. They may then contain letters, numbers and periods in any combination but may not exceed a total of 15 characters. Local names (the names of specific files) and subdirectory names both follow the same rules as Volume names. Pathnames are limited to a total of 128 characters so don't use long file names. These rules are quite logical and should pose no problems.

The System Configuration Program is the third option in the Main Menu and will be examined in a future issue. It is a powerful tool and deserves an article of its own.

### *ON THREE* On Line BBS

If you haven't logged onto the ON THREE On Line BBS lately, you should. It has been given a face-lift by our resident programming expert, Tim Harrington.

The BBS is now easier to use because of its new, more logical directory format which is shorter and more effectively organized. Also, downloading files was difficult if you tried it at 1200 baud. Tim fixed the programming so it instantaneously responds to **CONTROL-S** and **CONTROL-X** commands. You will never lose information again because your disk cannot keep up with the 1200 baud transmission rate.

Tim is currently in charge of the BBS, so if you have any questions or comments regarding it, address them to him.

# Three Shorts - Fini!

*somvang hansana*

*Return with me now to the days of yesteryear! Sound familiar? Does this column look familiar? It should. When the magazine was first published, every issue contained three short, fun programs for you to use and enjoy. Mail has poured in requesting this column's resurrection, but due to lack of sub-missions, publishing it in every issue is impossible. But when I do have three good ones to print, as I did this month, I will print them.*

*If you like this column, and I know you do, why not compose a few of your own and share them. You need not write three. If everyone out there wrote one, I would have enough to publish this column forever. Almost.*

***NOTE:** For all of the programs listed on this page, make sure you have inserted your basic disk into one of your drives* or *set your hard disk prefix to the BASIC subdirectory containing "bgraf.inv" and remove "basic" from the invoke lines.*

```
0  REM ******************************
1  REM *        Color Diamond         *
2  REM *     by Somvang Hansana       *
3  REM * ------------------------- *
4  REM *  A treat for those of you  *
5  REM *    with color monitors.     *
6  REM *    Copyright (c) 1986 by    *
7  REM *          ON THREE           *
8  REM ******************************
 10   ON ERR INVOKE"/basic/bgraf.inv"
 20   PERFORM initgrafix:OFF ERR
 30   PERFORM grafixmode(%1,%1)
 40   PERFORM fillport
 50   PERFORM grafixon
 55   ON KBD GOTO 1000
 56   FOR v=9 TO 13
 57     PERFORM pencolor(%v)
 60     FOR a=0 TO 279 STEP 5
 70       PERFORM moveto(%139,%95)
 80       PERFORM lineto(%a,%191)
 85       PERFORM moveto(%139,%95)
 90       PERFORM lineto(%a,%0)
100       NEXT a
110     FOR b=0 TO 191 STEP 5
120       PERFORM moveto(%139,%95)
130       PERFORM lineto(%0,%b)
140       PERFORM moveto(%139,%95)
150       PERFORM lineto(%279,%b)
160       NEXT b
170     FOR c=0 TO 279 STEP 5
175       PERFORM pencolor(%v-1)
180       PERFORM moveto(%139,%191)
190       PERFORM lineto(%c,%95)
200       PERFORM lineto(%139,%0)
210       NEXT c
220     NEXT v
230   PERFORM xfroption(%6):PERFORM fi
      llport
240   GOTO 56
1000   IF KBD=27 THEN POP:TEXT:END
1010   ON KBD GOTO 1000
1020   RETURN
```

```
0  REM ******************************
1  REM *       Random Designs         *
2  REM *     by Somvang Hansana       *
3  REM * ------------------------- *
4  REM * Handsome shapes which look *
5  REM *  best on a color monitor.   *
6  REM *    Copyright (c) 1986 by    *
7  REM *          ON THREE           *
8  REM ******************************
 10   ON ERR INVOKE"/basic/bgraf.inv"
 20   PERFORM initgrafix:OFF ERR
 25   PERFORM grafixmode(%1,%1)
 30   PERFORM fillport
 35   ON KBD GOTO 1000
 40   PERFORM grafixon
 41   PERFORM moveto(%0,%0)
 42   PERFORM lineto(%279,%0)
 43   PERFORM lineto(%279,%191)
 44   PERFORM lineto(%0,%191)
 45   PERFORM lineto(%0,%0)
 50   a=INT(RND(e)*f):b=INT(RND(e)*g)
 60   c=INT(RND(e)*f):d=INT(RND(e)*g)
 70   IF e=0 THEN PERFORM grafixon
 80   e=1:f=279:g=191
 90   a=a+SGN(c-a):b=b+SGN(d-b)
100    PERFORM pencolor(%RND(1)*16)
110    PERFORM moveto(%c,%d)
120    PERFORM lineto(%a,%b)
130    PERFORM moveto(%f-c,%d)
140    PERFORM lineto(%f-a,%b)
150    PERFORM moveto(%c,%g-d)
```

**(Continued on p.19)**

# Desktop Manager Module

*tim harrington*

*This is a sample module that shows how easy it is to write your own modules for the Desktop Manager. Plus you get a free screen dump routine that works under any existing program.*

```
Desktop Manager Screen Dump Module
by Tim Harrington

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; The following is Header information.  It must be present in all Desktop
; Manager modules or they will not run.  The header tells the Desktop Manager
; what name it should put in the main menu and where to start running the code.

                .Absolute                       ;This tells the assembler
                                                ;this code is not relocatable.
                .Proc           SCREENDUMP      ;This tells the assembler this
                                                ;is the beginning of source.
                .Org            3800            ;This tells the assembler this
                                                ;code will always start at
                                                ;location 3800 hex.
                Jmp             Entry           ;This tells the Desktop Manager
                                                ;where to start running this
                                                ;module.
                .Byte           11.             ;Module name.  The first byte
                .Ascii          "Screen Dump"   ;is equal to the number of
                                                ;characters in the module's
                                                ;name which follows.  The name
                                                ;must NOT exceed 14 characters.
;-------------------------
;
; EQU's and Macros follow
;
;-------------------------

                .Macro  SOS
                BRK
                .Byte   %1
                .Word   %2
                .EndM

Open            .EQU    0C8                     ;SOS Open call number.
Read            .EQU    0CA                     ;SOS Read call number.
Write           .EQU    0CB                     ;SOS Write call number.
Close           .EQU    0CC                     ;SOS Close call number.
D_Status        .EQU    082                     ;SOS D_Status call number.

Destination     .EQU    03701                   ;This is a location in the
                                                ;Desktop Manager that holds
                                                ;the users printer driver name.
Cr_Lf           .EQU    03711                   ;This is a location in the
                                                ;Desktop Manager's global page.
                                                ;It tells you whether to use a
                                                ;carriage return or a carriage
                                                ;return + line feed.
```

```
;----------------------------------------
;
; Data for the Screen Dump module follows
;
;----------------------------------------

; Following is the OPEN block which is used to open the printer so you can
; write to it.  The PRINTER's reference number is returned at Open_Reference.
; You will use this number to write to the PRINTER.

Open_Block      .Byte   04                      ;Parameter count.
                .Word   Destination             ;Pointer to the pathname.
Open_Reference  .Byte   00                      ;Reference number returned here
                .Word   0000                    ;Option List pointer (none).
                .Byte   00                      ;Option List length (zero).

; Following is the WRITE block which you will use to write to the printer.  The
; Write_Reference you obtained from the Open call will tell SOS that you want
;  to write to the PRINTER.

Write_Block     .Byte   03                      ;Parameter count.
Write_Reference .Byte   00                      ;Reference number from OPEN.
                .Word   Character               ;Pointer to data to write.
                .Word   0001                    ;Number of characters to write.
                                                ;You only want to write one
                                                ;character at a time.

; Following is the WRITE block to the .CONSOLE that will tell the .CONSOLE
; to Goto an absolute specified X,Y location.

GotoXY          .Byte   03                      ;Parameter count.
Goto_Reference  .Byte   00                      ;Reference number for .CONSOLE.
                .Word   GotoXY_Buffer           ;Pointer to data to write.
                .Word   0003                    ;Number of characters to write.

GotoXY_Buffer   .Byte   26.                     ;Tells the .CONSOLE to use the
                                                ;next 2 bytes as X,Y locations.
X_Position      .Byte   00                      ;Goto column X.
Y_Position      .Byte   00                      ;Goto line Y.

; Following is the WRITE to the .CONSOLE to open the text window to encompass
; the entire screen.  We do this in case the users screen was set up as a
; window smaller than the entire screen.

Text_Block      .Byte   03                      ;Parameter count.
Text_Reference  .Byte   00                      ;Reference number for .CONSOLE.
                .Word   Text                    ;Pointer to data to write.
                .Word   0001                    ;Number of characters to write.

Text            .Byte   01                      ;Writing a character 01 to the
                                                ;screen will reset any
                                                ;viewports already set up.

; Following is the D_STATUS block to the .CONSOLE that picks up the character
; at the current cursor position and puts it in Character.

Get_Cursor      .Byte   03                      ;Parameter count.
Get_Device      .Byte   00                      ;Device number for .CONSOLE.
                .Byte   17.                     ;D_STATUS call number.
                .Word   Character               ;Point to data.

Character       .Byte   00                      ;The character at the current
                                                ;cursor position set by the
                                                ;GotoXY write will be put
                                                ;here.

; Following is the WRITE block which sends a return to the printer.  It takes
; into account whether the user's printer needs a carriage return or carriage
; return + line feed.
```

```
Cr_Lf_Block      .Byte   03                      ;Parameter count.
Cr_Lf_Reference  .Byte   00                      ;Reference number for printer.
                 .Word   Cr_Lf+1                 ;Data buffer pointer.
Cr_Lf_Count      .Word   0000                    ;Number of characters to write.

; Following is the CLOSE call to the printer.  Close the printer, but not the
; .CONSOLE because the Desktop Manager closes the .CONSOLE.

Close_Block      .Byte   01                      ;Parameter count.
Close_Reference  .Byte   00                      ;Reference number for printer.


;-------------------------------------
;
; This is the beginning of the module
;
;-------------------------------------

; The Desktop Manager passes the .CONSOLE's Reference number in the X Register.
; It also passes the .CONSOLE's Device number in the Y Register.

Entry            STX     Goto_Reference          ;Save for WRITE to the .CONSOLE
                 STX     Text_Reference          ;Save for TEXT to the .CONSOLE.
                 STY     Get_Device              ;Save for D_STATUS.

; With the statements below you will look into the Desktop Manager's vector
; page and get the address of the routine to restore the users screen.  That
; way you can print what's under the Desktop Manager's menu box.  Since this is
; only a location, you must patch a JSR to jump to it.  The lines below do just
; that.  First you get the location and then patch a JSR to jump to it.

                 LDA     2003                    ;First you get the address of
                 STA     00                      ;Desktop Manager's vector page.
                 LDA     2004                    ;Store it on the zero page so
                 STA     01                      ;you can use indirect
                 LDA     #00                     ;addressing.  You must set up
                 STA     1601                    ;your X-byte if you are going
                                                 ;to use indirect addressing.

                 LDY     #02                     ;Now you can get the address
                 LDA     @00,Y                   ;of the restore routine and
                 STA     Restore+1               ;patch your JSR.  Use Y=2
                 INY                             ;because the restore vector
                 LDA     @00,Y                   ;is the second one on the
                 STA     Restore+2               ;vector page.

Restore          JSR     Restore                 ;This has been patched so now
                                                 ;you can do it.
                 LDA     Cr_Lf                   ;Set up Cr_Lf_Count according
                 STA     Cr_Lf_Count             ;to what the user wants.

                 SOS     Open,Open_Block         ;Open the printer for writing.

                 LDA     Open_Reference          ;Store the printer's reference
                 STA     Write_Reference         ;number for the writes.
                 STA     Cr_Lf_Reference
                 STA     Close_Reference

                 SOS     Write,Text_Block        ;Open screen window to
                                                 ;encompass the entire screen.
                 SOS     Write,Cr_Lf_Block       ;Set the printer's carriage to
                                                 ;a new line.

                 LDX     #00                     ;Initialize the indexes.
                 LDY     #00

LOOP             STX     X_Position              ;Set up X and Y for the
                 STY     Y_Position              ;GotoXY write to the .CONSOLE.

                 SOS     Write,GotoXY            ;Goto X_Position,Y_Position.
```

```
                SOS     D_Status,Get_Cursor     ;Pick up character there.

                LDA     Character               ;Check to make sure character
                                                ;is printable.
                AND     #7F                     ;Strip high bit.
                CMP     #32.                    ;Is it a control character?
                BCS     $01                     ;If no, save as is.
                LDA     #32.                    ;If yes, change it to a space.
$01             STA     Character

                SOS     Write,Write_Block       ;Print the character to the
                                                ;printer.
                INX                             ;Increment column count.
                CPX     #80.                    ;Are we at the right-hand
                                                ;edge of the screen?
                BNE     LOOP                    ;If no, goto next column.

                SOS     Write,Cr_Lf_Block       ;If yes, send return to
                                                ;printer.
                INY                             ;Next line.
                LDX     #00                     ;Column zero.

                CPY     #24.                    ;Are you at the bottom of the
                                                ;screen?
                BNE     LOOP                    ;If no, print next line.

                SOS     Close,Close_Block       ;If yes, you're done!  Close
                                                ;off the printer.
                RTS                             ;Return to the Desktop Manager.

                .End
```


# Products & Services Available for the Apple ///

## Current ON THREE Price List

| Product | Price | S/H |
|---|---|---|
| ***Software*** | | |
| Disk Of the Month | $14.95 | $2.00 |
| Two or more DOM's | $12.50 ea | $4.00 |
| /// E-Z Pieces | $135.00 | $3.50 |
| Apple Fortran /// (requires Pascal) | $99.00 | $5.00 |
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| Desktop Manager/ON THREE O'clock combination | $163.95 | $8.00 |
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| Macro Manager* | $44.95 | $3.00 |
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| Crossword scrambler | $9.95 | $2.00 |
| UniDisk ///.5 disk and documentation only | $50.00 | $3.00 |
| Sider 10, 20 mb Driver and documentation only | $100.00 | $3.00 |

| Product | Price | S/H |
|---|---|---|
| ***Hardware*** | | |
| ON THREE O'Clock | $39.95 | $3.00 |
| Game Card /// ✚ | $39.95 | $2.00 |
| Apple //e Mouse and Interface card (Use with Draw ON and Desktop Manager) | $160.00 | $5.00 |
| Apple /// UniDisk ///.5 (800K 3½" disk drive w/ interface, driver & documentation) | $499.00 | $10.00 |
| MicroSci A3 140K Disk Drive ✚ | $225.00 | $6.50 |
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| Reconditioned 512K Apple /// w/monitor /// | $1048.00 | $50.00 |
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| Product | Price | S/H |
|---|---|---|
| ***Other Services and Products*** | | |
| 512K or 256K Upgrade installation (by appointment only) | $50.00 | |
| 12-issue ON THREE subscription | $40.00 | |
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# Graphics Manager

*john r. sollman*

Graphics Manager is the latest in **ON THREE**'s line of Desktop Manager modules. When I acquired my Apple /// (all of 128K) in late 1982, one of my objectives was to have graphics capability. Much of my work at that time required I prepare statistical reports in tabular and graphic form. My first printer, a daisy wheel Brother HR-1, was nice, but slow. At a computer show in June 1984, I found my present printer, a Fujitsu DPL-24. This printer has tremendous graphics capability and produces letter-quality text at high speeds. At the same time, my Apple /// dealer was liquidating some of his software stock, and I bought a copy of Business Graphics for a mere $50.

Then the bubble burst. Much to my chagrin, I learned Business Graphics is quite limited in the printer support. Not even the Printer Interface Kit (PIK) program, which Business and Professional Software developed to add new printers to the Business Graphics SYSTEM.LIBRARY file, contains routines which support the Fujitsu. Unbeknownst to me, at the very time I was buying all this hardware and software, corporate Apple was busily engaged in abandoning its loyal /// users. So much for any hope of having new printers supported by Business Graphics or any other graphics program.

Then, one fine day (Puccini lovers, please pardon the pun), **ON THREE** asked me for my printer codes so Mel Astrahan could include the Fujitsu with the other printers supported by Graphics Manager. At long last, graphics capability was almost within my grasp! Sure enough, a few weeks later, I received from Mel Graphics Manager Version 2.11, some documentation and a request that I test the program on the Fujitsu and forward the results. After correcting the routine for line feed, Mel sent me another diskette, this time Version 2.2a. It worked like a charm! My initial goal of having graphics capability with my Apple /// was finally realized. Version 2.2a supported the Fujitsu in its low resolution (90x90) dot density mode. After I had essentially finished my review of the product for **ON THREE**, Mel sent me Version 2.4 which supports the Fujitsu in its high resolution (180x180) dot density mode. Anyone out there who has shared my experience, take heart! There is hope yet for those of us Corporate Apple abandoned.

In a later conversation, Mel discussed the philosophy behind the development of Graphics Manager. When Apple Computer abandoned the /// and with it many Apple /// users, most software developers ceased further research and development on products for the Apple ///. This left many Apple /// owners who had purchased one of the newer, state-of-the-art printers facing the bleak realization that they probably would never be able to use the Apple ///'s tremendous graphics capability. But their prayers were answered when Mel Astrahan and **ON THREE** developed the Graphics Manager program.

Not only do we have Graphics Manager, but Color Graphics Manager as well. Color Graphics Manager now supports four printers: Epson's JX80, the ImageWriter 2, IDS' TF132, and IBM's Color Printer. It also provides a palette of bold colors and soft pastels to print enhanced graphics on color printers. Color Graphics Manager is *not* the same as Graphics Manager in that it does not handle monochrome images. Mel stated there is insufficient buffer space to handle both monochrome and color in a single Color Graphics Manager package.

Graphics Manager is a utility which allows you to manipulate and then print a graphics screen created by another program. It is really a dual package. One side of the disk contains an interpreter which can be booted directly or installed in Catalyst or Selector /// and on the other side is the Desktop Manager version of Graphics Manager. I evaluated the program in its Desktop version, although I intend to install it in Catalyst as well.

This article evaluates Version 2.2a, an interim version in which the dot density had been set to support low resolution graphics on the Fujitsu. Mel said releasing this type of intermediate program is often a necessary to determine which codes support which printer functions, a lamentable situation attributable to the sorry condition of the documentation accompanying most foreign-manufactured equipment and much hardware and software produced right here at home. (What wouldn't we give to have Japanese manufacturers hire a competent, native-American-English-speaking technical writer to prepare the documentation to support their excellent products? How many of us

have encountered printer manuals which speak of the "printer becoming in the deselect condition" following the occurrence of some equally ill-defined event?) After I had already evaluated all of the features of Graphics Manager Version 2.2a, Mel sent me Version 2.4, which supports the Fujitsu in its high resolution mode.

Installing Graphics Manager as a Desktop Manager utility is probably easiest. Simply copy the files, OPTIONG, DMG.PAPER, DMG.DATA, DMG .MENU and DMG.INST from the Desktop side of the diskette to the Desktop subdirectory on the hard disk, and then copy the fonts from the Interpreter side to a fonts subdirectory. The installation disk also contains one foto file which may be copied to the hard disk. The foto file is provided so people without libraries of graphics material can learn to use Graphics Manager. Other foto files may be found on the RAM Disk Demo which comes with **ON THREE**'s 512K Memory Upgrade.

The .GRAFIX driver must be present whenever you use Graphics Manager. If you have Catalyst Version 2.0 or later, just dynamically load .GRAFIX for any programs with which you intend to use Graphics Manager as a background utility. For my evaluation, I dynamically loaded the .GRAFIX driver into Word Juggler.

#### System Configuration

You must do several things to make Graphics Manager work with your system. First, select a printer driver and a printer configuration. To do this, toggle **OPEN-APPLE-D** through the list of available drivers and **OPEN-APPLE-P** through the printer families to find the right settings for your prin-ter. As of this writing, Graphics Manager supports 34 printer families including the Fujitsu. Printers now supported include the Apple DMP, ImageWriter, C. Itoh 8510, ProWriter, NEC 8023, Epson MX, FX, RX, JX80, IBM Star, OkiData ML92/93, IDS Prism P132, Fujitsu DPL-24, Hewlett Packard Think Jet and Genie Star SG10/15.

Just to make things a little easier, you should also set a pathname prefix (Option 6) for loading foto files. Many people using graphics store foto files or screen files in one specific subdirectory. Using the path-name prefix, Graphics Manager can be set to automatically load from and store to this same sub-directory. Foto files can be loaded from any other subdirectory simply by entering the complete pathname. Because the pathname length for fonts and foto files is limited, you should keep your directory and subdirectory names as short as possible. Otherwise, it may be cumbersome to load certain files and impossible to load certain fonts.

If you want to enter text, alone or in combination with graphic data, you must load a font first. To do this, select Option 8 and choose a font by entering the complete pathname. The current font, indicated at the bottom of the menu, may be changed at any time while you are running Graphics Manager. Once you've completed your configuration, select Option 7 from the menu to save it. Now you are ready to print graphics.

To print a graphic image, either load an existing image or create a text image, then identify the part of the graphic image you want to print. To do this, go to the Graphics Screen and "open" the cursor around the part of the image you want. Next, go to the Paper Template screen and specify the size of the image and its location by opening the cursor to create a rectangle and placing the rectangle where you want the picture to appear on your printed copy. Return to the menu and select Option 2 (print). That's all there is to it.

Your printer and Graphics Manager must be synchronized to print the graphic image in the correct location on the paper. Graphics Manager does not communicate directly with the printer to determine the vertical positioning of the print head. Instead, the program uses a Paper Template preset to paper sizes of 8 1/2" x 11" and 11" x 14". Graphics Manager marks the top of the page on its Paper Template with a line, called the synchronization line, and assumes the printer's head is also at the top of its page. For each line of data sent to the printer, Graphics Manager advances its mock printer line proportionally and assumes the printer is advancing its printing head to the same line as well.

To synchronize your printer's head with Graphics Manager's synchronization line, move the synchronization line so it corresponds with the actual vertical position of your printer's head. For example, if the print head is at the top of the form, move the synchronization line to the top of the Paper Template. If the print head is two inches below the top of the form, move the synchronization line two inches from the top of the Paper Template and place your image on the template accordingly. The Paper Template is gridded with dots one inch apart vertically and horizontally, which greatly simplifies placing images on the template with respect to the synchronization line. If you set the synchronization correctly, Graphics Manager will print the graphic image on your paper exactly where it appears on the Paper Template.

For printers without reverse line feed, all printing must start below the synchronization line. But, printers with

reverse line feed (indicated by * in the manual) may begin printing above *or* below the synchronization line. If you tell a reverse feed printer to being printing an image which is above the synchronization line on the template, the printer will reverse to the top of the paper and print the image. If a regular printer was commanded to do the same thing with the synchronization line half-way down the page, it would advance to a new page before printing the image.

To print a graphic image, load a foto file using Option 1 from the menu. Then go to the Graphics Screen by selecting Option 3 from the menu, or by simply pressing **ENTER**. The image you loaded will already be on that screen. The cursor is a very fine cross which is used to identify the portion of the image you want to print. To do this, move the cursor to the upper-left corner of the print window. Press **OPEN-APPLE-C** to toggle the cursor to its open mode. Once in this mode, the cursor is the lower-right corner of the print window. Moving the cursor opens it, creating a rectangle. Whatever you frame with the rectangle will be printed. Once you have everything you want to print framed, press **OPEN-APPLE-C** to lock the size of the rectangle. Graphics Manager also supports a mouse and joystick. Once locked, it can still be moved by using the arrow keys, the mouse or the joystick. You can position images and open the cursor much faster with the mouse than with the arrow keys. Those who are blessed with either will be able to manipulate the cursor quite rapidly. If you are an arrow-key type like me, manipulating the cursor takes a bit longer.

Pressing the decimal point on the numeric keypad brings up the Paper Template. Move the cursor to the upper left corner of the location where you'd like your image printed. Press **OPEN-APPLE-C** to open the cursor and move it to where you want your image's lower-right corner to be. As on the Graphics Screen, the cursor opens to form a rectangle. **OPEN-APPLE-C** again locks the rectangle.

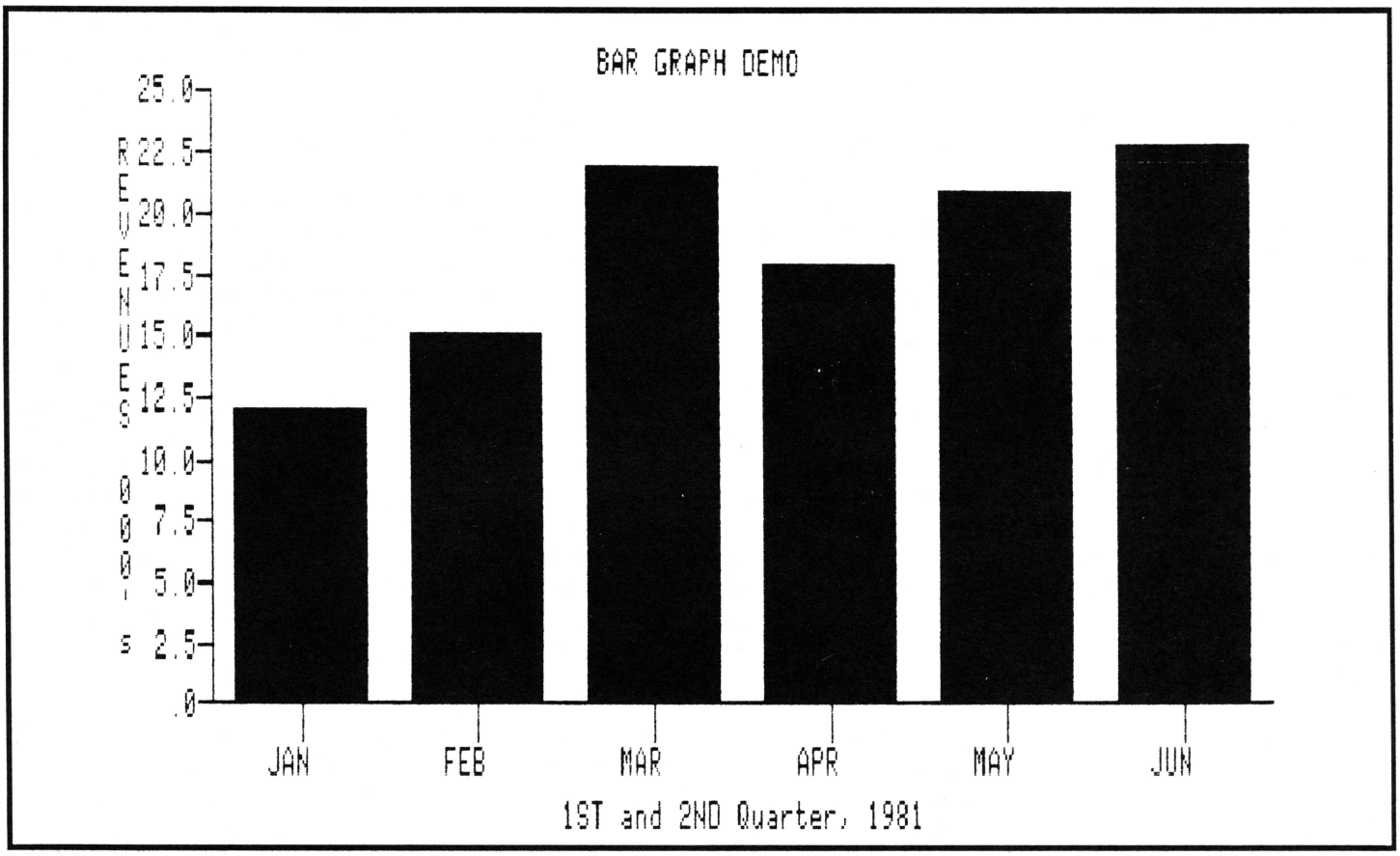
If you want your image to appear exactly as you framed it on the Graphics Screen, you must maintain the same aspect ratio between the two rectangles. Aspect ratio is simply the relationship between the the two rectangles' length and height. For example, if the rectangle you drew on the Graphics Screen has a length of 2" and a height of 3", then the rectangle you draw on the Paper Template must be proportional, having perhaps a length of 1" and a height of 1.5". To guarantee a reasonably correct aspect ratio, extend the cursor to the upper-right corner of the rectangle on the template and press **A**. The rectangle will automatically open to the correct aspect ratio. I found that the aspect ratio of the image on the screen was accurately reproduced by my Fujitsu. A good way to check the aspect ratio is to press **OPEN-APPLE-V**. This lets you view the image in low resolution at its location on the Paper Template. If the aspect ratio appears incorrect, widen or deepen the image as needed by opening and moving the cursor.

Among the images I used to test Graphics Manager was a pie chart I created in Business Graphics. I achieved a slightly better aspect ratio by manually matching aspect ratios, paper to graph. The numbers at the top of the Paper Template indicate how close you are.

Now that you've correctly sized and positioned your graphic image on the Paper Template, you can print it by pressing **0** on the numeric keypad, to return to the menu, and selecting Option 2. If your ribbon is worn, you may wish to darken the image by pressing **OPEN-APPLE-K** before printing. This command tells the printer to double-strike each dot printed. When you're ready to print, press **RETURN** and your image will be printed according to your specifications.

Graphics Manager will print an image of practically any size, at any location and at four different rotations (0, 90, 180 and 270 degrees). There are, however, printer-imposed limitations. Enlargements of the image can be done without losing information and are handled quite well, but reductions are limited in computer graphics by the number of dots it takes to produce a readable image and the number of dots a printer can put into a given area. As material is reduced beyond a certain point, information is lost, most noticeably in text. So, if you plan to use images containing text, keep this limit in mind. If you demand clarity, it is generally better to create as large an image as possible.

Generally, graphic material is added to a word processing document after the text has already been printed. You just leave a hole in the typed copy for your graphic image. To mesh text and graphics successfully, after printing the text, determine the size of the graphic image and the precise coordinates of the upper-left corner. Always remember to maintain a proper aspect ratio. Reload the paper with the text into the printer, or back it up to where you want the first graphic image printed. Using the Paper Template, set the synchronization line and the position and size the graphic image. Now print. If you have correctly determined the size and location of the graphic image on the Paper Template, the image will be printed in the space you left for it on the paper form. You may now proceed to the next page on which you want an image printer and repeat the process, remembering to set the synchronization line. I prefer to set the print head and the synchronization line at the top of the form, since this is the position from which I start printing all documents.




The command structure of Graphics Manager is somewhat different from that of the other Desktop Manager modules but is similar to Draw On ///'s. The cursor keys move the cursor one pixel at a time, while the cursor and shift key pressed simultaneously moves the cursor seven pixels left or right, and eight pixels up or down. The Alphalock key locks the cursor to X or Y, according to the Paper Template cursor aspect ratio. The A key automatically adjusts the print window to the correct aspect ratio, and the R key rotates the image in 90 degree increments. Using the Open-Apple key in combination with another key toggles the cursor open or closed, selects the printer family, selects the text mode, draws a box in text mode, toggles the eraser on and off, sets the synchronization markers on the Paper Template, sets the fill color, etc. The only Closed-Apple command in Graphics Manager closes the cursor.

Double-Apple commands are used to erase the Graphics Screen or Paper Template, clean up Apple //e files, copy the graphic window from the Paper Template to the Graphics Screen, shift 8K segments, expand 8K graphics to 16K graphics, reverse joystick direction, set graphics mode and quit. Control-Key commands are used to edit the pathname. Use **CONTROL-E** to erase the complete pathname. **CONTROL-LEFT-ARROW** erases the character to the left of the cursor, while **CONTROL-K** erases everything to the right. **CONTROL-U** restores the default entry.

Graphics Manager can also scan a directory. Simply use the arrow key to select a file to load. Press **UP-ARROW** and a pop-up directory, similar to the pop-up directories in System Utilities, appears. Unlike System Utilities, you select a file with the Return key, not the Right-Arrow. When you select a file, the name of the selected file is appended to the foto file pathname shown in the menu. Pressing **RETURN** again loads the file.

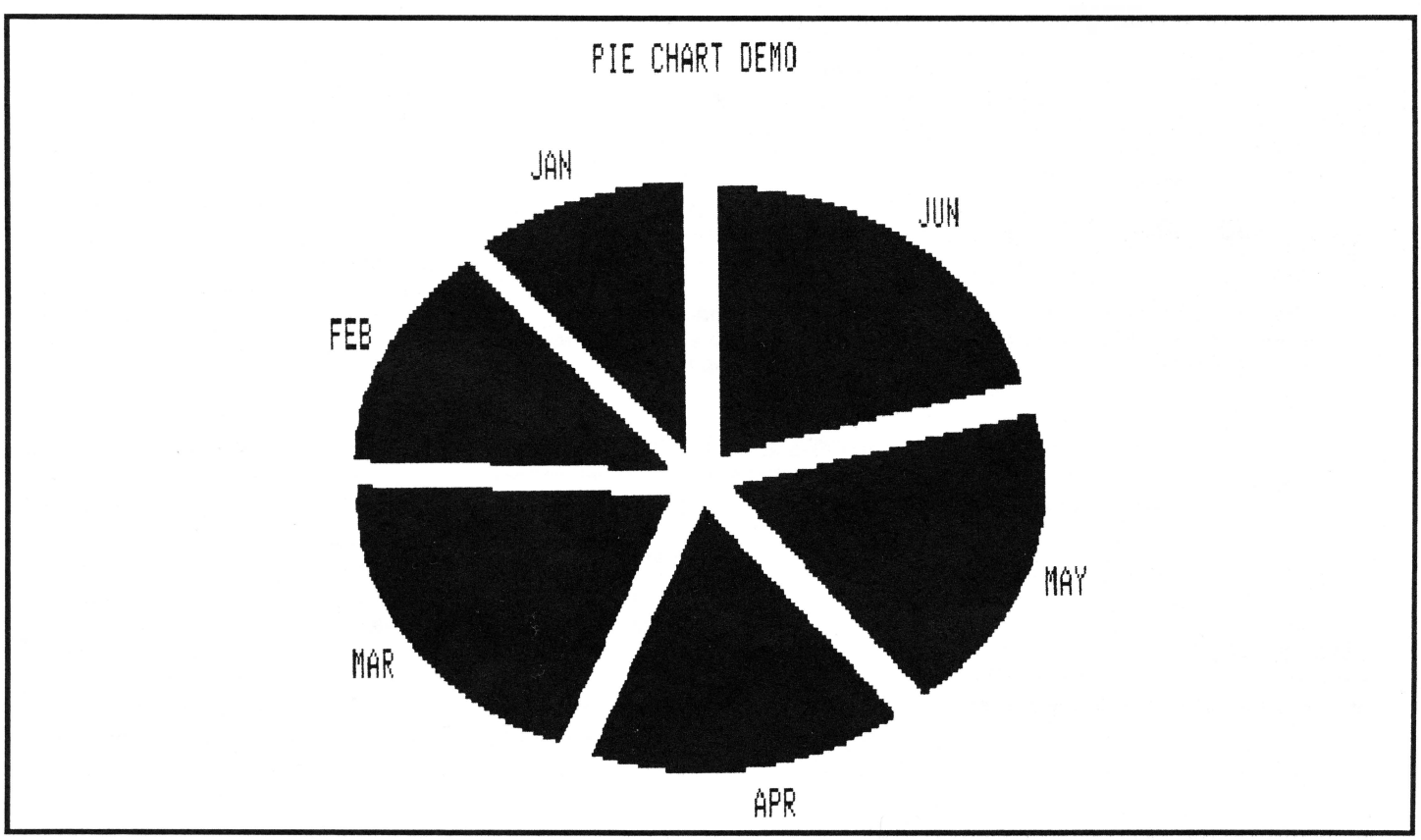
In Graphics Manager, you may use the menu to select either the Graphics Screen or Paper Template, but there is an easier way. Summon the Graphics Screen by pressing **ENTER** and the Paper Template by pressing the decimal point on the numeric keypad. Pressing the 0 key on the numeric keypad returns you to the menu. This arrangement gives you considerable flexibility in arranging a graphic image for printing because it permits free movement between all three screens. In addition, Graphics Manager allows you to move a graphic image or a portion thereof to the Paper Template, change its size or aspect ratio, and copy it back to the Graphics Screen. This in effect creates a new image which you can saved to disk for use later.

Graphics Manager is configured to handle 16K Apple /// foto files. However, the program will load practically any binary file with a graphics image, including Apple ][ and // e graphics as well as Print Shop Graphic and Screen Magic files. (It will not handle Springboard, however.) To test this capability, I loaded Business Graphics' Start Up Screen, an 8K Pascal screen data file. If you load any file which is not a foto file, Graphics Manager gives a warning when it detects the file type. Pressing **RETURN** clears the warning and loads the file. Pressing **ENTER** (or Menu Option 3) brings up the Graphics Screen. The Business Graphics Startup Screen image was displayed, but with vertical stripes. I pressed **DOUBLE-APPLE-O** to convert the 8K graphic information to 16K, the stripes disappeared and a perfect image was displayed! I saved the screen as a foto file and later successfully reloaded it.

To load DOS 3.3 files, precede the pathname with an asterisk, which acts as a switch to invoke certain routines necessary for the conversion. For Print Shop Graphic files, which are stored in four sectors on disk, Graphics Manager converts to 560 x 192 graphics and loads the image to the cursor location on the Graphics Screen. The 8K Screen Magic files are loaded and then converted to 16K graphics if you press **DOUBLE-APPLE-O**. Other routines are available to load and clean up Apple //e PRODOS graphics files.

Graphics Manager prints exactly what is on the screen. The black screen is printed as black, and the green portions as white. In its initial form, the Business Graphics Startup Screen is displayed as green (white) images on a black background. Printing the screen produces white information on a black background, exactly as it appears on the screen. If you would rather print the information in black with a white background, simply press **OPEN-APPLE-N** while in the Graphics Screen to invert the coloration. The image changes from having a black background to green, with the information now displayed in black. The program will now print black information on a white background.

My printer has reverse line feed capability so I am able to print numerous images on a single page without resynchronizing the printer. I printed four images of the Business Graphics Startup Screen on a single piece of paper, each in a different rotation, and a slightly larger image centered at the bottom. This was all done without resetting the synchronization. After printing the first image, the synchronization line was at the bottom of the rectangle on the Paper Template. Using the **OPEN-APPLE->** key, I moved the rectangle to the right and inverted it 180 degrees. When printing the second image, the printer reverse-fed the paper back to the top of the form, then advanced the paper to the top of the image and printed. I repeated these steps

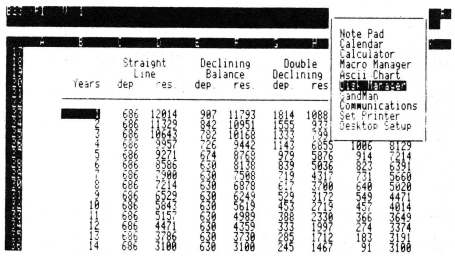


## ON THREE Presents...

# The Desktop Manager™

**by Rob Turner and Bob Consorti**

- The most complete and sophisticated desk accessory program ever written!
- For once and for all, unclutter your desk the *Desktop Manager* way!




**Desktop Manager main menu, shown overriding a spreadsheet.**

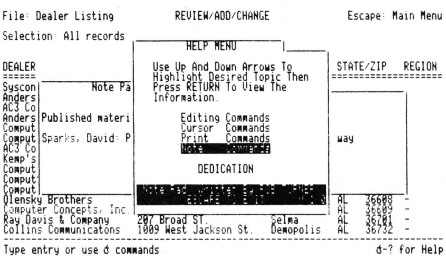
***Running in the background, the Desktop Manager places all of the desk accessory utilities you ever wanted...Appointment Calendar...Notepad...Calculator...Disk Utilities...Macros...Graphics...Games... and more, into each program you own, just like they were part of it. Instantly available from /// E-Z Pieces, VisiCalc, AppleWriter, BPI, and all other programs, the Desktop Manager will clear your desk pronto.***

*What is "Running in the background?" It is simply a program that, unlike most, "hides" from you. You are never aware of its presence, but when you need it, it is "Johnny on the spot," ready to serve you at the touch of a key.*

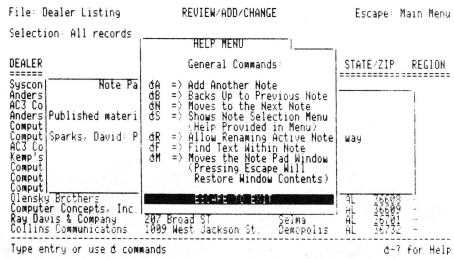
*While word processing, have you ever needed to multiply two numbers? Perturbed because you have a few thousand dollars worth of computer equipment at your fingertips and still can't multiply two figures when you want to? Or, you're entering data in a spreadsheet and can't find either a scratchpad or a pen to jot down a note. While you're digging under piles of paperwork, you probably mutter something unprintable under your breath.*

*Perhaps you're entering text in a word processor document and decide it's time to do your first file save, but you can't remember if the file name you want to use already exists. Too bad the word processor has no provision to catalog a disk. Similarly, you may need to save a file and discover that you don't have a disk with enough room left on it. You have plenty of blank, unformatted disks. If you exit the program to use the System Utilities to format a disk, all of your work will be lost.*

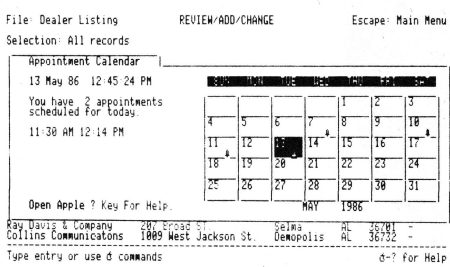
*Does this describe your situation? How about clearing your desk of that old-fashioned calculator, the pens and paper, your appointment calendar and increase your productivity? The* **Desktop Manager** *from* **ON THREE** *will do these things and a great deal more. From within any program, a keypress will override your current application and display a window into the* **Desktop Manager**. *At this point you have the entire facilities of the* **Desktop Manager** *at your beck and call. You can pause whatever you are presently doing, and select any of the following modules:*



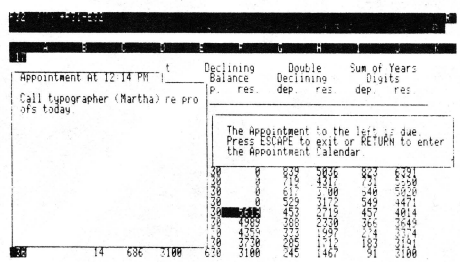

**NotePad main help menu, superimposed on a NotePad memo and a database.**




**NotePad secondary help menu, superimposed on a NotePad memo and a database.**




**Appointment Calendar primary display.**



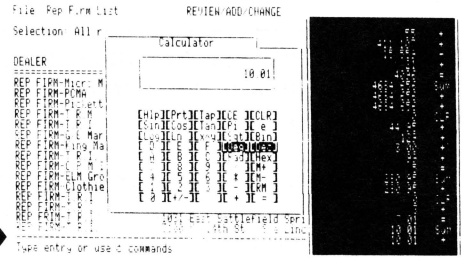

**Appointment Calendar event, showing an appointment that has just come due.**

***The Note Pad:*** *A powerful and easy to use* **work** *processor. It lets you jot down notes for quick reference while you are entering data or for later viewing. No need to type in a file name, The Notepad does it for you,* **automatically**. *Multiple pages per note, plus the sophisticated features of word-wrap, automatic repagination, copying and more gives you the power of a word processor—available in an instant—from whatever program you are using. Instant on-line help screens (a feature of all* **Desktop Manager** *modules) make The Notepad easier to use than many word processors.*

***The Appointment Calendar:***
*A time scheduling productivity tool that allows you to set multiple appointments for any day through December 31st, 1999. These "Appointment Events" automatically notify you of your next appointment. From within any program, no matter what you are doing, the Appointment Calendar will pop up on your screen and display your next appointment. The day and week at a glance features show the appointments for a single day or an entire week. It also provides an easy way to set your system clock. Full help screens compliment this handy and easy to use perpetual calendar.*

### *The Calculator:*

*An extremely powerful electronic workhorse. Full 16-digit accuracy and multiple functions like: SIN, COS, TAN, LOG's, natural LOG's, x to a power, square roots and more. In addition to the basic add, subtract multiply and divide, The Calculator features e, pi, degrees and radians, memory, base conversions from decimal to hex or binary and back again, a simulated scrolling paper tape, hardcopy printing and of course, on-line help screens.*




**The Calculator, with paper tape showing last calculations.➡**

*The basic* **Desktop Manager** *comes complete with all the above features and more! For the first time,* **Desktop Manager** *lets you use a mouse from within any program, even those not designed for a mouse. You will be able to use the mouse to move the cursor and the mouse button doubles as the ESCAPE or RETURN key. The* **Desktop Manager** *also offers the ClipBoard for information transfer. With the ClipBoard, you can transfer information from one screen or program to another. Say you are using the Calculator to do some calculations and want to transfer the result into your word processor. You can simply cut from the calculator and paste it into your program. Likewise, you can move an entire section of text from your program to the notepad or vice-versa.*

*In addition, if you are running with Selector /// or Catalyst, you can also transfer directly from one application to another. After you have used the ClipBoard to transfer some information, you can return to your previous application by simply pressing Escape, and the cursor will even be exactly where you left it.*

*With our no-nonsense installation program, a few simple keypresses will quickly install the* **Desktop Manager** *on all of your application programs. No need to use the System Configuration Program, Desktop Manager does it all for you, and automatically! All* **Desktop Manager** *Modules have movable windows that can be placed anywhere on the screen that they will fit.*

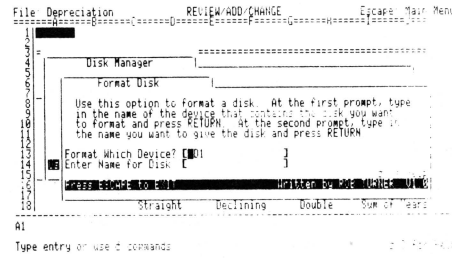
*The complete package includes all of the features described above and a 110 page User's Guide that shows clearly how to use each function of the various* **Desktop Manager** *modules. Priced at only $129 plus $6 shipping, the* **Desktop Manager** *is the best thing to happen to the Apple /// in a long, long time.*

## Optional Desktop Manager Modules Available Now!

### *Disk Manager:*™

*Provides the most frequently used features of the Apple /// System Utilities program. Formatting disks, listing, copying, deleting and renaming files and more are all available, at the touch of a button. Never again will you have to lose data when you need to exit a program to format a blank disk. On-line help screens and standard* **Desktop Manager** *"Ease of use" makes the $44.95 (and $3 shipping) price a steal.*

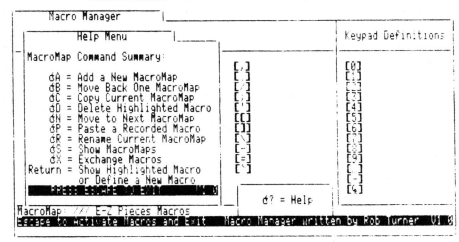
**Main menu of the Disk Manager**




**"Format a Disk" option of the Disk Manager**

### *Macro Manager:*™

*Allows you to define a single keypress as a series of keystrokes to be played back at your command. Our innovative Record Macro mode lets you record a series of keystrokes—over 2000, if you want—right while you type them in response to prompts, etc., in an applications program. After you have finished choosing from your applications menu, you can go right back to the Macro Manager and assign the previously recorded keystrokes to a single macro definition. Up to 50 different definitions can be assigned to a single macro set. Each set of macros is called a MacroMap™ and over 200 different MacroMaps, which can be modified with additions and deletions, etc., can be selected from an easy to use menu. The Macro Manager allows you to copy macros from one key to another and to exchange or re-assign macro keystrokes. All of this and more for only $44.95 plus $3 shipping.*




**The Macro Manager's help menu, displayed over a MacroMap™**

### *ASCII Chart:*

*Lists, in an easy to understand table, the decimal and hexadecimal values for all ASCII characters. A second screen features a keypress table that shows exactly which keys to press for different ASCII codes. The keypress table can be a lifesaver when you need to know what commands to send to a printer, or to an applications program, to enable different printing modes such as bold, italic, compressed print, etc. Only $9.95 plus $3 shipping. As an extra bonus, the source code is included on the disk.*

### *Mr. SandMan:*

*A fast-moving, multi-level, full-color arcade game that you can play at any time. As a* **Desktop Manager** *background module, whenever you need a break from the tedium of entering data into your present application, you can instantly "take five" to team Mr. SandMan up with the wandering WOZ and eat up those nasty JOBs in this challenging and amusing game. For only $29.95 and $3 shipping, you will receive both the* **Desktop Manager** *and stand-alone versions. The standalone version allows you to play Mr.SandMan even if you don't have the* **Desktop Manager**.

## Available Now!

**Graphics Manager™ and Color Graphics Manager™**

*Send graphic images you create with any Apple /// or Apple //e program to your printer. Insert a picture in the middle of your word processing document at any point, in any size with Graphics Manager's automatic rotation and image enlarging/shrinking features. Layout newsletters, combining text and graphics on the same page. Create a personalized letterhead with Draw ON and use the Graphics Manager to merge it with your word processing document. The Color Graphics Manager supports the ImageWriter //, IDS Color Prism, Epson JX and the IBM PC Color Printer and works with any interface card and graphics-compatible printer.*

*The* **Desktop Manager** *requires an Apple /// with 256K or 512K of memory and an external disk drive of any type or capacity. The Appointment Event feature requires an* **ON THREE O'Clock**, *an Apple Clock or compatible Apple /// clock chip. The* **Desktop Manager** *uses between 32 and 40K of memory.*

| | |
|---|---|
| **Desktop Manager** | **$129.00** plus $6 s/h |
| **Disk Manager** | **$44.95** plus $3 s/h |
| **Macro Manager** | **$44.95** plus $3 s/h |
| **ASCII Chart** | **$ 9.95** plus $3 s/h |
| **Mr. Sandman** | **$29.95** plus $3 s/h |

for the second two images. In creating the fifth image, I enlarged it slightly and printed it centered at the bottom of the page.

As a further test of the program's ability, I entered some data in Business Graphics and created a bar and a pie chart. I saved the graphics screens, reloaded them into Graphics Manager and resaved them as foto files. Because I allocated 16K for graphics memory, the files were correctly loaded and I had no need for DOUBLE-APPLE-O to convert them as with the Startup Screen. I printed a bar graph to determine whether the fully open cursor would include all the information in the graph. It did. I used the pie chart to see how well Graphics Manager preserved aspect ratios and found that I could better the automatic ratio by manually matching the paper to graph ratios. When I reduced the charts, I immediately noticed the limitations inherent in reducing computer graphics. The charts printed well, but some of the accompanying text became unreadable.

However, Mel solved this problem for me. I had been using Version 2.2a of Graphics Manager, which supported low resolution (90 x 90 dots) on the Fujitsu. After I had completed my evaluation, Version 2.4 of Graphics Manager arrived. This version supports the Fujitsu's high resolution capability, and therefore permits much greater reduction without losing information. With Version 2.4, the Fujitsu can print fully readable charts and graphs at reductions suitable for inclusion with the text of research papers or reports. I reduced a bar graph occupying the entire Graphics Screen to 3.5" X 4" on paper without any loss of detail or clarity. I must emphasize that the image's clarity on paper is *strictly* a function of the printer. For each printer supported, Graphics Manager is configured to obtain the maximum resolution possible.

To support printer functions, Graphics Manager has seven pages of buffer space available to it. For ultra-high resolution dot matrix printers, this may not be enough space to print a graphic image 14" wide. As it is presently designed, Graphics Manager dynamically monitors the use of available buffer space. When the image is too wide for the buffer, it is simply truncated at the maximum available width consistent with the printer's dot resolution. The Fujitsu DPL-24, which supports high resolution graphics at 180 X 180 dots per inch, would be able to print an image approximately nine inches wide. The Hewlett-Packard Think Jet, at 190 dots, would be limited to a slightly narrower image. There is no limitation as to the height of the image, just the width. As an owner of a high resolution printer, I am more interested in printing acceptable images at significant levels of reduction than in printing the largest image possible.

Graphics Manager has another rather interesting feature: the cursor is entirely independent of the Graphics Screen. If the cursor is opened to include the entire screen, as for reproducing charts and graphs, the same open cursor is available for each graph loaded after the first. The same is true of the open cursor on the Paper Template. This means that once you determine the size of the graphic window and the size of the graph on the printed page, all you need do is position the existing rectangle on the Paper Template and set the synchronization line for each new graph you want to print.

Text may be entered in eight different modes and in any font available to the system. The eight text modes produce various overlays of print and background. You may change fonts at any time while entering text. Simply return to the menu and select another font from those available in the fonts subdirectory. You can even enclose your text in a box if you wish. Just open the cursor around the text, invert the text within the cursor, open a larger cursor around the inverted text and invert again. This produces a border around the text of any thickness desired. Another way to box text is to go to the menu and toggle the text mode to "black invert," return to the Graphics Screen, open the cursor around the text and press **OPEN-APPLE-B**. Then, when you close the cursor, a box appears around the text.

Graphics Manager offers some interesting possibilities. For instance, if you are blessed with a reverse line feed printer, you can easily print letterheads and logos at the top documents. Simply load your graphics, select the print window and position it on the Paper Template. When setting the size of the print window, remember to allow a lot of white space below the letterhead or logo. Then, when you print the material, abort the print after the graphic image has been completely printed, but while the printer is still "printing" white lines. The printer will reverse feed to the top of the form, and you are ready to print your word processing document.

### Summary

This is a relatively inexpensive ($49.95 plus $3 s/h) and extremely powerful package. It can be used as a stand-alone graphics manager or as a part of the Desktop Manager. The program is most flexible when used as a Desktop Manager module, because it can then be invoked from within *any* program for which the .GRAFIX driver is present. The presence of routines to handle DOS 3.3 and Apple //e PRODOS files opens a vast library of graphics material to Apple /// users who may not wish to create their own graphics. All this for only $49.95!

As for its overall performance with graphic material, I find the sizing and positioning of graphic images quite precise. The automatic aspect ratio is adequate for most material, but for pie charts, slightly greater accuracy in matching aspect ratio is achievable manually. The Graphics Manager command structure is complete and well conceived, although using **DOUBLE-APPLE-Q** instead of **ESCAPE** to quit takes some adjusting. I do not own any Apple ][ or //e graphics, so I could not test the program's ability to handle that kind of material. Judging from the excellent way the program handled 16K foto files and the 8K Apple /// Business Graphics Startup Screen, I have no reason to doubt its ability to perform as claimed in every respect.

Rarely have I encountered a product which I like as well as Graphics Manager. Graphics Manager has enabled me to use Business Graphics, which I purchased two years ago but have never been able to print. In fact, this utility allows far greater flexibility in locating and printing graphic information than is directly available from within Business Graphics itself! Graphics Manager will let you printing pictures of almost any size. You're limited only by your printer.

In my evaluation of Graphics Manager, there seemed very little to be desired. Still, I have a few druthers. Since I am not a Mouser, I would appreciate a command allowing immediate selection of the entire Graphic Screen as the window for printing. It would be convenient to have a command which would center the print rectangle horizontally on the Paper Template, and another which would center it vertically. I must say, however, that this really would be "frosting on the cake" for a well-designed program.

The documentation provided me to test the program was in the process of being edited and rewritten. For the most part it was clear, although there was one omission in the section which tells how to create the box around text. The documentation I was given doesn't mention the need to go to the "black invert" text mode before using **OPEN-APPLE-B** to make the box, or the need to close the cursor after making the box if other material is to be included in the print window.

Mel Astrahan indicated that his initial design philosophy was to create a program which would not be so complex that it would intimidate a person with no experience in using computer graphics. In my opinion, he certainly achieved this goal. The Graphics Manager brings the ability to print graphics within the grasp of every Apple /// owner. While I was happy with the bargain price and performance of the basic Desktop Manager package, I am absolutely ecstatic about Graphics Manager. It has opened a whole new world for me. My next purchase will be Draw On ///. With the combination of Business Graphics, Draw On /// and Graphics Manager, my Apple /// will finally have the graphics capability I have long dreamed of.

**(Continued from p.6)**

```
 160   PERFORM lineto(%a,%g-b)
 170   PERFORM moveto(%f-c,%g-d)
 180   PERFORM lineto(%f-a,%g-b)
 190   ON ABS((c-a)/2+e) GOTO 50
 200   ON ABS(d-b+e) GOTO 50
 230   GOTO 90
 1000   IF KBD=27 THEN POP:TEXT:HOME:EN
       D
 1010   ON KBD GOTO 1000
 1020   RETURN


0  REM ******************************
1  REM *         Random Shapes        *
2  REM *      by Somvang Hansana      *
3  REM * ------------------------- *
4  REM * Creates a variety of shapes*
5  REM *    using straight lines.    *
6  REM *    Copyright (c) 1986 by    *
7  REM *           ON THREE          *
8  REM ******************************
 15   ON ERR INVOKE"/basic/bgraf.inv"
 20   PERFORM initgrafix:OFF ERR
 25   PERFORM grafixmode(%2,%1)
 26   PERFORM pencolor(%15)
 27   d=RND(1)*200/57.29578
 30   PERFORM fillport
 35   ON KBD GOTO 1000
 40   PERFORM grafixon
 41   PERFORM moveto(%0,%0)
 42   PERFORM lineto(%559,%0)
 43   PERFORM lineto(%559,%191)
 44   PERFORM lineto(%0,%191)
 45   PERFORM lineto(%0,%0)
 50   PERFORM moveto(%279,%95)
 60   PERFORM lineto(%279,%95)
 80   FOR r=0 TO 168 STEP d:x=279+r*COS
      (r):y=95+.7*(r*SIN(r))
 90     PERFORM lineto(%x,%y):NEXT
 91   FOR a=1 TO 750:NEXT
 95   GOTO 27
 1000   IF KBD=27 THEN POP:TEXT:HOME:EN
        D
 1010   ON KBD GOTO 1000
 1015   RETURN
 1020   GOTO 27
```

# Call Three: Hot Line/Apple /// User Groups

If you would like to get together with other Apple /// owners and exchange ideas, a user group is for you. Below is a listing of all Apple /// user groups known to us. If you have recently formed a group or know of one we have not listed here, please contact *ON THREE* and let us know so that they may be included. There is no charge for this service.

**California**

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

*Orange County Apple /// User Group*
22501 Eloise Ave., El Toro, CA 92630
(714) 951-1231

*L.A.-So. Bay Apple /// Users Group*
P.O. Box 432, Redondo Beach, CA 90277
(213) 316-7738

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

*International Apple Core* Apple /// S.I.G.
908 George Street, Santa Clara, CA 95054
(408) 727-7652

**Canada**

*Apples British Columbia Computer Society*
Apple /// S.I.G.
P.O. Box 80569, Burnaby, BC
Canada V5H3X9
(416) 839-7779

*Canadian Apple /// Users Group*
80 Antibes Dr. Suite 2805
Willowdale, Ontario, Canada M2R 3N5
(416) 665-3622

*The Astronic Club*
1453 Highbush Trail, Pickering, Ont.
Canada L1V1N6 (416) 839-7779

**Colorado**

*Colorado Apple Three User Group*
P.O. Box 3155, Englewood, CO 80112

**Connecticut**

*Apple /// Society of So. Connecticut*
34 Burr School Rd., Westport, CT 06880
(203) 226-4198

**Florida**

*Sarasota Apple /// User Group*
c/o Computer Centre
909 S. Tamiami Trail, Nokomis, FL 33555
(813) 484-0421

**Georgia**

*Atlanta /// Society*
385 Saddle Lake Drive, Roswell, GA 30076
(404) 992-3130

**Illinois**

*Third Apple Users* c/o Lavona Rann
1113 Wheaton Oaks Dr., Wheaton IL 60187

**Kansas**

*Kansas City Apple /// User Group*
5533 Granada, Roeland Park, KS 66205
(913) 262-3355

**Maine**

*So. Maine Apple Users Group*
Casco St., Freeport ME 04033
(207) 865-4761, X 2249

**Maryland**

*Apple /// SIG Chairman*
*Washington Apple Pi*
8227 Woodmont Av. #201
Bethesda, MD 20814 (301) 654-8060

**Minnesota**

*Minnesota Apple Corp Users Group*
P.O. Box 796, Hopkins, MN 55343

**New Jersey**

*North Jersey Apple /// Users Group*
c/o Roger T. Richardson
P.O. Box 251, Allamuchy, NJ 07820
(201) 852-7710

**North Carolina**

*North Carolina Apple /// User Group*
2609 North Duke St. #103
Durham, NC 27704

**Ohio**

*Cincinnati Apple /// User Group*
5242 Horizonvue Drive
Cincinnati, OH 45239
(513) 542-7146

*Apple Dayton* - Apple /// S.I.G.
P.O. Box 1666, Fairborn, OH 45324-7666
(513) 879-5895

**Oregon**

*Oregon Apple /// Users Group*
1001 SW 5th Av. #2000
Portland OR 97204
(503) 645-6789

**Overseas**

*Apple THREE Group International*
c/o Maj. H. Joseph Dobrowlski
P.O. Box 913, Langley AFB, VA 23665

*Apple /// Users Belgium/Netherlands*
c/o H. Van der Straeten, Vestinglaan 49
2580 Sint-Katelijne-Waver, Belgium
(015) 205328

*Apple User Group Europe e.V.*
Box 11 01 69 D-4200, Oberhausen 11,
West Germany 0049-6195-7 3917

*Apple /// User Group Belgium/Netherlands*
c/o J. Woretshofer, Ganzerikweerd 22,
NL-6229 TG Maastricht, The Netherlands
(043) 611704

*British Apple Systems User Group (BASUG)*
Apple /// S.I.G., P.O. Box 174,
Watford Herts, England WD2 6NF
0727 73390/72728

*Le Club Apple*
43 Avenue de la Grande-Armee
75116 Paris, France

*Apple /// User Group*
c/o Canberra Accounting Services
P.O. Box 42
Duffy A.C.T. 2611
Australia

**Texas**

*Apple Corps of Dallas*
Apple /// SIG
P.O. Box 5537
Richardson, TX 75080

*River City Apple Corps* /// S.I.G.
Box 13349, Austin, TX 78711
(512) 454-9962

*Houston Area Apple Users Group*
*(Apple /// Division)*
P.O. Box 610150
Houston, TX 77063
(713) 480-5690 or 974-5153

**Virginia**

*Charlottsville Apple /// User Group*
216 Turkey Ridge Rd.,
Charlottsville, VA 22901
(804) 642-5655

*Greater Tidewater*
*Apple /// User Group*
Route 2, Box 216
Hayes, VA 23072
(804) 642-5655 or
898-3500, ext. 2671

The *Call Three: Hot Line* is a service whereby Apple /// users with problems can call an area number to get assistance. The individuals answering the phones are fellow Apple /// users who have volunteered to help others over some of the rough spots. They are not compensated for this service, therefore we owe them a resounding "three cheers."

We would like to expand this service even further, so if you are familiar enough with your machine to be able to aid others and answer questions, please write us, stating your areas of expertise and availability in terms of days and hours. Certainly you can bask in the knowledge that you have been able to help a fellow Apple /// user.

For those of you who have questions, feel free to call our consultants listed below. **Please** observe however, the calling hours shown and before placing a call, double check the time zone so that you don't inadvertantly wake someone up! There are no other restrictions on using the service other than as stated above. Again, **please** remember these people are volunteers, and if we receive information indicating that calling hours are not being observed, we will have no choice but to remove the consultant from the listing or, worse, discontinue the service.

The following is an alphabetical listing of subjects and abbreviations used in the "subjects" column of the consultants listing.

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

| Name | Area | Telephone | Days | Hours | Zone | Subjects |
|---|---|---|---|---|---|---|
| Coville Woodburn | NH | (603) 863-5590 | M,Tu,Th,F | 7-8pm | Eastern | BB,CT,GE,GR,MI,QU,WP |
| Ken Johnson | MA | (413) 536-7502 | Su-Sa | 6-9pm | Eastern | BB,PA,MD,WP,MI |
| Don Loosli | MI | (313) 626-3848 | M-F | 9am-5pm | Eastern | GE,WP,SS,DB |
| Harry T. Hanson | NJ | (201) 467-0712 | M-F | 6-9pm | Eastern | GE,PA,BB,CT |
| Edward N. Gooding, Sr. | VA | (804) 747-8751 | Su-Sa | 6-9pm | Eastern | CO,SS,PR,MD,CT |
| Jeff Fritz | WV | (606) 353-9493 | M-Sa | 8-11pm | Eastern | BB,DB,GE,MI,SS,TC,EP |
| Al Johnston | FL | (904) 739-1600 | M-F | 9am-6pm | Eastern | GE |
| Paul Sanchez | FL | (305) 266-5965 | Su-Sa | 10am-4pm | Eastern | SS,PR,CT |
| R.B. Thompson | NC | (919) 787-1703 | Su-Sa | 10am-10pm | Eastern | BB,DB,GE,SS,WP |
| J. Donald Glenn | NE | (402) 291-9177 | Su-Th | 7-10pm | Central | GE |
| Scott Weddel | NE | (402) 572-7543 | Su-Sa | 4-10pm | Central | GE,TC |
| Jim Ferencak | IL | (312) 599-7505 | M-F | 10am-5pm | Central | GE,EP,DB |
| Neil Quellhorst | IL | (217) 434-8727 | Su-Sa | 7-9pm | Central | AL,BB,GR,PA,SO,TC |
| Paul Thomas | MS | (601) 494-8736 | Su-Sa | 6-10pm | Central | GE,AC,BB,CP,DB,FI,MI, MD,PA,PR,SO,SS,TC,EP,WP |
| Earl T. Brelje | MN | (612) 455-6405 | M-F | 4-9pm | Central | CT,DB,WP,GE, Quick File, Omnis 3 |
| Ron Maupin | TX | (512) 280-0144 | Su-Sa | 8am-10pm | Central | AL,CO,CT,EP,MD,PA,QU,SS,TC,WP |
| Terri Wiles | CO | (303) 850-7472 | Su-Sa | 10am-6pm | Mountain | PA |
| William Prince | OR | (503) 254-6465 | M-F | 9am-4pm | Pacific | GR,TC,Corvus |
| Karl La Rue | WA | (509) 582-6459 | F-Su | 6-10pm | Pacific | MD,GE,EP,WP,TC,SS,CP |
| Pat Holwagner | CA | (415) 433-2323 | M-F | 10am-6pm | Pacific | GE,SS,WP,CT,DB,SU,AE,EP |
| M. Kent Hockabout | CA | (415) 865-8579 | M-F | 9am-10pm | Pacific | DB,GE,GR,MI,MD,QU,SO,SS, TC,WP,AE,EP |
| Vincent F. Latona | CA | (818) 703-0330 | M-F | 9am-5pm | Pacific | GE,WP,BB,SS,AE |
| Wayne Hale | CA | (619) 450-3856 | M-F | 7-11am | Pacific | BB,GR,CT |
| Dennis R. Cohen | CA | (818) 956-8559 | Su, M-F 7-9pm | 10am-10pm Sa 12n-6pm | Pacific | GE,PA,MU,WP,DB,SO |
| Kelly C. McGrew | WA | (206) 943-8533 | Su-M,Th-Sa | 7-9pm | Pacific | DB,GR,SS,PR,MD,CT |
| H. Van der Straeten | Belgium | (015) 205328 | Su-Sa | 7-10pm | Europe | BB,CT,DB,GE,PA,PR,SS |
| Rene Litt | France | (88) 621025 | M-F | 5pm-11pm | Europe | CT,EP,BB,PA |

# One, Two, /// Forum

### Printing Good Graphs

Our office presently subscribes to *ON THREE Magazine.* I find it to be the only available source of reliable information about the Apple /// machine. We currently have about six of these machines in our office.

The article "Printing Good Graphs" (see June 1986 issue) by John Lomartire was very informative since I went through the same problems he described and tried to get help from all the parties involved (Apple, Sun Data, Dealers, B & PS). We bought the PIK program and finally got the program to work except that I have not been able to print any titles or floating titles. I'm trying to print using an Apple Plotter. Is there a command to do this? Also, do I need to store the data and titles in different files?

I would also like to know:

a) how to install Apple Writer and Apple Speller using Catalyst 2. We have a Profile. I have tried several path names and interpreters unsuccessfully. Again, no one has been able to help me.

b) what I must do to connect an Apple ImageWriter printer to an Apple /// (it was previously connected to a daisy wheel printer).

Thank you very much for any assistance.

Angie Vincenti
Santa Clara, CA

*If any of you are having problems similar to those Ms. Vincenti experienced producing graphs, write to me and I'll forward your letter to John Lomartire. He is an expert in this area, as anyone reading his article can tell. He was able to help Ms. Vincenti and I'm sure he'll be able to help you.*

*To my dismay, my hard drive recently went down and I was faced with the task of reinstalling all of my programs. Although I used Selector instead of Catalyst, I was able to reinstall both Apple Writer and Apple Speller without difficulty. I suggest you do as I did; read the program-switching utility's manual from page one and follow the instructions to the letter. Catalyst provides for automatic installation of these programs, meaning that all you need do is insert the disk and your Profile will take the files it needs to run the program.*

*Many users do not thoroughly read the product manuals accompanying their newly-purchased software. Programmers for the most part write the software so it is as easy to use and install as possible. Firms marketing that software write manuals with the same goals in mind and have an added incentive as well; a well-written manual saves the firm much time in answering support calls and prevents the user from wasting time and money making them. Installing and using software can be easy. Just read the manual.*

*Your printer problem is easily solved as well. The Apple ImageWriter printer is a serial printer, so the cable will attach to your Apple ///'s built-in RS-232 serial port (see "Printer Selection and Set-up," November 1986). Therefore, any standard RS-232 cable will suffice. However, you will also need a modem eliminator cable. Because the RS-232 port can be used for either a printer or modem, that special cable is required to let the computer know it is transmitting to a printer, not a modem. A modem requires two-way communication between the itself and the computer while a printer never sends information, it only receives. So the modem eliminator cable changes the transmission paths from both sending and receiving to send-only at the computer's end of the cable and receive-only at the printer's.*

*Modem eliminator cables are available from Sun Systems Remarketing, P.O. Box 4059, Logan, UT 84321, (800) 821-3221.*

### Tell Me How

I purchased "Draw On ///" from your company about a month ago. I was unable to configure it for my Epson printer. I fooled with it for about a month and then decided to call *ON THREE* for help. It took you about three minutes to discover I had the wrong disks and that no matter what I did, it wouldn't work.

In most cases, the normal response in this type of situation is, "Well, you ordered the wrong disks (I may have)." Or, "Our shipping department made a

mistake (they may have). Send back the disks and we'll send you the correct ones (another two week delay)."

Your solution was fabulous. "Don't bother sending back the disks because postage will cost you as much as the new disks. We (*ON THREE*) will send you the correct disks." Three days later, I was printing. This is service as it should be and I certainly appreciate it.

NOTE: In my opinion, customers will not be satisfied using Draw On /// with the keyboard. The mouse or a joystick is a must. There is as much difference between using the keyboard and a mouse as there is between night and day.

I would like to see *ON THREE* print business-type programs in BASIC and gadgetry-type programs, ie. how to program the gameports and RS-232 driver to send and receive voltages or resistance so lighting displays or such things as model train layouts can be controlled with the computer. I am not looking for an electrical engineer's explanation, just how to do it.

Also, when you publish a program with something different, please explain how it works. For example, in a recently published spaceship program (see "Space Convoy," p.21, May 1986) the spaceships blink on and off. Why? How can I make other things blink?

Keep up the good work and service to the customer.

Scott J. Ralston
Milton, FL

*First, thank you very much for your kind words about* ON THREE. *We do our best to keep our customers satisfied and we're always happy to hear that people appreciate it.*

*In future issues of the magazine, I plan to include section-by-section descriptions of each published program's contents. For example, I'd print in an introductory section, "Lines 200 through 300 in the program control the length and positioning of the vertical axes of graphs printed by the program." In the past, all we've really printed is, "Here's a program." I hope this sectioning will help.*

*As far as "gadgetry-type" programs go, no one here is well-versed enough in electronics to prepare an article like the one you describe. I think it would inevitably have to be printed as an "electrical engineer's explanation." Something that complex probably requires more detailed descriptions than a simple how-to article provides. But perhaps one of* ON THREE's *readers will prove me wrong and write the article you desire. If so, please submit it or call me for a copy of our revised author guidelines.*

**PFS File and Report**

Early this summer, I bought a copy of *ON THREE*'s Uncopyprotect Driver. I was interested and disappointed to see that it would not copy PFS File. (I did not try to copy PFS Report.)

I telephoned the company which wrote PFS File and Report. Their representative told me they were in the process of withdrawing support for the Apple /// and said that the only way to get a copy of either program was from existing dealer stock.

Assuming my information is correct, would you consider revising the Uncopyprotect Driver so that it will copy PFS File and Report? Alternatively, would you consider creating a new program which will copy PFS File and Report?

Thank you for your help.

Robert Lewis Jackson
St. Louis, MO

*Assuming that the producers of PFS File are withdrawing Apple /// support, we may produce an Uncopyprotect Program for their software. However, we must be sure they are withdrawing support or else we could become entangled legally.*

*Another reason we hesitate is that writing such a program is not as simple as writing the one we developed and marketed as the Uncopyprotect Driver. To copy Apple Writer, VisiCalc and Advanced VisiCalc, we created a new* driver *which the user need only load to use. However, we must write a separate* program *for PFS that creates a new, copyable version of the program. This is much more difficult and expensive than simply creating a loadable driver.*

*Bob Consorti,* ON THREE's *president, is considering this suggestion. If anyone has any other software or hardware wishes, please write.*

**Meg-a Headache**

My company owns an Apple /// with a Corvus 5 meg hard drive which we use to do our accounting. We are using the Great Plains Accounting software. We need more storage and are interested in your Sider 20 or the Xebec 9730, but only if it will work with the Great Plains software. Could you tell me if these units will work with this software and the Apple ///?

We also need a fast tape back up for this system because it is now taking us about 40 minutes and 18 to 20 floppies to do the job. What do you have that will help?

We receive a lot of good information from your *ON THREE Magazine.* Thanks for keeping it going.

Neil Biggs
Charlotte, NC

*There is no easy answer to your inquiry. The problem is your software, Great Plains Accounting. If you want to upgrade your hard disks you must "remap" each file within the software program. Great Plains Accounting set up their program so that, upon initial installation, each file is told the size of the hard disk you are using. Therefore, if you put the program on a 10 meg disk, the files will specify a 5 meg (your Corvus) and the program will not run.*

*If you want to go to the trouble, there is a way to remap your files. Sun Systems Remarketing sells mapping utilities for each Great Plains Accounting program (accounting, payroll, etc.). This reinstallation is tedious. We recommend that if you have a system that is running, stick with it.*

*If you want to talk to Sun Systems for their opinion, the address is P.O. Box 4059, Logan, UT 84321, (800) 821-3221 or (801) 752-7631.*

*If you do decide to upgrade, we recommend you purchase the Sider 20 and not the Xebec 9730. The Sider is divided into two sections, one 16 meg and one 4 meg. The data from your program will fit nicely into the 16 meg and you'll have plenty of room in the 4 meg for Selector or Catalyst and your program.*

*The Xebec is divided into three sections, two 16 megs and one 4 meg. What you will have with this is 16 useless megs because the Xebec offers more room than you can use. Your Great Plains software will only recognize one volume (16 megs) for data storage, no matter how many are available.*

*About your back up situation, I'm sorry to tell you there is no tape back up available for the ///. You could cut your time by a factor of 5 or 6, however, by purchasing a UniDisk drive. Check with your local dealer for the hardware first because you may find a better price there.* ON THREE *sells the driver and documentation to make it ///-compatible for $50 plus $3 s/h. You will need no more than 4 of these 3.5" disks to back up the information which now requires 18 to 20, 5.25" floppies to back up.*

**Ask and You Shall Receive**

I have just received my first copy of *ON THREE* and, as I suspected, it raised more questions than it answered. Therefore, I forward this letter hoping you can help.

1. Selector ///: Will Selector /// support Desktop Plan ///, VisiSchedule and Easyterm ///?

2. Draw On ///: I have my 256K Apple /// connected to an OkiData 83A with OkiGraph I installed through the Super Speed RS-232C serial interface board attached to the built-in RS-232 port. Can I use Draw On /// with this configuration?

3. Graphics Manager: Can Graphics Manager be used as a stand alone with Business Graphics and will it work with my printer configuration? My Business Graphics program has been picked so that it supports the OkiData 83A both with and without OkiGraph I. I am using it with OkiGraph I quite successfully.

4. Uncopyprotect Driver: Will this program copy all Apple /// programs or just the ones you mention in your advertisement? I am particularly interested in Business Graphics and VisiSchedule. Also, will it copy Apple ][ game disks I am using in emulation?

5. Mouse: What do I need to have a mouse for Draw On ///?

6. Paddles: Can I attach a paddle or paddles to my Apple /// to use with games in Apple ][ emulation?

The first issue of *ON THREE* was a revelation. I look forward to meeting all of you next year at the Apple /// Conference.

Alan Cohen
Jenkintown, PA

*As you have numbered your questions, so I number my responses:*

*1. Selector /// will support Desktop Plan ///, VisiSchedule and Easyterm ///.*

*2 & 3. You can use Draw ON /// but with your current configuration it will not print. The way around this is to use Draw ON /// to create your graphics and then store your creations on disk. Then use the Graphics Manager to load the creations back into your system and it will print. The same holds true with your Business Graphics program.*

*4. Only the three mentioned programs are copyable using the Uncopyprotect Driver. It will not copy Apple ][ programs. However, a program called "Locksmith," available at any computer store, will copy Apple ][ programs.*

*5. The Apple //e mouse comes with an interface card. Simply put the card in one of the four slots in your /// and it will work with Draw ON ///.*

*6. Paddles can be used with your Apple /// for games in Apple ][ emulation via Game Card ///, available from* ON THREE. *We are currently selling it for $39.95 plus $2 s/h.*

*And thank you for your generous words about the magazine. All of us at* ON THREE *are looking forward to meeting all of you at the Apple /// Conference next year.*

**Assembling on the ///**

I have recently acquired an interest in Assembly language programming for the Apple ///. Please send me any information on obtaining a macroassembler, a complete 6502B instruction set, the latest Pascal system, a complete memory map including a detailed ROM and direct page listing, and information from a machine-language level on I/O and bank-switching.

Thank you in advance.

Gerald Penn
Columbus, OH

*I showed your letter to* ON THREE*'s president, Bob Consorti, and he smiled. He said he remembers having the same questions you do when he was first learning to program on the ///. The following suggestions are from him.*

*Apple /// Pascal contains an assembler, so if you own that program you have a macroassembler. Sun Systems Remarketing, P.O. Box 4059, Logan, UT 84321, (800) 821-3221 should have it in stock.*

*He also suggests that you read the SOS Reference Manual. Another good book for you is "Program-ming the 6502," by Rodnay Zaks. It is published by Sybex, Inc., 2344 Sixth Street, Berkeley, CA 94710. You could write to them about obtaining a copy or finding a local distributor.*

*I hope this helps. If your reading raises any more questions, please write or call. We'll be happy to assist you.*

**Upgrading Your Computer**

What I want to do, after much thought, is switch from Catalyst to your Selector program, expand my computer's memory with your 512K Memory Upgrade and add your Desktop Manager with all its available modules. However, I have questions concerning the actual conversion. Please bear with me as I know all of these questions have been answered in previous issues of *ON THREE Magazine*, but I have never seen them together in one spot.

What is involved in converting Catalyzed programs to Selector? Does it require a lot of work? What are the drawbacks or problems I will face? Will I have as good of a system as I have now? What will happen to the programs now in my Profile after the conversion? I use Word Juggler as my main word processor and Terminus as my communications program. Will there be any problems with these? I am fully capable of modifying my own computer but am afraid I may have trouble installing the 512K Memory Upgrade. Is there anything you can do to reassure me? Any other relative information you can give is appreciated.

As you can see, the reason I have not jumped into this venture yet is the unstable feeling in my stomach. I am worried about not having a system for a few weeks. I am not using my /// for business purposes. I am just a /// owner trying to learn all I can from a deleted machine. Thank heaven it's a good and smart system.

I do have one more question. How can I scroll a BASIC program from top to bottom and back again?

Thanks for taking the time to read this plea for help and for your answer.

Larry R. Snow
Moorpark, CA

*I am writing and publishing this rather long-winded response to Mr. Snow's letter because I know many of you, especially the beginners, will benefit from it.*

*Converting a Catalyzed program to Selector is easy as long as the size of your hard disk remains constant (see "Meg-a Headache" elsewhere in this column). There is a "fixer" program on the reverse side of ON THREE's Uncopyprotect Driver which will remove the Catalyzation from your programs. Just load the fixer, insert the disk to be fixed and presto, it's done. There is not a lot of work. The only drawback is that our fixer program is a use-at-your-own-risk program. That is not a significant drawback, however, as we have never heard of it failing.*

*Choosing between Selector and Catalyst is difficult. I use Selector and wouldn't trade it for any other program-switching utility. Both Catalyst and Selector have drawbacks, but having used both, I prefer Selector.*

*When switching from Catalyst to Selector, the programs in your Profile will be lost. If you're worried about losing data files, don't fret. Just copy them onto floppies using the utilities program configured for your Profile. Programs on the Profile, however, will have to be reinstalled (a piece of cake).*

*There is no problem using Word Juggler with Selector. Most user groups have available to their members a version of Word Juggler which allows the two to work together. If you can't find one, send your Word Juggler back up disk (for ownership-verification purposes only) to ON THREE when you order Selector and we'll send you a copy of that Word Juggler program. Terminus will work with the altered version of Word Juggler.*

*Your worries and fears about installing a 512K Memory Upgrade are unnecessary. Read "Do It Myself?" in this issue and learn how simple it is to install a 512K Memory Upgrade.*

*As far as scrolling and editing your BASIC programs goes, those functions are available to you right now. Lloyd Cason, Jr. of New Orleans, LA kindly submitted the program listed below in response to Michael Schroeder's letter in September's "One, Two, /// Forum" which raised the same question.*

*What program editor could be better or more powerful than that of Apple Writer /// or /// E-Z Pieces? Creating an ASCII file and employing Business BASIC's "EXEC" command allow you to easily create and edit a BASIC program from your word processor and then run it under BASIC when your finished. Since Apple Writer saves its files as ASCII files, this word processor will do the trick. /// E-Z Pieces' word processor does not save files as ASCII files but can effortlessly be made to do so. Its manual tells you how. The editing commands of either word processor are inherently greater than those built into BASIC.*

*To edit an existing BASIC program this way, list your program while in BASIC. Then insert the following lines at the beginning of your program with the appropriate line numbers:*


**ON THREE Presents...**

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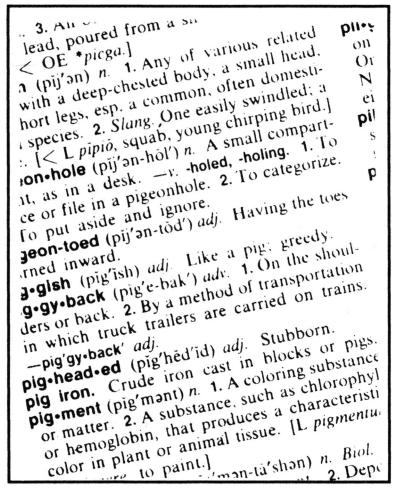
**plus $3.00 shipping/handling**


lead, poured from a
< OE *picga.]
(pij'ən) n. 1. Any of various related
with a deep-chested body, a small head,
hort legs, esp. a common, often domesti-
species. 2. Slang. One easily swindled; a
[< L pipiō, squab, young chirping bird.]
on•hole (pij'ən-hōl') n. A small compart-
it, as in a desk. —v. -holed, -holing. 1. To
ce or file in a pigeonhole. 2. To categorize.
To put aside and ignore.
geon-toed (pij'ən-tōd') adj. Having the toes
rned inward.
g•gish (pig'ish) adj. Like a pig; greedy.
g•gy•back (pig'e-bak') adv. 1. On the shoul-
ders or back. 2. By a method of transportation
in which truck trailers are carried on trains.
—pig'gy•back' adj.
pig•head•ed (pig'hĕd'id) adj. Stubborn.
pig iron. Crude iron cast in blocks or pigs.
pig•ment (pig'mənt) n. 1. A coloring substance
or matter. 2. A substance, such as chlorophyl
or hemoglobin, that produces a characteristi
color in plant or animal tissue. [L pigmentu
to paint.]

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**in California: (805) 644-3514**

```
)OPEN#1,".Dx/ASCII.FILE.NAME"
)OUTPUT#1
)OUTREC=255
)LIST
)CLOSE
)END
```

*The first line creates and names an ASCII file. In the quotes, insert the drive you're using and after the slash the name you want the word processing file holding your program to have.*

*The second line tells the computer where you want the data to go. In this case it's going to #1, which you created in the first line.*

*In the third line, 255 is the number of columns your program is allowed to cover in the word processing file before beginning a new line. You may want to make it 80 or some other more printable number.*

*The fourth line lists the program according to the column number specified in line three and places it at the location you noted in line two.*

*The fifth line closes the file. If the file is not closed, you won't be able to access it later. The computer will think someone is still working on it elsewhere and won't let you enter it.*

*The sixth line ends your program and tells the computer to stop. If you omit this, the computer will create an ASCII file for the program as instructed in the first five lines and then run the program you want to edit.*

*After typing these lines and while still in BASIC, RUN the program. Now leave BASIC and enter your word processor. LOAD the program. Remember, the program you're loading has the name you gave it in the first line.*

*Now you are free to scroll up and down and back up again. You may make changes to the program and even keep them. Just be careful not to insert a return within a line; insert them only between lines (e.g. between program line 430 and 435) or the program will not run.*

*To run the altered program from BASIC, you must first delete the six lines (listed above) which you inserted to create the ASCII file. Now save the word processing file and boot your BASIC program. Once in, simply type:*

```
EXEC .Dx/ASCII.FILE.NAME
```

*Be sure to use the drive and the name of the word processing file which contain your altered program. This simple "EXEC" statement will load your word processing file as if it was a BASIC program.*

*This EXEC statement is especially handy if you know the program you are about to type will require major revisions. To save yourself a great deal of time and effort, initially enter the program into a word processing document. Once it's complete and ready for a test run, convert it to a BASIC file by using the EXEC statement above. It's that easy.*

**Typewriter vs. Printer**

In the July 1986 issue sent to me as a sample, Michael D. Johnson asked if there is any way to use his IBM Electronic Model 60 typewriter with his Apple ///. There have been several interface devices for the Model 60, including parallel and serial adapters and a direct interface for the Apple ][ that I have used for several years. None of them were made by IBM but several received approval, so a maintenance agreement from IBM could apply to the machine.

However, I very strongly *DO NOT* recommend using this typewriter as a computer printer. The reasons are almost entirely economic. The moving head of the Model 60 contains almost as many parts as an entire Selectric typewriter, aside from the keyboard. Its replacement cost is over $700 and a minor variation in timing due to gumminess inside can destroy enough parts to require replacement or rebuilding. A maintenance agreement is virtually required, because a slight misrepair can damage the same parts. Such an agreement costs $320 a year.

It is currently possible to buy a Diablo-compatible, 10 characters-per-second (CPS) letter-quality printer for under $250 (the Epson DX-10); a Silver-Reed typewriter with interface built-in which prints at 12 to 14 CPS for $399; and a Jade wide-carriage, Diablo-compatible printer that prints at 22 CPS for $299.

At these prices, it is absurd to pay for an interface and add it to a fragile, loud, slow-printing typewriter just to run it until it breaks or pay an annual fee that is higher than the cost of printers which print faster, are quieter and have three or four moving parts instead of dozens.

Thank you for the sample magazines. I will refer to them when I answer calls for the Apple Corps of Dallas related to the ///. It's a good-looking little magazine.

Mike Firth
Dallas, TX

*Thank you, Mr. Firth, for complimenting the magazine and providing such a concise review of using (or should I say not using) the IBM Electronic Model 60 typewriter as a printer. You obviously have a great deal of experience in this area and I'm sure your advice will help not only Mr. Johnson but many other readers as well.*

**Potpourri**

I have not yet received my September issue of *ON THREE*. It may be that my subscription has run out. If so, please send me the necessary information to renew, because I look forward to your magazine each month. It is one of the few magazines I read faithfully from cover to cover.

Now for a few questions. Will Draw On /// do the same things as Print Shop, only better?

Also, I have learned to program from Business BASIC reference manuals and your magazine. Most of my programs do not have the finesse or structure they should, but they work. I would like to use Pascal but cannot find a way to do the following:

```
)INPUT#1,"Dx/FILE"
)READ#1;FILE.NUMBER
)DIM A(FILE.NUMBER),
 B$(FILE.NUMBER)
)FOR X=1 TO FILE.NUMBER
)INPUT#1;A(X),B$(X)
)NEXT X
```

As I understand from my Pascal manual, I must first dimension all arrays before I can read the file to see how big it is. This would be okay if dealing with small files or if you have a lot of memory and know that no more than a predetermined number of records will ever be in a file.

Finally, where can I purchase /// E-Z Pieces or should I consider some other similar program? It would be nice to have a spelling checker.

Thank you for your help and a fine magazine.

Clark D. Hall
Vernal, UT

*The reason you have not received September's* ON THREE *is the one you suspected; your subscription expired in August. To renew and charge it on your Visa, MasterCard or American Express call our toll-free number (800) 443-8877. If you'd like to pay by check or money order made payable to* ON THREE, *Inc., send it with your subscription request to ON THREE, P.O. Box 3825, Ventura, CA 93006. Back issues are available for $5, post-paid.*

*I mentioned this last issue, but I think it is worth repeating as I am still receiving calls and letters from people whose subscriptions have expired. If you are not sure when your subscription runs out, check the mailing label of your current magazine. After your name, the month and year your subscription expires is printed. If your name is too long to allow this, please call or write. Anyone at* ON THREE *can find out when your subscription expires and it would be a shame to miss an issue because you were not sure.*

*Your question about Draw ON /// is a good one. Draw On /// gives you more control over the drawings and is more functional than Print Shop. When combined with Draw ON ///, the Graphics Manager lets you position your drawings almost anywhere and in almost any fashion you desire. You can even distort and elongate drawings. If your needs are basic, I recommend you purchase Print Shop. It is also easier to use. While Draw ON /// and Graphics Manager are more complicated to use, it is only because the programs are so incredibly powerful and can do much more than Print Shop.*

*The BASIC lines you listed above let the user include arrays (ordered strings of characters or numbers) in the program before knowing their actual length. However, there is no way to dimension (allocate a definite space in memory for) your arrays in Pascal this way. You have discovered the one small drawback of using Pascal. Your understanding is correct; you must first dimension all arrays before you can read the file to determine how big they are.*

*Answering your last question,* ON THREE *is selling /// E-Z Pieces for $135 plus $3.50 s/h. Bob Consorti has completed the spelling checker for the program, so I think this is a wise investment for you. Apple Writer has a speller available, but considering the diversity and functionality of /// E-Z Pieces, I think the latter is the better buy.*

*As always, it's good to hear that readers enjoy the magazine and think so highly of it.*

**EASY Answer**

I need help in finding a company. I recently found an Apple /// software program known as "EASY," Executive Accounting System. It was produced by the Denver Software Company, 14100 E. Jewell Avenue, Suite 15, Aurora, CO. They are no longer there, but I need to find them to be able to use the software. It

seems the company required the user to call them in order to receive a four-letter password. Without the password, the user has a locked program which is not usable. Can anyone in *ON THREE* land give me a lead?

Jim Reisinger
Skokie, IL

*This is not a new question. Many people (see "One, Two, /// Forum," September 1986) have experienced this problem. However, do not despair! I recently received the following letter responding to this not-so-EASY problem:*

In the September 1986 issue of *ON THREE*, John A. Palenz of Wichita, KS asked how to obtain the password to Denver Software's EASY Accounting System.

I've used EASY since 1982. I ran a few of the EASY code files through NEWVIEW and here's what I found. The password for my copy of EASY is 'DAYE', so I searched for any occurrence of that string. I didn't find it anywhere. Apparently, the program has some type of password encryption. But in the file PFPX00A.CODE on the SYSTEM disk at location 2EF1, I found the string 'DCJS'. I booted EASY, tried DCJS and it worked.

I suggest that anyone having this problem try that password. If it doesn't work, use NEWVIEW or any other dump routine or block editor to look at byte 2EF1 in the file PFPX00A.CODE, and try whatever is there as a password.

If anyone has any problem with this or needs any other help, call me.

Paul Thomas

*If you are in need of help, Paul Thomas is now listed in* ON THREE*'s "Call Three: Hot Line" section. Mr. Thomas is knowledgeable in a vast area of computer applications, so look for his name in the listing. Maybe he'll be able to help you.*

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# Improving Your Memory

*lynne denicola*

Where are your car keys? Does the local locksmith know you on a first-name basis? Well, I can't help you improve *your* memory, but I can help you enhance your computer's.

How, you ask? By installing **ON THREE**'s 512K Memory upgrade, of course. And you don't have to be an electrician to do it. **ON THREE** receives calls and letters daily about this from hesitant, frightened people. They ask, "Will I be without my computer for long? I'm not mechanically inclined, so how difficult will it be for me to install this? I don't own any power tools, so how can I do it myself?"

I am writing this for them and you, to assuage your anguished cries. The time and effort needed to install a 512K Memory Upgrade are minimal. The benefits are abundant. So before I explain how to do it, I will tell you why you should.

Room. You will have so much more of it to play with. Today's larger software programs can do more and, though concisely written, require more memory to do it in. And as you become more adept at using these programs, *you* will need more memory space as well. I'm sure each of you has experienced the frustration of having 512K habits on a 256K machine.

Once you see how easy it is to install, you'll wonder why you didn't upgrade sooner.

Installing the 512K memory board should take no longer than one hour. That's right, 60 minutes. The time is brief because, contrary to what many believe, you are not building a computer from scratch. You remove one old board and replace it with one new one, and remove four old computer chips and replace them with four new, 512K-adapted ones. Simple. We provide the board, the chips, the software to operate and test your new system and a chip extractor. The only tool you provide is one Phillips-head screwdriver.

NOTE: This is only a brief overview of the removal and installation procedures. If you are actually installing a board, use the more detailed instructions which accompany your board.

Make sure your computer is off before you even *think* of installing the upgrade. Detach all cords, drives and cables. Then remove the cover and any real or dummy peripheral cards. If you're not sure how to remove the cover or cards, an easy-to-follow explanation is on p.106 of the *Apple /// Owner's Guide*. If you have an ON THREE O'Clock, unsnap the battery pack. If you have some other clock, disconnect it.

To reach the old board, you must turn your computer over and take the bottom off. This is where the Phillips-head screwdriver comes into play. The bottom is attached with Phillips-head screws.

Once you've removed the screws, slowly lift the bottom plate away from the rest of the computer. Several cables are attached to the main circuit board, which is attached to the computer's bottom plate. So before completely removing the bottom plate, you must unplug the cables. Once it's plug-free, set it down (circuit-board-side up).

Sitting on top of the main circuit board is the Apple /// 256K memory board. It is smaller, about the size of your *Apple /// Owner's Guide*, and attaches to the main board with two plug-type connectors, one at each end. You don't want 256K any more, do you? So, unplug it.

But, before you plug in the new 512K memory board, you must change some chips on the main memory board. They are called PROM's, for Programmed Read-Only Memory, and they do just what the name implies: read memory. These control the way memory is used by your ///, and since there soon will be more memory available to it, the /// must be told how to find it. These four PROM's do just that.

With the handy extracting tool (remember, it was provided with the new board) remove the PROM's from their sockets. They are clearly marked and easily removed. The extracting tool acts as a tiny crowbar to gently pry the PROM's from their locations. DON'T THROW ANY OF THE PROM's AWAY! One, the 6522 chip, will be reinserted after you install a new socket for it. The others can be returned, along with your old 256K memory board, for cash or ON THREE credit.

Now you are ready to install the new PROM's and your 512K memory board. You will eventually attach

all of the PROM's to the main memory board. Three of the new PROM's have cables which connect your new 512K board to the main board while one is simply a new chip for the main board. Attach the one, cable-free chip first.

Having done that, you can now plug in your new 512K memory board. It fits into the two sockets left vacant when you removed the old 256K board. Now it is a simple matter to plug in the three remaining PROM's. All of these PROM's have cables which are already attached to the 512K board at one end, so all you must do is connect their other ends to the main board (also called a mother board). With these in place, you can re-attach the 6522 chip which you removed before. (When you plugged in the other end of one of those three cables, you plugged in the 6522's new socket.)

You're finished installing the upgrade! All you need do is put the bottom back on your /// and test your new memory. Remember to reconnect all of the cables you disconnected before reattaching the bottom plate. But don't reinstall any of your interface cards until you've tested the memory. If you happened to have made a mistake, you will have less work to do taking the machine apart again to find it.

Turn your /// back over, plug it in and insert the 512K Memory Test disk which came with your upgrade.

Turn the power on, sit back, put your feet up and relax. If you did your job correctly, the /// will successfully make several passes in checking your new memory. If the program fails for any reason, check the manual provided with your upgrade to trouble-shoot. If you still can't figure out why it won't work, call **ON THREE**. That's why we're here!

But you did install it correctly and the memory test has run successfully. Reconnect your peripheral cards first, according to the instructions in your *Apple /// Owner's Guide*, and then the power, video, disk and other interface cables.

With your system put back together, run the 512K Memory Test again. This time let it run for 30 minutes to thoroughly test the memory board (the /// reaches its maximum operating temperature after 15 minutes, so you want to let it run at that temperature for a little while).

Your /// passed the test effortlessly, so you can pack up your old 256K board and PROM's, mail them to **ON THREE** and receive your cash or credit. Now you have a full 512K of memory at your disposal.

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***Chances are your ON THREE subscription is about to run out. If so, renew now and don't miss out on any of the interesting articles in future issues nor announcements of new and sophisticated ON THREE products. ON THREE Magazine, your bible of Apple /// information. Twelve issues for just $40.00, back issues available at $5.00, postpaid.***

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# Ranntings

*richard and lavona rann*

**Does the Apple /// Wear a Gray Pinstripe Suit?**

How do you see your fellow /// owners? Some see them in pinstripe suits behind desks in corporate America. Others see them in hard hats working with their hands. Still others see them with sleeves rolled up, bending over a drawing board, designing a bridge or a shopping center. When asked who uses an Apple ///, we usually reply, "Anyone can." But in all truth, we're sometimes surprised to find out who these people are and how they use their ///'s. We thought you would be interested in learning a little about the group as a whole and some of the many functions supported by the ///.

Some general observations can be made about those of us who use ///'s. Congratulate yourself! As a group we have better-than-average intelligence, a wide variety of interests and an above-average amount of schooling. In a great number of us, these interests tip toward technical fields, although most ///er's cannot be considered hackers. We use our ///'s for a purpose. We, as a group, read more than the average number of magazines and books. To a large extent, when reading for fun we read science fiction, fantasies and mysteries. Our technical and professional reading comes in more flavors than Baskin-Robbins ice cream. If there is one statement which covers most of us, it is that we have and use our computers for specific purposes.

One of the /// owners we met recently owns a yarn shop in Des Moines, IA. Lois Lloyd describes herself as a "grandmother-type" whose business necessitated her using a computer. Her /// was delivered with Profile and Catalyst installed and running. "Now what do I do?" she asked. What she did was learn everything she could about the Apple ///. And she's determined, so don't stand in Lois' way.

In addition to retail businesses, we know of at least two town newspapers being managed on ///'s. Several novelists also use the ///. One, Sharon Webb, even writes science fiction. Do you suppose there is a correlation between Sharon's choice of subject matter and the high percentage of ///-using, science fiction readers? A number of articles for a wide variety of periodicals, including this one, are written on our favorite computer. Sports figures track their statistics on ///'s, and more common businesses such as restaurants, mainframe computer resale services, accounting firms, venture capital investing firms, churches, schools and banks depend on Apple ///'s.

Not exciting enough for you? How about medical research? There are several ///'s used by individual researchers and entire university research departments. One is used to compile the research bibliography of a company which develops artificial organs. ///'s keep records in the Department of Mental Health for at least one state university. One company is supporting bio-engineering research with ///'s and other sciences are well represented, from geophysical research to the softer sciences to economics.

Last, but not least, in this brief sampling are the less-common uses for the Apple ///. One unique business matches American men with Asian and European women looking for husbands with the aid of a ///. Finally, the Apple /// is a movie star. It appeared in a supporting role in the Disney movie *Tron*.

**Part of the Family**

Had you ever thought of the /// as a family machine? No, we don't mean using the Titan ///+//e to support the fine educational and recreational software for the Apple ][, or the goodies developed by Mel Astrahan as part of the family entertainment center. What we mean is that many ///'s have been and are being purchased by members of the same family. Our user group has several sets of brothers, each using ///'s in different businesses, and a couple of cases in which grown children have purchased ///'s for their businesses after seeing how well the /// met their parents' needs. In a number of instances, parents have given ///'s to their children to take to college.

This trend was taken to its logical conclusion by Al Bloom, who lives in a place he refers to as "Bleaksburg"--spelled Blacksburg in our Rand McNally--Virginia. He is an Apple /// owner and part-time developer. With full knowledge of how hard it is to learn to fully use a ///, he sent one to his retired father. His father had no computer experience and lives half a continent away, in New Mexico. Al is flatly unashamed. His father is hooked. While Al doesn't

admit to ///-pushing, he has been around computers for a while and knew a /// was exactly what his father needed to make his retirement business more efficient.

### Are User Groups Dying?

Yes. Several /// user groups have gone under in the last year. There is some good news to be gleaned from this sad fact. First, as a whole, Apple /// user groups appear to be holding together longer than their cousins, the Apple ][ groups. Second, the primary reason for dissolution is not unique to the /// groups. It is the age-old problem of non-profit groups: lack of volunteers. Surprised? Most people guess a non-profit group would go under for lack of funding. In spite of relatively low membership fees, comparatively few groups die of financial problems or attrited membership. We, again, encourage you to get involved in the /// community. We suggest that you look at the services and/or groups available and decide how important they are to you. If you don't get involved, can you be certain that the groups and services will be there when you need them?

Most groups have small cadres of dedicated workers that either need help or would appreciate some moral support. A few hours of your time, or maybe just a few encouraging words, could ensure that the group is still there to help solve your next technical problem. In a larger sense, with Apple once more listening to user groups, it is a way to be heard. While we can't promise miracles from Apple, there is much to be gained.


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*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.*

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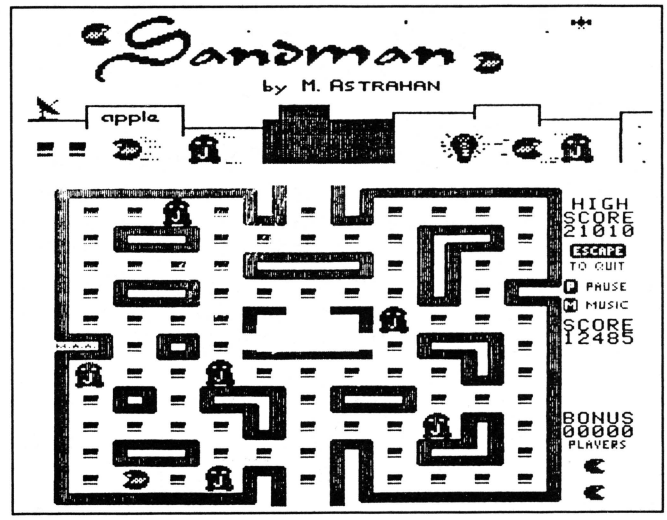

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Have you ever run out of memory in /// E-Z Pieces? Do your VisiCalc programs yearn for more memory? Have you ever had stack overflow problems with certain large programs? Do you want to use the new accessories to the Desktop Manager but can't spare the 32K of memory those utilities require?

Worry no more, because with a 512K-equipped Apple ///, all of your problems are over. Enjoy a full 414K of desktop space in /// E-Z Pieces, 442K in Advanced Visicalc, 455K in Visicalc, 456K in Apple Writer ///, 456K in Business Basic—the list goes on. Almost all** programs running under the Apple /// SOS work with the 512K Memory Upgrade.

Do you use Catalyst or Selector ///? Have you ever had problems running large programs such as State Of The Art Accounting, BPI, Omnis 3, Keystroke and Draw ON ///? These programs use all available memory in a 256K Apple ///. Since Catalyst and Selector each occupy some memory as well, certain large programs will not work on a 256K Apple ///.

A 512K Apple /// has enough memory and room to run the largest programs available today with some to spare. You can create larger spread sheets, data bases and word processing documents. Your 512K Apple /// will be able to do things few other personal computers can.

Included free with the 512K Memory Upgrade is an ultra-fast RAMDisk. This is an optional enhancement to the 512K Memory Upgrade which allows you to use a portion of your ///'s memory as a fast RAMDisk drive. One noticeable benefit is faster program utilization, but there are many more.

The 512K Memory Upgrade is easy to install and even easier to use. It is a *replacement* memory board and, therefore, doesn't need a precious expansion slot. Hidden inside your Apple /// is a 128K or 256K memory board. Simply take out the old board and put in the new one.

Using state-of-the-art 256K memory chips, the 512K Memory Upgrade is the single most exciting add-on produced for the /// in a long, long time. Even though we have many 512K Memory Upgrades in stock, at this unbelievably low price, we're expecting temporary shortages. Order yours today.

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- Complete 24-page instruction manual.
- Ultra-fast RAMDisk Drive with demonstration programs.
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- The 512K Confidence Memory Program which tests all memory and ensures your 512K Memory Board is working correctly.
- *ON THREE*'s new and improved 180 day (six month) warranty.
- And of course, an Apple /// 512K memory board with state-of-the-art, 256K memory chips.

Place your order today for the exciting, low-priced 512K Memory Upgrade.

Call toll-free: (800) 443-8877

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* The purchase price is $324 plus $10 shipping and handling. After installing the *ON THREE* 512K Memory Upgrade, return your old 256K memory board for a $25 cash rebate or a $35 software credit.

If you have a 128K Apple ///, the cost is $324 plus $10 shipping and handling with no rebate. If you order a 512K upgrade for your 128K machine, please ask for the free 128K to 512K instructions. We recommend that a 128K to 512K upgrade be done by *ON THREE* or a registered Apple Dealer.

*ON THREE* will install any memory upgrade for just $50. We offer a one day turnaround on 128K or 256K to 512K upgrades. Call for more information.

** The regular Word Juggler program works with the 512K Memory Upgrade but does not offer additional lines for your documents. An upgraded version is available which allows twice as many lines in your documents. To obtain it, please send a disk with return postage to *ON THREE*. However, there is one known problem with the updated Word Juggler package. It does not work with the LexiCheck spell checker option. To check the spelling of a very large Word Juggler document, you must divide it into two smaller sections.

** The program Multiplan from Microsoft does not recognize the 512K Memory Upgrade.

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