ON THREE®

The Magazine For Apple III Owners and Users

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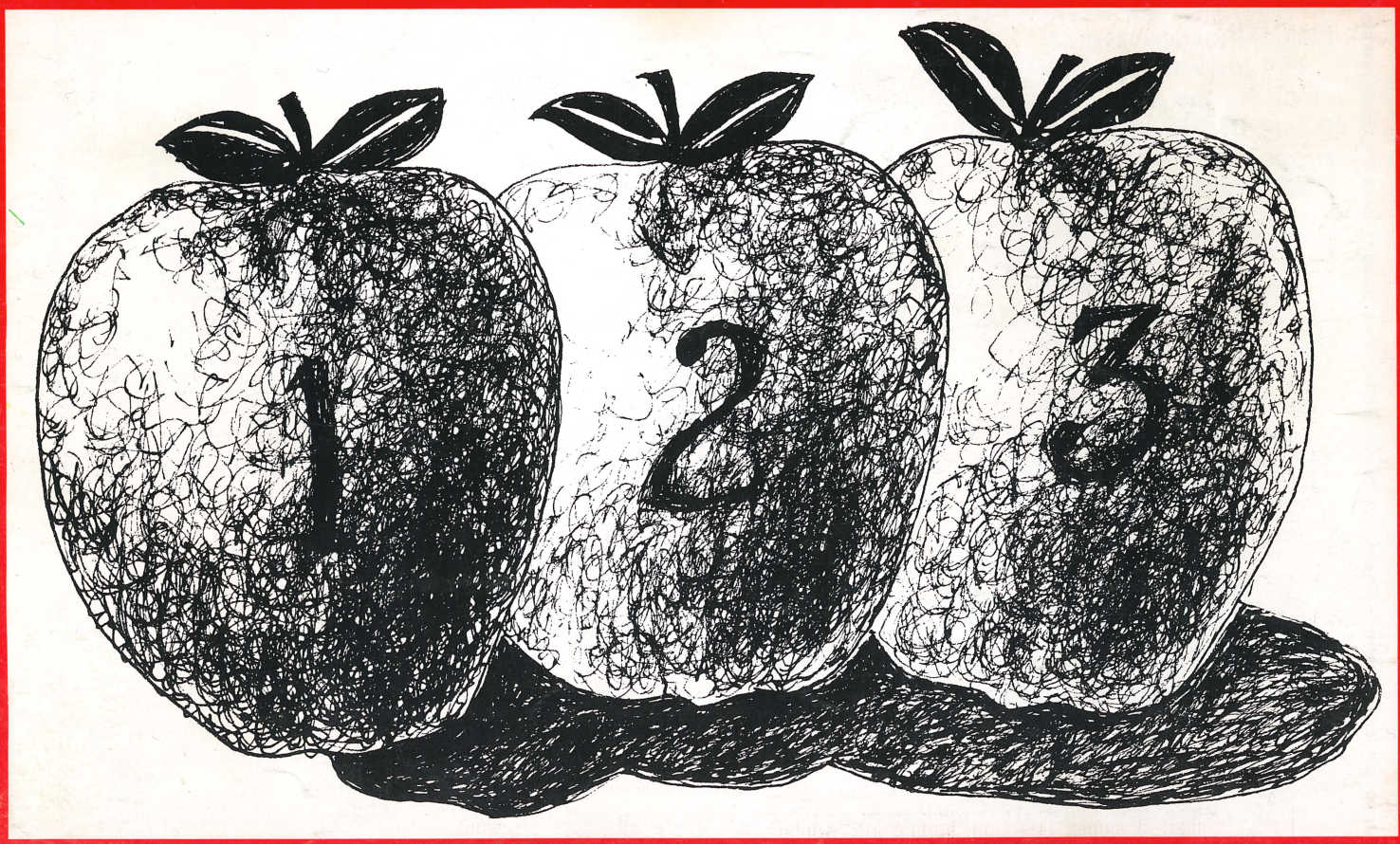


Three Shorts - Fini!

The Beginning ///

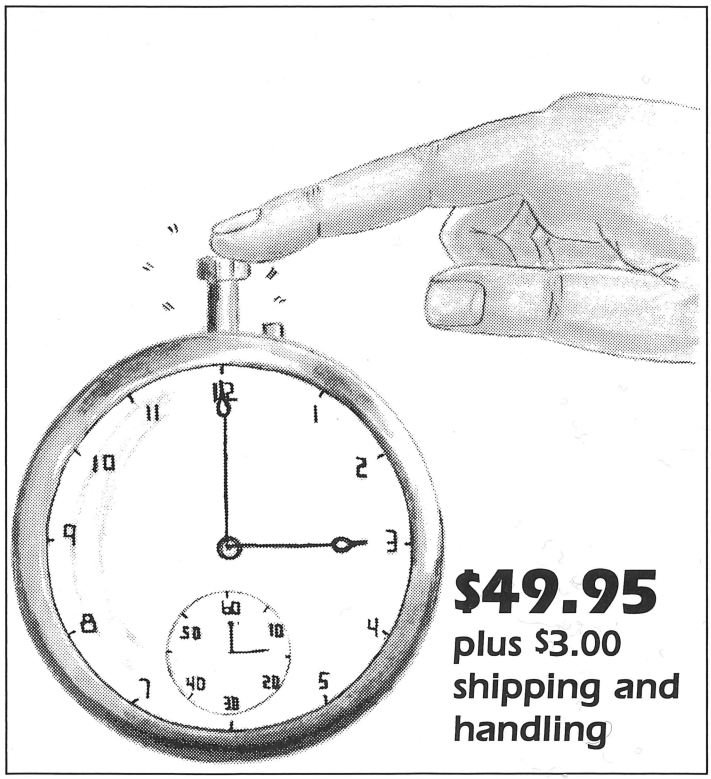
Reload and Exit

The Desktop Manager

***ON THREE* Presents...**

ON THREE O'Clock

Now is the Time for a real-time clock



Believe it or not, a lot of folks have plain forgotten (or never knew) that the Apple /// was designed to operate with a built-in clock and that, with a clock chip installed, SOS will automatically time stamp and date all file saves.

When the Apple /// was first released, the supplier of Apple's clock chips could not supply a working clock. As a result, the /// was supplied without a clock of any kind. Now maybe you are wondering when you list a disk directory, how the time and date magically appears.

Not too long ago *ON THREE* developed a clock for the Apple /// which plugs in right where the never-released Apple clock was supposed to go, and for just $49.95 plus $3.00 shipping and handling, this easy to install, SOS-compatible clock can be yours. It comes with comprehensive instructions and *ON THREE*'s limited six-month warranty and does not use any of your precious slots.

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

Special Combination Offer

There's a great deal more you can do with *ON THREE's ON THREE O'Clock* if you also have our *Desktop Manager*. Whenever you want, you can display the current date and time on the screen with one keypress. Since this is a background function, you can be word processing with AppleWriter or entering data into VisiCalc, and with one keystroke you can obtain updated time information. In addition, you can use the *Desktop Manager*'s Appointment Calendar to enter items you want to be reminded of and, like magic, when the time comes, no matter what you are doing, a message will appear on your screen to gently chide you via the *Desktop Manager* to make that phone call now, etc.

Now The Appointment Calendar is not the only feature of the Desktop Manager, you can read about the Calculator, the Notepad, and the others elsewhere, but since the *Desktop Manager* requires a clock, we want to offer you a money-saving deal. Purchased together, you can get the *ON THREE O'Clock* and the *Desktop Manager* for only $173.95 plus $8.00 shipping and handling. Now is the time to take advantage of this special offer.

Desktop Manager/ON THREE O'Clock Combo

$173.95 plus $8.00 shipping and handling

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ON THREE

The Magazine For Apple /// Owners and Users

/// /// /// /// **Table of Contents** /// /// /// ///

Volume 4, No.2 February, 1987

FEATURES

Reload and Exit 5
Rob Turner
A Desktop Manager module, complete with instructions for entering the program, written by a former *ON THREE* employee.

The Beginning /// 7
Richard and Lavona Rann
An overview of System Utilities for both the novice and intermediate user. This answers questions you weren't aware you had.

Magic 14
Richard M. Smith
This fascinating game will amaze and amuse you for hours. Easy to enter and easy to play.

Three Shorts - Fini! 18
Ron Puckett, Martin De Muro and Eric Goldstone
Three programs, all different and all interesting. One scrolls your catalog, another picks lottery numbers and the third creates pleasing patterns.

The Desktop Manager 20
Edward N. Gooding, Sr.
The second of a two-part series describing old Desktop modules as well as new, soon-to-be released ones. If you've thought about buying the Desktop Manager, or if you own one, this is necessary reading.

DEPARTMENTS

Call Three: Hot Line and User Groups 2

Apple.Sauce 3
Lynne Denicola

Block_Write 4
Bob Consorti

De Classifieds 13

ON THREE Price List 24

One, Two, /// Forum 26

Ranntings 31
Richard and Lavona Rann

ON: The Cover

The drawing on this month's cover was created by Thomas J. Lacey and is titled, "Apple Three . . . Three Apples: Part 2." Dr. Lacey is a nationally-exhibited artist whose work encompasses sculpture and painting as well as drawing.

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

If you want to meet other Apple /// owners and exchange ideas, a user group is what you need. Below is a listing of all Apple /// user groups known to us. If you recently formed a group or know of one not listed here, please contact *ON THREE* and tell us so we may include it in this section. 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 Avenue
El Toro, CA 92630

LA-So. Bay Apple /// Users Group
P.O. Box 432
Redondo BVeach, CA 90277
(213) 316-7738

Apple /// Users of Northern CA
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 /// SIG
P.O. Box 80569, Burnaby, BC
Canada V5H3X9
(416) 839-7779

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

Colorado
Colorado Apple Three User Group
PO Box 3155, Englewood, CO 80112

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

Florida
Sarasota Apple /// User Group
c/o Computer Center
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 Drive
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, ext. 2249

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

Minnesota
Minnesota Apple Corps User 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 Ave. #2000
Portland, OR 97204
(503) 645-6789

Overseas
Apple THREE Group International
c/o H. Joseph Dobrowolski
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 Road
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 questions can call an area number for answers. The individuals answering your calls are fellow Apple /// users who volunteered to help those in need over some of the rough spots. They are not compensated for this service, so we owe them a resounding "three cheers" for their kindness and generosity.

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

For your reference, the accompanying table lists subjects and abbreviations used in the "Subjects" column of the 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
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
Vincent F. Latona	CA	(818) 703-0330	M-F	9am-5pm	Pacific	GE,WP,BB,SS,AE
Dennis R. Cohen	CA	(818) 956-8559	Su M-F Sa	10am-10pm 7-9pm 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
Larry E. Kalland	AK	(907) 272-4968	Su-Sa	12n-11pm	Alaska	AC, CT, GE, SS, EP, WP
H. Van der Straeten	Belgium	(015) 205328	Su-Sa	7-10pm	Europe	BB,CT,DB,GE,PA,PR,SS
Arnaud Trache	France	21 03 04 21	Sa-Su	10am-7pm	Europe	AC,BB,DB,AE,FI,GR,MD,PR,SS,TC,EP and all ON THREE products
J. Woretshofer	Netherlands	043-611704	Su-Sa	9-12 am	Europe	CT,FO,GE,PA,QU,SO,WP,AE,EP

Apple.Sauce

lynne denicola

I have received dozens of letters and telephone calls about Apple's new program, "Passport." The programmer who wrote it, Karl B. Young, has received calls as well. To stave off this outpouring of inquiries, my column this month is devoted to that program.

Passport is a utility program which converts Mac to ProDOS (SOS) files and visa versa. To run the utility, you need a Macintosh Plus or a Macintosh 512Ke with at least one external 3.5" disk drive. The external disk drive must be double-sided or Passport will not function.

Using Passport is amazingly easy. Insert Passport into the built-in drive and run the program by pressing the mouse's button twice in rapid succession while the pointer is placed on Passport's icon (this is called double-clicking). Passport will only run if the program disk and the system folder are inserted, therefore, boot the system with the Passport disk and leave it in the internal drive at all times while using the program. The ideal situation is to have Passport on an attached hard disk drive.

Once Passport is up and running, two windows appear on the screen. The window on the left contains a listing of all the Mac files on the Passport disk and the window on the right remains empty until you insert the ProDOS disk containing the files you want to copy.

Insert the ProDOS disk into the double-sided disk drive. Passport reads the files and displays them in the second window. Scroll through the files in the ProDOS window until you see the one you want to copy and click on it once to highlight it. Now click on the "Copy" button which appears in the center of the screen, between the two windows. A new screen appears showing Passport's progress in copying your file. The copy completion indicator resembles a thermometer measuring an ever-increasing temperature. It runs horizontally across the screen and is calibrated with percentages of copy completion (0%, 25%, 50%, 75% and 100%). After copying is complete, "OK" appears in a button beneath the indicator. Acknowledge the copy's completion by clicking on "OK" and you are returned to the main Passport menu. The file you selected to copy now appears in the left window as a Mac file, on the Passport disk.

The last step is to copy the file from the Passport disk (it quickly becomes full) to the disk on which the file will permanently reside. The above procedure is for performing ProDOS to Mac file conversions. Mac-to-Mac file transfer is most easily achieved by using the Macintosh's Finder. Just click on the icon of the file you want to transfer and drag it to an empty spot on the desired disk's file folder. (Using the Finder is critical if you have only one external drive.)

Should your Passport disk become full while you are using the program, you can remove unnecessary files with less effort than was needed to copy them. Simply highlight the targeted file and click on the "Remove" button which is beneath the "Copy" button (between the windows on the main menu).

This utility also tells you the amount of memory available in the disk you're copying to as well as the size of the file you're copying. So, if you've chosen to copy a file which will surpass the allotted memory, you can change your mind and copy a file requiring less memory. Then, once you've transferred the files to their permanent residence, you can copy the longer one.

Copying Mac files to ProDOS is effortless as well. Use the Finder to transfer your Mac files to the Passport disk and then run the program. Your files will appear in the left window with Passport's other files. Now insert the ProDOS disk which will receive the files into the external drive, highlight the Mac file to be copied and click on "Copy."

NOTE: If copying Mac to ProDOS word processing files, you should do a "TEXT to TXT" transfer of data. To do this, save your Mac file as a text file using the "Save As..." function in your word processor's "File" pull-down menu. Passport automatically performs a "TEXT to TXT" transfer when it recognizes that a Mac text file is being copied. The resulting ProDOS file can be used by Apple Writer and AppleWorks (file type $04). If you try to copy a standard Mac file to ProDOS, Passport defaults to an "Any File to Binary" conversion. The copying process appears to go flawlessly, but the resulting file (a Mac Binary file, type $E1) is unusable.

(Continued on p.19)

Block_Write

bob consorti

As I sit down to write, I begin to wonder how many people out there will actually read this. In the case of this column, I hope everyone does. Why? Because I'm going to touch on a subject that is very important to all Apple /// owners and users.

Illegal Copying

It has come to *ON THREE*'s attention that a number of small- to medium-sized Apple /// user groups have begun to freely copy Apple /// software. This of course gets us upset. Many people in these groups refuse to go along with the copying and thus become ostracized by their fellow Apple /// owners. Unfortunately, many apparently copy without understanding the full implications of what they are doing.

The reasons they use to justify these activities are two-fold. First, they feel that since they can freely copy public domain disks, why not disks from *ON THREE* and others as well? Their concept of public domain extends to products such as Backup /// and System Utilities, which are NOT in the public domain. They also seem to think that it's okay because the machine is so old now and hardly anything new is being developed for it.

Well, I'd like to clear up a few misconceptions about the ///. For the people out there who refuse to give a friend a copy of something you've just bought, thank you! You are the ones keeping the /// alive. The rest of these paragraphs aren't meant for you, so please don't take offense.

Contrary to what some people think, it's not right to make copies of software for friends or casual acquaintances. For starters, it's illegal. More importantly, it's immoral. Lastly, it hurts you the consumer in the long and short term.

What Illegal Copying Does

It's not widely thought of, but when people copy software the software company loses in two ways. The first way is obvious: they don't receive compensation for their efforts. The second is the most difficult: since the people who have a copy usually don't have the manual, they aren't aware of the things which are easily explained in the manual. Because of this, many software companies spend a disproportionate amount of product support time with people who didn't purchase the software.

For example, consider *ON THREE*'s best-selling product, The Desktop Manager. I won't tell you how many simple questions we receive about it each day. Questions like "How do I install it?" (Chapter 2) and "How do I copy it?" (Appendix A) waste quite a bit of support time. When people ask us to step them through these common procedures, we ask them where their manual is. The usual reply is that they've left it at home or at work.

What can we do? If we tell these people to find and read their manuals, we'd be inconveniencing our paying customers. Since copy protection is a waste of time and does nothing but hurt most software users, there really isn't much we can do.

What else does copying software do? Well, it gives a company such as ours much less incentive for creating new products. What's the use if fifty percent or more of the people who eventually use it don't pay for it? The /// market is so small that in order to stay in business, a company must sell a certain number of units. When it only sells half of the projected amount, it begins looking elsewhere for sales.

Since most people think copying software is a victimless crime, let's take a look at just who's been hurt over the last year or so by illegal copying. For starters, look at Sun Systems Remarketing. They've made the /// their bread and butter for the last few years.

Sun Remarketing sells copies of some of the software people have been illegally copying, such as VisiCalc, Apple Writer, Access /// and others. Their prices have always been more than reasonable; most of their stuff is quite inexpensive. When I go to user group meetings and see people making copies of Apple Speller, Access /// and others right in front of my eyes, it makes me sad because I know Sun Remarketing is losing business.

We've been hurt by people copying our best-selling packages such as Draw ON /// and The Desktop Man-

(Continued on p.6)

Reload and Exit

rob turner

The following program allows your Desktop Manager to reload itself after you add, delete, rename or change any of its options. This is extremely handy because it saves you from rebooting (which is very hard on your system) every time you want to check that you haven't made a mistake altering an option.

To make this program a Desktop Manager module, follow these steps. I am assuming that you are familiar with using Pascal and the assembler. If not, read the instruction manual which accompanied your copy of Pascal.

First load Pascal and then load the editor. Prepare a blank file. Type in the entire program (listed below) and save it to a file named "RLOAD.EXIT.TEXT". Exit the editor and go to the assembler. Type in "RLOAD.EXIT.TEXT" as the name of the file to assemble. Type "RLOAD.EXIT.CODE" for the name of the file you're assembling to. Type "RETURN" when prompted for the listing file. If the assembly fails, go back to the editor, correct your mistakes and reassemble. Once the assembler finishes assembling with no errors, go to the Filer. Pick "T)ransfer" and enter "RLOAD.EXIT.CODE" for the name of the file to transfer. Enter your specific Desktop prefix (e.g. ".PROFILE/DESKTOP/") followed by OPTION? with "?" being a letter from A to T. **NOTE:** Be sure to enter the letter of an unused option or you will copy over one of your other modules! When the transfer is complete, reboot the machine. The Reload & Exit module should now appear in your Desktop Manager menu. If in the future you add, delete, rename or change any of the OPTION's in your DESKTOP subdirectory, simply use the Reload & Exit module instead of rebooting to reload the Desktop Modules' names.

Common Errors

If, upon rebooting the Desktop Manager, it displays the message, "Invalid name length," you typed the name field incorrectly. Check the byte just before the module's name and make sure it is "13."

If you try to run the module and the Desktop Manager displays the message, "First instruction is not a Jump," then you forgot to include the "JMP Main" instruction. Check to make sure it follows the ".Org 3800" line.

```
;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
;+                    Reload & Exit, a Desktop Manager Module                  +
;+                                by Rob Turner                                +
;+                          Copyright (c) 1987 by ON THREE                     +
;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

        .Absolute                               ;Absolute code.
        .Proc   Reload_Exit                     ;Procedure starts here.
        .Org    3800                            ;Assemble it at 3800 hex.

        JMP     Entry                           ;Desktop Manager header block.
        .Byte   13.                             ;Module name length.
        .Ascii  "Reload & Exit"                 ;Module name.

Entry   LDA     2005                            ;Get the address of the Desktop
        STA     00                              ;Manager's Data Table and store
        LDA     2006                            ;it on zero page for indirect
        STA     01                              ;indexed addressing.

        LDY     #00                             ;Initialize the Desktop
$1      LDA     Table,Y                         ;Manager's Data Table.
        STA     @00,Y
        INY
        CPY     #08
        BNE     $1
```

(Block_Write Continued)

ager. After receiving tons of support calls, I began to wonder if it's worth creating new things for the /// market. Of late, the effort it takes to produce a new piece of software for the /// does not seem to be worth the investment.

After all of the "free" help I know *ON THREE* has given to people who copy our products, I wonder if I should institute a new policy: simply call us and say that you've got an illegal copy and we'll mail you a copy of the manual absolutely free! That way we won't have to take ridiculous support calls anymore. But I don't think that it would work; we'd soon be out of business.

The fewer *ON THREE* products purchased, the less effort and money we are going to invest in the Apple ///. I think Sun Remarketing and others who still invest in the /// agree that copying software is simply hurting everyone in the /// community.

The next time someone offers to make a copy of Apple Speller for you, remember that Sun Remarketing sells it for $75. That's a brand-new piece of software, shrink-wrapped with all the original manuals! Learning how to use software, especially on the ///, usually requires the manual. Without it you're stuck. That is, unless you do what many /// owners are doing -- call for support to Sun Remarketing or *ON THREE* without having a legal copy of the software.

This can bury a good company like Sun Remarketing or *ON THREE*. Everyone wants new things created for his Apple /// such as desk accessories, more memory and more slots. We must stay in business to create new products. Today, few companies are willing to create new products for the ///.

The state of the /// market is somewhat to blame. When people can buy a 256K Apple /// for about $500, many feel that a hundred dollars for some software is too expensive in relation to the price of the hardware. It's not. Apple /// software prices are generally lower than their Apple II counterparts. People just have to understand that if they want anything new for their machines, they are going to have to pay something for it, if not in money now, in a lack of support later when companies like Sun Remarketing and *ON THREE* are forced to drop the /// because of limited sales.

If there's a moral here, it's this: please don't copy Apple /// software which is being sold. And if you do, don't call and ask for help with something you've stolen.

PHASE III

More in-depth news will be in the next issue, but things are looking good for a national Apple user conference. The Third Apple User's (TAU) of Chicago is sponsoring the PHASE III conference in the beginning of October. It will be a three-day affair, so make plans now for a fall outing to the Chicago area.

Anyone who reads *ON THREE*, the /// Magazine or has anything to do with an Apple /// should attend PHASE III. Some big names in the /// world might be there, so if you have a gripe or want to pat someone on the back for a job well done, here's your chance to do it.

(Reload & Exit Continued)

```
          LDA     2003          ;Get the address of the Desktop
          STA     00            ;Manager's Vector Table and
          LDA     2004          ;store it on zero page for
          STA     01            ;indirect indexed addressing.

          LDY     #06           ;Get the address of the
          LDA     @00,Y         ;Immediate Exit routine from
          STA     Jump+1        ;the Desktop Manager's Vector
          INY                   ;Table and patch a Jump to it.
          LDA     @00,Y         ;The Immediate Exit routine
          STA     Jump+2        ;will return to the user's
                                ;application and not to the
                                ;Desktop Manager's main menu.
Jump      JMP     Jump          ;This has been patched, so do
                                ;it.

Table     .Byte   00,00,00,00   ;This table holds the info
          .Byte   01,01,01,12   ;which will initialize the
                                ;Desktop Manager's Data Table.

          .End                  ;End of assembly.
```

The Beginning ///

richard and lavona rann

System Utilities: Another View

In December's issue of this magazine, Kevin FitzMaurice presented basic instructions for using System Utilities in his article, "Using System Utilities." This month we will discuss more about how to use the utilities and why they are an important tool. This column is designed to help you develop some needed skills and knowledge about the why's and how's of many computer concepts as they apply to the Apple ///. By stepping through procedures basic to efficient operation of the Apple ///, the novice user can gain important skills. The intermediate reader will see familiar things in a new light and will gain a fuller understanding of the ///'s capabilities. We will also reveal why things are the way they are and how to use them to your best advantage.

SOS (Sophisticated Operating System, pronounced *sauce*) is a very powerful operating system which has a lot of the functionality of the operating systems used on much larger computers. It is probably the ///'s most valuable asset. It was also a major factor in the lack of early public acceptance of the ///. Many people didn't understand the value of the flexibility it gives, or how easy it is to learn to use the power of SOS. They wanted a computer to turn on and use as is, just as some people buy a //c so they don't have to worry about cards and slots. (Many of those people will later wish they had the flexibility of a //e.) As a /// user you have a very powerful tool and System Utilities is the master key to that tool. By investing a little time learning about System Utilities, you can learn to access much of the power of the Apple ///. The /// was designed to be flexible and yet not require technically oriented system programmers to do most things. With some practice, a novice /// user can add new devices to his Apple /// such as printers, modems and hard disks; structure his files; and keep track of and reorganize data. Regardless of what function your Apple /// will serve for you, it is important that you become comfortable using System Utilities.

Making Backup Copies

One of the most important aspects of using any computer is making backup copies. System Utilities makes it easy to make copies of diskettes in order to back up your data and programs. There are several reasons why backup copies are needed. First, regardless of what longevity claims are made by the manufacturers of diskettes, all sorts of things can happen to them. Diskettes are sensitive to dust, cold, smoke, heat and, most of all, they are subject to accident. A spilled cup of coffee can ruin a week's work, but even more than that, the computer and its operators can cause accidents. A power surge when the computer is reading or writing can destroy the data on a disk as easily as if the power failed completely. The first time you write over an important file will be very painful if you have not already learned the lesson of backup. It is important to get into the habit of backing up work regularly, and to keep the backup copies in different places, even separate buildings if the data is especially valuable. Each year, major corporations spend hundreds of millions of dollars on vaults, fire protection systems and separate buildings to keep their data safe.

Remember, a computer starts out being worth only the purchase price. Every time you use the machine productively something useful is added. It is your data and programs that have *real* worth. These have value in relation to the time and work it took to collect and/or produce them, and often additional value accrues with time. Data takes on a life and value of its own. If it is destroyed, there is usually no way of replacing it exactly. Your only protection is a good backup.

When Do I Need to Back up?

Backup copies should be made as often as practical. Determine this by analyzing what it would cost you to lose everything you've entered since your last backup and comparing the potential loss to the cost of doing extra backup. Data should be saved to disk several times a day, at least, when work is in process for the whole day. When data is in memory it is vulnerable. It can be destroyed with just the press of a button or the flick of a switch. When it is on a diskette it is a hundred times safer; on two diskettes it is many times safer still. It is wise to copy changed diskette files to another diskette on at least a daily basis. With a hard disk, it may be impractical to back up the whole thing to diskette ever day, but once a week is not too often, especially if only the files that have changes are backed

up. You can use System Utilities to back up files, diskettes and parts of large hard disks. If you have a hard disk, an important utility is one like Backup /// which organizes your data and helps in the backup process. We will cover Backup /// in detail in a later column.

Don't forget to keep backup copies of all your programs. While a ruined program disk will usually be replaced by the maker for a nominal fee, sending it in involves loss of time and use of that program. Users of Apple /// software are especially vulnerable as the original companies which produced our software are often not supporting it now. So it is definitely to the user's advantage to build up a library of backup data and programs in order to protect his investment of time and money.

Since the best way to learn is by doing, let's try formatting a diskette and then making a backup copy of System Utilities. We need just two thing besides you and your Apple /// for the job. First we will need the System Utilities program to do the copying and we will also need a blank diskette. Since diskettes are not generally sold formatted, we will start the process by formatting a diskette. So boot the System Utilities program. The main menu looks like the one printed in Figure 1.

Figure 1

```
Apple /// Utilities     Main Menu                          Version x1.2b
  1980,1981,1982  Apple Computer                  All Rights Reserved



              D - Device handling commands
              F - File handling commands
              S - System Configuration Program (SCP)
              Q - Quit

Press:                                                    *? for Help.
                                                        * is Open Apple
Please select a command:  System Configuration Program (SCP)
```

At the top left of the screen is the name of the disk you booted from, in this case Apple /// Utilities. Next to that is the name of the menu you are viewing, now Main Menu. At the right is the program's version number. Notice at the bottom right of the screen the help prompt. By pressing **OPEN-APPLE** and **?** together, you can summon a screen with added information which aids you in using the program.

The main portion of the screen has a four item menu. Items can be selected by pressing the corresponding letter key and then **RETURN**, or by moving the highlighted (inverse) area with the arrow keys to highlight your selection and hitting **RETURN**. Remember that all the RETURN key does is signal the computer that you have given it an instruction and want it to act.

Formatting a Disk

Formatting is a process whereby the computer lays the magnetic bands which will contain the data on a diskette. It also checks the diskette to make sure there are not flaws in the magnetic covering. This process is much like cleaning a book shelf to ready it for a new collection of books, because formatting wipes away anything that is already on that disk.

In the System Utilities Main Menu select **D**, "Device Handling Commands." The screen changes to the Device Handling Commands Menu. A device is ANYTHING that the Apple /// uses to talk to the outside world. A basic concept underlies that statement. A computer consists of many parts, but at its most basic level it is a collection of circuits and chips. Obviously, it is not very useful for us to have the computer simply talk to itself. Specialized programs, called DRIVERS, have been written to allow the computer to talk to the outside world and to receive messages. Any program run on the computer can only interact with the outside world via the DRIVERS that are loaded when the computer is booted (purists will note that there is one exception but let's ignore it for now).

System Utilities, being a program, also uses these intermediaries to communicate with us no matter which portion of the program we are using. It is useful to your understanding of the concept of devices if you know that there are two types of devices and are familiar with a few examples. The first type of device is a CHARACTER DEVICE. The console (the DRIVER that handles the input and output from the keyboard and to the screen) is one example of a character device. It acts on characters one at a time. Serial printers are character devices. BLOCK DEVICES are the second type of device and handle information in blocks (collections) of 512 characters at a time. This collection is done by the appropriate driver and is not something that you need to remember. The best examples of block devices are disk drives (floppy and hard disks).

When SOS talks to a disk device, through its driver, it does not really care whether the diskette is removable or not. SOS allows programs to discover and change the name of the VOLUME so other programs and people who need or desire a more specific volume name may change it. This means that to copy a diskette, we basically tell SOS to copy the device. It is not too strange if we remember that the computer deals in information rather than physical machinery. When it copies the device known to it as .D1 (or by the name of the volume in .D1), it is only copying the information it can access at location .D1.

We decided to copy the System Utilities diskette, so let's examine the Device Menu from System Utilities which appears in Figure 2.

Using the Device Handling Commands is as easy as it looks, once you are familiar with the general concepts we have discussed. We are going to do it the long way so you will also learn how to format a blank diskette without copying anything to it. Place the blank disk in drive two [.D2]. Now select **F**, "Format a volume," and press **RETURN**. The formatting prompt will come up on the lower left:

Format the medium in : .D2

The .D2 is the default setting, assuming that most Apple ///'s are configured with two disk drives. Press RETURN, and the cursor moves to the prompt:

With the name [Blank##]

The program wants you to decide the name of the volume. If no name is given, it will name it with the word BLANK followed by a numeric suffix valued from 00 to 99. Let's name it BLANK01. Move the cursor with the arrow keys so it is on top of the number in the "Blank##" statement on the screen. Type 01 over the number and press RETURN. When the formatting is complete, "Formatting successful" is displayed on the screen. The diskette in drive two is now a blank, formatted diskette with the volume name of BLANK01.

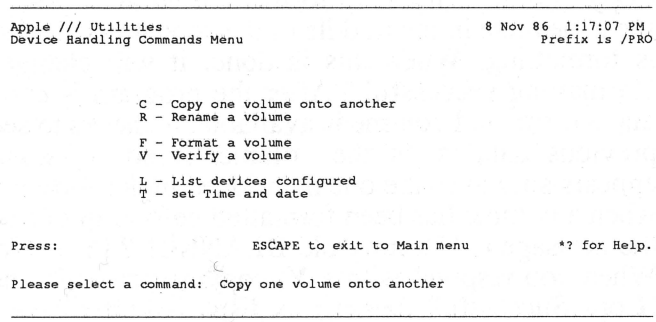
The diskette is now ready to be written on by Apple /// programs. It is wise to have a supply of formatted blank diskettes somewhere near your computer. Unless you have a tool like the Desktop Manager's "Disk Manager," these formatted blanks are your best protection against losing data because a program is ready to store something from memory and you don't have a place ready for it (even hard disk users need this as they sometimes run out of space). Most programs do NOT have format options, so having diskettes ready can be very important.

By the way, if the disk (or volume) you ask System Utilities to format is not blank, the formatting will be temporarily stopped and a prompt will appear in the center of the screen: "Is it okay to destroy all the contents of (volume name) ? (Yes/No)." Type **Y** to continue, but if the material on the diskette is important and needs to be saved the process can be stopped by typing **N**.

Copy

Now let's use the Utilities program to create a backup copy of itself. First, hit **ESCAPE** to return to the Device Handling Commands Menu. Each time ESCAPE is pressed it moves the program back to the prior decision or menu.

Figure 2



Select **C**, "Copy one volume onto another" and press **RETURN**.

The prompt at the bottom of the screen displays:

Copy the volume:
[.D1]
To the volume:

With the new volume name:

The cursor is now resting on the "." in front of .D1. We want to copy the System Utilities disk which is already in .D1 to the newly formatted disk in .D2. To accept, just hit **RETURN**. If you had wanted to copy from a different disk, you would just type in the correct drive number. The period at the beginning of the line indicates that you are giving a device name. If you had wanted to give a *volume* name, the period would have had to be omitted. (Remember volume names refer to the media rather than the driver/ physical device pair. So the volume name of the diskette we formatted was BLANK01, even though its location is .D2).

As soon as you enter **RETURN**, the brackets ([ ]'s) move down to the next prompt, "To the volume" and the default is given. In this case, the program assumes that it will be .D2. When you hit return again, it gives the default name for the new volume. Since you are copying it, the program guesses that you want to use the same name as that of the original. If so, enter **RETURN** immediately. If not, enter the new name first and then enter **RETURN**. Systems Utilities is

consistent in highlighting areas for your responses with [ ]'s. This makes it easy to look at a screen and see what is expected of you.

Soon after you hit **RETURN** on the volume name response, the program checks to see if the device you are copying to is formatted. If not, it will automatically format it and give it the name you requested for the copy. This means that we really did not have to select the Format Option before we came to the Device Copy option. If it has to format the volume, you will see a message in the middle of the screen which says it is formatting. When this is done, it will change to "formatting successful." After the program is certain that a formatted volume is available, it checks to see if previous data is on the volume. If so, a message appears similar to the one mentioned under formatting when a volume has been formatted before. In this case the message is "Destroy old BLANK01 ? [Yes/ No]". When you respond with a **Y**, copying proceeds and a "Copy Successful" message is displayed after the copy is made.

Volume copy is great when a duplicate of an entire diskette is needed. When a copy of only one file on a disk is needed OR when you need to copy a whole volume to another volume of a different size, you will need to use the FILE handling procedures of System Utilities. Files are collections of data which are stored on volumes (normally disks of some type). You can do a wide variety of things with files and groups of files by using System Utilities. To get to the menu containing file handling commands from the Copy Device subsection of the Device Handling Menu, hit escape twice and then use the arrow key to move the inverse area to "F - File handling commands," and press **RETURN**.

Files and File Handling

Now the top of the screen informs you that you are viewing the "File Handling Commands Menu." On this menu are the several operations which can be performed with files. "C - Copy files" operates almost the same way as its counterpart in the Device section,

Figure 3

```
Apple /// Utilities                              11 Oct 86  5:22:28 PM
File Handling Commands Menu                              Prefix is /PRO


                L - List files

                C - Copy files
                D - Delete files
                R - Rename files

                M - Make a new subdirectory

                W - set Write protection (lock/unlock)
                P - set Prefix

Press:                    ESCAPE to exit to Main menu          *? for Help.

Please select a command:
```

but the File section expects you to indicate the whole name and address of a file in some way. In the Device section, we dealt only with whole volumes so the addresses we indicated were simple. It was a lot like sending mail to someone who lives in a single family building, for which a name and street address are enough. When dealing with *files*, it is like sending something to someone in a large office complex where additional location information (such as a building and/or floor number) is required. This relatively simple concept unfortunately has a name that intimidates many people: Hierarchical File Structure.

The Apple /// was the first microcomputer to have an operating system allowing hierarchical file structure. Since then, every other computer maker has adopted a hierarchical system. Hierarchical structure is almost mandatory with large storage devices. Imagine having hundreds of files each with a distinct name. With SOS, related items can be grouped, and each of those major groups broken down into several smaller groups. In the standard postal mailing address hierarchy, many levels are allowed but are not always necessary. Someone may have an office mailing address composed of Name, Mail Stop, Floor, Building, Street Address, City and Country, or one that is much more simple.

Another perfect example of a hierarchical structure is the menu arrangement of the System Utilities options. System Utilities is broken down into four sections, and each of those four sections is broken down further. Formatting a disk as we did above is actually a stepping process, going from the main menu to the Device Handling Commands menu to the actual selection, "Format a Volume."

In microcomputers, the file naming structure works by starting with a device name. We have seen several device names before: .D1, .D2, .PRINTER. A "." precedes a device name and signals to SOS that a device name follows. After the device name, a "/" indicates that the device name has been completed and another name follows. Like the postal system, SOS allows for multiple levels. The levels each have a directory associated with them which keeps track of what is stored at that level. One of the things that happens when we format a VOLUME is that a volume directory is created and written on it. This is the master directory, containing the names and locations of all files and/or directories on the first level of the volume.

Using the post office example, a master directory for a street could include several home addresses (equivalent to files) and an apartment address (equivalent to a subdirectory because instead of being an individual address, it would be another directory, i.e. of apartment numbers). SOS allows many levels of directory

names. Therefore a file name might look like this: .D2/name.1/name.2/name.3. Each name must start with an alphabetic character and be separated from the previous name by a "/". Individual file or directory names may contain alpha, numeric and "." characters up to a maximum of fourteen after the initial alphabetic character. Upper and lower case letters are treated equivalently; blanks and other special characters are not allowed. The file structures will make much more sense when you actually use them, so let's move on to some practical examples.

Making a Listing of Files

Let's make sure that the files on the copy of System Utilities are the same as on the original disk. The first thing we want to do is look at the files on the System Utilities disk we booted to start the session. Assuming you are still at the File Handling Command Menu, select **L** and press **RETURN**. On the bottom of the screen the cursor highlights an area which says, [.D1]. The Utility disk is in drive one, so hit **RETURN**. The cursor moves to, "List All directory levels." Again you press **RETURN**. Finally the cursor highlights ".CONSOLE" and that is where you want the information displayed, so you press **RETURN** once more. Systems Utilities DEFAULTS TO THE MOST COMMONLY USED VALUES. In this case it is .D1, to be shown on the console.

Now the screen contains a list of the files on your disk. Yours may be different in some respects from ours (see Figure 4), but follow along with our example for experience.

The first three files listed are the SOS operating system. Appropriate files with these exact names must be on the first level of a volume or the disk will not boot. Now follow the above procedure with the copy in .D2, but this time you must change the default setting by typing **.D2** when the program prompts, "List the directory information of the files:" If the listing is the same then the copy was successful.

A listing of the files on a volume is an important tool. It not only gives the names of the files but also provides some information about each, such as the size of the file and the number of blocks it occupies. [A block is 512 bytes of data.] This becomes important when there is limited space on a disk. SOS will not write on a disk when there is not enough space for the file. The first operation SOS performs in a "write" is to catalogue the space available. If there is enough space for the file, then SOS creates the directory on the disk telling where to find the file before it transfers the data. This is important to know because if there is a malfunction during a write, it is possible that the diskette's directory will be damaged and you will receive error messages when you list the directory in the future. This damage indicates that you should take corrective action to avoid future problems. The simplest way of doing this for a diskette is to copy all the files to another diskette. **NOTE:** DO NOT copy the *volume* with a *device* copy because it will copy the damaged directory instead of creating a new one.

Figure 4

```
Apple /// Utilities                                        8 Sep 86  9:29:11 PM
List Files Command                                              Prefix is /PRO

/UTILITIES              Size   Modified  Time  File type  Eof Phys
  SOS.KERNEL              43   1-Nov-82  0:00  Sosfile    512   44
  *SOS.INTERP             27   1-May-83  0:00  Sosfile    512   28
  SOS.DRIVER              29  29-Jun-85 20:36  Sosfile    512   30
  *SYSTEM.PASCAL          48   1-May-83  0:00  Codefile   512   49
  SYSTEM.MISCINFO          1  29-Jun-85 20:41  Datafile   512    1
  *SYSTEM.STARTUP        120   1-May-83  0:00  Codefile   512  121
6 files listed, 0 blocks available



Press:  RETURN to accept      ESCAPE to exit to File menu            *? for Help.

List the directory information of the files:
 .D1
including  All   directory levels;  sending the listing to the file:
 .CONSOLE
```

Another important field is "Date and Time." We recommend that you purchase a clock for your ///. SOS uses the clock to automatically date and time-stamp files every time there is a change. A look at the listing above shows that the SOS.KERNEL and .INTERP files have not been modified. In fact, they are the same files Apple provided with this particular release of SOS, but the SOS.DRIVER file was modified this year. It also shows that we work nights. A look at the date shows us whether this disk has our latest driver file. Date and time also help when we need to select the most recent of a number of files with similar names.

The file type field gives the type of the data stored in the file. In this case there are three SOS files: the operating system, a code file and a data file. This is important because some programs require certain types of files and they will not load the wrong type file. The error message may appear as: "FILE TYPE MISMATCH," indicating that the system has been instructed to load a file not intended for that program. Some of the file types are: Cat, a root directory or subdirectory; Font, a "type" font; and foto, a graphics picture.

Many times listings of files on a diskette are important to print out and keep so you have a written record of what is on a disk or diskette. System Utilities makes it easy to print any listing simply by inserting the name of the printer device as your answer to the prompt, "Send the listing to the File:" Type in the device name, for example ".PRINTER". (The name depends on the way your particular system is configured. We have a software spooler, so our printer command is ".SPOOL".) You might want to print a listing to facilitate comparing the contents of two diskettes, as

we did earlier. It is much simpler to print out the first listing and have it handy so you can compare it to the second one when it is displayed on the screen.

The File Handling Commands Menu's Option M, "Make a new subdirectory," allows you to set up a new directory "inside" an existing one. You can use this to logically arrange your files. A little time and thought should be put into the way you name and arrange your files. For instance, all files containing letters can be put into a directory (which for example I will name LTRS) with subdirectories for each destination (ONTHREE for one example), and after that maybe the date written would appear in the file name. If you create a LTRS subdirectory on the VOLUME in the .PROFILE device, you can then create an ONTHREE subdirectory within it and store specific letter files in that subdirectory. If you save your letter files under this type of scheme, you can obtain a listing of all the letters you wrote to ONTHREE by using System Utilities, going to the List Files option and typing over the ".D1" default with ".PROFILE/LTRS/ONTHREE".

System Utilities has several short cuts available to people who want to use them. A few we think worth discussing here are prefix setting, up-arrow and = key options, and the advanced editing feature.

Using the Prefix

The prefix option utilizes SOS's built-in capability of simplifying handling complex addresses. SOS allows you to preset a PREFIX which will be appended to the front of any FILE name you give. Using a prefix is similar to telling a person, "All of the following addresses can be found in the city of Paris in the country of France" and then just repeating names and street names. The concept is supported in many Apple /// programs and System Utilities is no exception. If you have been following along with the examples, the current prefix is "UTILITIES" because it was set by default when you booted the disk. That means that if you use the copy option and enter the filename "SOS.DRIVER", the computer expects to find that file on the volume named UTILITIES. The full address of the file is "UTILITIES/SOS.DRIVER".

System Utilities takes advantage of the prefix by setting it for you before it starts and then using it. When you want to override the prefix, you may enter the address via the device name approach ".D1/SOS. DRIVER". In this case the names point to the same address but, if you had changed diskettes in drive one, they would not be the same unless the new volume also had the name UTILITIES.

If you plan to frequently use subdirectories such as the ".PROFILE/LTRS/ONTHREE" example above, it is often worthwhile to use the Change Prefix Option to change it to the subdirectory address. Then when you enter the local file name, the full prefix will be assumed and you will not have to retype it.

Up-Arrow and = Key Options

There are times when you want to copy several files to a new place. It would be tedious copying five different files from one directory to another individually. If you want to copy everything from a directory (or subdirectory) to another place, or *delete* all entries in the same, it is easily done by using the "=" key, which is used as a wild card. If you want to copy everything in the directory (or subdirectory) just give enough of the address to make it unique (all higher levels not already in the prefix), and follow with the "=". If you want to move some, but not all, of the files there are several options.

If your selection is categorized by some common element in the name of the files, you can use the "=" wildcard as follows. Let's assume that I have 15 letters in my ONTHREE subdirectory, and I used the first three characters of the month's name as the first three characters in the file names when I saved them. Then if I want to do something to all of the September files (copy, delete, change write protection, etc.), I could use "Sep=" as the local file name (smallest portion of the address, as in apartment number). With no prefix set, the entry would be ".PROFILE/LTRS/ ONTHREE/SEP=". Only the files in that directory beginning with the letters SEP will be selected.

If there is not a common name to use, all is not lost. You can enter the appropriate information to get to the correct directory and then press the up-arrow key. In the above example, the entry would be ".PROFILE/ LTRS/ONTHREE/" followed by the up-arrow. As soon as the up-arrow is hit, a box appears on the screen containing the names of the entries in the directory. You can then use the up- and down-arrow keys to move between the entries; use the left- and right-arrow keys to select and de-select items, respectively. Each selected item will have an arrow pointing at it after you make your choice. Once you finish selecting the items to be used, hit **ESCAPE** and **RETURN**, and the next question is asked.

Editing

Finally, the advanced editing option allows you to change your responses and/or defaults without totally retyping them. We already mentioned that the escape key takes you back to prior questions/menus. It also

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can take you back to the default for an entry after you start to type in the answer. This is handy if you somehow get ahead of yourself and mistakenly hit a key which the program thinks is an attempt to change the default.

If you are typing an answer and realize you typed a bad character, use the arrow keys to move to the character and then enter the replacement. To delete an extra character, just move the cursor to the offending character and hold down the **OPEN-APPLE** key while moving the right-arrow key one space. You can delete several characters by continuing to hold down the **OPEN-APPLE** key and striking the right-arrow key once for each character to be deleted.

Characters may be inserted as well. Holding down the **OPEN-APPLE** key and pressing **I** puts you into insert mode, so everything you type will be added to where the cursor is. To quit inserting characters, repeat the same key sequence (hold down **OPEN-APPLE** and **I**).

Conclusion

The editing features mentioned are really nice for those of you who use System Utilities a lot to do things requiring a relatively large amount of typing. They can save quite a bit of typing but are like shorthand and macros in that they must be used quite a bit to be worth learning.

System Utilities is a very powerful set of tools for anyone who needs to work with an Apple ///. There is one more section to the program which was not covered here: System Configuration. It is that section which allows you to add, modify and delete DRIVERS by creating new SOS.DRIVER files on your boot disks so the /// can talk to a variety of devices (usually peripherals) in a number of different ways. It is the most complex part of System Utilities because it can deal with a number of different capabilities and types of drivers. Since this is a critical part of setting up your /// so it will talk to things like your printer, you have probably had some experience with it already. In the near future, *ON THREE Magazine* will have articles covering the general use of that section as well as potential problems and how to solve them.

Nothing in the System Utilities set of tools is innately difficult, so just take your time and try them one at a time. One of the complaints we heard from a new /// owner last year was that it didn't do anything when he turned it on. In that respect, we suggest you think of an Apple /// as an automobile and a TI 99 as a tricycle. It doesn't take much to learn to ride a tricycle, but it is also very easy to outgrow its capabilities. The ///, like the automobile, takes a little longer to learn to use, but pays back the effort with a tremendous amount of increased capability and flexibility.

/// /// /// /// /// /// ///

DE CLASSIFIEDS

/// /// /// /// /// /// ///

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Magic

richard m. smith

This program, called "Magic," is the computer emulation of an old parlor game resembling the shell game. However, "Magic" does not depend on sleight of hand and is not a trick as such.

Originally the game was played with three identical china teacups. Without being observed by the magician, a player placed an object under one of the inverted teacups and changed the cup positions several times. Once the player finished, the magician immediately selected the teacup covering the hidden object. Unfortunately the computer does not have the perceptions of a human, so this variation of the game uses three unlike objects to make the outcome absolutely clear.

I think this computer program interpretation of the parlor game is unique. The game is obscure and so is the principle, and the principle remains obscure no matter how many times the game is played. The status line, shown at the bottom of the screen while the game is in progress, shows what the computer "thinks" the position of the three objects is. Inspection of the status line during play clearly shows that the computer is not somehow simply tracking the position of the objects.

There are seven major functional parts to the program:

1. Lines 100 through 190 set up the items to be manipulated.
2. Lines 200 through 280 start the manipulation.
3. Lines 300 through 390 manage the manipulation each time an exchange is specified by the player.
4. Lines 400 through 495 display, at the end of the game, the object which was secretly selected by the player.
5. Lines 500 through 660 present the introduction when the program is run.
6. Lines 690 through 740 manage the changing display of items at the bottom of the screen.
7. Lines 800 through 5000 are utilities called from the program.

The instructions given by the program are clear and the process is simple. The best thing to do is try it. Just enter the data, boot the disk and have some fun!

```
10   REM ++++++++++++++++++++++++++
20   REM +          Magic          +
30   REM +  by Richard M. Smith    +
40   REM +                         +
50   REM +   Copyright (c) 1987    +
60   REM +       by ON THREE       +
70   REM ++++++++++++++++++++++++++
80   DIM P$(3):HOME
85   IMAGE 40C
90   PRINT CHR$(16):PRINT CHR$(20);
     6:GOSUB 540
100   REM>>SET UP THE SITUATION<
110   PRINT:PRINT:PRINT"      PUT T
     HREE ITEMS ON THE TABLE"
115   PRINT:PRINT"  IN FRONT OF YOU
      - FROM LEFT TO RIGHT":PRINT:
     PRINT
120   PRINT:PRINT"   POSITION ONE (
     1) IS ON THE LEFT":PRINT
130   PRINT"   POSITION TWO (2) IS
     IN THE MIDDLE":PRINT
140   PRINT" POSITION THREE (3) IS
     ON THE RIGHT":PRINT
150   PRINT:PRINT"(ITEM 1)"; TAB(16
     );"(ITEM 2)"; TAB(33);"(ITEM
     3)"
160   VPOS=18:INPUT" NAME ITEM 1: "
     ;L$:IF LEN(L$)<1 THEN GOSUB 4
     000:GOTO 160
170   PRINT:INPUT" NAME ITEM 2: ";M
     $:IF LEN(M$)<1 THEN GOSUB 400
     0:GOTO 160
180   PRINT:INPUT" NAME ITEM 3: ";R
     $:IF LEN(R$)<1 THEN GOSUB 400
     0:GOTO 160
190   P$(1)=L$:P$(2)=M$:P$(3)=R$:GO
     SUB 700:HOME
200   REM>>INSTRUCTIONS<
210   PRINT:PRINT USING 85;"THE ITE
     MS ARE DISPLAYED BELOW."
```

```
215   PRINT:PRINT USING 85;"SELECT
      ONE OF THE ITEMS AND REMEMBER
       IT.":PRINT USING 85;"PRESS
      ANY KEY WHEN READY":GET ANYKE
      Y:HOME:PRINT
220   PRINT USING 85;"I WILL ASK YO
      U TO EXCHANGE POSITIONS":PRIN
      T USING 85;"OF ANY TWO ITEMS
      SEVERAL TIMES"
230   PRINT USING 85;"AND ENTER THE
       POSITIONS AFFECTED":PRINT US
      ING 85;"WHEN PROMPTED..."
240   PRINT:PRINT USING 85;"BUT FIR
      ST MAKE A PRACTICE MOVE"
250   PRINT USING 85;"BY EXCHANGING
       THE TWO ITEMS":PRINT USING 8
      5;"NOT SELECTED."
260   PRINT:PRINT USING 85;"WHEN YO
      U HAVE DONE THIS..."
270   PRINT USING 85;"PRESS ANY KEY
       TO PROCEED.":GET ANYKEY
280   HOME:VPOS=5:PRINT USING 85;"N
      OW PROCEED TO MAKE EXCHANGES"
      :PRINT:PRINT USING 85;"AND EN
      TER THEM AS PROMPTED.":PRINT
290   REM>>MAKE THE EXCHANGE<
300   GOSUB 1000
330   HPOS=8:VPOS=10:PRINT"DO YOU W
      ANT TO STOP YET? ":GET G$:HOM
      E:VPOS=10
340   IF LEFT$(G$,1)="N" OR LEFT$(G
      $,1)="n" THEN GOTO 300:ELSE I
      F LEFT$(G$,1)="Y" OR LEFT$(G$
      ,1)="y" THEN HOME:VPOS=10:GOT
      O 350:ELSE HOME:VPOS=10:GOSUB
       5000:GOSUB 3000:HOME:GOTO 33
      0
350   VPOS=10:PRINT" ARE THE ITEMS
      IN THEIR ORIGINAL ORDER? ":GE
      T H$:HOME:VPOS=10
360   IF H$="Y" OR H$="y" THEN GOTO
       400:ELSE IF H$="N" OR H$="n"
       THEN GOTO 365:ELSE GOSUB 500
      0:GOSUB 3000:GOTO 350
365   PRINT USING 85;"MAKE AND ENTE
      R CHANGES":PRINT:PRINT"  UNTI
      L THE ORIGINAL ORDER IS RESTO
      RED":GOSUB 3000:HOME:VPOS=10
370   GOSUB 1000
390   GOTO 350
400   REM>>TELL WHAT WAS CHOSEN<
410   IF P$(1)=L$ THEN GOTO 450
420   IF P$(2)=L$ THEN GOTO 470
430   HOME:VPOS=10:PRINT USING 85;M
      $+" WAS CHOSEN"
440   GOTO 480
450   HOME:VPOS=10:PRINT USING 85;L
      $+" WAS CHOSEN"
460   GOTO 480
470   HOME:VPOS=10:PRINT USING 85;R
      $+" WAS CHOSEN"
480   PRINT:PRINT USING 85;"PRESS A
      NY KEY TO PROCEED":GET ANYKEY
490   HOME:VPOS=10:PRINT USING 85;"
      DO YOU WANT TO PLAY AGAIN?";:
      GET ANSWER$:IF ANSWER$="Y" OR
       ANSWER$="y" THEN HOME:P$(1)=
      " ":P$(2)=" ":P$(3)=" ":GOSUB
       700:GOTO 110
495   IF ANSWER$<>"N" AND ANSWER$<>
      "n" THEN HOME:GOSUB 5000:GOSU
      B 3000:HOME:GOTO 490:ELSE TEX
      T:HOME:END
500   REM>>INTRODUCTION<
540   HOME:HPOS=8:VPOS=6:PRINT"I AM
       GOING TO DO SOMETHING":PRINT
      :HPOS=8:PRINT"WHICH SEEMS IMP
      OSSIBLE."
550   PRINT:GOSUB 2000
560   PRINT:HPOS=8:PRINT"BY USING A
      N ARCANE":PRINT:HPOS=8:PRINT"
      METAPHYSICAL PRINCIPLE...":PR
      INT
570   GOSUB 2000
580   PRINT:HPOS=8:PRINT"I WILL IDE
      NTIFY AN OBJECT":PRINT:HPOS=8
      :PRINT"WHICH I CANNOT PERCEIV
      E!"
590   GOSUB 2000
600   HOME:VPOS=6:PRINT USING 85;"W
      ITHOUT KNOWING THE PRINCIPLE,
      ":PRINT
610   PRINT:PRINT USING 85;"YOU WIL
      L NEVER DISCOVER HOW IT WORKS
      ":PRINT
620   PRINT:PRINT USING 85;"EVEN IF
       YOU EXAMINE":PRINT:PRINT:PRI
      NT USING 85;"THE PROGRAM LIST
      ING."
630   GOSUB 2000
640   HOME:VPOS=10:PRINT USING 85;"
      NOW IT IS TIME FOR US TO BEGI
      N.":PRINT:PRINT
650   PRINT:PRINT USING 85;"FOLLOW
      MY INSTRUCTIONS CAREFULLY."
660   GOSUB 3000:HOME:RETURN
690   REM>>DISPLAY THE POSITIONS OF
      ITEMS<
700   IMAGE 13A,13C,13R
```

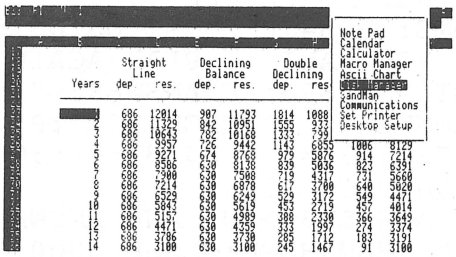
(Continued on p.32)

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.

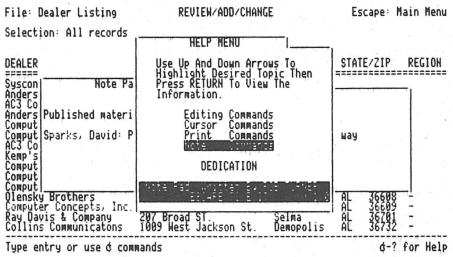
Running in the background, the Desktop Manager places all of the desk accessory utilities you ever wanted . . . Appointment Calendar . . . Notepad . . . Calculator . . . Disk Utilities . . . Macros . . . Graphics . . . Games . . . and more, into each program you own, just like they were part of it. Instantly 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.

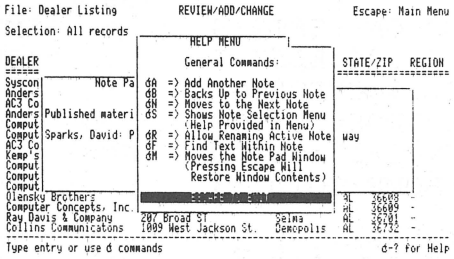
While word processing, have you ever needed to multiply two numbers? Perturbed because you have a few thousand dollars worth of computer equipment at your fingertips and still can't multiply two figures when you want to? Or, you're entering data in a spreadsheet and can't find either a scratchpad or 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.

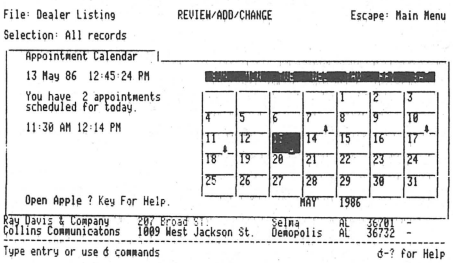
Does this describe your situation? How about clearing your desk of that old-fashioned calculator, the pens and paper, your appointment calendar and increase your productivity? The **Desktop Manager** *from* **ON THREE** *will do these things and a great deal more. From within any program, a keypress 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:*



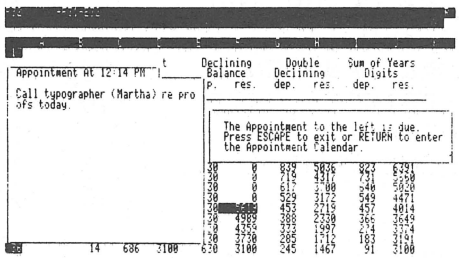
NotePad main help menu, superimposed on a NotePad memo and a database.



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



Appointment Calendar primary display.



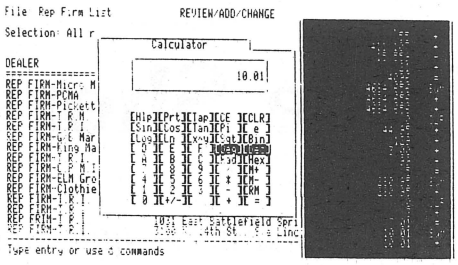
Appointment Calendar event, showing an appointment that has just come due.

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.*

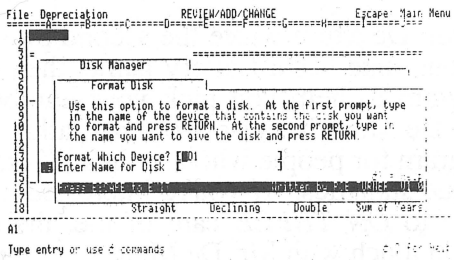
The complete package includes all of the features described above and a 110 page User's Guide that shows clearly how to use each function of the various **Desktop Manager** *modules. Priced at only $129 plus $6 shipping, the* **Desktop Manager** *is the best thing to happen to the Apple /// in a long,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

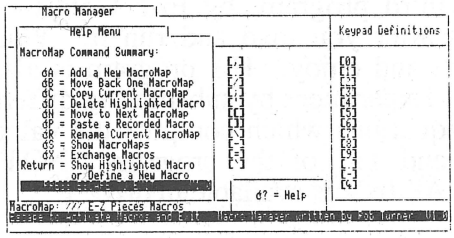
Main menu of the Disk Manager



"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	**$19.95** plus $3 s/h

Three Shorts - Fini!

ron puckett, martin de muro and eric goldstone

This month's "Three Shorts - Fini!" contains a diverse mix of programs. At least one will intrigue you. All are small but powerful.

"Two-Way Scrolling" is a handy program which lets you scroll through the catalog of any disk you place in drive 1. This is convenient for those of you who can't remember the contents of a disk and haven't yet purchased the Desktop Manager's "Disk Manager" module, which also lets you catalog disks but does much more as well.

Martin De Muro wrote the second program, "Pick It." If your state has a Lottery game, then use this simple program to help you pick your numbers each week. Mr. De Muro has also written a rather long but useful program for people who use their ///'s to track bowling league statistics. If you're interested in that program, write to *ON THREE* care of me, the editor. I'll put you in touch with Mr. De Muro.

The third program, by Eric Goldstone, creates patterns after you load and run it. You just sit back, watch and enjoy. His program is also easily modified. Experiment by substituting different numbers in the equations which compute the value of Y in lines 115 and 117 of the program. **NOTE:** Make sure BGRAF.INV is available in drive 1.

As always, these three programs as well as the other programs listed in this issue are available on disk. Just call or write to order *ON THREE's* Disk of the Month (DOM). Programs published in any past ON THREE Magazine are available on DOM's as well. Just let us know in which issue the program first appeared, and we'll send you the appropriate DOM. Order one for only $14.95 (plus $2 s/h) or two or more for only $12.50 each (plus $4 s/h).

ON THREE

TOLL-FREE ORDER LINES

(800) 443-8877

In California

(800) 331-1418


```
 1   REM +------------------------+
 2   REM +   Two-Way Scrolling    +
 3   REM +     by Ron Puckett     +
 4   REM +                        +
 5   REM +   Copyright (c) 1987   +
 6   REM +        ON THREE        +
 7   REM +                        +
 8   REM + This program loads the +
 9   REM + catalog into memory and+
10   REM + scrolls up and down if +
11   REM + you use the arrow keys.+
12   REM +------------------------+
15   DIM A$(500)
20   ON EOF#1 GOTO 60
30   PREFIX$=".d1"
40   OPEN#1 AS INPUT,".d1"
45   REM Read in catalog
50   FOR X=1 TO 500:INPUT#1;A$(X):N
     EXT
60   IF X<23 THEN FOR Y=1 TO X-1:PR
     INT A$(Y):NEXT:GOTO 900
61   REM Print 23 names
70   FOR Y=1 TO 23:PRINT A$(Y):NEXT
100   VPOS=0
120   IF X<25 THEN 900
130   FIRST=1:LAST=X-1
140   CFIRST=1:CLAST=23
400   GET KEY$
500   IF ASC(KEY$)=11 THEN 600:REM
     UP
510   IF ASC(KEY$)=10 THEN 700:REM
     DOWN
520   IF ASC(KEY$)=27 THEN 900
530   GOTO 400
550   REM Scroll screen down and pr
     int name at top
600   IF CFIRST<=0 THEN GOTO 400
610   VPOS=0:CFIRST=CFIRST-1:PRINT
     CHR$(11);:PRINT A$(CFIRST)
620   CLAST=CLAST-1
630   GOTO 400
650   REM Scroll screen up and prin
     t name at bottom
700   IF CLAST+1>LAST THEN GOTO 400
710   VPOS=23:CLAST=CLAST+1:PRINT:P
     RINT A$(CLAST)
720   CFIRST=CFIRST+1
```

```
 1    REM +-----------------------+
 2    REM +        Pick It        +
 3    REM +   by Martin De Muro   +
 4    REM +                       +
 5    REM +   Copyright (c) 1987  +
 6    REM +        ON THREE       +
 7    REM +                       +
 8    REM + This elegant program  +
 9    REM + randomly selects      +
10    REM + lottery numbers for   +
11    REM + you.                  +
12    REM +-----------------------+
20    HOME:Z=0
30    INPUT" HOW MANY NUMBERS DO YOU
       WISH TO SELECT ";S
40    INPUT" ENTER THE LOWEST NUMBER
       YOU DESIRE ";L
50    INPUT" ENTER THE HIGHEST NUMBE
      R YOU DESIRE ";H
60    X=8
70    Z=Z+1
80    Y=INT(RND(X)*(H+1))
90    IF Y<L GOTO 80
100    PRINT TAB(30)Y"  ";
110    X=Y
120    IF X=0 THEN X=2
130    IF Z<S THEN GOTO 70
140    PRINT:PRINT" SELECT A NEW GRO
       UP Y OR N ";
150    GET Y$
160    IF Y$="Y" OR Y$="y" THEN Z=0:
       GOTO 70
170    END
```

(Apple.Sauce Continued)

This program can transfer AppleSoft, AppleWorks (word processing, spreadsheet and database), EdAsm and Pascal ProDOS files to corresponding Macintosh files. These capabilities are dependent upon the various "VISA files" which are in the same folder as the Passport program.

To purchase Passport, you must first join the Apple Programmers and Developers Association (APDA). Only they sell it, and to order software from them you must be a member. The annual membership fee is $20 and the only real stipulation for joining is a mere formality: you must sign an agreement form which essentially states that you cannot market any software you purchase through APDA.

The cost of the Passport program is only $10! Yes, $10 for this powerful, practical program. Apparently Apple wants one of these in every home. Even if Passport is the only program you purchase from APDA, the $30 total investment is a bargain. APDA sells dozens of programs, so I'm sure you will find a few others you want. Contact them at the following address for membership information and product listings:

```
 1    REM +-----------------------+
 2    REM +        Designer       +
 3    REM +   by Eric Goldstone   +
 4    REM +                       +
 5    REM +   Copyright (c) 1987  +
 6    REM +        ON THREE       +
 7    REM +                       +
 8    REM + This program creates  +
 9    REM + beautiful patterns. To +
10    REM + experiment with the   +
11    REM + designs, adjust "Y" in +
12    REM + lines 115 and/or 117. +
13    REM +-----------------------+
40    X0=279:Y0=43:X=16.5:JUMP=(279-
      X)/40:COUNTER=1
50    INVOKE".D1/BGRAF.INV"
70    PERFORM GRAFIXMODE(%2,%1):OFF
      ERR
80    PERFORM FILLPORT:PERFORM GRAFI
      XON
102    PERFORM MOVETO(%X0,%Y0)
105    IF COUNTER=1 THEN Y=Y0+105:EL
       SE Y=Y0-105
110    PERFORM LINETO(%X0,%Y)
115    IF COUNTER=1 THEN Y=SQR(22050
       -(((279-X)/2.5)^2))+Y0:GOTO 1
       20
117    Y=SQR(22050+(((279-X)/2.5)^2)
       )-43
120    PERFORM LINETO(%X,%Y)
125    Y=Y-105
130    PERFORM LINETO(%X,%Y)
140    PERFORM LINETO(%X0,%Y0)
150    IF X<541.5 THEN X=X+JUMP:GOTO
        105
160    IF COUNTER=1 THEN COUNTER=2:X
       =16.5:Y0=148:GOTO 102
```

Apple Programmers and Developers Association
290 S.W. 43rd Street
Renton, WA 98055

(206) 251-6548

When ordering, you must specify the code number of the product you wish to purchase. Passport's is KMSPAS. Karl Young told me that APDA is selling an Alpha One version of Passport, but I haven't found a single bug in it. This program runs better than many programs I've seen released as final versions. If you do buy the program and like it, or find a bug I've missed, write to Karl and let him know. His address at Apple is included with the program's documentation.

The Desktop Manager

edward n. gooding, sr.

This is the second of a two-part review of "The Desktop Manager: The Expandable Productivity Tool," produced by ON THREE.

Macro Manager

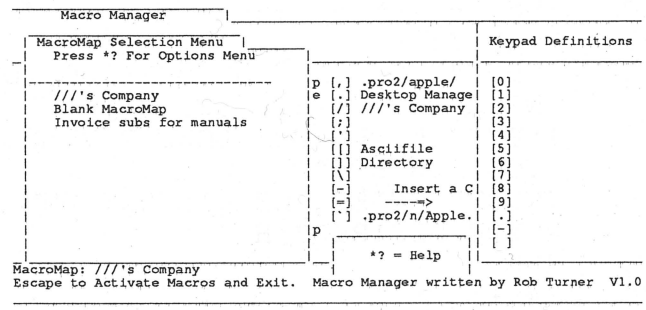
The Macro Manager function is invoked by pressing **SOLID-APPLE 4.** Keying this displays the current macro map. You may then edit the map to define new keystrokes, or change or delete existing ones. Pressing **ESCAPE** records your changes and returns you to your foreground program, e.g. Apple Writer.

Unlike its Power Keys counterpart, the Macro Manager does not severely limit the number of characters which can be generated by a single keystroke. While Power Keys limits you to three keys which can generate 64 characters and 64 keys which can only generate up to 16 characters each, the Macro Manager function of the Desktop Manager is much more dynamic. You are limited to 2,000 characters within the macro map *itself*, but you can generate all 2,000 with a single keystroke if that suits your application. Up to 50 different keys on your /// can be used to generate macros: 13 keys on the numeric keypad and 37 keys on the main keyboard. The 13 keys on your numeric keypad do not require you to press the SOLID-APPLE key as the 37 keyboard keys do, so if you don't need the keypad keys for Apple Writer or Word Juggler, they can be used for even more convenient macros. I use Apple Writer extensively and therefore almost never define macros to the numeric keypad as they interfere with my Apple-Writer-defined ones. One item for my wish list: I would like to be able to press the SOLID-APPLE key in conjunction with the numeric keypad keys in order to utilize them.

You may have as many macro maps as you can store on your Desktop disk drive, so you might want to create specialized ones for programming, word processor use, data base management, telecommunications and one-time jobs. As with the Note Pad function, the Desktop Manager keeps track of them all for you. You can select them from a menu like the one displayed in Figure 1.

To add a new macro, simply press **SOLID-APPLE 4**, which displays the current macro map, and move the cursor over the key to which you want to assign a

Figure 1



macro. Press **RETURN**. If the key already has a macro defined for it, the macro is displayed and you cannot enter any characters unless you delete it. If it has not been defined, you may enter the characters you want that keypress to generate. You may enter any characters except CONTROL-ESCAPE, which aborts the macro entry, and CONTROL-RETURN, which terminates the macro entry and saves the macro. You may enter any other combination of control characters and you can actually invoke the Desktop Manager main menu and select a function from a generated macro! This gives you amazing flexibility.

There is one constraint placed on you when creating macros, however. If you make a mistake, you cannot backspace and correct it because if you key the left arrow or delete key, the program will simply include it as one of the keys defined for the macro and continue moving to the right. In this case, press **CONTROL ESCAPE** to abort that macro's entry and begin again. The Macro Manager atones for this in a wonderful way, though. It has a recording feature which functions similarly to the one in the Access /// terminal program. It lets you create your macros, especially long or complex ones, with your word processor. Just boot Apple Writer or any other word processing program, press **SOLID-APPLE 7** to begin macro recording and create a 2,000 character macro. As you are keying along, the Macro Manager makes a clicking noise as it stores each of your keystrokes. When you are finished, press **SOLID-APPLE 8** to turn off the recording. Next, invoke the macro map by keying **SOLID-APPLE 4**, press **SOLID-APPLE P** to tell the program you plan to paste a macro, and then position your cursor over the key you've chosen for the pasted macro. Press **RETURN** and your recorded

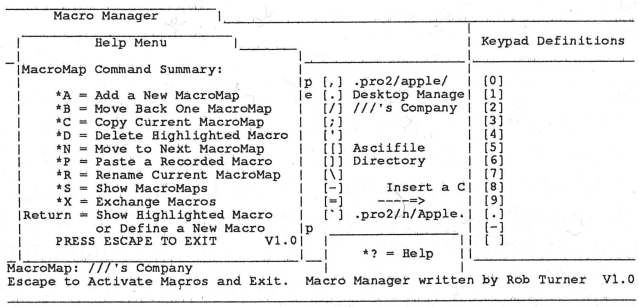
macro is assigned to that key. Simple, isn't it? This is a very powerful feature of this program.

Macro Manager can also:

- ✔ delete any macro in the current map.
- ✔ exchange macros between two different keys in the current macro map.
- ✔ add a new macro map at any time. You will be prompted for a name so the Macro Manager can keep track of it for you.
- ✔ copy the current macro map with a new name so you can retain certain macro assignments for a new one.
- ✔ rename the current macro map.
- ✔ change to another macro map by paging forward or backward sequentially or by choosing it from the Macro Map Selection Menu.
- ✔ delete an entire macro map.

As with the other Desktop Manager modules, very good online help screens may be invoked by pressing **OPEN-APPLE ?**. An example of one of the four help screens appears in Figure 2. Note that the asterisks appear as little open apples on your ///'s screen.

Figure 2

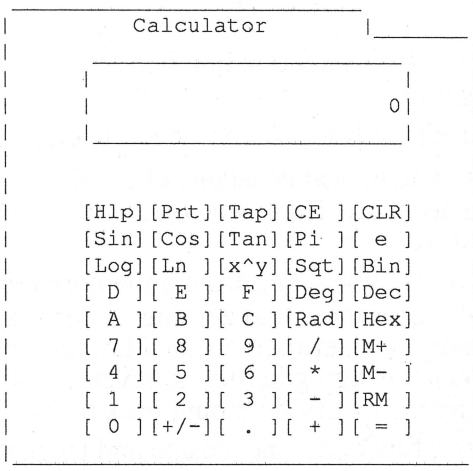


If you are a two finger typist, macros are the only way to go. Even though I am a very fast touch typist, I would suffer serious withdrawal symptoms if the Macro Manager were taken away from me now. The macro map that I set up to help me run my ///'s Company BBS saves me hundreds of keystrokes daily and relieves me of some of the burden of maintaining the associated online data base. If you ever have to create a special form containing repetitive special characters, such as vertical bars (|) and dashes forming small boxes, then you can create an ad hoc macro which will save you much time and frustration. I heartily recommend purchasing this module for the Desktop Manager.

Calculator

The Calculator function as supplied by *ON THREE* is invoked directly by pressing **SOLID-APPLE 3** or

Figure 3

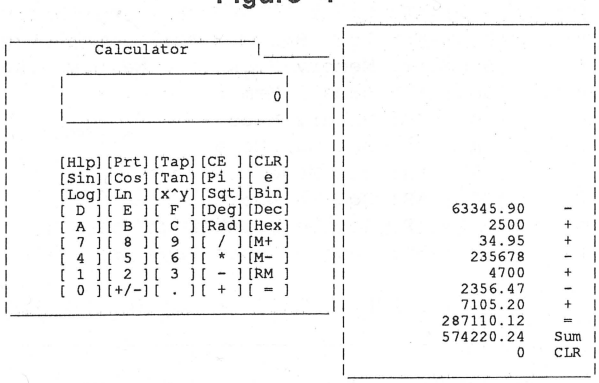


indirectly by pressing **SOLID-APPLE ESCAPE** and then selecting this function from the main Desktop Manager menu. The Calculator function appears as in Figure 3 when it is first invoked.

With this function you will no longer need that little hand-held calculator which you always keep beside your computer. The Desktop Manager's Calculator is a full-function calculator with 16 digit accuracy. It even has a scrolling paper tape that can be toggled by pressing **OPEN-APPLE T** and printed on your ///'s printer! Your accountant or tax preparer will love it. To see what the calculator looks like when using the paper tape feature (the tape is actually displayed in inverse mode), look at Figure 4.

Use the calculator just as you would a hand-held one. Simply key in a number, press a command function such as add (+ or **RETURN** or **ENTER**), subtract (-), multiply (* or **x**) or divide (/), key in the second number and then press the equal (=) key to register the answer. As you key a number or command function, the corresponding key inverts (lights up) on the calculator, providing you visual feedback so you can verify your entries. You may use both the numeric keypad and the number keys on the alpha keyboard to enter your numbers.

Figure 4



The Desktop Manager Calculator supports the following features:

- ✔ changing the sign of a number with one keystroke.
- ✔ clearing the last entry or the entire calculator.
- ✔ the mathematical constants of Pi and e with full 16 digit accuracy. Each is entered with a single keystroke.
- ✔ adding or subtracting from a memory register, recalling memory and zeroing it. Zeroing the memory register requires recalling the memory amount, changing its sign to reverse it and then adding the reversed amount back to it.
- ✔ the trig functions sine, cosine and tangent as well as degree and radian computations. These functions are all invoked with single keystrokes. For example, to compute the sine of x degrees, enter the value x and then press **S** to compute the result.
- ✔ natural and base 2 logarithms.
- ✔ number conversion functions (you programmers out there will appreciate this). To convert a number from decimal to hex, then to binary and back to decimal press **OPEN-APPLE H**, **OPEN-APPLE B** and **OPEN-APPLE D**, respectively.

Error conditions are displayed in understandable English, such as "Divide by Zero Error," and there are two online help screens available (see Figure 5).

The one shown in Figure 5 is the first of them. Again, asterisks are displayed as open apples in actual use.

Figure 5

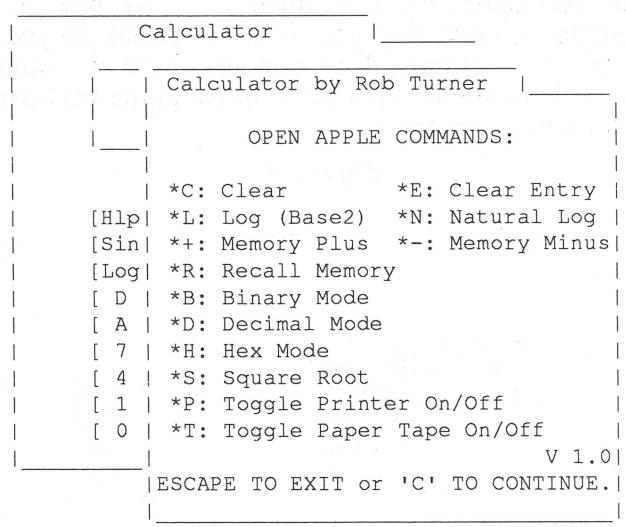


Figure 6

Ascii Conversion Table

Dec	Hex	Cr	Dec	Hex	Cr	Dec	Hex	Cr	Dec	Hex	Cr	Dec	Hex	Cr
0	00	NUL	19	13	DC3	38	26	&	57	39	9	76	4C	L	95	5F	_	114	72	r
1	01	SOH	20	14	DC4	39	27	'	58	3A	:	77	4D	M	96	60	`	115	73	s
2	02	STX	21	15	NAK	40	28	(	59	3B	;	78	4E	N	97	61	a	116	74	t
3	03	ETX	22	16	SYN	41	29	)	60	3C	<	79	4F	O	98	62	b	117	75	u
4	04	EOT	23	17	ETB	42	2A	*	61	3D	=	80	50	P	99	63	c	118	76	v
5	05	ENQ	24	18	CAN	43	2B	+	62	3E	>	81	51	Q	100	64	d	119	77	w
6	06	ACK	25	19	EM	44	2C	,	63	3F	?	82	52	R	101	65	e	120	78	x
7	07	BEL	26	1A	SUB	45	2D	-	64	40	@	83	53	S	102	66	f	121	79	y
8	08	BS	27	1B	ESC	46	2E	.	65	41	A	84	54	T	103	67	g	122	7A	z
9	09	HT	28	1C	FS	47	2F	/	66	42	B	85	55	U	104	68	h	123	7B	{
10	0A	LF	29	1D	GS	48	30	0	67	43	C	86	56	V	105	69	i	124	7C	|
11	0B	VT	30	1E	RS	49	31	1	68	44	D	87	57	W	106	6A	j	125	7D	}
12	0C	FF	31	1F	US	50	32	2	69	45	E	88	58	X	107	6B	k	126	7E	~
13	0D	CR	32	20	SP	51	33	3	70	46	F	89	59	Y	108	6C	l	127	7F	DEL
14	0E	SO	33	21	!	52	34	4	71	47	G	90	5A	Z	109	6D	m			
15	0F	SI	34	22	"	53	35	5	72	48	H	91	5B	[	110	6E	n			
16	10	DLE	35	23	#	54	36	6	73	49	I	92	5C	\	111	6F	o			
17	11	DC1	36	24	$	55	37	7	74	4A	J	93	5D	]	112	70	p			
18	12	DC2	37	25	%	56	38	8	75	4B	K	94	5E	^	113	71	q			

Press: ESCAPE to leave.

For me personally, this function has been very useful. It was pleasurable transferring my ///-side calculator to my brief case. I never realized how many times I picked that thing up while using Apple Writer to compute a total so I could key the total into my text file. Now, I use the Desktop Manager Cut and Paste function to transfer a column of numbers to the calculator, perform the necessary arithmetic function and then Cut and Paste the numbers and answer back into my text file. I no longer worry about whether I incorrectly transcribed any of the numbers from my text file to my hand-held calculator, or visa versa. Being able to instantaneously convert numbers from base 10 to base 16 has also been a big help to me, and I have subsequently retired the chart I used for years to help me make those types of conversions.

ASCII Chart

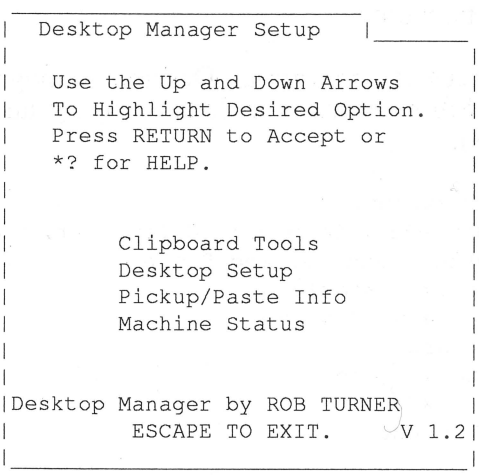
The ASCII Chart function is invoked by pressing **SOLID-APPLE ESCAPE** and selecting this function from the main Desktop Manager menu, and it is available now as an option to the Desktop Manager. It will probably appeal only to those of you who program on your ///'s and need to convert characters to decimal and hexadecimal format. The ASCII Chart screen is printed in Figure 6.

Note that the "AsciiCharacter" entry on my main menu is a beta, enhanced version of this function which displays a second screen showing all the keypresses needed to invoke control characters.

Graphics Manager

This function is also only invoked from the main Desktop Manager menu. I will not go into a great deal of detail on this module because it was thoroughly reviewed in December 1986's *ON THREE Magazine*. I will only say that if you use graphics even a little bit, this is a must-have program. You do not need the Desktop Manager in order to use it because Mel Astrahan, Graphics Manager's creator, wrote a stand-alone interpreter version as well. If you have Draw ON

Figure 7



///, you will find this program an extremely valuable aid in printing your graphics creations.

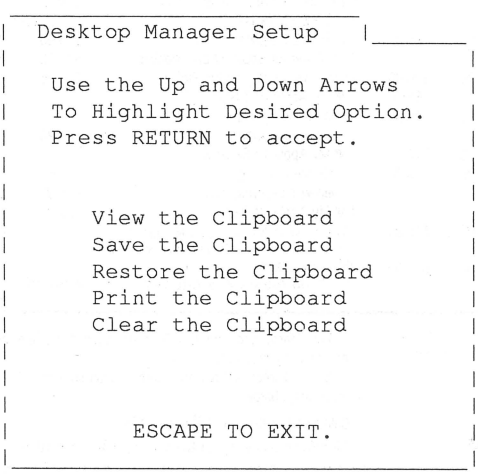
Sandman Game

Selecting this from the main Desktop Manager menu initiates a Pacman-like game which has you wandering through the halls of Apple, Inc. trying to find spare Apple /// parts and the source code to SOS. Evil Jobs wander the halls trying to stop you, and you must avoid them unless you run into the wandering light bulb that symbolizes Woz, whereupon you can neutralize the Evil Jobs. If you have an RGB monitor, you will enjoy the colors of this fast action arcade game and the sounds produced are nice as well. This game is also available as a stand-alone for those of you who don't have the Desktop Manager but still want to have fun.

Blank Screen

This is the first public domain Desktop Manager module written by someone other than an *ON THREE* employee. Milt Johnson dusted off his old mainframe assembly language skills, spent some time with a manual and coded this handy little Desktop Manager module which turns off your screen and locks your keyboard while you are at lunch so no one in the office can inadvertently destroy your work while you are away. You can disable it with a specific keypress and it returns you to what you were doing earlier. It is available for downloading from Compuserve's MAUG DL/7 and my ///'s Company online data base at (804) 747-8752 (300/1200 baud, 7 bits, odd parity).

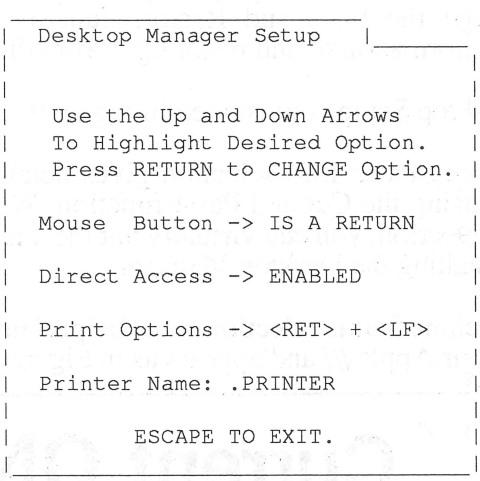
Figure 8



Screen Dump

This is a public domain Desktop Manager module, written by *ON THREE*'s Tim Harrington, which dumps the entire contents of your full screen to your printer and returns you to what you were doing. It was published in *ON THREE Magazine*'s December 1986 issue and is also available for downloading on MAUG and ///'s Company.

Figure 9



Subdirectory01

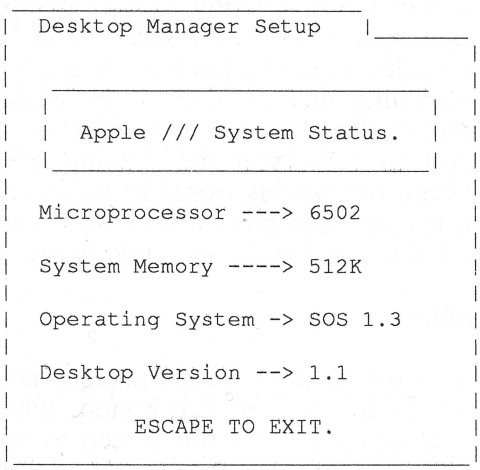
This is a beta test version of a module written by Tim Harrington which allows you to add sub-menus to your main Desktop Manager menu. This module ensures that you will not be limited in how many modules you can store under your Desktop Manager umbrella. With the sub-menus working as subdirectory file structures do, you can add many more useful desktop functions to your growing library.

Desktop Setup

This function is invoked from the main Desktop Manager menu and offers four sub-functions as displayed in Figure 7.

The Clipboard Tools function gives you more control over whatever is currently in your clipboard. The clipboard contains the last "block" of screen data which

Figure 10



you copied using the SOLID-APPLE 5 key sequence discussed above. A sample Clipboard Tools menu is printed in Figure 8.

The functions are self-explanatory, though it should be noted that the Save and Restore functions involve saving information to and restoring it from disk.

The Desktop Setup is illustrated in Figure 9.

The Pickup/Paste Info selection gives detailed online help in using the Cut and Paste function. With the aid of this selection, you can virtually put the manual away after installing the Desktop Manager.

The Machine Status selection gives helpful information about your Apple /// and appears as in Figure 10.

The Bottom Line

The prices of the various Desktop Manager modules are as follows (prices include shipping and handling charges):

Desktop Manager w/Note Pad, Calendar, Calculator, Mouse Control, and Cut and Paste	$135.00
Disk Manager Module	47.95
Macro Manager Module	47.95
ASCII Chart	12.95
Mr. Sandman game	21.95
TOTAL FOR ALL	$265.80

The total cost of the whole package is steep, but if you stop to consider all of the programs which make the Desktop Manager the powerful package it is, you will realize you're getting a good value for your money. Think of some of the single-function programs for the /// which sold for over $500 in the past. If you also consider the support which comes with the Desktop Manager package in the form of a loosely bound, 3-ring, 100-page procedure manual with many pictures and graphics, and phone support from the folks at *ON THREE*, it's an old-fashioned good deal we ///er's could use a lot more of.

My bottom-line recommendation? Buy this package and turn your /// into the powerful, multi-functional business machine it was intended to be.

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
Selector /// program switching utility	$99.00	$7.00
Lazarus /// file recovery utility	$49.95	$2.00
Unprotect Driver	$19.95	$2.00
Desktop Manager	$129.00	$6.00
Desktop Manager/ON THREE O'clock combination	$163.95	$8.00
Disk Manager* (utilities)	$44.95	$3.00
Grafix Manager**	$49.95	$3.00
Macro Manager*	$44.95	$3.00
ASCII Conversion Table*	$9.95	$3.00
Draw ON ///	$179.00	$5.00
Draw ON /// Graphics Tablet Version	$229.00	$5.00
Fruit Machine (slot machine game)	$11.95	$2.00
Card Machine (blackjack game)	$19.95	$2.00
Fruit Machine/Card Machine combination	$29.95	$3.00
Sandman** (arcade game)	$19.95	$2.00
Crossword scrambler	$9.95	$2.00
UniDisk ///.5 disk and documentation only	$50.00	$3.00
Sider 10, 20 mb Driver and documentation only †	$159.00	$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
MicroSci A143 560K Disk Drive ✣	$325.00	$6.50
Reconditioned 512K Apple /// w/monitor ///	$1048.00	$50.00
256K Apple /// w/monitor	$749.00	$50.00
512K Memory Upgrade, 256 to 512K (Remit $324 and $25 cash or $35 credit is rebated when old board is returned.)	$289.00	$10.00
256K Memory Upgrade, 128 to 256K, no rebate	$150.00	$10.00

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	
ON THREE back issues	$5.00 ea.	
ON THREE magazine binder	$14.95	$3.00
Dust Cover for Apple /// and Monitor ///	$11.95	$2.00
Dust Cover as above plus ProFile	$12.95	$2.00
I ♥ My Apple /// T-Shirts sm, med, lg, x-lg yellow, blue, white, beige	$9.95	$3.00
I ♥ My Apple /// Sweat Shirts sm, med, lg, x-lg yellow, blue, white, silver	$15.95	$3.00
I ♥ My Apple /// Caps	$3.95	$2.00

*Background module for Desktop Manager
**Runs as standalone or Desktop Manager module
✣Quantity Limited
† $100 rebate with returned interface board

To order, call toll-free (800) 443-8877 or in California (800) 331-1418. Send check or money order to:

ON THREE, Inc., Order Dept.
Post Office Box 3825
Ventura, CA 93006

Visa, Mastercard, American Express accepted. 3% Surcharge on American Express orders.

Items returned without prior authorization subject to 15% restocking charge.

California Residents add 6% sales tax.

All prices are subject to change without notice.

One, Two, / / / Forum

Spellbound

I thought I'd write you a letter again since *ON THREE's* staff has been so helpful in my previous contact with them. This time my problem is with the Apple Speller /// program and procedures for loading it into the Apple Profile.

The program seems to work except when I go to the Apple Speller option and want to use the dictionary. It responds with "can't find Dictionary.1". I am using Catalyst and have followed the instructions provided by Quark, but to no avail.

Thank you for your prompt response.

Angelina Vincenti
Santa Clara, CA

There are only a few simple steps needed to correct your Apple Speller /// problem. The reason why your program "can't find Dictionary.1" is because the pathname leading to your dictionary is incorrect. You must enter the correct pathname or the program will not know where to find your dictionaries. You must also change the names of your dictionaries or the program will not be able to use the dictionaries once it finds them.

First, enter Apple Writer and press CONTROL-Q. *Choose* Option M, *"Enter the Apple Speller /// Pathname." Type in the following,* ".PROFILE/CATALYST/SPELL". *Your Apple Writer program now knows where to look for the dictionaries.*

Press CONTROL-Q *again but this time choose* Option L, *"Run the Apple Speller /// Utilities Program." Choose* Option S, *"Speller Setup." Now choose* Option C, *"Change Speller Setup." The "Change Speller Setup" menu is now on your screen.*

You will change two items on this screen: Letter B, "Main Dictionary" and Letter C, "Auxiliary Dictionary." Changing the pathnames within these two items tells the Apple Speller program where it can find the dictionaries. Choose Letter B *and enter the following pathname when prompted,* ".PROFILE/CATALYST/SPELL/DICTIONARIES/DICTIONARY.1". *Then select* Letter C *and enter* ".PROFILE/CATALYST/SPELL/DICTIONARIES/DICTIONARY.2".

Now press R *once to "Return to the Speller Setup Menu" and again to "Return to Utilities Menu." It asks whether you want to save your changes. Simply press* RETURN *to accept it's suggestion of yes. Now press* Q *once to leave the Speller Utilities Program and again to quit Apple Speller.*

Leave Apple Writer and enter System Utilities. Because of the changes you've made, Apple Writer and Apple Speller both know where to find the dictionaries but, if the dictionaries have the wrong names, neither program will be able to access them. You will now change the names of the dictionary files by first creating a new subdirectory and then copying your dictionaries into that new file. Select F *for "File Handling Commands." From the next menu, choose* M, *"Make a new subdirectory." The name of the new subdirectory is* ".PROFILE/CATALYST/SPELL/DICTIONARIES." *Now select* C, *"Copy files," and copy* ".PROFILE/CATALYST/DICTIONARY/=" *to the new file* ".PROFILE/CATALYST/SPELL/DICTIONARIES/=".

Now select D, *"Delete files," and delete the files* ".PROFILE/CATALYST/DICTIONARY/=" *because, with the new dictionary you just created, you no longer need the old one. That's all there is to it!*

Silent Is the Type

I recently purchased a Silentype printer and for some odd reason I can't get any of the commands for darkened or uni- or bi-directional print to work. When, for example, I poke -12532.6 I get a syntax error message. It will print normally but I just can't change any of the parameters. I have an Apple /// and the printer is plugged into the .RS232 port.

If there is some modification I must make or if there are different commands, I would appreciate receiving them.

Robert O. Barbour
Springfield, VA

The reason you cannot make any printer commands work on your printer is that the booklet you received with the printer is for the Apple II, not the ///. The /// does not recognize II commands and therefore produces a "syntax error" message.

Sun Systems Remarketing sells many Apple /// products and may have an Apple /// instruction booklet for your printer in stock. Contact them at the following address for ordering information:

Sun Systems Remarketing
P.O. Box 4059
Logan, UT 84321

(800) 821-3221

If you have any further questions, please write again.

Dilemma: Part 1

Help! I've got some problems with The Desktop Manager and need your advice. I'm either getting poorer at following instructions or I have found a problem with the Graphics Manager module, but first things first.

I have fallen prey to the calendar appointment "deficiency" which prevents making "noonish" entries. I recall a past *ON THREE* issue which acknowledged the problem but indicated a revision had been made and those affected had received a revised disk. I didn't discover that I had the old version (my first luncheon input) until this past week. I did not receive an update, I suppose because of my location (Hong Kong) at the time. Do I need to send my original back to get a revised version?

Now my big problem is with the Graphics Manager module installation. Under step three of the initial set-up (pages 4 and 5), the only printer drivers OPEN-APPLE D recognizes are .RS232 and .SILENTYPE. I have a PKASO card and an Apple DMP. Both the .MINI and .PRINTER (PKASO driver) drivers are in the SOS.DRIVER (as well as .RS232 and .SILENTYPE). The drivers are available to The Desktop Manager as I can set the default printer in the Desktop Setup module to either one and can print calendars on the Apple DMP. I have played around, changing the order of the drivers in SOS.DRIVER, moving .MINI ahead of the others, but with no success. So, per the page 5 instructions, I AM NOW PANICKING! What do I do now? My .MINI driver configuration is:

```
Drive Type        40
Drive Subtype     01
Unit No           00
Manufacture ID    00
Version ID        2.0.0
```

Incidentally, I was led a merry chase while trying to install the Macro Manager module. This may be something that others should be made aware of. I assumed that the best SOS.DRIVER for The Desktop Manager installation disk would be the one used on the Selector /// boot disk. Very wrong, if the original Desktop Manager Driver is already installed. When I boot the installation disk in order to replace the old Desktop Manager Driver with the new one, the computer brings in SOS 1.3, streams through the Desktop Options and hangs (blank screen and all). I never get to the files disk to remove and install the new driver. Even pressing **CONTROL-RESET** did nothing. So what could I do? Turn the computer off and on, try it again and again, recopy the driver file, the Desktop Installation disk, and on and on. Finally, in desperation, I went to System Utilities and removed the driver via the System Configuration Program. Wrong! You never told us that this isn't a conventional installation. The driver can be removed and a new SOS. DRIVER generated, but booting it results in system failure. I tried this several times before giving up. I was beginning to believe I was having a computer malfunction.

My final attempt and solution was to recreate my Selector /// SOS.DRIVER without a Desktop Manager driver (which was a pain in itself but now saved for posterity or until you revise the driver again) and then do a conventional Desktop install using the new driver, which was successful. My suggestion is to alert others to this problem involving using Selector ///'s SOS.DRIVER if an old Desktop driver is in place.

In any case, your Desktop Manager modules are a great improvement and enhancement to the ///, but please help me make my printer work with the Graphics Manager.

Donald J. Gardner
Miami, FL

Dilemma: Part II

Further to my recent letter, my trials and tribulations on installing the Macro Manager and its associated new Desktop Manager driver continues. I now find that the mouse has become disabled, except from within Draw ON ///. Also, I can no longer give PKASO commands (tilde) within Apple Writer /// as this results in a SOS Error #21 (whatever that means). Reverting to the old driver, and thereby losing Macro Manager, corrects this. I have no idea what may crop up next.

Nowhere in your literature, instructions or advertisements do you mention that there is incompatibility between your products. Indeed, the implication is that all these Apple /// enhancements are additive. Do we have some bugs or have we stretched the /// operating system too far? In any case, having invested in these products I would like to be able to use them. I would appreciate any advice you can give.

Donald J. Gardner
Miami, FL

Now that you are back in the United States, please send us your Desktop Manager disk (for verification purposes only) and we'll send you an updated version. I'm sure the reason you were not sent an update at the time everyone else was is because you were out of the country. The additional problems you mentioned in your second letter should clear up once you start using the updated version of Desktop Manager.

To make Graphics Manager work on your system, simply install the PKASO .MINI and .PRINTER drivers on your Selector's driver file.

The mouse does not work under Macro Manager, but Rob Turner is working on an update to that program which will allow for mouse use. I'll keep everyone posted on its progress.

Your PKASO command problem is probably the result of having too many drivers on your system. The Desktop Manager does nothing to intercept PKASO at any time during its operation, so it is not the culprit. Perhaps you installed the PKASO or the Desktop Manager driver twice. Check that these are installed properly and only once and then try changing the order of your drivers. Or maybe you have a loaded a bad PKASO driver file. Try reinstalling it and see if it works.

Persistent Payroll Problems

I am having a problem with my Apple ///. My configuration includes a 20 meg hard disk, Selector ///, Desktop Manager and I just received a 512K Memory Upgrade from you. The installation of the upgrade went quite smoothly as your instructions were complete and easy to follow, even for someone like me who rarely, if ever, looks under the hood of my ///. Everything works fine except for the one item I really bought the upgrade for -- the BPI Payroll package. BPI Accounts Receivable, General Ledger and Accounts Payable are now bootable under Selector /// with Desktop Manager. However, the payroll package continues to cause a "Pascal Stack Overflow - Fatal Error" message.

Imagine my frustration! After working on it for days trying different things, I finally discovered a partial solution. I changed the "language" on the Selector /// program for BPI from the special Pascal that it came with to the SOS.INTERP on the BPI boot diskette. This caused the program to look in .D1 for "SYSTEM.PASCAL" and library. When I put these files in .D1, the program reads them, slowly, and my payroll package then comes up ready to use with no "stack overflow." This seems to indicate that the problem is with the special Pascal used in the Selector program.

I have not seen this problem mentioned in your ads or in reviews of the product. Maybe I am doing something wrong. If not, will an upgrade of this Pascal be available or is there another solution to this problem which I have overlooked? I await your response.

Jim Girves
Columbus, OH

Before I present what the ON THREE *staff thinks is the problem with your BPI program, I'd like to give you a little background information.*

When the BPI programs were first written, there was no 512K Memory Upgrade available for the Apple ///. As you know, the BPI programs are huge and require a great deal of memory and, when used on the only available /// at the time (the 256K machine), not much more than the program fit into memory. Pascal, which is needed to run the BPI programs, is also a huge program and requires a large amount of memory as well. BPI's creators needed both their programs and Pascal loaded into memory at the same time for their software to function. So to solve the problem, they created an abbreviated version of Pascal which fit into memory along with their programs and contained only the information which was absolutely necessary to run BPI. Running a program-switching utility, such as Selector ///, with this setup usually pushed the ///'s memory into a "stack overflow."

Now, with 512K available to any /// owner, this overflow should not occur. However, BPI Payroll frequently poses a problem. This program is probably using the truncated version of Pascal while Selector expects it to have the full version. To correct this problem, change BPI's language subdirectory from .PROFILE/PROGRAMS/BPI/BPIPAS.RTINTERP (or whatever pathname BPI is using for its interpreter file) to correspond with the ".PROFILE/LANGUAGES/PASCAL.RTINTERP" which appears in the Selector Menu Editor.

If this does not work, try switching your "BPIPAS.RTINTERP" with Pascal's standard "PASCAL.

INTERP". This may permit you to run BPI Payroll from Selector as you do all of your other programs.

If neither of these suggestions works, please let me know. I'd like to hear if one does work or, if you've already solved it yourself, how you did so. I know others will benefit from your experience.

Guilty as Charged

I'd like to correct an item printed in your November 1986 "One, Two, /// Forum" column. Your answer to a question regarding the Omnis 3 Database states that the new Omnis 3 Plus runs on the Apple ///. This is not correct. Omnis 3 Plus is strictly for the Mac. There is only the original version of Omnis 3 for the /// and it is not supported by Omnis. While Omnis 3 Plus is for the Mac and is a very good program (very fast and powerful), many of its features are the same or similar to the /// version. The /// version is just slower. I consider Omnis 3 to be the best database program available for the ///. It is sold and supported by D A Datasystems.

Richard Powell
Denver, CO

Thank you for catching and correcting my error. As you may be aware, my B.A. is in writing and I had no Apple /// experience before accepting this position, so when Blythe Software's representative told me that they now have an Omnis 3 Plus available, I assumed the "3" in the name stood for Apple "///." Unfortunately, as you correctly indicated my assumption was incorrect. Blythe is no longer selling Omnis 3 for the Apple /// and there is no revised Apple /// version.

Blythe's representative confirmed that D A Datasystems is still selling and supporting Omnis 3. So, if you want to buy a copy of the program contact:

D A Datasystems
3792 Windover Drive
Hamburg, NY 14075

(716) 648-2462

Please write again if you have any comments or corrections. I depend on reader input to keep me pointed in the right direction.

Apple Writer Fix

When I received the 512K Memory Upgrade from *ON THREE*, I also received the upgrade for Apple Writer /// (it allows wider documents and full use of all available memory). The one problem I found with it was that the single page print would not stop at the end of the page.

I recently ran across the solution to this problem when looking at some files on CompuServe in the Apple /// section. It was uploaded by D A Datasystems.

Using a disk editor program like Copy II Plus, search a copy of the Apple Writer disk for text string NTRP. This string appears in several places, but the first two lines of the sector which should be changed are as follows:

```
00- 53 4F 53 20 4E 54 52 50  SOS NTRP
08- 00 00 00 58 00 3A A0 00  ...X.: .
                  ||
    This location must be changed to 10.
```

Write the sector back to the disk, boot the program and you will find that the single page feature now works correctly.

Earl T. Brelje
So. St. Paul, MN

Mr. Brelje is a "Call Three: Hot Line" consultant and, as you can see from the above, is familiar with many areas of /// use, including Apple Writer. One of his articles, "Dots-Perfect," will appear in next month's issue of ON THREE Magazine.

Calling All Real Estate Programmers

I have been a subscriber to *ON THREE Magazine* for a couple of years now and I savor every issue received. I purchased my Apple /// new and have upgraded it to three disk drives and 256K, plus a CPM board and a clock. The printer is an Epson MX 100.

I have Apple Writer ///, VisiCalc and Advanced VisiCalc. I recently purchased your Unprotect Driver and in attempting to use it, I find it only boots Catalyst Fixer. The instructions indicate there is another program on the other side of the disk, but nothing boots from the other side. What is the problem?

Can you help, also, with my copy of Advanced VisiCalc? Sometimes the boot disk works, but most times I get either an I/O error or "file not found," and the program disk does not respond at all.

Finally, I'd like to know of any /// software designed for a real estate brokerage office, be it accounting, data management, property management, investment analysis or whatever. If any of your readers is using a /// in that application, I would like to correspond with him. My office phone number is (813) 845-0032.

I would like to express my personal gratitude for the work you are doing on behalf of the ///. Your effort is keeping alive a very useful computer.

Val Miller
New Port Richey, FL

I am sorry that the Unprotect Driver disk you received is faulty. I'm forwarding a good one and I know you'll have better luck with it.

Your VisiCalc problem is easily solved with a working copy of the Unprotect Driver. Simply make a copy of your VisiCalc boot disk and add the Unprotect Driver to it. Now you have a new, reliable VisiCalc boot.

Several of ON THREE Magazine's *readers use Apple ///'s in their real estate offices, so I hope at least one of them will respond. And thank you for your kind words about* ON THREE *and for your patience with the faulty disk.*

One, Two, /// Questions

One month ago, I received your Desktop Manager and ON THREE O'Clock as well as the Disk, Macro and Graphics Manager modules. They are fantastic! However, I have encountered a few problems:

1. With the Macro, I can't record sequences using CLOSED-APPLE 7 or 8. When I press CLOSED-APPLE 7, it beeps and clicks after every keypress and it beeps when I press CLOSED-APPLE 8, but it does not recognize the CLOSED-APPLE 8 as being the end of the recording. It also does not record with CLOSED-APPLE P and there is nothing written at the lower right corner of the Macro Map. But, if I press CONTROL-ENTER instead of CONTROL-RETURN after recording the second way, it accepts them. Do you have any idea what is wrong?

2. Disk Manager doesn't recognize all the drivers in the SOS.DRIVER of the boot disk. Specifically, it does not know .PROFILE. Do you know why Disk Manager doesn't while System Utilities does?

3. Does Draw ON /// work with The Desktop Manager and Catalyst? I keep getting "stack overflow" error messages when I try.

One more thing. Considering my configuration, do you think I could use an SCRG external slot (or any other one) to plug in a Titan /// + IIe card? In *The /// Magazine* (March/April 1986 issue), they don't mention connecting a hard disk to this box.

No more questions. Thanks for any help you can give me.

Jean-Michel Velin
Gavray, France

It would help us solve your problem if we knew the program you are using the Macro Map with when your recording problems occur.

One thing we can suggest though, based on what you've told us, is that you use the Desktop Manager's installation disk to remove the Desktop Manager's driver from your Profile and reinstall it again. HOWEVER, make sure you back up your SOS.DRIVER file before you do so in case other drivers, besides the Desktop Manager's driver, are deleted. The Desktop's remove program searches your driver file and, as soon as it reaches ".DESKTOPMANAGER," deletes it and everything after it. This is because the remove program assumes that .DESKTOPMANAGER is the last driver on your file. You should also remove and then reinstall the MACRO.MAPS file. This may help resolve your recording difficulties as well as your CONTROL-ENTER key problem.

The reason why the Disk Manager doesn't recognize all of the drivers in your SOS.DRIVER file is that Catalyst dynamically loads only the drivers you indicated for the specific program you are using. To determine whether the Profile's driver is being loaded correctly, load your System Utilities program and choose "List all Devices." It should show .PROFILE as being present. Then go into the Disk Manager while still under System Utilities and "List all Devices" again. If the two listings are the same, then you are correctly dynamically loading your .PROFILE driver under System Utilities. If the program you use, say Apple Writer, does not dynamically load your .PROFILE driver, then you will be unable to use it with the Disk Manager from within that application. If you do want to use it, dynamically load it with your application or put it in the SOS.DRIVER file on your Catalyst boot disk so you will always have access to it.

Unfortunately, the external slot you mention does not work with the TITAN /// + IIe card, a mouse, Profile or with any hard disk card. It only works with non-interrupting printer cards.

No Forwarding Address

I recently moved into a new house. At the time of the move, I notified the post office of my new address and let you at *ON THREE* know as well. Since it usually takes two to three months for a magazine to initiate a

change of address, I thought that I was covered by letting the post office know of my move. Unfortunately, the post office does not forward "bulk rate" mail, even if you indicate that you will pay forwarding costs, so I missed the September and October issues of your magazine. I would be very grateful if you could send me these two issues at my new address. Also, I think you should tell your other subscribers about the post office's policy.

Anthony Talerico
State College, PA

I cannot count the number of letters we receive similar to Mr. Talerico's each month. If you are planning to move, please notify ON THREE *at least two months in advance to compensate for the magazine's lead time and prevent an interruption in your subscription. As stated in the above letter, the U.S. Postal Service will not forward bulk mail, even if you file a standard form requesting that your magazines be forwarded.*

In the past, ON THREE *has mailed free magazines to those subscribers who did not receive their copies due to a move, but this practice is very costly. If* ON THREE *does not receive an address change, in writing, from subscribers at least two months in advance of the move, back issues will be mailed and the subscriber charged at the current $5 per issue rate, postpaid.*

Apple Writer Forever

Here is an Apple Writer /// program which may be useful to your readers. It lets you print out a specified number of copies of any text file stored on diskette. Since it is a small program, I have it on my Apple Writer /// boot diskette so it is always handy.

Store the following program on your boot disk with the name "PRINT". To start the program from within Apple Writer ///, enter **CONTROL P** and then type "DO PRINT". The program asks for the name of the file to be printed and you respond with, for example, ".D1/BUDGET". It then asks for the number of copies. Simple!

NOTE: When you enter this program, place START, NAME, LOOP and STOP flush left, against the margin. If you don't, "SOS ERROR: Bad Pathname" will appear across the bottom of your screen. The spaces between those key words and the following WPL codes are irrelevant. But, the WPL codes must be in a straight, vertical column.

Also, if you want to keep this program on a drive other than your internal one, after pressing **CONTROL P**, enter "DO" followed by the PRINT file's pathname, e.g. ".D2/PRINT" or ".PROFILE/PROGRAMS/APPLEWRITER3/PRINT".

```
START   NY
        PND
        PPR
        PPR    **** AUTOMATIC PAGE PRINTER ****
        PPR
        PPR
NAME    PIN ENTER NAME OF FILE TO BE PRINTED: =$A
        L $A
        B
        PIN     HOW MANY COPIES TO BE MADE: =$B
        PSY $B
        PAS (Y) =$B
        PSX 1
LOOP    PPR
        PPR          PRINTING COPY NUMBER (X)
        PPR
        PPR    PRESS ESCAPE KEY TO ABORT PRINTING
        PNP
        PAS (X) =$C
        PCS/$B/$C/
        PGO STOP
        PSX +1
        PGO LOOP
STOP    NY
        PPR                FINISHED
        PQT
```

Alan Petersen
Cupertino, CA

Thanks for this great program. I've enjoyed using it and I know many of ON THREE Magazine's *readers will too.*

Printer Paper Problems

My company recently purchased an Apple LaserWriter to publish a small, quarterly newsletter. I send my copy to a printer, not a copying service, and therefore must paste-up the pages onto paste-up boards. The problem I'm having is with the printer paper. I am now using regular Xerox paper and it buckles and curls from the heat generated by the LaserWriter, making paste-up difficult. Since you mentioned in your December issue that you are a Desktop Publisher also, do you have any suggestions as to what I can do to solve this problem?

Gabrielle Hafen
Pittsburgh, PA

I experienced the same difficulty while printing my December issue, but I found a solution. A special paper is now on the market produced especially for
(Continued on p.32)

Ranntings

richard and lavona rann

While talking to /// owners over the months since Apple introduced the IIGS, we have found that an old concern has been resurrected. The conversation goes something like this:

User: "I was hoping that the GS would be /// compatible."

Ranns: "It is. It will read all your /// data," but he was having none of that.

User: "No, NO. I mean, it should run all the /// software. I was hoping that Apple would make the GS completely /// compatible."

In a secret section within the recesses of our minds, we were disappointed too. We were hoping against hope, along with our friends, that Apple would provide a perfect migration path so we could buy a bigger, faster, better machine with all the "hot" features and not lose the software and data investments we made in our much-loved Apple ///'s. We wanted to do all the Mac-like things *and* have /// E-Z Pieces or Apple Writer /// running at the same time. That would be the perfect solution. Just stick our disks into the new machine and go. Deep inside, we all knew that SOS was set up with a lot of hardware-specific code but it didn't seem relevant. The new machine should be able to load it and do the rest. A perfect solution.

Unfortunately, perfect solutions are hard to find. Compromise is everywhere. It was present at the birth of the Apple ///. In fact, it limited many of the things that the /// could do and probably contributed to the complexity and problems which marred the early introduction of the machine. 16-bit chips were already quite common when the /// was being developed. At that time the technology wasn't ready to handle both 8- and 16-bit processing on the same chip, so Apple found ingenious ways to get near 16-bit power with an 8-bit chip. We know of at least two Fortune 500 companies that looked at the /// and said, "No way. It only has an 8-bit chip."

To be able to run II software, significant limitations were placed on the design options for the ///. In was important to Apple, in 1980, to make the machine II compatible so the limitations were considered acceptable. The Apple /// was supposed to be the next step in the evolution of the Apple line, the upgrade for all Apple II's. As we all know, it did not work that way. The II lived on despite the Apple ///. Ultimately the II became the II+ then the IIe and IIGS. Meanwhile, no major design improvements were introduced for the Apple ///. Nearly all significant improvements for the /// (with the exception of the 256K memory upgrade) were generated outside of Apple. The ///'s ability to run II software was deemed highly important, especially in the first year when /// software was expected to be limited. Still it was a compromise and, perhaps, not the right compromise.

The Apple /// was program compatible. In other words, it could run Apple II programs under emulation. It was not *data* compatible. Most /// programs couldn't read Apple II data disks; you needed a utility program to convert II files to /// format. In emulation there were a lot of games available but Apple found, much to their surprise, that most people who moved to the /// were not interested in games. If they had moved from an Apple II to the ///, they were probably running a business that had spreadsheets they needed to transfer or report documents that they had to put on the ///. They could do that with the utility program, but not without a lot of effort. As for running the II software, it was not as important. The data was the major investment; they would buy the new software.

Apple faced this same problem in the GS. It was positioned as an Apple II computer. They did not want to make obsolete the thousands of Apple II programs. They needed to keep the thousands of Apple II's in educational institutions from being made obsolete, but this put limitations on development. It limited the processor to those compatible with the 6502. That affected the high-end speed; it also affected the code structure possible. What Apple did not do was make obsolete their installed base of Apple II computers. In fact, they improved the speed of IIe processing through an excellent bit of engineering. The instructions which must be followed in IIe timing modes are singled out and only they are sent to the Mega II chip, the single chip which replaced the entire IIe. This is implemented by a special chip called the Fast Processor Interface (FPI) which acts like a traffic cop. The FPI culls those few processes needing the Mega II and sends the rest directly to the 816 processor.

(Ranntings Continued)

What about the Apple /// owners? Couldn't Apple have done the same for them? In all frankness, Apple could have put a /// coprocessor on the GS mother board, but it was a business decision and they chose not to. The logic probably went something like this. ProDOS and SOS are a lot alike but have basic incompatibilities. It would cost development time, component expense and space within the machine to add extra chips and circuits to the mother board. It would raise the cost of making the GS, and ultimately the end user price. It would probably slow the machine's native mode by increasing the number of cycles necessary to push data through the board. There are 3 million or so II owners. There are 100,000 or so /// owners. Is it worth the expense of development, added rise in selling price and the loss of speed to have built-in total /// compatability? As an emotional decision for a ///'er, the answer is yes. As a sound business decision, the answer is no.

The /// owner is not without some advantages in the new machine. ProDos was based on SOS and the newer versions reflect all the great things that made SOS, and the ///, what it is. Apple kept the same directory structure, and that makes it possible for GS programs (and newer IIe programs) to directly read from and write to SOS disks. It appears that all the most popular /// software will be rewritten for the GS and will keep the same file structures and data formats. So Apple Writer /// and Word Juggler data can go directly to their IIGS counterparts as will /// E-Z Pieces to AppleWorks and many others. We admit that buying new software is expensive and a burden, but it is better than spending hours reentering years of data or doing disk by disk conversions of data. It is now a feasible option for multi-machine operations to have ///'s and GS's and have full data compatibility. The new versions of the programs will have the advantages of the greater speed and new features of the GS, but they will have a degree of compatibility with our ///'s.

Jean Louis Gassee, vice-president of product marketing, spoke to Apple's sales force as part of the introduction of the GS. His words were directed to Apple's integration into a Blue world, but it gives a clue to Apple's thinking in general when he spoke of data file compatability. "Programs can be purchased at the store...Your data, our customer's data, cannot be purchased. Access to data across vendor lines is the Integration game." The GS will read Apple /// files. It has access to Mac files through the AppleTalk network. Compatability is an issue important to Apple, even /// compatibility. But in the case of the ///, it is not important enough to reorder their entire product line.

The door is open for an Apple /// coprocessor board for the GS. With seven slots it has enough space but, here too, such a decision is linked to the dollar and cents decision of the marketplace. We all saw what happened to the Titan ///+//e boards. Because of the high prices, the market was severely limited. This is certainly the position of a /// coprocessor board for the GS. It would allow /// owners to port over their /// programs, but it would also be a lot like emulation mode on the ///. We have often heard emulation mode called lobotomy mode. As much as we hate to think of the /// ever being less than state-of-the-art, putting a /// in a II box would temporarily turn off many of the advantages of the GS. It would be nice for certain functions, but price is the make or break issue. To be successful it would have to be priced considerably below the price of a used ///.

(Magic Continued)

```
710    WINDOW 1,24 TO 40,24
720    PRINT USING 700;P$(1),P$(2),P
       $(3);
730    WINDOW 1,1 TO 40,23
740    HOME:RETURN
800    REM>>UTILITIES<
1000    PRINT"EXCHANGE POSITION: ";:
        GET X:IF X>0 AND X<4 THEN PR
        INT X;:PRINT" WITH POSITION:
         ";:GET Y:IF Y>0 AND Y<4 THE
        N PRINT Y:GOTO 1020
1010    HOME:VPOS=9:PRINT USING 85;"
        YOU MUST USE NUMBERS (1, 2,
        3)":PRINT:GOTO 1000
1020    SWAP P$(X),P$(Y):GOSUB 700:R
        ETURN
2000    FOR I=1 TO 6000:NEXT:RETURN
3000    FOR I=1 TO 3000:NEXT:RETURN
4000    HOME:VPOS=8:PRINT USING 85;"
        YOU MUST ENTER AT LEAST ONE
        LETTER":GOSUB 3000:RETURN
5000    PRINT USING 85;"YOU MUST ENT
        ER 'Y' OR 'N'":RETURN
```

(One, Two, /// Forum Continued)

laser printers and I used it for the first time with this issue. Not only did it eliminate buckling, but it eliminates static build-up as well (static causes paper jams). The best laser paper, and the best buy, that I found is Pro-Tech, produced by the Groveton Division of the James River Corporation. Their toll-free number is (800) 258-0372 and in New Hampshire, (603) 636-1154. Just tell them you'd like some information about the Pro-Tech Laser Bond paper as well as the name of the dealer nearest you.

Happy publishing!

How many dollars

have you invested in your Apple ///?

Answer this questionnaire and find out how to extend your computer's life:

- **Do you vacuum your office or home less than twice a day?** ☐YES ☐NO
- **Are there smokers in your office or household?** ☐YES ☐NO
- **Are there children in your household?** ☐YES ☐NO
- **Is the computer located in a family room or other high traffic area?** ☐YES ☐NO

If you answered "yes" to one or more of the above questions, then you need to protect your investment with an *ON THREE* Dust Cover.

Dust Cover for Apple /// and Monitor ///
$11.95

Dust Cover for Profile, Apple /// and Monitor ///
$12.95

Plus $2 Shipping and Handling each

ON THREE (805) 644-3514
P.O. Box 3825
Ventura, CA 93006

Send me _____ Apple /// dust covers
Send me _____ Apple ///-Profile dust covers
Name _____
Address _____
City _____
State _____ Zip _____ Phone _____
☐ enclosed $ _____
☐ M/C ☐ Visa ☐ AE*
number _____ exp. date _____
Signature _____
*3% surcharge on American Express. California residents add 6% sales tax.

/// E-Z Pieces

This program is the Apple /// version of the Apple][hit known as AppleWorks. It combines a word processor, data base and spread sheet in one integrated program. All sections use similar commands and easy-to-follow pop-up menus.

The spread sheet, while not as powerful as Advanced Visicalc, is much faster. For example, loading and saving files is 20 to 30 times faster. Even recalculation times are much quicker. And you can access your existing VisiCalc or DIF files, eliminating the need to re-type. Up to 999 rows and 127 columns are available.

The data base section is just like the popular QuickFile ///, but better. /// E-Z Pieces' Data Base can handle as many as 3,000 records per file and double the number of fields per record. Sophisticated record selection, sorting and printing combined with lightning fast sorts and searches make this portion of /// E-Z Pieces valuable.

The word processor rivals programs like Apple Writer and Word Juggler in speed and ease of use. Advanced options such as the ability to cut and paste information between your data base, spread sheet and word processor make the program a must for all /// owners.

$135 plus $3.50 s/h

Draw ON /// ™

from *ON THREE*

The most versatile Apple /// graphics tool ever designed!

$179 . . . plus $5 shipping and handling

- *Spruce up dull graphs*
- *Create new fonts, drawings*
- *Cut and paste*
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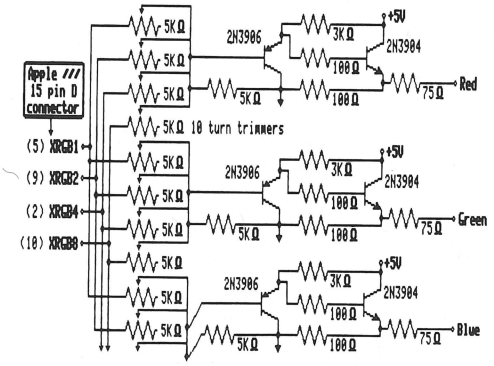

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