ON THREE ®

The Magazine For Apple III Owners and Users

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Volume 5, No. 6 June 1988

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How Would You Like A

Fast
Reliable
Easy To Use

Hard Disk Backup Program?

Well, you know I'm not talking about Backup ///! After years of complaints about Backup /// being too slow and in many cases losing people's important information we've decided to do something about it. We know that many people *never* backup their hard disk because Backup /// is sooo slow or because they've had a bad experience with it losing information.

A while back we started work on a product we're calling Go Back. It's a replacement hard disk backup program for your Apple ///. If you're sick and tired of the time it takes to backup your hard disk with Backup /// or the System Utilities, Go Back is what you're looking for.

Go Back is written entirely in assembly language for speed, is four to five times faster than Backup /// and much more reliable. We guarantee it!

Now you're probably wondering why this isn't an advertisement for Go Back. Well, in a way it is. You see we were about half-way finished with the project when we stepped back, took a look at the potential market and asked ourselves, "Will there be enough sales to warrant spending the time to finish Go Back?"

If there's enough interest in Go Back we will complete it. Now we **don't** want you to send in your money, or give us a credit card number. All we want is your assurance that you will buy Go Back if we spend the effort to finish it. Actually, we want the assurance of at least two hundred people. If we know that at least two hundred people will buy it, we'll finish it.

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If you've ever had problems with Backup /// or worse yet, never backup your hard disk because it takes so long with Backup ///, please give us a call. If you know of another Apple /// user who has similar problems, tell them about this offer! The more people who call, the quicker you'll get a fast, reliable and easy to use backup program for your Apple /// hard disk.

For a copy of our author guidelines, please send a stamped, self-addressed envelope to the above address. The current per page rate is $12.50.

Return postage must accompany all submitted manuscripts, diskettes and drawings if you would like them returned. All manuscripts longer than one page must be accompanied by a diskette to be considered. We can take no responsibility for unsolicited materials.

All letters received by ON THREE will be considered as unconditionally assigned for publication and as such are subject to ON THREE's right to edit and comment. Your full address will be published only when specifically requested.

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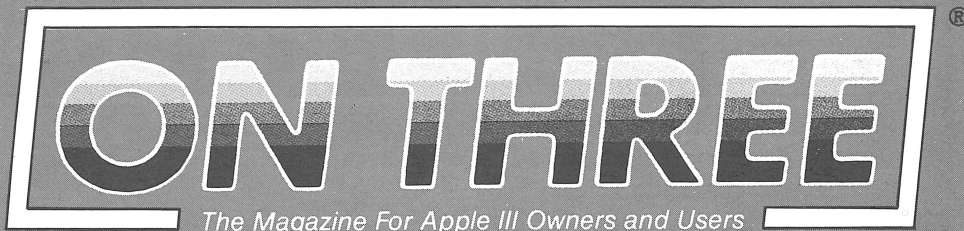
ON THREE
The Magazine For Apple III Owners and Users

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ON THE COVER:

The great variety of accessories available for The Desktop Manager will help improve the use of your current programs.   Cover by Cathy Consorti

Call Three: Hotline

The Call Three Hotline is a service whereby Apple /// users can contact fellow Apple ///er's who have expertise in a particular subject(s) pertaining to the Apple ///. These individuals are not compensated for their efforts so we all owe them a resounding **Three Cheers** for their generosity.

If you have questions, feel free to call the consultants listed below, but please observe the calling times listed. It would be a good idea to check the time zone so as to *not* wake someone up in the dead of night. If you are willing to spend a little time and help your fellow Apple ///er's, write ON THREE giving the necessary info. and we will be happy to add your name to the Hotline.

Name	Area	Telephone	Days	Hours	Zone	Subjects
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Don Loosli	MI	(313) 626-3848	M-F	9-5 PM	Eastern	GE,WP,SS,DB
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Salvador Garcia	Spain	(91) 234 5068	Su-Sa	7-10 PM	Europe	BB,GE,PA,MD,CT

Subject Table

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Apple Sauce

by Bob Consorti   A Different Angle

The summer of 1988 is already upon us. It's amazing, but the Apple /// is over eight years old! A few years ago people were proclaiming the death of the ///, at that time being a defunct machine at the tender age of five.

What's happened over the last few years? Have all the Apple ///'s gone in the trash bins of America? Not at all. I'll use a true to life story to prove my point. A few days ago a woman came into our office to have us install the Great Plains accounting system on a Sider drive. Her old 5 megabyte ProFile had run out of room. As many other /// owners, they run their business on the old Apple ///.

It seems that when some of her customers found out she was using an Apple /// to handle the business they started bragging about their computers. Saying things like 'my xyz has 2 megabytes of memory and a 40 megabyte hard drive', or trying to convince her to switch machines and accounting packages. After viewing the other systems and their software she said the /// and the Great Plains accounting series is simply far better and easier to use.

It's incredible but many computer users in corporate America are into the 'bigger, better, best' syndrome. Those other computers can cost in excess of $10,000! A reconditioned Apple /// with hard disk and software can do the same job, in many cases better, for less than $1000.

This months Ranntings discusses the issue of the Apple II and /// style of computer passing into obsolescence. While presenting good points on why the II & ///-like text interface is going to be replaced by the Mac-like graphics interface I feel they miss some important points.

For whatever reason, those machines cost a great deal more than the older style computers. In many cases by a factor of five to ten. If the textual style interface is indeed being made obsolete by the Mac, how long will it take before everyone has a Mac, and the Apple /// and it's text based compatriots are all in the trash bin?

I think the time frame for that is in decades, not years. Like it or not, there are several million computers in use that work like the Apple ///. Most of them are still being produced and sold. If the Apple /// can last eight years with another dozen within reach, how long will the latest models last? Well past the year 2000 is my best guess.

Through filtering down of these so-called obsolete computers, tens of millions of people - many of them not born yet - will discover computing via the older interface. Perhaps we all will go to the Mac style interface some day. But until we can afford it, millions will continue to learn and use the older *Classic Computers*.

In This Issue...

The feature article this month is by Dan Martin. Titled 'Using TDM To "Fill In The Holes"', it gives some practical examples of how The Desktop Manager can improve the use of your *existing* Apple /// programs.

The Rann's begin a two part series on the Apple II emulation mode. If you've wondered about the built-in emulation capabilities of the ///, you'll love this article.

Also this month is a look at the GoFORTH editor. The GoFORTH language for the Apple /// is relatively new but looks promising. Author John Lomartire shows us all how to put the GoFORTH editor through its paces.

I hope you enjoy this issue of ON THREE. I'm striving to improve the quality of the magazine, so if you see something you'ld like changed please drop me a note.

Before I go away, please check the label on the back cover of the magazine. To the right of your name is your subscription expiration date. If it reads JUN 88, this is the last issue of ON THREE that you'll get! Please resubscribe today and enjoy uninterrupted service of your subscription to ON THREE Magazine.

Apple /// User Groups

If you want to meet other Apple /// owners and exchange ideas, tips and hints about the Apple ///, contact one of the user groups listed below. They're all willing and able to help new and old Apple /// users with the trials and tribulations of owning an Apple ///.

If you recently formed an Apple /// group or know of one that is not listed here, please contact ON THREE and we will include the updated information in this section.

California

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The Beginning ///

by Richard and Lavona Rann   A Look At Apple II Emulation

Apple has, from its very beginning, believed that computers should have upward compatibility. As a general practice they have attempted to make each new machine at least file compatible with the machines that have preceded it. In 1979 and 1980, when they were developing the Apple ///, compatibility with the Apple II line was an issue. By then, Apple knew that the more powerful SOS operating system would not be compatible with the earlier operating systems.

DOS 3.3 was then the standard for the Apple II's. At the same time, Apple believed that the Apple /// would replace the Apple II as Apple's premiere 6502 based computer. To make this transition as easy as possible, Apple had to address the incompatibility between DOS 3.3 and the Apple ///. If the /// were to be able run Apple II software, it would have include special circuits that would not otherwise be required. Apple designers also knew that building Apple II compatibility into the Apple /// would add cost and/or put limitations on the capabilities of the ///.

The topic became a the focus of much heated debate within Apple. The primary issue was how to answer the following questions: a) How much Apple II compatibility was appropriate and required? b) What type of compatibility should be built into the Apple ///? c) How many limitations were acceptable? and d) how should it be implemented?

The final decision was to avoid doing anything to the Apple /// circuit design that would exclude large amounts of Apple II software. This decision limited the clock speed of the ///; dictated that the /// could not use a faster, more densely packed disk drive than the Apple II, and kept the designers from pushing the speed and power advantages of SOS to the point where they would require SOS only hardware modifications.

Apple also intended that the Apple /// should be a turnkey system. The vision was that most people, all except professional software developers, should not have to worry about how a computer, especially the Apple ///, worked internally. In accord with that notion of how the /// should function in its native mode (SOS), they wanted to make it possible for the /// to also function as an Apple II in as transparent a manner as possible.

Since the Apple /// was a software driven machine, the decision to make the II function software driven was logical. This meant that Applesoft which is built in the Apple II would not have to be built into the Apple ///. It could be handled by software. Every /// that was shipped was to have a special "emulation diskette" shipped with it that would effectively turn the /// into a functioning Apple II plus.

Now, the Apple II plus emulation is not seen as providing a major benefit to most /// owners. Back when the /// was introduced, the Apple II plus was the newest and most powerful Apple II. For you history buffs, the Apple II plus was introduced in June of 1979, the Apple /// was announced in September of 1980, and the Apple IIe was introduced in January of 1983. The Lisa was also introduced in January of 1983.

It is interesting to note that when faced with exactly the same problem in designing the Apple IIGS, some years later, Apple chose a hardware solution. The Apple IIGS can function as an Apple IIe because all the functions of a IIe were reduced to a single chip. The chip has the ability to recognize IIe functions and execute them with no apparent interruption to the processing.

APPLE II EMULATION

Apple II emulation is a series of programs that allow the Apple /// to imitate the Apple II. It is augmented in the Apple /// by hardware support for some Apple II functions such as forty column text, but in general all the Apple II functions are accessible through a single disk. Using the emulation disk means that the Apple /// acts

like a 48K Apple II Plus with Applesoft II BASIC, 16-sector Disk II controller card, and a Serial card for a printer. The emulation disk can also be configured to run with Apple II Integer BASIC instead of Applesoft, and to change the Apple II serial card to communications mode.

No matter how the emulation disk is set up, there are limitations. The Apple /// can not be made to do all the functions of a real Apple II plus in emulation mode. For instance, the Apple /// does not emulate an Apple II with a Language Card like one for Pascal. Run-Time Pascal programs will run in Apple II emulation, but not Pascal programs that require a language card.

Another important limitation is that Integer and Applesoft BASIC can not be "live" at the same time. The /// emulation disk must be changed and the system rebooted before you effectively change from one to the other. This can become a problem when you have an Apple II disk with several basic programs on it. The menu program may be in one version of BASIC while some of the programs may be in the other BASIC. The only solution is to remember the pathname of the program, close the system, change the emulation setting, and reboot the other BASIC. Emulation also is not straightforward with versions of DOS prior to DOS 3.3. There are workarounds, but it is not transparent to the user.

Apple /// emulation mode has difficulty with many Apple II peripherals. Fairly "standard" serial printers (i.e. using a standard serial driver) work well from the ///'s serial port with most Apple II Plus software. The Apple /// disk drives can read and write Apple II disks, but the Apple II disk drives don't normally work on the /// at all.

Some Apple II programs require a serial or communications card in a particular slot. If this is not a slot that the emulation program can assign to that function, the program will not work. Emulation assigns serial and communications to slot 7 or 5. Apple II programs requiring something different will not work. Communication programs tend to have problems unless you put an Apple II Super Serial Card in the ///. It can be set up for a ///, but then will not be correct for emulation).

Apple II emulation assigns the Apple ///'s built-in disk drive to the Apple II position of slot 6, drive 1. Programs that look for the drive in other places will have to be changed to fit the standard configuration. emulation then assigns the next /// drive to slot 6, drive 2. Note the terminology is Apple II DOS 3.3 terminology, not Apple /// SOS terminology. In using emulation mode, you are expected to be familiar with the appropriate Apple II terminology. After all, it was initially there for people that were upgrading from a II to a ///.

The built in RS-232-C port, is seen to Apple II programs as an Apple II serial card or, depending on what you selected in the emulation set up, an Apple II communications card. If you selected the communications card option, it is assumed to be plugged into slot 7 or slot 5.

USING EMULATION

Using emulation Mode has a lot in common with using the Apple /// in standard mode. Place the emulation disk in drive 1, and press Control Reset to boot the emulation program. The first screen gives you two options:

RETURN - BOOT APPLE II DISK

ESCAPE - CONFIGURATION MENU

If you don't need to change the configuration that you set up last time, you may run an Apple II program by taking the emulation disk out of drive 1, putting the Apple II boot disk of the program you wish to run into the drive, and pressing Return. This will load the Apple II program. The next screen you should see is the first screen of the Apple II program. After this point, you enter commands just as if you were using an Apple II Plus.

As mentioned before, making changes to the configuration after starting an Apple II program, requires rebooting the Apple /// with the emulation disk in drive 1. At this time you use Escape as indicated on the menu, but do not remove the emulation disk from the internal drive.

The Configuration Menu has six options for configuring emulation mode. Each one is followed by at least two choices. An option is selected by using the up and down arrow keys to move the pointer up and down. The left and right arrow keys are used to make selections. The current configuration is shown by the highlighted features.

From the configuration menu pressing Return will boot an Apple II disk with the configuration options that are highlighted at the time Return is pressed. Remember that the Apple II disk will have to be in the internal disk drive.

Selecting the Escape key from the configuration menu will send you back to the emulation start up screen and read back in the settings that are stored on the emulation disk. This is important if you wish to return to the original setting after starting to making a change.

If you want to change the default settings on your emulation disk, you can do so by setting the new defaults by highlighting them on the configuration menu and then holding down the Open Apple key while pressing the Return key. If the emulation disk is in the internal drive and does not have a write protect tab on it, this will store the new settings on the emulation disk.

Obviously the best settings for the emulation disk are the ones you will use most often, and emulation should be changed only when something is not standard. Remember that the save configuration option will erase the set up that is currently stored on the emulation disk.

We recommend that you make it a general practice to protect all your program disks with write protect tabs and even so, use a copy instead of your original whenever possible. Doing this with your emulation disk will help avoid inadvertent changes to your defaults.

CONFIGURATION MENU OPTIONS

The first option in the menu is LANGUAGE. This allows the emulation to be configured with either Apple-soft or Integer BASIC depending on which is needed. Remember that only one of these languages can be in memory at a given time, and to change languages the emulation disk must be booted and the configuration changed.

The CARD option selects between Serial and Communications for use of the ///'s internal serial port. The Serial card is used most often for interfacing with a printer while the Communications option is used when a communications program is going to be used to connect the Apple II to a modem.

The rest of the options are required for printer set up and will change depending on each particular printer's requirements. BAUD RATE, is the speed at which data is transferred to the printer. This command is dictated by the printer and the printer's operation manual should have the information. You also needed this to set up your

Printer driver for /// mode operation. A good default to try, if you don't know what to use is 1200.

When enabled, LINE FEED adds a line feed after each carriage return command. This is needed by some printers. LINE WIDTH can be the cause of many problems. It limits the line length to the number selected. If 40 characters is set, no line longer than 40 characters will be printed, and the Apple /// will send a carriage return to split up any longer lines sent to the printer. The last choice is "∞" or infinity which places no carriage returns at all and sends the output to the printer in one continuous line.

CARRIAGE RETURN DELAY ON is for printers that require extra time to return the carriage to the left margin. Each printer is set up differently. Check your printer manual to find out which settings are appropriate. If you don't have a manual, or know someone that has a similar printer, you will have to use trial and error to get the right combination.

There are a few other differences that affect the use of joysticks and game paddles, and allow the setting of switches and buttons using the keyboard. These are explained in the Apple /// Owner's Guide and are only important if doing Apple II programing using the ///.

JOYSTICKS

The Apple /// was designed with a Joy stick port for an Apple /// joystick. The Apple /// joystick does not work on Apple II software. To run Apple II games in emulation and use a Joy Stick, an Apple II Joy Stick is needed along with an Apple II Joy Stick port.

THE 48 K LIMIT

When the Apple /// was being designed, the Apple II Plus had 32K on the mother board and an optional language card that added 16K for a 48K total. At the time this seemed quite a large amount of memory. The original emulation disk does limit you to Apple II programs that require a maximum of 48K.

In next edition of the Beginner ///, we will cover options that are available for extending your emulation to larger memory capability and to use much of the newer Apple //e software.

already has a standard," he is wrong. Technically, yes, there is a standard, but that doesn't mean that it is a lasting and final standard. As simple as that. He is wrong to equate "what is" with what will be.

What will be is the end of the Apple IIe, AppleWorks standard and all. The IIe has maybe a year or 18 months at the most unless a significant number of schools have trouble converting to the new machines. We don't believe that Apple will bring out another 6502 based product. There will almost certainly be more Apple IIGS "family" computers. An upgrade can be expected later this year or early next year for sure. Apple is already talking privately that next year is going to be the year of the CPU. What is in store we can only guess at, the important thing is that it will make "what is" obsolete.

What Apple is doing is only what it has always claimed to be doing. It is making computers and easier and more intuitive for the user. When the Apple I was introduced most micros required a knowledge of binary in order to operate. It came with an easy BASIC. The Apple II introduced the disk drive, large amounts of memory, and VisiCalc. The /// brought an Operating system that had hierarchical file structure, could access a hard disk, and who's command set was simplified over the Apple II.

The Mac made interfacing with the operating system transparent. No longer is it necessary to learn long lists of commands or deal with setting up drivers. Everything is presented in an easily understandable way. With HyperCard a number of programming functions have been given the same intuitive character that the Mac has already proven to be an advantage over all other existing computer families. Apple has remained consistent in its approach. It is using the new technology to make using a computer as easy and universal as possible.

What Paul Statt, Tom Weishaar, and the others are arguing for, whether they realize it or not, is for the maintenance of the status quo. They want the Apple II frozen at a this point so they can maintain their advantage, and keep their membership closed to only those who will be able to learn the system.

In this case it is AppleWorks, but in a larger since, they are doing what insiders have always done, protecting their status of being an "expert". We have written before of the priesthood of the Mainframe, in this case it is a priesthood of the micro.

Fortunately, technology in micro computer does not work that way. Statt and Weishaar will be bypassed by the technology. They are much like the old timers calling, "GET A HORSE," then laughing impressed by their own wit. We all know what happened. We can only feel sympathy and understanding for those experiencing these growing pains on a personal level. We know, we've already been there several times. ///

```
    { Now find length of the line (look for carriage return again) }
    LineLen := Scan(512,=Chr(13),InBuf[LineLen])+LineLen;
    If LineLen>512
    Then
        Begin
            Writeln('Line too long; conversion aborted');
            Exit(Program);
        End;
    End;
LineLen := LineLen+1;                    { Account for carriage return }

{ Handle the indentation }
Indent := Scan(LineLen,<>' ',InBuf[InPtr]);
If Indent>2
Then
    Begin
    { Convert to DLE escape }
    InPtr := InPtr+Indent-2;
    LineLen := LineLen-Indent+2;
    InBuf[InPtr]   := Chr(16);
    InBuf[InPtr+1] := Chr(32+Indent);
    End;

{ Make sure line will fit in output buffer; write buffer if not }
If (LineLen+OutPtr)>1023
Then
    Begin
    FillChar(OutBuf[OutPtr],1024-OutPtr,Chr(0));
    X := BlockWrite(OutFile,OutBuf,2);
    ErrCheck(IOResult);
    OutPtr := 0;
    End;

{ Move line to output buffer }
MoveLeft(InBuf[InPtr],OutBuf[OutPtr],LineLen);
InPtr := InPtr+LineLen;
OutPtr := OutPtr+LineLen;
End;
```

```
{ Write final block to output file }
FillChar(OutBuf[OutPtr],1024-OutPtr,Chr(0));
X := BlockWrite(OutFile,OutBuf,2);
ErrCheck(IOResult);
End { Convert };

Begin
OpenFiles;
Convert;
CloseFiles;
End.
```

Using The Desktop Manager To 'Fill In The Holes'

by Dan Martin   Making Other Programs Work Better

As a recent and avid convert from Power Keys to The Desktop Manager, I have been very pleased with an unexpected side effect of my purchase. I have been able to compensate for some serious flaws of the some existing /// application packages by using various TDM functions as a bridge. The objective of this article is to illustrate the concepts for using TDM to *wire* together the functionality of numerous /// programs to get a desired result. In the interest of conserving page area, I will not go into gory detail on all aspects of the applications, with step-by-step instruction. I trust you will get the idea, though, and integrate your own skills in a similar manner for other applications relevant to you.

The Application

I invest in stock mutual funds and have always been very disappointed with the apparent total absence of investment software available for the ///. To fill the void, I set up some templates for tracking mutual funds' Net Asset Value (NAV), for interest and capital gain re-investment and for portfolio total return valuation functions. I have always longed to do all those snazzy trend graphs that you see in almost any investment package for the IBM PC, but couldn't do it very readily until I got TDM.

The "Damaged Goods"

The prime offender I refer to with these comments is a package called Apple /// Business Graphics (BG). It is replete with awkward restrictions, such as mandating the use of Silentype printers, prefix setting and awkward conversions from ASCII & DIF file formats. On the plus side, it does pi, bar and line charts, linear, parabolic, log and sin curve-fitting and provides good titling options.

I recently picked up Business Graphics from Ron Wallace at the Association of Independent MicroDealers (AIM) for a good price.

I was appalled at the restrictions that the package had and immediately appreciated all the bad press I had heard about BG over the years. But since my alternative was dragging out the old Pascal manuals and coding it myself, I thought I would try to see if I could use TDM, /// E-Z Pieces and Business Graphics to do what I wanted. As I went through the process, I also needed a Pascal program written for the Public Domain by a great /// Pascal programmer, Rick Sidwell.

Getting The information

From CompuServe, I download weekly NAV's for my funds, using The Communications Manager (TCM). There are two ways to go. Use OPEN-APPLE T to transmit your list of ticker symbols when you are at the appropriate prompt on CIS and then record the NAV's with a normal ASCII file and an OPEN-APPLE R. If you are either a stickler for accuracy or have a very large number of ticker symbols, use MicroQuote on CIS, prebuild files of your ticker symbols on CIS and download the results via xmodem. Figure 1 shows a segment of my /// E-Z spreadsheet configured for storage of NAV's on a weekly basis. One of my key areas of interest is how my funds are doing relative to the Standard and Poors 500 unmanaged index of stocks. Therefore I get that index from CIS, also.

Transferring Points From /// E-Z Pieces To BG

Business Graphics does a nice job of plotting data points on the screen. The problems are getting the points into it and printing a plot from it. Fortunately, BG has a utility program on its data disk called Change.code, which converts ASCII and DIF files to BG point data files. I decided to use the DIF format to construct my point files since I am using a spreadsheet and can *print* the data into DIF files on disk.

Enter yet another BG restriction. Business Graphics only permits a single X and Y dimension in its plots. Yes, you can super-impose plots, but this restriction left me with a problem with organizing my spreadsheet. I organize my spreadsheet to be comprehensible to me, not to Business Graphics. Therefore, I need to copy my row with date information as well as the single row of NAV

```
File: FUNDTRACK              REVIEW/ADD/CHANGE              Escape: Main Menu
========A========B========C========D========E========F========G========H====
  2|          WEEKLY NET ASSET VALUE OF MUTUAL FUNDS
  3|          ========================================
  4|
  5|Fund                    Opening  NAV      NAV      NAV      NAV
  6|                        NAV      3/31/87  4/3/87   4/9/87   4/16/87
  7|
  8|EVTRX                   $20.450  $20.370  $20.390  $19.640  $19.280
  9|FGRIX                   $16.310  $16.285  $16.700  $16.465  $16.080
 10|FMAGX                   $62.140  $60.785  $62.075  $60.990  $58.460
 11|FPURX                   $14.370  $14.460  $14.560  $14.490  $14.150
 12|IVYFX                   $14.400  $14.520  $14.800  $14.510  $14.250
 13|PAMAX                   $14.360  $14.150  $14.290  $14.040  $13.850
 14|SP500B                 $283.000 $291.700 $300.410 $292.860 $286.910
 15|TWCIX                   $40.220  $40.220  $40.220  $39.120  $37.880
 16|VFIIX                   $10.100  $10.040   $9.960   $9.800   $9.720
 17|VQIIX                    $9.730   $9.720   $9.690   $9.620   $9.410
 18|VQNPX                   $11.700  $11.730  $12.070  $11.750  $11.480
 19|VWELX                   $17.810  $17.880  $17.880  $17.820  $17.530

A2

Type entry or use * commands                                  *-? for Help
```

Figure 1. Mutual fund NAV's by week in /// E-Z spreadsheet

ager from your normal TDM menu. Go to the letter or symbol you want to represent that function and hit OPEN-APPLE P *to paste* the moves you just recorded onto that chosen letter/symbol.

OOPS! Another BG Stumbling Block

When running BG's Change.code program, I ran headlong into another one of its irritating quirks. All the files that it imports must be Pascal Text Files.

data relevant to a single fund in order to get an appropriate graph.

AppleWorks users on IIe or IIGS systems may be familiar with an array of macro packages designed to run with it. Remember that /// E-Z Pieces is written by Rupert Lissner, the author of AppleWorks and the files are the same. Many people share /// E-Z files with AppleWorks users, but until TDM and its macro recording feature, there was no solid equivalent for the macro packages for the ///. Although TDM for the /// is not file compatible with the various Apple II macro packages today, the Apple IIGS version, which was recently released can work from within virtually any IIGS program.

TDM for the ///'s power of macro recording to the author of a template on /// E-Z Pieces is just as valuable. I "macro-ized" the process of copying the desired rows of information to the bottom of my spreadsheet, selecting the print function, highlighting the rows and columns and then printing to a DIF file on disk. Simply move to the desired cell to begin the operation, as if you were going to do it all manually, tap SOLID-APPLE 7 to begin macro recording and then go through the copy process, doing the first copy and print process manually.

When you get to the point where you must specify a file name for the DIF file, stop after typing the path name prefix and tap SOLID-APPLE 8 to turn off macro recording. Complete the file name for that particular data set and then press SOLID-APPLE 4, or select Macro Man-

Pascal Text files are more than just another Filetype. If that was the only problem, you could pop into Super Accessory Disk #2 and use the Chg.File.Type function and convert the Ascii file (Type $04) to a Pascal Text File (Type $05).

Unfortunately, Pascal Text Files also have two blocks of *scratchpad* disk space in the front of each file for storing Pascal Editor commands, like Set Environment, setting markers, etc. Of course, Business Graphics expects to see all of that information.

Therefore, I had to find a utility program to do this for me. Days before, Rick Sidwell had uploaded a new PD program onto CIS called TextMaker, which takes the filename of an ASCII file, prompts for the name of the new text file and then goes and creates a Text file version of your Ascii File. Listing #1 is a listing of the TextMaker Pascal Source. It requires the Pascal Library called SOSIO that is part of the Pascal Technical Reference Manual package available, I believe, from Sun Systems Remarketing in Utah.

Another solution is to use the normal Pascal Editor to load in the file, S)et E)nvironment A)scii F)alse followed by Control-C and then save to the new Text file.

To facilitate conversion, I set up two simple keyboard macros that contained: 1) the commands needed to X)ecute TextMaker from the Pascal Command Line and

ON THREE News & Views

From The Desk of Bob Consorti

From one die-hard Apple /// owner to another, I welcome you to the Spring/Summer '88 edition of the ON THREE product catalog. For many of you this will be your first bit of information you've received on the many products that are available for the Apple ///. I encourage you to look over this guide. If you're a new or an old hand with the Apple ///, there's something in here for you.

Over the last six years we've dedicated ourselves to producing the best software and hardware for the Apple ///. This catalog shows the fruits of those labors, dozens of Apple /// specific products. From memory and disk expansion to productivity tools and games, ON THREE has led the way in the powerful products that you want.

In that spirit we're introducing a few new products in this catalog. For you Desktop Manager users there is Super Accessories Disk #3! Another one is the long awaited spelling checker for /// E-Z Pieces. If you have this wonderful integrated program you're probably painfully aware of the lack of a suitable spelling checker.

With our new StemSpeller /// your worries are over. Now you can quickly and easily check your /// E-Z Pieces word processing files for spelling mistakes. A great enhancement for those who want to, or currently do use /// E-Z Pieces for their word processing needs.

We're selling StemSpeller today because a year ago over one thousand people requested a /// E-Z Pieces spelling checker. As long as you continue purchasing what you've asked for, we will continue to create new products for the Apple ///.

Other products that we're working on include a high-speed replacement for Backup /// and an easier way to configure and optimize your drivers. Both of these items have been requested repeatedly from you, our valued Apple /// customers.

For new Apple /// owners, let me suggest our new /// **Beginner Pack**. Explained in detail on page 3, it has everything to get a new ///'r up and running. For everyone, please sit back and read through the next few pages. There's something for everyone.

To all of the people who've supported us with their continued purchases over the years, a whole-hearted thanks! We look forward to continue fulfilling all of your Apple /// needs.
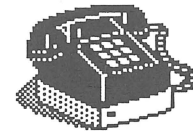
Bob Consorti - President, ON THREE

Special Sale Prices:

Save 10% On All Hardware
Save 25% On All Software

Simply check the listed price then subtract 10% or 25%

Items preceeded by an asterisk are already specials and are exempt from the 10% or 25% discount. Discounts do not apply towards shipping charges. Quantities of certain items may be limited.

Phone in an ORDER TODAY!

Orderline: (800) 443-8877 or
(800) 331-1418 in CA.

Product Support/Questions: (805) 644-3514

Apple ///-IIGS Users:

Many Apple /// owners have changed to the new Apple IIGS over the last year. If you have a GS, give us a call. ON THREE now has a variety of software and hardware products available for the Apple IIGS. Included are The Desktop Manager and the ON-BOARD, a GS 4 MegaByte memory expansion card. We'll be glad to send you our free Apple IIGS product catalog.

12 Monthly Issues of ON THREE Magazine for As Low As $20!

If you're one of the many that have let your subscription lapse this past month (or a year ago), have we got some deals for you! Resubscribe today at the low rate of **only $40** for a 12 issue subscription. That's our standard subscription price. Or if you like, order **any** product in this flyer and you can resubscribe for **only $20**. Thats 50% off the regular $40 price.

But why should you resubscribe? Well, do you still have an Apple ///? If so you *need* ON THREE Magazine. It's the ONLY magazine that exists for the Apple ///. Please don't confuse us with other magazines that have abandoned the Apple ///. We're the last Apple /// magazine left and **we listen** to your needs.

From series for the beginner to articles for the most advanced Apple /// user, ON THREE Magazine helps you get the most out of your Apple ///. Resubscribe today and learn how to connect laser printers, hard disks, micro-floppies and more to your old Apple ///. Learn how to use ramdisks, spreadsheets, data bases, and word processing programs to their fullest. Timely reviews on Apple /// products (new and old) make ON THREE Magazine the only publication that can fill all of your Apple /// needs. With our Apple Slices column you can be kept abreast of all that's current in the Apple computer world. Whatever the reason, please be sure to subscribe (or resubscribe) today!

Apple ///'s, Memory Expansion & Disk Drives

NOTICE: The price of the micro chips with which we build our memory boards has skyrocketed! Prices are increasing daily with no end in sight. The prices listed below for Apple ///'s and Apple /// memory cards are valid as of the date of this printing. Please call for current prices. If you have been considering getting a spare Apple /// or upgrading your Apple /// to 256K or 512K, our advice to you is, "do it now, before prices climb even higher".

*Apple /// with Monitor ///

Powerful reconditioned Apple /// computers. Limited 90 day warranty. Save hundreds of dollars on one of the worlds finest microcomputers. Please add $35 for shipping, handling and insurance.

256K Apple /// with monitor only $599
512K Apple /// with monitor only $999

512K Memory Upgrade

Expand your spreadsheets and data bases, use larger word processing documents and the new desk accessories! Enjoy a full 414K desktop in /// E-Z Pieces, 442K in Advanced VisaCalc and 456K in Business Basic! Had problems running large programs such as BPI, Selector ///, Catalyst or others? With a 512K your /// will have more than enough memory! Easy to install. No slot required! Kit includes: fully populated 512K memory board, installation guide, System Utilities 1.2 which permits larger driver files, 512K Memory Confidence Program that tests all memory and ensures the 512K is working properly, ultra fast RAMDISK driver with demonstration programs and 512K utility that updates your programs. 90 day warranty $399+$10

256K Memory Board Rebates

After purchasing and installing your 512K memory board, return your old 256K memory board to ON THREE within 14 days from date you receive your 512K upgrade and we'll pay you a **$35 cash rebate**, or you can deduct $45 off any piece of ON THREE software that you purchase at the time you return your board!

256K Memory Upgrade

If you need more memory but don't want to upgrade your Apple /// all the way to 512K, the 256K upgrade kit is for you. With 256K installed you'll be able to use programs like Selector, Draw ON, Desktop Manager and more! Includes installation instructions, 256K users guide, Apple /// Confidence Program, chip extractor, 256K confidence disk that tests memory and ensures that your 256K Apple /// is working properly, free technical support, 90 day warranty and a fully populated 256K memory board. All this for only $169+$10.

Memory Boards 128K

If you have ever worried about what you would do if your Apple /// memory went bad, here is an inexpensive way to get insurance. Have a spare 128K memory standing by and if trouble comes all you have to do is pop in your spare and go right on working. $25+$10

Memory Board Installation

All Thumbs? ON THREE will install your 256K or 512K memory board in your Apple /// for the new low price of just $25 plus shipping charges. Please call (805) 644-3514 to schedule an appointment.

Memory Board Insurance

Covers immediate replacement of your 512K memory board in case of failure. Cost per year when issued within 90 days of purchase: $50 per year for the first board and $40 per board for two or more boards: Any original purchaser of an ON THREE 512K memory board can also purchase memory board insurance for $75 for a full years coverage.
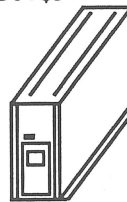
Apple /// Disk Drives

*UniDisk ///.5 800K Drive

The UniDisk ///.5 is a regular Apple 800K 3.5 inch disk drive for your Apple ///. If you have a hard disk but hate making back-ups, the UniDisk is for you! Back up an entire ProFile with just seven micro-floppies! No hard disk? Then this is a great way to say goodbye to your floppies! With Selector or Catalyst you can store all of your programs on the UniDisk and switch between them in seconds. The new 3.5 disks are so small they can easily fit into your shirt pocket but they're a lot tougher than regular 5.25 inch floppies. Complete with 800K drive, interface card, cabling, driver disk and complete instructions. $499+$10

We also offer just the Apple /// driver and documentation for those who want to get the UniDisk elsewhere. $50+$3

*The All NEW Sider 20 Hard Disk Drive

One of the advantages of a hard disk is that you can store virtually all of your programs and data files on it, greatly reducing the time it takes to do things - improving your productivity. Loading and saving files can be 10-20 times faster with the Sider hard disk. All in all it's a low cost, great hard disk and one of the fastest on the market.
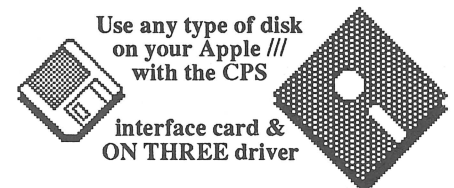
All New Sider 20 Continued...

If you have a Titan ///+IIe board your choices have been very limited if you want a hard disk that worked in ///+IIe emulation mode. The Sider 20 expands your options by now working in the native Apple /// mode & the regular Apple II and the ///+IIe emulation modes.

You can store your files on the hard disk in the regular Apple /// mode, then switch to the emulation mode and access those same files with all of your Apple II programs.

The NEW Sider 20 is complete with interface card, Apple /// driver disk, documentation and cabling. The NEW Sider 20 even supports Apple II DOS, Pascal and Apple II CP/M partitions through it's powerful installation utility. Our new Apple /// Sider 20 drivers automatically recognizes these partitions and allows you full access to the two SOS partitions in native Apple /// mode. The NEW Sider 20 is a truly great hard disk. $949+$35

Current Sider 10, 20 and 30 owners can upgrade to the new version for only $99+$5. Call for complete details.

*CPS 800-400-140K Disk Drives

Use any type of disk on your Apple /// with the CPS interface card & ON THREE driver

While many of you select the UniDisk for your expanded storage needs, many /// owners have told us they wanted a low cost alternative to the the 800K Apple UniDisk 3.5 drive, for main storage or for backups.

With our new Universal CPS Driver, you've got it! The CPS interface card allows you to attach an Apple 3.5 drive and a UniDisk, or a UniDisk and a CPS 800K drive, or a CPS 800K drive and a Mac 400K drive or any Apple II 51/4 inch drive.

Any combination will automatically be recognized by our new Universal CPS Driver. No need to re-configure your driver files, it's all automatic! Includes the driver disk and instructions for installing the CPS interface card and all disk drives. We even carry the CPS interface card, 800K, 400K and 140K floppy disk drives with some of the lowest prices around!

Universal CPS Driver: $50+$3
Universal CPS Driver & Universal CPS Interface Card: $149+$5

CPS 800K Drive: $249
CPS 400K Drive: $145
CPS 5 1/4 inch 140K Drive: $139
Add $6 s/h per drive ordered

Productivity, Utility & Programming Software

*AppleFile ///

Lets users store, arrange, review information and print reports with a variety of options for summaries. Merge and redesign files without retyping. Prevents filing errors. Checks each entry for conformity to your rules. Simplifies reporting, provides compatibility with RPS. Over 20-30,000 records per file! Self help screens, letter by letter editing, easy tutorial, and special file management features. Requires a hard disk. Originally $195, now only **$49+$7.**

*/// E-Z Pieces (AppleWorks)

Fully integrated spreadsheet, word processor and data base manager. /// E-Z Pieces combines the power of the three most commonly used program with the ability to quickly and easily transfer data among them. This program was written by the author of the Apple II program AppleWorks - the best selling software package on any computer! AppleWorks & /// E-Z Pieces look and function exactly the same, even the data files can be swapped between Apple II and Apple ///. Utilizes the full memory available in your Apple ///. 180K on a 256K Apple ///, 414K+ on a 512K machine! This best seller was originally $245. Now only **$135+$3.50.**

*Draw ON ///
THE Graphics Tool for the Apple ///

Transform your Apple /// into a combination drafting table, easel and sketch pad! Graphics can be created with the Apple mouse, Trackball, joystick or keyboard. Adjustable grids, built-in self help screens, rubber banding of lines and easy to follow menus make Draw ON /// easy to learn, yet very powerful for more advanced users.

A spiral bound, Apple style manual compliments this program. Create bar, pie or scatter charts. Add colors, fill areas with textured patterns and add text in a variety of fonts and sizes. Cut and paste facilities let you to pick up a piece of your drawing and move it, shrink, expand, rotate and invert it. Zoom in for detailed work. Add borders, textures, different typefaces!

You can even design your own fonts. Complete font templates and samples provided. Prints graphics to an Apple DMP, ProWriter or ImageWriter. All Epson printers (MX, RX and FX) are supported. If you have the Pkaso or Pkaso/U interface card you can print to Centronics, NEC, OkiData, IDS Prism and others.

Graphics Tablet version available for $15 extra. Requires at least 256K of memory. Installs under Selector /// or Catalyst. State printer & interface type when ordering. Regularly $179, now only **$129+$5!**

*BPI General Accounting

Double entry bookkeeping system. The general package includes accounts receivable, payable and payroll ledgers. Prints out checks and reports. Requires 256K and a hard disk drive. When running under Selector or Catalyst with the Desktop Manager it requires 512K. Was $495, now only **$59+$7** - save over $400!

*Mail List Manager

Maintains and generate mailing lists. Store up to 960 entries on a floppy disk & combine any number of disks to create huge mailing lists. Extremely fast sorting routines allow you to sort an entire disk in less than two minutes. Was $95, now **$39+$7.**

Utility Programs

*Backup ///

Allows you to make a back-up of the files on your ProFile and restore those files to the hard disk. Backup /// may be used with all regular hard disks and floppy disk drives, including the 800K 3.5 inch drives. Your data is your most valuable asset. Don't be caught unprepared. Please backup your files regularly. **$49.95+$3**

Lazarus /// File Restoration

If you make a mistake and erase that one file that you can't afford to lose, Lazarus /// is all the magic you'll need to bring it back from the dead! Lazarus can restore files on all Apple /// hard disks and floppy disk drives. Completely menu driven, works in seconds! Get Lazarus now, before you need it! **$49.95+$2**

RAM Diagnostic Disk

The diagnostic disks will test the memory and general well-being of your Apple ///. If you've had problems with your Apple ///, get the diagnostic disk today. When ordering please specify 128K, 256K or 512K diagnostic disk. **$15+$2**

Selector /// Program Switcher

The state-of-the art program switcher that eliminates the need to swap disks when changing applications. With Selector you can now put all of your programs on your hard disk (or large capacity floppy) and run them from there. Switch from application to application in seconds, not minutes!

Programs such as Apple Writer, VisiCalc, Draw ON /// and hundreds of others work perfectly with Selector. Startup your /// with Selector and you're done for the day. Requires a 256K or 512K Apple /// with large capacity disk drive. Only **$99+$7.**

The UncopyProtect Driver

Allows you to make back-up floppies of VisiCalc, Advanced VisiCalc and AppleWriter ///. ON THREE does not condone duplicating copyrighted programs. But, as these programs are no longer supported its a big problem in the event of a disk crash. UncopyProtect Driver allows you to make backup copies of the above mentioned programs for legitimate disk archival purposes only. **$29.95+$3**

Programming Languages

*Apple /// Pascal Version 1.1

Develop and execute UCSD Pascal programs quickly. Take advantage of the ///'s power. Use 64K for program data, the entire available memory for code and graphics. Full integration with SOS gives the benefit of both UCSD Pascal and support for larger mass storage. Incorporates full IEEE standard numerics including single, double and extended precision types. Easy to use. Was $250, now only **$59+$7.** Save over $190!

*Apple /// Pascal Update
(Debugger Version 1.2)

Updates the standard Apple /// USCD Pascal with a powerful debugger. Includes file selection and many other features. A must for serious Pascal program development. Does not contain all of the manuals as in version 1.1. This is an update! **$49.95+$7**

*Apple /// Business Basic

This is one of the most powerful basic languages available for any computer! Apple /// Business Basic lets you write complex business, educational or game programs for the Apple ///. Limited supply. Was $125, now only **$69+$5.**

*Apple /// Cobol

Apple /// Cobol is a high intermediate level implementation of Cobol. Provides mainframe power on your Apple ///. A must for engineers. Was $495, now only **$75+$5.**

*Apple /// Fortran Compiler

Apple /// Fortran 77 works under the Pascal language system (required). You can link your Pascal, Fortran and assembly programs together in this powerful implementation of Fortran. Only **$59+$5.**

Programming Guides

SOS Reference Manuals is the complete guide to SOS programming. Only **$59+$3.**

Device Drivers Writer's Guide guides you in writing drivers. Only **$29.95+$3.**

Desk Accessories (Available From All Programs)

The Desktop Manager

The Desktop Manager (TDM) is a utility that allows you to use desk accessories like those on the MacIntosh™. They are utility programs that you use within other programs. You can be using /// E-Z Pieces or any other Apple /// program and a simple keystroke will freeze your program and display the TDM menu. Simply highlight the accessory you want, press RETURN and in a moment it will be up and running. When you're finished, press escape and you'll be right back in your program.

With TDM you can throw away your paper, pen, calculator, appointment book and more! We've included a number of standard features to enhance your productivity. TDM is also expandable. You can design the system that best suits your own needs. TDM has a built in: Note Pad, Appointment Calendar, Calculator, Pickup & Paste, Built-in self help screens and more.

Add new accessories such as macros, disk utilities, acommunications program, games and more at any time.

The Desktop Manager requires an external disk drive of any capacity and a 256K or 512K Apple ///. TDM uses about 32K of memory. A hard disk or large capacity floppy disk drive is highly recommended. Works with Selector, Catalyst and ALL other Apple /// programs. Only $99.95+$6.

ASCII Chart

This Desktop Manager add-on lists the decimal, hexidecimal and corresponding character values of all ASCII keyboard characters. A second screen shows the decimal and hexidecimal equivalents of keypresses which include the control key. Keypress table can be invaluable when you need to know printer commands to enable different printer modes. Only $9.95+$3.

The Communications Manager

The Communications Manager (TCM) is a powerful tool that allows your Apple /// to communicate or talk to other computers or services such as Dow Jones™, CompuServe™, The Source™ and others. Complete VT-52 terminal emulation makes this program really powerful.

You can record incoming text to a printer or disk file for later viewing and transmit standard ASCII and Pascal Textfiles automatically. TCM has every feature of the other Apple /// comm. programs plus error free transmission of files via the popular XModem & Binary II transfer protocols.

TCM also supports Turbo Downloading for ultra fast file XModem downloads. Turbo downloading gives 2400 baud performance on 1200 baud modems!

TCM Continued...

Included with this package is a version of TCM that runs as a stand- alone program and a version that can be run as an accessory under The Desktop Manager. If you have The Desktop Manager you have the best of both worlds! You can be inside /// E-Z Pieces or VisaCalc and send a spreadsheet or data base file directly. Only $49.95+$3.

Disk Manager

This TDM add-on allows you to list, copy, delete, rename, lock/unlock files and list the devices, copy, format, rename and verify disks. Virtually all the features of the System Utilities available in an instant. If you've ever typed in info. and then found that you didn't have a blank disk to save it on, the Disk Manager can be a lifesaver.

Are you sick of not being able to remember the names of certain files? Worry no more - It's Disk Manager to the rescue! You can even copy files to the printer! Instead of the few minutes that it takes to boot the System Utilities, Disk Manager is ready in a few seconds and it takes no additional memory away from your programs! $44.95+$3

The Graphics Manager

The Apple // version is being acclaimed as the best graphics printing program *EVER!* The Apple /// version is even better! The Graphics Manager (TGM) allows you to take any Apple /// black/white or color and any Apple // black/white hi-res, color or double hi-res. color or Print Shop image and print it the way you want it!

Sophistcated image analysis lets you take your entire picture, or any portion of it, and expand it to fill an entire page or shrink it down to a small section. Rotate, invert or flip the image to suit your needs. TGM is the *ultimate graphics printing utility!*

Included with this package is a version of TGM that runs as a stand- alone program and a version that can be run as an accessory under The Desktop Manager. Learn what people in the Apple // world are all talking about! Get the original! Get The Graphics Manager /// today! $39.95+$3

Macro Manager

One of the most popular add-on accessories for TDM. It's a keyboard macro program that can redefine any keystroke to be a series of keys. Thousands of keystrokes may be assigned to a single key.

You can set a certain key to contain the name of a city, state, zip code or any other commonly typed item. Phone numbers, salutations or *anything that you type* can be setup to as a macro and played back at a moments notice - via a single keypress!

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Our innovative Macro Recording lets you type in the information as you usually do and will automatically assign you a key. You can use up to 50 different macro keys at once and switch between sets of macros (MacroMaps™) in just a few seconds.

The Macro Manager eliminates repetitive typing and improves your personal productivity by making the /// faster and easier to use than ever before. Like all the other TDM aaccessories Macro Manager uses no additional memory. Only $44.95+$3.

Super Accessories Disk #1

Contains the following TDM accessories: Printer Setup lets you send complex controls to your printer via menus, TypeWriter, Labeler, New Desktop Setup allows better control over the ClipBoard, Make Subdirectory, Menu Manager which provides submenus so you'll have an infinite number of accessories on your Apple ///.

Best of all, each accessory has built-in self help screens and the standard ON THREE power and ease of use. Only $39.95+$3.

Super Accessories Disk #2

Contains the following TDM accessories: File View lets you view another file within a file: Change Font: Show Time (no need to go back to Systems Utilities to change the date or time) plus there's an elapsed timer in this module: Change File Type; File Print, Print Screen better than screen dump, you can opt to Print Screen, Form Feed Printer or Line Feed Printer: Reload and Exit: PKASO U commands and The Warning Module. Only $24.95+$3.

Super Accessories Disk #3 New!

Contains the following TDM accessories: Accessory Manager lets you customize your TDM menus, rename accessories & more. Character rulers displays rulers on the screen to help you align text. Hex View/ Hex Print lets you view or print any file in hexadecimal form. Info Help lets you enter any type of info into a TDM window for instant recall. SOS Errors is an Info Help accessory that lists all SOS errors. Block View/Edit is a powerful disk block editor. Included are both a stand-alone and TDM version. A great value at only $29.95+$3.

Programmers Toolkit

Now you can write your own accessories for The Desktop Manager. The toolkit contains built-in routines that you can add to your accessories to easily, design and move folders, use a standard error, line input routine and more. Only $19.95+$2.

Clocks, Modems, Printers & More

Apple /// Clock

We stockpiled the ON THREE O'Clocks before chip prices went crazy, so we're reducing the price $10. Did you know that the Apple /// has provisions for a built-in clock and calendar? ON THREE O'Clock is easy to install. Does not require a slot. Compatible with all Apple /// programs. Simply save your files and the time will be saved along with it. Use the System Utilities to see the date the file was created or last modified. Includes battery holder, cable, clock chip and easy to follow instructions. Battery not included. Only **$39.95+$3.**
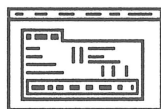
Apple /// Modems

Modems are the perfect way to enter the wonderful world of communications. Combined with ON THREE's Communications Manager (or other comm. program) you can talk with other Apple /// users on CompuServe™, the Source™, Dow Jones™ and other information services.

We offer both a 1200 and a 2400 baud modem of superb quality. Fully Hayes compatible with auto answer/dial, these modems come in rugged cases and are an exceptional value.

1200 BAUD...$159.95+$10
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*Modem - Comm. Manager Combination

Order a 1200 or 2400 baud modem and you can get The Communications Manager (TCM) for 1/2 price. TCM is simply the best communications package available for the Apple ///. For a limited time you can get everything you need to get started in the wonderful world of telecommunications and get TCM for only **$25+3.**

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The CP/M Softcard from MicroSoft lets you use the thousands of business, science and education applications based on the widely used CP/M operating system and the Z80 processor.

This reconditioned Softcard /// includes the complete interface card, manuals and everything else you need to start using CP/M on your Apple ///. Also includes Microsoft Basic and an 8080 assembler, debugger, editor & utilities. Originally $499! Today it's only **$99+$7.**

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With the Apple Mouse and Interface Card installed in your Apple /// you can use such programs like Draw On ///, the Graphics Manager and other Apple /// programs faster and easier than possible before. Fun to use and installation's a snap! Requires one of the slots inside your ///. You'll enjoy your Apple /// programs much more using the Apple Mouse. **$160+$5**

TrackBall /// New!

A low cost alternative to the Apple Mouse. And it's compatible with ALL major Apple /// programs.

TrackBall /// is like an inverted mouse with two buttons, instead of the single one on the mouse. Instead of pushing and pulling the mouse around your desk the TrackBall unit remains stationary while you roll the first little ball back and forth. The 2nd button can adjust the sensitivity of the TrackBall.

TrackBall /// comes with a replacement .MOUSE driver that you add to Draw ON and other popular programs. Complete with trackball, interface card, driver disk and instructions.

TrackBall /// can also be used as cursor keys in all Apple /// programs, including Desktop Manager, Visicalc, /// E-Z Pieces & more! Specially priced at only **$89.95+$6.**

Purchase Draw On /// at our regular low price and you can order a Mouse for just $80 or the TrackBall for only $44.98.
- Limited time, order yours today -

Printers (Reconditioned)

Apple DMP (Parallel)

The original Apple dot matrix printer. Great condition. Includes a dozen printer ribbons. Perfect for use with all Apple /// programs, including Draw ON ///. A great all around printer. Originally over $500. Now only **$149.00+$15.**

Parallel Interface Card

The Grappler interface card allows you to connect any printer that uses a parallel interface to your Apple ///. Includes interface card, cable, driver and documentation. Works great in Apple II or //e emulation mode! Priced to sell at only **$69+$7.**

Color Printer

The IDS Color Prism is the original & best color printer available for the Apple ///. Includes the Pkaso parallel interface card and all necessary cabling, drivers and original manuals.

Use it with Draw ON, Graphics Manager or your own programs to produce stunning color charts, graphs and other images. Includes color & B/W ribbons. Originally priced at over $1800! Get this great color printer and interface for only **$649+$25.**

Color Plotter

This reconditioned Apple color plotter is great for producing overhead transparancies, charts & graphs. Connected via a standard serial cable, it can be controlled by Basic or AppleWriter commands. Complete instructions included. Originally over $500, now only **$149.00+$15.**

Titan ///+//e

Brand new Titan ///+//e cards are now available. This is a two board set that allows you to use virtually all Apple //e programs on your Apple ///.

When you want to use Apple //e programs, just boot the Apple //e emulation startup disk and your Apple /// will magically be transformed into an Apple //e. To change back to your Apple /// programs, just put the Apple /// disk in and reboot!

The Titan boards will even work with the ProFile, new Sider drives, UniDisk and CPS drives in Apple //e emulation mode.

Originally $499, now only **$399.00+$10.**

Miscellaneous Items For Your Apple ///

Magazine Binders

Now you can put ON THREE in its place, for keeps! An attractive vinyl binder will keep your ON THREE Magazines clean, neat, in sequence and ready for quick reference at any time. Each binder holds twelve ON THREE Magazines. Why not order several and get your ON THREE Magazines in order! **$9.95+$3**

Dust Covers

A frequent cause for computer crashes or failure is common dust, which affects the delicate components in your computer. Our sturdy vinyl dust cover is an absolute must for protecting your Apple /// from the ravages inflicted by dust, dirt and static. Remember when not in use, keep your Apple /// covered! Comes in two sizes.

Apple /// with monitor: **$11.95+$3**
Apple /// with monitor & profile: **12.95+$3**

"I Love My Apple ///" Tee-Shirts, by HANES

These popular Tee-Shirts for the Apple /// enthusiast are sure-fire conversation starters! They come in the following colors: silver, blue, yellow, white, cream and tan, with a multi-colored decal that proclaims, **"I Love My Apple ///"**.

Made of 100% cotton, they are comfortable, washable and top of the line HANES quality. Sizes: small, medium and large.

Please be sure to give your size and list second and third color choice, because not all colors are available in all sizes. Certain to become a collectors item, they make a thoughtful gift for your favorite Apple ///er! Only **$11.95+$3**.

Program Updates

ON THREE can update the programs listed below to the current version. Just mail us your original disks with note explaining which version you want. We'll update your disks and send them right back to you.

AppleWriter Version 4.0   **$15+$2**
Business Basic Version 1.23   **$15+$2**
   (Free if Basic was originally purchased from ON THREE)
   - Please include return postage -
Draw ON /// Printer Update: Versions available for: Apple DMP, Epson, Pkaso, Pkaso/U and Graphics Tablet   **$15+$2**
Graphics Manager ///: Specify the color or black and white version.   **$15+$2**
PFS File and PFS Report (Copyable): These disks can be backed up with the regular System Utilities program and can be used on Catalyst or Selector without requiring a key disk.   **$15+$2**

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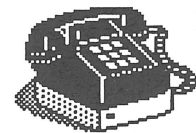
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City _____ State _____ Zip _____

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Exp. Date _____ Phone _____

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3% AM/EX SURCHARGE	
GRAND TOTAL	

ON THREE - Dedicated To The Development Of Quality Products For The Apple /// Computer

Training Guides, Manuals, Games & More

*New To The Apple ///?

If you've acquired an Apple /// computer recently, you're probably distressed over the seeming lack of information available to help the new user get started. There is plenty of help available. ON THREE has a beginner pack that contains everything you need to gain the basic skills necessary to operate the Apple /// and learn which programs will benefit you the most.

The /// **Beginner Pack** has guides and programs that will teach, amuse and entertain you as you learn how to use the Apple ///. Please read the full product descriptions of these products elsewhere in this catalog. If you purchased them separately they would cost $216.60. We're offering the /// **Beginner Pack** for *only* $99+$7 for s/h. Save over $100! Contains:

1) McGraw Hill Guide to the Apple ///
2) Lazarus file restoration utility
3) ThreeWorks
4) System Utilities Product Training
5) Will Someone Please Tell Me What An Apple /// Can Do?
6) Crossword Scrambler
7) Mr. Sandman
8) Apple /// Card Machine
9) Apple /// Fruit Machine

McGraw Hill Guide to the Apple ///

Informative 276 page book explains the Apple /// in detail, everything from getting started with the System Utilities to programming. Complete instructions for the operation and care of your /// make this book a valuable aid for all ///'rs and a necessity for every <u>new</u> Apple /// owner. The Guide is only $29.95+$3.

ON THREE Magazine

The worlds only monthly magazine that's devoted solely to the Apple /// computer. ON THREE contains articles of lasting interest, answers to your technical questions, new programs, in depth product reviews, user groups and hot liner listings, editorials and up to the minute news of what's happening in the Apple /// world. You'll get substantial product discounts (available only to subscribers) that will more than pay the cost of your subscription!. If you have an Apple /// you need the ON THREE Magazine. USA 12 issues $40: For First Class Mail add $12: APO, FPO, Canada and Mexico $60: Europe, South America, Asia, Pacific Islands and Australia $84.

ON THREE Back Issues

Available from Vol. 1 #1, January 1983. Some are copies. Mailed first class within U.S. Air mail postage extra. Only $5 each

*System Utilities Product Training Pak, An Introduction. Save $20

Instructions on using the System Utilities program to format, copy, rename disks, list, copy, rename, delete files and make subdirectories. A section on the System Configuration Program helps you to configure your Apple /// and application software programs to communicate with other peripherals such as disk ///'s, the ProFile hard disk and printers. Gives an overview of the features of the System Utilities program and enough knowledge of the tasks involved to use your Apple /// with applications programs, data files and peripherals. Contains Sample Files disk and exercise booklet. $14.95+$3

ThreeWorks. New! New! New!

Bibliography of everything written or created for the Apple /// computer with listings of all published magazine and newspaper articles, a glossary of /// related terms, listings of the Apple /// bulletin boards, books, clubs, user groups, publications, vendors software and drivers with current version numbers, error codes, public domain software, Apple /// tips and more! Requires ///E-Z Pieces. A must have for all new Apple /// owners. $39.95+$3

Will Someone Please Tell Me What An Apple /// Can Do?

Original 95 page guide to Apple /// software from Apple Computer, Inc. Please be aware that some of the companies listed in this guide may no longer be in business. Only $3+$2.

Service Reference Manual and Complete Schematics for the Apple ///. 459 pages. Save $20

The only authorized edition, complete and unabridged. Contains all of the schematics ever released. Contains trouble-shooting guides for repair of the main logic board, memory card and disk drive. All the inside information you ever wanted about the Apple ///. Comes in a sturdy three ring binder. Originally $99, now only $79+$7.

Disks of the Month (DOM) from ON THREE Magazine

The most popular programs from the pages of ON THREE magazine on easy to use disks. No more typing in long program listings. Now you can easily use the innovative and popular programs included in each issue of ON THREE magazine.

DOM Contents:

DOM #1 - Disk Pak 1, Key-Things, Graphic-Demos and more!
DOM #2 - Disk Pak 3, DOS File List, Char-DownLoad, SpeedBoot (Un)Lock? and Graphic Demos!
DOM #3 - Keyboard Change Utility, WPL Shorts, WPL Help Screen Move Utility, Graphics Sketcher ///, Disk Formatting Utility
DOM #4 - Emulation Patch, Access /// Startup, Pascalculator, Radiate Graphics Demo, musical melodies, Draw ON /// pictures
DOM #5 - Access /// Startup, Ben's Super Slot Machine, PFS-WPL Merge, Decision Support SpreadSheet, Draw ON Graphic Demos
DOM #6 - Business Basic Program Lister, Noisemaker, Documentation Programs, Spirograph, Surface, Golfball, D.O. pictures & fonts.
DOM #7 - Imagehelper, Sorting and Printer Control
DOM #8 - Directory Sorter, Drive Cleaner and File Reader
DOM #9 - Graphics, Music and more
DOM #10 - Graphics Football Pool, Useful Pascal Prompt procedure
DOM #11 - Apple DMP, ImageWriter, Epson graphics printing utility. Rotate, print large or small graphics in your Pascal or Business Basic programs. Graphics and audio demos.
DOM #12 - Pick lottery numbers randomly, catalog by two way directory scrolling, find text files on disk, print files to screen or disk.

Disks of the Month are priced at $14.95 each + $2 s/h. Two or more DOM's are only $12.50 each + $4 total s/h.

Games For The Apple ///

Try your luck at breaking the bank! Become a high roller! The **Card Machine** is a realistic simulation of authentic Las Vegas style blackjack. The **Card Machine** uses beautiful full color playing cards. You can control the action with a mouse, joystick, TrackBall or the keyboard. Requires a 256K Apple ///. $19.95+$2

Crossword Scrambler is an educational program that makes learning fun. Not a 'shoot 'em up' type arcade game, although you won't be disappointed by the displays and musical interludes. Hundreds of different crossword questions will provide hours of fun for the whole family. $9.95+$2

Apple /// Fruit Machine brings beautiful color graphics and exciting sound effects add to the fun of this slot machine type game. Experience the fun of a Las Vegas trip at a fraction of the cost. $19.95+$2

Mr. Sandman is a fast paced game modeled after the most famous arcade games of all time (—Man!). Can be used as a standalone program or as an accessory for The Desktop Manager within any other application. $19.95+$2

*Game Combo Special!

Buy all of the games listed above and save over $29.00. All four for *only* $39.95+$4.

Exciting New Products For Your Apple ///

StemSpeller ///. A Spelling Checker For /// E-Z Pieces

Compatible with standard ASCII files, Pascal Text, StemWriter and most importantly, /// **E-Z Pieces** word processing files!

StemSpeller /// is fast and very easy to use. Simply save your file in /// E-Z Pieces, run the StemSpeller program and check the spelling of your file.

StemSpeller will notify you of any misspellings and allow you to make changes on the spot! You can even add your unique words to the StemSpeller dictionary.

When you're finished spell checking your document, StemSpeller will automatically save your corrected file to disk. You can go right back to /// E-Z Pieces, load up the file and print it, or make further corrections.

StemSpeller /// comes with a 50,000+ word main dictionary and the ability to create auxiliary dictionaries of words you commonly use. 100% assembly language for speed. Comes as a standard interpreter that can be run by itself or loaded and run under Selector or Catalyst. In stock and available for immediate delivery. Requires a 256K or 512K Apple ///. Only **$69.95+$5.**

Technical Support From Your Apple /// Experts

Technical support is FREE on any product that you've purchased from ON THREE within the last 90 days. After that time, or on any non ON THREE product there is a modest fee for technical support. $5 for the first three minutes and $1 per minute thereafter with a $15 minimum.

Our experts know everything there is to know about the Apple /// and virtually all of its software and hardware. If you're having a problem with your Apple ///, give us a call. There's nothing worse than spending your precious time trying to figure something out, when one of the people on our staff can help you in a few minutes.

The support line is open Monday through Friday 9 AM to 5 PM Pacific time. Please have your product serial number (if applicable), purchase date, your credit card number and a list of the problems you're having ready *before* calling.
   Technical Support (805) 644-3514.

StemWriter /// - Powerful Document Preparation

This new word processor from Australia lets you view two files simultaneously and combines all of the features you wanted in a word processing program!

Now you can design your own templates, make headlines, adjust column width, utilize on-screen over-strike & underlining, date stamp documents, count words, label and personalize form letters.

StemWriter has four levels of on-screen subscripts and superscripts, utilizes a desktop like /// E-Z Pieces and the four arrow keys to "see and point". It even uses the full memory available in your Apple ///.

Built-in macros, file managment, utilities program and other special features makes StemWriter the premier word processor for the Apple ///.

Compatible with dozens of printers, StemWriter works on a 128K, 256K or 512K Apple /// and costs only **$99+$7.**

A year ago over 1,000 people asked us for a /// E-Z Pieces spelling checker. If you were one of them, please order it today. Doing so will help fund our continued Apple /// development efforts.

Ranntings

by Richard and Lavona Rann

As you have probably guessed by now, we read, or at least thumb through, a wide variety of computer and computer-related periodicals. It makes little difference which family of machines they are about, Apple ///, Apple II, or Mac; because we have and use a computer in each family. We read many specialty magazines, including several targeted towards MIS directors and business computer users. In short, we are inundated each month by the printed word as well as the latest technical bulletins. In all that mountain of reading there has been a subtle undercurrent that has been reflected in the words of many editorial writers over recent months, and has broken to the surface strongly this month in several of those collected magazines. As a group, they are taking a stand against technology; or to be more specific, they are against technology advancing past this point.

What sparked our attention was an editorial in the April issue of inCider, a prominent Apple II magazine. Senior Editor, Paul Statt seemed to be saying that Apple should stop changing the Apple II interface. Specifically, he is saying that Apple should not attempt to move Apple II owners in the direction of the Macintosh interface. Statt quotes Tom Weishaar the editor and publisher of the Open-Apple newsletter to make his point. "It's time for Apple," Weishaar writes, "to blow away the Macintosh smoke and look at what the Apple II has actually become. The reality is a machine defined by AppleWorks."

Weishaar and Statt are correct in their observations that the Apple II world (as is the Apple /// world) is largely shaped by AppleWorks (or 3EZ Pieces). That was well on its way to becoming the unofficial standard interface until the advent of the Mac and later, the Apple IIGS. True the GS has a long way to go before it rivals the number of other Apple IIs sold, but that is not the point. Both Weishaar and Statt are locked in a view of what is and has been, not what will be. They are in the position of a horse breeder telling a young Henry Ford that the

horse "shapes America." We all know what happened to horses and automobiles.

The same forces are afoot in the world of Apple computers. What is now, is only a starting point for what will be. We would think that people whose career lies in the technology business, like Statt, would understand that, but perhaps we are asking too much.

There are too many people that own Apple ///s that are locked into Statt's way of thinking. They love their ///s and want the world to stop at that point, but we all know that is impossible. There is no way to freeze the world. Change will come regardless of what we do or say. The Apple /// is technology developed prior to 1980; like it or not, it was replaced by a very successful technology which includes use of faster chips, a mouse, and pull down menus. That does not invalidate the ///, but we should not deny that technology has moved on to something newer and most likely, better.

It is sad to report that, this winter, Apple has begun to send Apple ///s to the trash compactor. No longer do they have any market for ///'s, nor can they afford to pay the taxes on an inventory of ///s. As sad as it is to think about, this too is part of technological change. The Apple /// is frozen in the era of 3EZ Pieces and SOS. As great as they are, they will never be a Mac II or a IIGS. The ///, like the Model T and the draft horse before it, is destined to pass into history. There is no way to change that.

Statt can talk all he wants about most Apple II owners owning AppleWorks, and how AppleWorks is a de facto standard. He is correct on that point. AppleWorks has sold more copies than any other commercial program. When he writes, "Apple wants HyperCard for the Apple II. Apple wants the mouse and menu interface for the Apple II. When will Apple realize that the Apple II world

provide the prefix to the pathname for the subdirectory containing all my DIF files; and 2) that provided the prefix to the subdirectory for my text version of the DIF point files. All I did was type the filename of each point file. Similar macros can be set up for using the Editor.

Import The DIF Files To BG

Now I ran BG's Change.code program to see the type of information needed to accomplish the DIF-BG conversion. Again I was able to construct keyboard macros that had the "standard" answers to the prompts and interspersed the filenames from the the Text-DIF file subdirectory. I hasten to add that if you want to do this on a routine, production basis, the actual filenames could be included in very large macros using Macro Recording.

Macro Recording is an incredibly powerful feature and is one of the prime discriminants between TDM and Power Keys (not to mention user friendliness!) After this step, I had a whole subdirectory of BG data point files.

Do The Plots

Again using Macro Manager, I entered a standard sequence of BG commands needed to set up the plots of interest and to store them as screen files. BG does not store screen files in the proper filetype of "Fotofile". If it weren't for the fact that Graphics Manager lets you use mistyped files after a warning, another step of changing file type using Super Accessory Disk #2's Chg.File.Type module would be needed.

Chart #1 is a plot of Vanguard Quantitative Portfolio's NAV growth from 3/31/87 to 8/21/87. I also do plots together with the S&P 500 index values to see how well my funds correlate with the market as a whole.

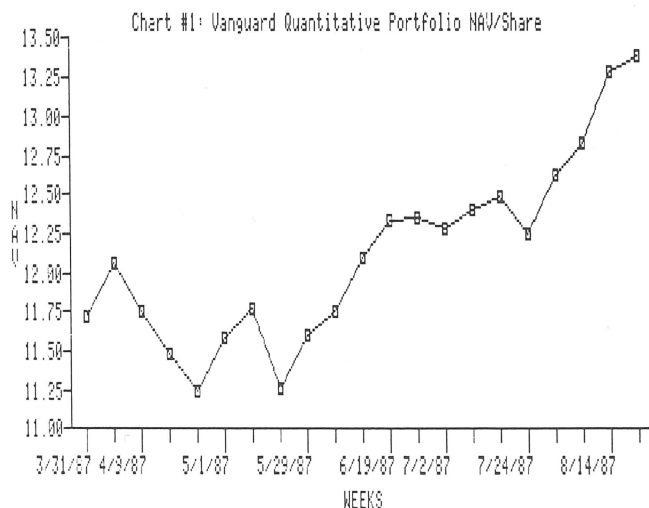Chart #1: Vanguard Quantitative Portfolio NAV/Share

Chart #2 was based on additional spreadsheet tallies that I did to normalize the NAV variations to a % basis so that I could put NAV's on the same scale as the S&P 500.

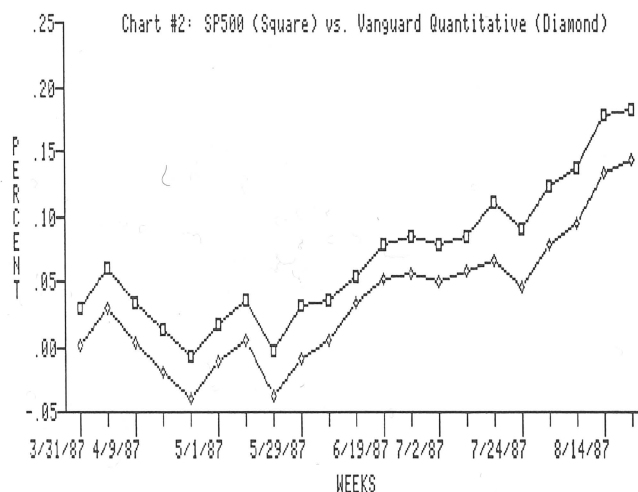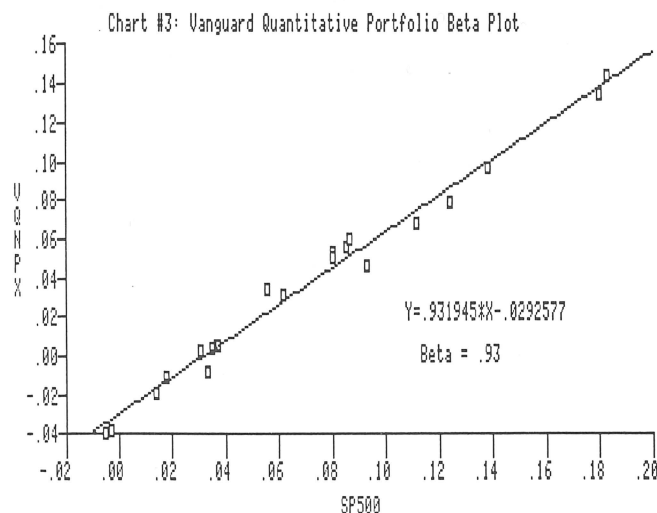Chart #2: SP500 (Square) vs. Vanguard Quantitative (Diamond)

Chart #3 is a correlation plot between the S&P 500 and the Vanguard Quantitative Portfolio using the same points as in Figure 4 plotted against each other instead of against time. This illustrates the calculation of a measure of fund volatility called "beta", using BG's curve fit function. Beta is the slope of the line derived from plotting the fund against the index and illustrates how the fund moves with the market. A beta of one means that a fund has the same volatility as the market as a whole. A beta greater than one means a fund is more volatile (hence riskier). A beta less than one mean less volatility or a more conservative fund. The example correlates very closely to the S&P 500 since it is a so-called "index" fund which emulates the trades on the S&P 500 itself.

Chart #3: Vanguard Quantitative Portfolio Beta Plot

$$Y = .931945 * X - .0292577$$

$$Beta = .93$$

Print the graphs

Since BG is so limited in its ability to print graphics, I just store them on disk for later access by the TDM Graphics

Manager, written by /// graphics guru, Dr. Mel Astrahan.

The Graphics Manager allows me to print out the graphs in any size or orientation I want, even allowing me to mix text from AW3 and my plots so that I can document my analysis for members of my investment club at work.

Summary of the process

Figure 2 summarizes the steps I took in getting raw data from CompuServe all the way to processed analysis graphs, highlighting the application program used and the TDM module employed to fill the gap.

Step	Application	TDM Module	Gap Filled By TDM
Download CIS data	CIS/MQuote	Comm Manager	Xmodem
Calculate Percentages	3EZP	Macro Manager	Duplication of calcs
Produce DIF Files	3EZP	Macro Manager	Copy/Print DIF Files
Convert DIF to Pascal	TextMaker	Macro Manager	Rapid Pathnames
Convert TextDIF to BG	BG & Change.code	Macro Manager	Prompts & Pathnames
Implement Standard Plot	BG	Macro Manager	BG Command & Pathnames
Show Curve Fit Terms	BG	Cut & Paste	Convert Terms Terms to Titles
Save Screen Data	BG	Macro Manager	BG Commands & Pathnames
Print Plot	None	Graphics.Manager	Format & Print Fotofile

Figure 2. Summary of financial plots process

I hope that this illustration will help stimulate ideas on how you can use the power of The Desktop Manager and its various modules to keep your /// satisfying your applications needs. Many capabilities are provided in existing /// application software. Since new packages are few and far between in the eighth year of Sara's life, TDM can get you results at a fraction of the cost of IBM PC packages by integrating existing performance, tailored by you and your specific requirements. ///

Listing #1. Source code listing for TextMaker.Text

```
Program MakeText;

{ Converts an Ascii file into a Pascal Text file, putting special space-
  saving indent codes at the beginning of each line.

  Written by Rick Sidwell.  May be freely distributed and modified. }

{ Procedure SOS_Get_Info in Unit SOS_IO is used to get the number of bytes
  in the last block of the Ascii file.  Procedure Get_Prefix in Unit
  ChainStuff is used to add the prefix to the input file name for the
  call to SOS_Get_Info.  Both of these units are assumed to be in the
  system library. }
Uses {$Using /a/pascal/library} SOS_IO,Chainstuff;

VAR InFile,OutFile: File;
    InEOF: Integer;
    InBuf,OutBuf: Packed Array [0..1023] of Char;

{ We use BlockRead and BlockWrite to access both files.  The input (Ascii)
  file is read one block at a time; the buffer is two blocks long since
  lines may cross block boundries.  InEOF is the number of bytes in the
  last block of the file.  The output (Text) file is written two blocks
  at a time. }
```

```
Procedure OpenFiles;
{ Open the input and output files }
VAR Lst: Packed Array [0..14] of 0..255;
    Err: Integer;
    S,P: String[128];
Begin { OpenFiles }

{ Open the input file }
Write('Input file: ');
Readln(S);
Reset(InFile,S);

{ Find the number of bytes in the last block }
If (S[1]<>'/') and (S[1]<>'.')         { Add the prefix if needed }
Then
    Begin
    Get_Prefix(P);
    S := Concat(P,S);
    End;
If SOS_Get_Info(S,Lst,15,Err)          { Get the file's EOF }
Then
    Begin
    InEOF := Lst[5];                   { We just need 9 bits of it }
    If Odd(Lst[6]) Then InEOF := InEOF+256;
    End
Else
    Begin                              { Report an error if it occured }
    Writeln('Error ',Err,' in SOS_Get_Info');
    Exit(Program);
    End;

{ Open the output file }
Write('Output file: ');
Readln(S);
If Pos('.TEXT',S)=0                    { Add .TEXT if needed }
Then
    If Pos('.text',S)=0
    Then
        S := Concat(S,'.TEXT');
Rewrite(OutFile,S);
End { OpenFiles };

Procedure CloseFiles;
{ Close the input and output files }
Begin { CloseFiles }
Close(InFile);
Close(OutFile,Lock);
End { CloseFiles };

Procedure ErrCheck(Err:Integer);
{ Make sure no I/O error occurred }
Begin { ErrCheck }
If Err<>0
Then
    Begin
    Writeln('I/O Error ',Err);
    Exit(Program);
    End;
End { ErrCheck };

Procedure Convert;
{ Convert the Ascii file to a Text file }
VAR X,                         { Result of block read and write }
    InPtr,                     { Beginning of next input line }
    InEnd,                     { End of read input }
    OutPtr,                    { Where to put next output line }
    LineLen,                   { Length of current input line }
    Indent: Integer;          { Indentation of current input line }
    Flag: Boolean;             { Set false when done }
Begin { Convert }
{ First, make the text file header (1024 bytes of zeros) }
Fillchar(OutBuf,Sizeof(OutBuf),Chr(0));
X := BlockWrite(OutFile,OutBuf,2,0);
ErrCheck(IOResult);

{ Next, read the first input file block and set up the buffer pointers }
X := BlockRead(InFile,InBuf,1,0);
ErrCheck(IOResult);
If EOF(InFile)
Then
    InEnd := InEOF                     { Set to EOF for one block files }
Else
    InEnd := 512;                      { Otherwise block has 512 bytes }
InPtr := 0;
OutPtr := 0;

{ Now we can do the conversion }
Flag := True;
While Flag
Do
    Begin
    { Find length of next line (look for carriage return) }
    LineLen := Scan(InEnd-InPtr,=Chr(13),InBuf[InPtr]);
    If LineLen=(InEnd-InPtr)           { If return not in buffer }
    Then
        Begin
        { Move partial line to front of buffer }
        MoveLeft(InBuf[InPtr],InBuf[0],LineLen);
        InPtr := 0;
        If EOF(InFile)
        Then
            Begin
            { We're done, make sure last carriage return is there }
            Flag := False;
            InBuf[LineLen] := Chr(13);
            End
        Else
            Begin
            { Read in next block (to get rest of line) }
            X := BlockRead(InFile,InBuf[LineLen],1);
            ErrCheck(IOResult);
            If EOF(InFile)
            Then
                InEnd := LineLen+InEOF
            Else
                InEnd := LineLen+512;
```

Using The GoFORTH Editor

by John Lomartire   A Peek At A New Apple /// Language

The FORTH computer language is an exciting one and in many ways it is unique. A version for Apple ///, called "GoFORTH", was distributed for a time by Pair Software. (Whether Pair Software will continue to supply "GoFORTH" is unkown to me at the present moment.) Unfortunately, documentation was minimal and many of the features were inadequately explained. Those of us who purchased this software were left to fend for ourselves to figure out its operational mysteries. It is therefore of great interest to record any knowledge of GoFORTH that anyone might accumulate so that others might benefit. It should be possible over time to generate an excellent GoFORTH handbook if other "experimenters" with this program also published their new-found bits of knowledge. Lest anyone get the wrong impression, the author of this piece is NOT a FORTH expert, but just another struggler in "no-man's land".

FORTH has many novel features not the least of which is that information is stored in blocks of 1024 bytes. In the Apple /// version each block is called a "screen". In this article the word "screen" refers to the block in GoFORTH on which information is recorded, while the "viewing screen" will be called a "CRT". Screens can be loaded into memory by the <screen no.> LOAD command. Although many of the 134 screens contain information, there are also a number of blank screens available for the computer user's convenience.

These screens form the very heart of FORTH.

Obviously, there must be a way to put information into a screen, and to delete or modify existing information. For these purposes GoFORTH has an editor, but documentation on its use is very sketchy in the manual supplied with the software.

Here, then, is an more complete explanation of the GoFORTH editor. The editor commands are stored on screens #100 to #109 inclusive. Since the last entry in each screen from 100 through 108 is an arrow (—>), all the screens from #100 through #109 are loaded sequentially and automatically. The last line of screen #109 carries a symbol ;S that stops the loading process. All editor screens are normally loaded when GoFORTH is first booted. The editor is activated by selecting a screen to edit with the command:

<screen no.> EDIT

Any screen number from 1 through 134 can be called up and it does not matter whether the screen contains information or is empty. The layout of an editor screen is shown in Figure #1. The area to the right of the editing command list is a window that reproduces the selected screen.

```
                              goFORTH screen editor   V 1.0
                                                          screen # 30
^B   BLANK
^C   CLOSEUP
^D   DELETE
^N   NEXTSCR
^O   OPENUP
^P   PREVSCR
^R   RESTORE
^S   SAVESCR

<tab> word
<esc> ABORT
arrows MOVE
```

Figure #1 - The GoFORTH Editor CRT display

As mentioned earlier, a screen can hold up to 1024 bytes. The window layout has 16 lines, each capable of holding 64 characters. If this is not enough room, the next higher numbered screen, cr any number of consecutive screens, can be "added on" by putting an arrow —> at the end of the completed screen.

The commands listed down the left side of the CRT have these meanings: A ^ signifies that the CONTROL key is to be depressed along with the other key.)

^B	Blanks out entire line upon which the cursor rests
^C	Removes blanks from the current cursor position until the next non-blank character is found
^D	Deletes the entire line containing the cursor and moves up the lines below to create a blank line at the bottom
^N	Marks the current block for update, loads and displays the next block
^O	Adds 64 blanks before the current cursor position

^P		Marks the current block for update, loads and displays the previous block
^R		Restores the block from the copy on the disk
^S		Saves the current block (in the editor) to disk
TAB		Move the cursor forward to the next non-blank character following the next blank character.
ESCAPE		Leave the editor, ignoring any changes which have been made. If the changes are to be kept, SAVE with ^S before using ESCAPE
ARROWS		Move cursor around screen with cursor control arrows

Perhaps the best way to describe an editing session is to use an example. This will also provide an opportunity to discuss some other features of GoFORTH as they come up. In the following, the goal is to enter a number of lines of text on several screens so that the entire text can be immediately displayed on a CRT when the proper command is given. Since these are new lines of text, they are entered in empty screens, so to find which screens to use, there is a command:

<lower screen no.> <upper screen no.> INDEX
(e.g. 1 134 INDEX)

that will show the top (zero line) of each screen. For this reason, it is customary to use the screen's top line for a short description of its contents. With GoFORTH, an empty screen will have "(empty users screen)" on this directory line so look for these words and select any group of three consecutive empty screens. Empty screens #26 through #28 were chosen in this fashion.

To get into the editing mode, type:

<screen no.> EDIT   e.g. 26 EDIT

to work on the first of the three screens.

Type in the text as shown in Figure #2, leaving spaces where indicated.

```
                       goFORTH screen editor   V 1.0
                                                        screen # 26

^B   BLANK      ( Example of text to be shown on CRT )
^C   CLOSEUP    : P1
^D   DELETE     C.CVP
^N   NEXTSCR    ." This is an example of text stored on a FORTH screen "
^O   OPENUP     CR ." in a series of separate lines.  This is located on "
^P   PREVSCR    CR ." screen number 26.  Other text will be stored in "
^R   RESTORE    CR ." two other screens. "
^S   SAVESCR    CR ." The intent is to load all three screens and then "
                CR ." have the entire text displayed whenever P1 is "
<tab> word      CR ." typed. "
<esc> ABORT
arrows MOVE
                —>
```

Figure #2 - Text entered in Screen #26

This is the directory line, summarizing screen contents. This is the line that the INDEX command will display. Parentheses signify a comment. Note spaces after and before the two parentheses.

: P1

A space must follow the colon as shown. The colon signifies that the next word, P1, is to be defined.

C.CVP

This command clears the screen and places the cursor in the CRT's upper left hand corner. Like HOME in Basic.

The ." word signifies that what follows is a string of characters to be displayed on the CRT. Leave a space after ."   The final quotation mark gives the end of the string.

CR ." in a series of separate lines. This is located on "
CR ." screen number 26. Other text will be stored in "
CR ." two other screens. "
CR ." The intent is to load all three screens and then "
CR ." have the entire text displayed whenever P1 is "
CR ." typed. "

The CR at the front of each line causes a line feed/carriage return so that the lines will appear on the CRT just as formatted in the screen text.

—>

It is not necessary that text be entered on every line. A few blank lines cause no difficulties. The arrow signifies that the next screen, #27 in this case, will be loaded automatically as mentioned above.

Now that screen #26 has been filled out, it must be marked for saving to disk and bring up the next screen for editing. This is done by using the command:

^N (The ^S command will also save to disk, but will exit the editor.)

Fill out the lines in screen #27 as shown in Figure #3.

```
                       goFORTH screen editor   V 1.0
                                                        screen # 27

^B   BLANK      ( Continuation of screen 26 )
^C   CLOSEUP    CR
^D   DELETE     CR ." This paragraph is stored on screen 27 and should "
^N   NEXTSCR    CR ." appear as an added paragraph without any need to "
^O   OPENUP     CR ." call the screen separately. " CR
^P   PREVSCR    CR ." This is a third paragraph and a long line has been typed o
^R   RESTORE    n the screen without making intentional line breaks.  The editor
^S   SAVESCR     automatically drops to the next line as needed.  A closing quot
                ation mark is put at the end, in this case after 252 characters
<tab> word      xxx "
<esc> ABORT     CR ." This should put the text across 80 columns on the CRT but
arrows MOVE     words may be split at the end of the CRT line.  Formatting the s
                creen lines will avoid this splitting. "
                CR CR CR CR ." Press spacebar for next screen. "
                KEY DROP
                —>
```

Fig.3 - Text entered in Screen #27

Here, the elimination of CR from some lines causes text to be displayed across the full 80 columns of the CRT.

Without intentional formatting of the strings, words at the end of a line may be split when they are displayed. The length of a single string that can be entered as a series of consecutive characters is NOT unlimited.

There is a maximum number of characters that can be entered between the word .'' and the closing quotation mark, about 252 characters, the length of the long string in screen 27. A series of CR commands in the 14th line are used to position the next string.

KEY waits for a keypress. When a key is pressed, its ASCII value is placed on the top of the stack, so

DROP clears this top value from the stack.

The lines of screen #27 remain on the CRT until a key is pressed, then the lines of screen #28 will appear.

—>

Again, the arrow at the end of the screen causes the next screen to be loaded automatically. Remember to mark this screen for saving and call up the next screen into the editor with:

^N

Type in the lines shown in Figure #4

```
                        goFORTH screen editor   V 1.0
                                                       screen # 28

^B   BLANK       ( Continuation of screen 27 )
^C   CLOSEUP     C.CVP
^D   DELETE      ." This is a continuation on a new screen, # 28 that should come
^N   NEXTSCR        up when spacebar "
^O   OPENUP      CR ." is pressed after viewing screen 27. " ;
^P   PREVSCR     ;S
^R   RESTORE
^S   SAVESCR

<tab> word
<esc> ABORT
```

Fig.4 - Text entered in Screen #28

Note the semi-colon at the end of line 5. This signifies the end of the definition of word P1 while the ;S of line 6 signifies the end of the screen LOAD. As a general rule, it is better to place the ;S command close to the final ; because if it is too far away, GoFORTH will fail to notice it and the system will hang.

This time, save all three screens and leave the editor with the command:

^S.

Now you have created three screens that define a new FORTH word, P1, and to use it, you must first LOAD these screens into memory with the command:

26 LOAD

Remember, that since screens 26 and 27 conclude with —>, and 28 ends with ;S, then screens 26, 27, and 28 are loaded as an entity. The action of loading these screens results in placing the word P1 into the FORTH dictionary and making it available for use at any time. If everything has been done right, press P1 QUIT RETURN and see the whole text appear on the screen. Notice how quickly this happens in FORTH.

QUIT causes the message to appear on the CRT without FORTH's customary ok appearing. This entire three screen text will appear every time P1 is typed. To remove the word P1 from the FORTH dictionary, type:

FORGET P1

and P1 will be discarded, ALONG WITH ANY OTHER WORDS DEFINED AFTER P1. Once P1 has been deleted, the screens 26-28 will have to be loaded again to put the defined word back into the FORTH dictionary.

This example has demonstrated the use of the editor to enter text (strings and commands) in a set of screens. Obviously, the editor can also be used to modify a screen that already carries information.

The <screen no.> EDIT command will display the screen to be modified, and the listed CONTROL commands, shown as ^B, ^C, ^D, etc. are used to do any alterations. Definitions of these commands are self explanatory and with a little practice, anyone can do screen modifications as well.

There may be some confusion with the use of FORTH words, INDEX, LIST, and EDIT. For clarification, then:

INDEX Shows only what has been entered in the top (zero) line of a screen. Used to get a quick overview of a set of screens so that a proper selection can be made.

LIST Displays the contents of a selected screen on the CRT with the addition of line numbers for identification of screen lines. No changes can be made on screen contents from LIST.

EDIT A special mode of FORTH and the only one that permits alteration of screen contents.

This article can serve as an amplification of the GoFORTH manual's Editor section. Perhaps others might take the time to write up some other findings in this language so that we can all benefit. ///

Letters To The Editor

by Bob Consorti   Questions and Answers from your Apple /// Experts

New Apple /// User Needs Help

Dear ON THREE,

I own an Apple /// computer, Monitor III and Apple 5 1/4 external floppy drive. Other than the system demo disk, I have no software for the machine.

Please send your catalogue and any information you might have on support for Apple /// users.

My use is primarily word processing. I would like to have educational game programs suitable for my ten year old brother, as well.

I also use a Toshiba T1000 while on location. Two questions:

- Can the two systems be linked together for downloading of files?
- Can the Monitor III be used as a composite monitor in conjunction with the T1000?

Whatever information you can provide will be appreciated. I look forward to hearing from you.

Sincerely,

Max Moser
Mill Valley, California

Dear Mr. Moser,

I've had our product catalog sent to you and your name added to our Apple /// user list. Regarding the educational software, the Apple /// has a built-in emulation mode that allows you to run Apple II programs that require no more than 48K of memory. Many of the more recent educational programs require a 64K or 128K Apple //e.

The older emulation provided by the Apple /// can be upgraded to a 64K or 128K Apple //e with the addition of the Titan ///+//e boards. This product is quite scarce but we do have some of them in stock. There are some other options available.

Some of the educations software companies have software that will run on a 48K Apple II. This means that you can use them on your Apple /// in the built-in Apple II emulation mode. One such company is Quality Educational Designs, Inc. They are located in Oregon and their phone number is (503) 287-8137. Please ask for Lori Eshelman.

Now about the linking up of the Toshiba and the Apple ///. I don't know what the requirements of the Toshiba are, but if you can hook it to a modem, the /// and the Toshiba can send and receive textual information without difficulty. On the Apple /// end you will need a communications package such as our Communications Manager.

If you want to directly connect the two machines the Toshiba will have to have some sort of a serial port. Then get a standard RS-232 cable and a modem eliminator cable and you can attach the two machines together without a modem.

Your Monitor /// can be used on a variety of machines. I've seen them in use on an Apple //e, Apple IIc, an Apple IIGS and others. If your Toshiba has a composite video output you can directly connect them.

Kid Stuff

Dear ON THREE,

The November issue contained an interesting program, Kidword ///. I've been unable to get it to print properly! I'm using an Apple Imagewriter I and all other software works fine. It puts one character or space on one line then does a carriage return then prints one character or space and so on. Has anyone else encountered this problem? What does the line `40125 PERFORM READC(@VALUE%)` do?

I had trouble with the cursor commands and changed them as follows:

```
640 IF W=10 THEN WY=WY+1: REM SET CONTROL-J OR DOWN
ARROW, MOVE CURSOR ONE LINE DOWN
650 IF W=8 THEN WX=WX-1: REM SET CONTROL-H OR LEFT ARROW,
MOVE CURSOR ONE SPACE LEFT
```

```
660 IF W=21 THEN WX=WX+1: REM SET CONTROL-U OR RIGHT
ARROW, MOVE CURSOR ONE SPACE RIGHT
670 IF W=11 THEN WY=WY-1: REM SET CONTROL-K OR UP ARROW,
MOVE CURSOR ONE LINE UP
```

Sincerely,

Michael L. Barry
Fairbury, Nebraska

Dear Mr. Barry,

I'm glad that you liked KidWord ///. The problems you are having are quite easy to correct.

If you have the Business Basic READCRT.INV invokable module on your disk everything should work properly. However, if you forgot the semicolon ";" at the end of line 40130 it will print out as it seems to be doing on your system. Simply make sure that line has the semicolon at the end and everything will print correctly.

Line number **40125** reads the character on the screen at the current cursor position as setup by the HPOS and VPOS Basic variables. The routine READC is a part of the READCRT.INV assembly language part of the program. The READCRT.INV file is on your Business Basic master disk.

Additionally, the READCRT.INV module requires that you be using version 1.3 or later of the `.CONSOLE` driver. Previous versions didn't support reading characters from the screen.

Thanks for your suggested changes. If I can be of any further help please don't hesitate in giving me a call or sending me a note.

Bad Chip Problem?

Dear Sirs:

Bob Sander-Cederlof at S-C Software Corp. suggested to contact you by letter. I understand that the 65802's sold by you and installed in Apple ///'s work satisfactorily. With the 65802 installed in my Apple /// +, it fails to complete the bootstrap procedure upon power-up. Nothing is wrong with the 65802 itself because it works just fine in my Apple II+.

I would like your technical assistance in solving the above problem. I have listed below a set of different types of 65802 chips. The first four are from Western Design Center and the last two are from GTE.

    a) W65C802P-4
    b) W65C802P-6
    c) W65SC802P-4
    d) W65SC802P-6
    e) G65SC802P-4
    f) G65SC802P-6

By exchanging the 65802's in question, can you solve the problem? No hardware modification necessary I hope. Your reply will be greatly appreciated. Thank you for your assistance.

Sincerely yours,

John Loos
Beaverton, Oregon

Dear Mr. Loos,

One of the reasons that the 65C802's haven't caught on in the /// world is that it's very hard to get them to work properly in all Apple ///'s. When we get a batch of chips in we test them in our Apple ///'s. Some chips will work in some machines, some won't. We have ascertained that some Apple ///'s are more sensitive to the 65C802 than others.

In addition, some chips that test perfectly in our machines will simply not work in Apple ///'s in the field. It's a very frustrating situation. There are no hardware modifications necessary, the Apple ///'s that work with them will take them as a direct replacement for the 6502 they currently use.

My best suggestion is to try a different chip in your Apple ///. You might also want to make sure that your power supply voltage levels are correct. I've seen a couple of Apple ///'s have problems with out of range power supplies lately.

Because of all the problems we have had with the 65802, we recently dropped it from our product list and will no longer offer it for sale.

/// Mistakes

by Bob Consorti
An honest look at some silly mistakes

Every once in a while we goof up. We make mistakes in composing and laying out the magazine. We try to catch all of them before the magazine goes out the door but sometimes we don't. This column will right the wrongs and correct any errors we've made in previous magazines.

Hopefully this will be a very *rare* column, but if you spot something in the magazine that just doesn't make sense, drop us a note. If it's something that needs correcting, we'll correct it in this space.

The table of contents of the May issue left out the Ranntings column. Our apologies to the Ranns. I hope everyone leafing through the magazine read it, I thought it was a great column.

Another mistake occurred in the Letters To The Editor section. Well, not really a mistake but something does need clarifying. The letter and reply to Dick Immel's problem regarding his Universal Disk Controller (UDC) card has an interesting postscript.

It seems that the new replacement 6502 I sent Mr. Immel did not fix the problem of the 800K drive in his machine. After much discussion, Mr. Immel sent his Apple /// to us so we could isolate the problem. A few hours after I started dissecting the innards of his Apple ///, I found that while his power supply was putting out the correct voltage levels, his main logic board was not getting all of the juice!

It turns out that the cable that connects his power supply to the main logic board was damaged and one of the voltages was less than half of what the computer needed. The /// (work-horse that it is) operated just fine, but the more sensitive 800K drive had serious problems.

In retrospect it seems that while 6502 timing problems account for some of the Apple /// - UDC -800K drive incompatibilities, faulty power voltages can be the cause of others. ///

MOVING?

If you are in the process of moving, please give us a *minimum* of one months notice. Because the magazine must be printed and mailed prior to the date on the cover and because it takes us a short while to update our records, tell us before you are moving. Doing so will assure that your copy of ON THREE won't be lost in the mail or get to you late.

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> Or Phone (805) 644-3514

Make Backup Copies Of AppleWriter, VisiCalc and Advanced VisiCalc

with the ON THREE *Uncopyprotect Driver* . We haven't changed our policy regarding duplicating copyrighted programs, but since many Apple /// software products are no longer supported, owners of AppleWriter ///, VisiCalc and Advanced Visicalc are facing the problem of what to do when their program disks "Crash."

After much consideration we decided to make a product to solve this problem. The *Uncopyprotect Driver* will allow you to make backup copies of these three programs. For the first time you can put your master disk in a safe place and boot from the duplicate.

The *Uncopyprotect Driver* is economically priced at only $29.95 plus $3 shipping and handling. The *Uncopyprotect Driver* comes complete with full documentation and will work with Selector /// and Catalyst. The Uncopyprotect Driver is sold for legitimate Archival purposes only. ON THREE does not and will not and will not condone program copying for any other purpose.

Next Time In ON THREE:

Win Prizes In A Special Contest!

Migrating From Catalyst To Selector

Super Disk #2 - Now Even Better

A Different Way Of Installing Aladin /// On Your Hard Disk

And our regular mix of letters and other information to help you get the most out of your Apple ///.

SMART APPLE /// USERS

USE SELECTOR ///

Because SELECTOR /// is a state-of-the-art program switcher that makes instantly available, without rebooting, a wide range of applications programs that are stored on your hard disk or high capacity floppy, such as UniDisk. Programs such as the ones listed below and more! When you start up your system just boot Selector /// and that's it for the day! No more frustration looking through stacks of floppies or searching through sub-directories!

Access ///	Business Graphics	Lazarus ///
Access 3270	Cobol	Macro Manager
Advanced VisaCalc	Draw On ///	Multiplan
Apple II Emulation	Communications Manager	Nexus
AppleFile ///	Desktop Manager	PFS: File*
Apple Speller ///	EasyTerm	PFS: Report*
Apple /// Pascal	Graphics Manager	Quick File ///
AppleWriter ///	Graph'n'Calc	Script ///
Backup ///	Haba Merge	Senior Analyst ///
BPI	Keystroke Data Base*	/// E-Z Pieces
Business Basic	Keystroke Report Generator*	VisaCalc ///

Selector /// allows the above copy-protected programs followed by astericks to be placed on your hard disk, but requires that the 'key' or boot disk for those programs be placed in the built-in drive before starting that particular program. If one of your programs does not appear on this list, it will, more than likely, work under Selector ///. The Selector /// utility will not work with the copy-protected Word Juggler program. Selector /// is not copy-protected. Selector /// requires an Apple /// computer with at least 256k of memory. **Now only $99 plus $7 s/h**

/// E-Z Pieces & StemWriter Spelling Checker Available Today!

When we asked people what new software that they would like to see for their Apple /// some time ago, the overwhelming favorite was a spelling checker for the popular /// E-Z Pieces program. **Well, it's ready!**

StemSpeller /// is now available from the folks down under. Compatible with standard ASCII files, Pascal Text files, StemWriter files and most importantly /// **E-Z Pieces** files, this fast and easy to use spelling checker will knock your socks off with its speed and versatility.

It comes completely with a 50,000+ word main dictionary and the ability to create auxiliary dictionaries of words that you commonly use.

StemSpeller /// is 100% assembly language for speed and comes as a standard interpreter that can be run by itself or loaded and run under Selector and Catalyst.

As with all ON THREE products it **isn't** copy-protected and comes with our full product support and limited warranty.

StemSpeller /// is available today for only $69.95 plus $5 for shipping and handling. Since over **one thousand** people asked us for this product we expect to have a hard time keeping them on the shelf. Be the first on your block (or city) to be able to spell check your /// E-Z Pieces word processor files. Order StemSpeller /// today!

If you are one of the many who requested the Spelling Checker for /// E-Z Pieces, we're counting on your order today!

△ Compatible with /// E-Z Pieces Word Processing files, StemWriter files, regular ASCII files and Pascal Text files
△ 50,000+ word main dictionary with auxiliary dictionary capability.