

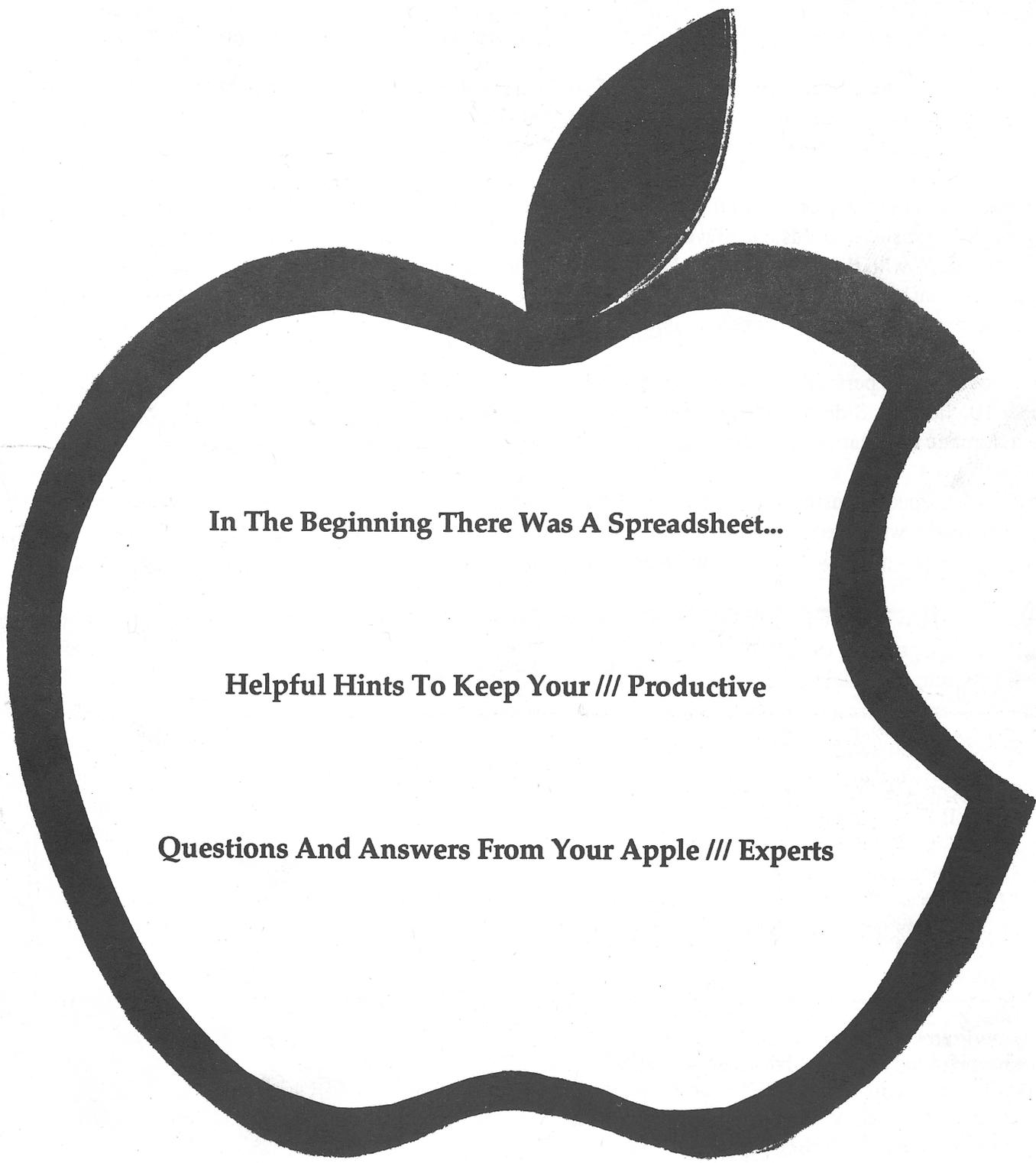
ON THREE

The Magazine For Apple /// Owners and Users

®

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March/April

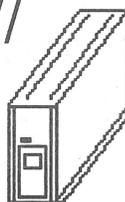
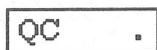


In The Beginning There Was A Spreadsheet...

Helpful Hints To Keep Your /// Productive

Questions And Answers From Your Apple /// Experts

Selector /// - The Best Program Switcher For The Apple ///



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Apple Speller ///	Draw ON ///	Keystroke Data Base*	Side Print ///
Apple /// Pascal	Comm. Manager	Keystroke Report Generator*	StemSpeller
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The programs listed above with an asterisk after them are copy protected and require the 'key disk' to be inserted into the built-in drive when you select it from the Selector menu. After the program comes up you can remove that disk. Uncopyprotected versions of PFS: File and PFS: Report are available that work under Selector without the need for a key disk. Likewise an unprotected version of Word Juggler is available for only \$15 plus \$2 for shipping and handling.

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The Magazine For Apple /// Owners and Users

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Apple Sauce

by Bob Consorti

More Changes

I don't know where everyone has gone but with a very few subscribers and the non-existence of product sales which we rely on to fuel the magazine & our development efforts, we've made some further changes.

As you can see, the magazine format has been changed again. This leaner magazine should allow us to keep providing you with up to date information and help on a variety of Apple /// questions and problems.

Because we aren't getting many sales and of abuse of the toll-free order line for questions and answers, we've decided to eliminate it effective immediately. If you prefer to mail in your orders, a revised order blank is on the following page. Orders may now be placed at either (206) 820-1874 or (818) 701-1355. All questions and answers should be directed to me at the (818) 701-1355 number.

Bad news aside, we're getting closer to releasing new products for the Apple ///. First out will be the Super Accessories Disk #4 for The Desktop Manager. Shortly thereafter

will be the Disk Fix and GoBack utilities. Please hold on folks, we will announce them as soon as they are ready to ship.

In This issue the Rann's explore the world of Spreadsheets on the Apple /// and John Lomartire rounds out the look at spreadsheets with a Helpful Hint on blanking out blocks in VisiCalc.

Due to space constraints, the User Group and Hot Line lists have been removed from the magazine. They will be published every two or three issues. If you would like a copy of them please send us a self-addressed, stamped envelope.

Once again, for everyone who has hung in there over the difficult last few months - thank you! Now the plea... If you know of any new users to the Apple ///, please show them ON THREE Magazine and/or one of our old product flyers. We need your and their support to continue providing quality service and support and exciting new products for the Apple ///.

Apple /// Memory Expansion

Are you tired not being able to run certain programs because you don't have enough memory? Would you like to use Draw ON, Lazarus or even The Desktop Manager but only have a 128K or 256K machine? If so, look below to our listing of memory expansion products.

You can upgrade your 128K machine to 256K, your 256K Apple /// to 512K or go all the way from 128K to a 512K Apple ///. Installation of all of our memory upgrades is fairly easy and usually requires no more than a screw-driver and an hour or less to complete.

Remember, upgrading the memory in your machine does not require the use of one of the four slots in your machine. Those are reserved for interface cards. The memory upgrades are installed inside the machine.

Order your memory upgrade today. Remember, the memory chip market is particularly volatile so we may not be able to hold the prices down this low for much longer. Order yours today!

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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!

Includes: 512K board, installation guide, Utilities 1.2 which permits larger drivers, 512K Confidence Program that tests all memory, ultra fast RAMDISK driver with demonstration programs and 512K utility that updates your programs. We even offer a \$25/\$35 cash/product rebate upon return of your old 256K board. Includes a full 90 day warranty. Order your 512K today for only \$399+\$10

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The Beginning ///

by Richard and Lavona Rann

Spreadsheets

The spreadsheet was the first important non-text function available for microcomputers. The appearance of the first spreadsheet program, VisiCalc for the Apple II, marked the point of the direction change that moved the micro from the realm of the hobbyist into the general population. For the first time people could easily use their desktop computers for important record keeping and modeling functions not just as an extended typewriter or a game machine. Not many years later, the spreadsheet proved to be the open door through which the micro computer entered Corporate America.

A spreadsheet program is a like pad of worksheet paper like we all used in our high school bookkeeping or college accounting courses, only it is smarter. Each sheet of paper is ruled into so many columns across and so many lines down. Each of the lines cross making rows and columns that form little boxes covering the entire sheet of paper. Each of these boxes is referred to as a cell. In the pen and paper days of school, you could enter almost anything into a cell. Numbers, lines, symbols, and text were all possible on paper, and are all possible on the electronic versions.

Spreadsheet programs make it easy to organize numbers into neat rows and columns, label them so they are easy to identify later and even more importantly, make it easy to change things without doing recalculations. Like so much else in computing, it is a way of displaying information in an agreed upon structure, to save work in the long run.

Remember we said that the electronic spreadsheet was a smart form of the old paper worksheet because it has the ability to do numerical calculations. Just which functions it does depends on the program. All will do the basic add, subtract, multiply, and divide, and many go on to very complex functions like calculating mortgage rates and discounted rates of return. Some have provisions for the user to program functions that can be expressed mathematically. With these tools it is possible to do a number of very complex operations within spreadsheets.

The ability to calculate, modify, and re-calculate values is the major reason that spreadsheet programs have become so popular and have become one of the major functions of the microcomputer. This function frees the individual from the tediousness of recalculating every cell as data is changed. You can change one or more factors or values and see the new results quickly. This allows for "what if" analysis which is a mainstay for supporting business and personal decision processes.

If you remember how time consuming it was to read each cell of a worksheet by hand and recalculate it, then you can understand just how much of an advantage there is to an Electronic spreadsheet. If you have somehow missed the spreadsheet revolution, and wonder just what they are for, you have a pleasant surprise coming. You are not limited to the things that you would normally visualize on a paper worksheet. Many people do complex (multi schedule) Federal Income Tax Returns on spreadsheets, in fact until last year, we did ours on the /// with 3EZP and there are literally thousands of examples of sample spreadsheets, for specific purposes, available in the Public Domain.

Electronic spreadsheets do have a threshold. To create a spreadsheet the computer must be told a number of things like how wide the columns are and how the numbers will appear in the cells. Appropriate space for labels must be arranged and labels typed in. Finally, the mathematical relationship between cells must be defined precisely. Organizing a spreadsheet for the first time does take some planning and effort. This tends to make them inappropriate to do just for a quick column of numbers.

A rule of thumb is anything that can be done simply and completely on a single sheet of notebook paper is likely to be too small to be worth doing on a computer unless you are likely to change it often, or are likely to want to build on it later. Beyond that, the computer is the perfect place for any job that is long, complex, needs to be changed often, or will be added to regularly. In each of these the computer makes the job easier, and saves time

because there is no longer the need to remember the relationships, plan the worksheet and calculate each individual cell. Now we will tell you a little about the most popular spreadsheet programs for the Apple ///.

Whichever spreadsheet you choose it is important to plan ahead. It is still difficult to make major changes to a large complex spreadsheet without having to go back to re-enter something. It is best to start with enough space to add more columns. Leave adequate label space rather than adjusting the entire spreadsheet to accommodate a larger label. All this takes a little time before you begin to plan out what you want the end product to be. If there is a single error most often encountered in the creation of spreadsheets, it is the action of moving too quickly to the detail level without having the overall structure of the worksheet firmly designed.

VISICALC

The First spreadsheet program for the Apple /// was VisiCalc. It was introduced in 1981 shortly after the Apple /// was first introduced, and it became one of the most important, early programs for the ///. With Mail List Manager and Applewriter, it formed a set of business oriented software that was quite powerful for the time. Even today VisiCalc can still be considered a reasonably powerful spreadsheet program, capable of doing most things required by those that can benefit by use of a spreadsheet.

When the VisiCalc program is booted it comes up with a blank spreadsheet which looks a lot like a blank screen with a top and right hand border. The VisiCalc spreadsheet uses the top four lines on the screen as heading lines that display the status of VisiCalc and other important information such as which cell the cursor is on and what the contents of that cell are, including any formula that will be executed in that cell. These heading lines are in inverse so they can easily be differentiated from data being entered in the spreadsheet.

Cell content - formula				
Value or Label - data				
XXXXXX	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				

In the short example above, the line containing the XXXXXX is a line where the content of a cell is displayed before it is entered into a spreadsheet. This is an important area because there is additional functionality available when you are entering data or creating a complex formula and it is still in this part of the screen. Watching this area is also a way to check for errors before entering them into the record. Correcting a mistake on this line, before it is entered into the spreadsheet, you need only back space over the line by using the Escape key and retype with what you really want there.

The heading "Value or Label" indicates that the following information tells which of VisiCalc's two types of data the cell has. Labels are defined as cells with contents beginning with any alphabetic character. They will appear on the spreadsheet as text. A text word can be assigned a value and VisiCalc will recognize that value in calculating the spreadsheet, but it will always appear in print as text. One example might be the use of Rate to indicate a mortgage rate which has the value of .0975%

It is much easier to type Rate and give it a value than a long decimal and in reality you will probably want to include both a cell with a label (to identify a filed/row/column) and a separate cell with the actual numerical value for use in calculations. In any event, the cell type is determined by the first character typed into a cell. If it is a letter then VisiCalc defines that cell as containing a Label.

Values, on the other hand are simply everything else. They are generally the data of a spreadsheet and encompass numbers and special characters. At times it is important to fool the system. Putting an " as the first character will allow you to type a number first in a label, and putting (first will allow you to type a letter at the beginning of a value statement. Both of these tricks have uses such as beginning a formula with a column letter.

As you can see from the example the columns are designated with letters starting at the left with A and going as far as you need, up to BK so a spreadsheet can be 63 columns wide on a 256K Apple ///. The number of cells is dependent on the size of memory available and the size of the cells. Narrowing the width of each cell will automatically add cells to the spreadsheet. The rows are numbered from the top, down beginning with 1 and going to 244. Cells are identified by which column and

then which row. The first cell in the first column is A1 moving down to A2, A3 and across to B3, C3.

BASIC TECHNIQUES

In VisiCalc the cursor is moved by using the arrow keys. As the cursor is moved each cell that becomes active is highlighted by inverse color. A value or label can be typed into that cell and it will be entered into the cell when the cursor is moved on to the next cell. Before the cursor is moved, mistakes can be deleted one character at a time by use of the escape key.

VisiCalc commands are preceded by a “/” which signals that a command follows. As an example, if you have miss typed a cell and want to delete it, move the cursor back so that the cell is highlighted and hit the /B key combination. That is the Blank command and it will erase everything in the cell. A couple of the most common commands are /G for Global — this command combined with other codes allows for the adjustment of the entire spreadsheet. The size of columns is adjusted with /GC, the format with /GF (which formats every cell that does not have a specifically defined local format), the alternative of local, individual or selected group formatting is done with the /F command. Some of the formatting options are “aligned right” or “aligned left,” “include a dollar sign,” and “define the number of integers to show.”

There are many more commands that have specific functions than we have listed. With most of them it will take some practice before they will be easy to use. But they are worth the effort for those that need their functionality.

It is relatively easy to use VisiCalc to do calculations. The calculation formula goes in the cell where the result is to be displayed. Let's take a simple calculation that might appear in a spreadsheet:

	H	I	J	K
8	SALE	Tax Rate	Tax	Total
9	\$100	.07%		

In our example, we need to figure the tax amount and then the total. If this is line 9 on our spreadsheet and sales appears in column H then our tax formula in J9 would read +H9*I9. In this case the positive value of sales in H9 is multiplied (*) by the value in I9 and the result will appear in J9 where the formula is located. In this case it

would be \$7.

Now the formula for cell K9 Total is +H9+J9. Which means that the value of the sales in cell H9 is added to the value of Tax in cell J9 and the total \$107 is displayed in cell K9. The beauty of a spreadsheet is that you can change either the tax or the sale amount and have it automatically recalculate the new values for tax amount and total sale. You can also copy the entire row and have columns of sales which can be finished with a slightly different line for totalling the columns and create a very useful report of sales.

VisiCalc will do all the standard mathematical functions such as, addition, subtraction, multiplication, and division as well as handling exponents and many other functions. If a value exceeds the space provided for it in a cell, it will be listed using scientific notation. The value is listed as a decimal such as 1.059E6. The E indicates the exponent, in this case telling us to move the decimal point six places to the left or 1,059,000.

VisiCalc additionally has a very large selection of built-in functions that you can use, some of which are: LOG, SIN, COS, SUM, and Average. These are entered into formulas by using the symbol “@” (above the 2 on the keyboard.) For example, @LOG is entered if you want the result to be the base 10 logarithm of a value.

The original VisiCalc was written before much of the command structure of the Apple /// adopted by many software publishers was defined; consequently, things like using the slash to start a command, is peculiar to VisiCalc. This does make it difficult for some people to learn the commands. It does make it awkward at times to use for those that have become used to other programs on the ///.

VisiCalc is also a temperamental piece of software. To do some operations requires several steps that have to be done in order and with no error or the process will have to be completely redone. This makes it difficult to use some functions, especially for someone who does not work regularly with VisiCalc. Going back to the program after several years, it took us an hour with the manuals to relearn the method of moving a column of data. These types of thing gave VisiCalc the reputation of being powerful, but difficult to work with. Remember, it was written before the concept of “user friendly”

had begun to be considered for software. It is not so difficult that it should be avoided, it does, however require some time with the manual to become really good at using it.

/// E Z PIECES

Written several years after VisiCalc, /// EZ Pieces has become a very popular program. It is easier to learn partially because it's spreadsheet section has the same command structure as the Data Base and Word Processor portions of the program, but mostly because it was intentionally written to be more friendly to the user. The commands used in /// EZP have since become widely accepted by a large number and variety of computer users and this makes it recognizable to users of both the Apple /// and Apple II computers. Still, /// EZ Pieces does retain many of the same structures, approaches and commands used in VisiCalc.

It is apparent that spreadsheets tend to appear very much the same on screen. This is because they are all mimicking ruled worksheet paper. /// EZ Pieces organizes its spreadsheet in lettered columns across and numbered rows down, just like VisiCalc. The active cell is highlighted in reverse so it stands out on the screen. Entries are typed into a buffer until they are entered into the spreadsheet, either by moving the cursor to a new cell or hitting return. And like VisiCalc, entries can either be a Label — text — or Value — data.

Here the two programs begin to separate because /// EZ Pieces uses the Open Apple, that is so common in software for the ///, as its command indicator. For instance to Insert a row or column the command is Open Apple I key combination. It only takes a while for new users to notice that the I stands for insert and then it is easy to remember.

As might be expected many of the commands do much the same things as VisiCalc commands; however, /// EZ pieces has been able to simplify the steps making it a little simpler and faster to execute. In many cases the number of steps required by VisiCalc to accomplish an operation have been cut down so the exposure to possible error is less in /// EZ Pieces.

This streamlining of commands is one of the advantages of the /// EZ Pieces spreadsheet section. It still uses the

arrow keys to move around in the spreadsheet, and has added the open-apple 1 through 9 combination for moving approximate sections in large documents. The OA-1 takes you to the "beginning" and the "9" to the end, and the numbers in between take you proportionately in the spreadsheet, as 5 takes you to the middle.

In /// EZ Pieces it is much easier to format the spreadsheet. The instruction for left or right justifying as well as adding dollar signs and decimal points are easier to manipulate with less difficulty recovering from mistakes. There are English explanations available for several things and more hints are you go along. The assumption is not that you are a hacker or someone that spends all day in front of a computer and wants/needs to learn its cryptic language. A major change had occurred in the focus of software between VisiCalc and /// Easy Pieces.

Open-apple L provides a simple way of adjusting the layout. This command allows the adjustment in size of any particular cell, or rows, columns, or even blocks of cells. This command allows easy alignment of label and values in columns as well as assigning number of decimals, placement of commas and periods in numbers and dollar signs and % signs.

The ability to do mathematical computations is handled in nearly the same way in the two programs. /// EZ Pieces has the ability to specify a specific number in a formula as well as a cell's location, in addition it allows for the cursor to be moved to a cell and the setting of a pointer to indicate a value in a formula.

The real difference between the two is in the built in functions. VisiCalc has more complex predefined numerical functions than /// EZ Pieces. For instance the trigonometric functions are not available in /// EZ Pieces. For the most part we have not heard of anyone missing these functions. The most commonly used functions like SUM, AVERAGE, and INTEGER are there however and simple to use.

/// EZ Pieces has proven over the years to be a popular program with a great number of people using its spreadsheet. While it is not as powerful as some of the other spreadsheet programs available, it is generally easier to master, much faster at calculating, and reliable, The

Continued On Page 8

Helpful Hints

A Practical Guide To Keeping Your Apple /// Running Smoothly

If you have a helpful hint, please share it with other Apple /// owners by sending it to our editorial office listed below:

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8920 Yolanda Avenue
Northridge, CA 91324

Blanking A Block Of Information In A Visicalc Spreadsheet

by John Lomartire

The other day, one of my friends said that he had just transferred a household budget spreadsheet that had been on an IBM (Lotus 1,2,3) to an Apple /// (Advanced Visicalc). He was lamenting the fact that he could not blank out blocks of data with a simple keystroke in Visicalc. Lotus did permit this.

It had not occurred to me that the ability to blank out blocks of cells might be a desirable feature in a spreadsheet and the Advanced Visicalc manual does not address this point in the sections that describe the blanking process. To achieve his purpose, my friend set the Visicalc cursor at the point in the spreadsheet where the blank section was to occur, blanked out one cell, then replicated it across the necessary number of columns, followed by replicating this horizontal set of empty cells downward for the required number of rows to get the blank block that he was seeking.

However, a slightly different approach was found to yield the desired block blanking. Although it still requires that the user combine the same two Visicalc commands — blanking and replicating — it can be done more simply than the procedure outlined above.

Let us assume that you have a spreadsheet, and for some reason, you desire to blank out a block of cells having these coordinates at the four corners: C5, F5, C12, and F12. This would be a block 4 cells across and 8 cells down, i.e. 32 cells.

First, place the cursor ON A BLANK (UNUSED) SECTION of the spreadsheet, for example cell Q3 (if this is in an empty section of the spreadsheet), and press / R to get into Replication Mode. The current cursor position will show up on the command line, e.g. Q3

At this point, the "Replicating a Block" procedure is used where the block is of the desired size, e.g. 4 across by 8 down. This is done with these commands:

. LA LA LA DA DA DA DA DA DA DA RETURN

LA means "Left Arrow" and DA means "Down Arrow"

Note the period before the first LA and also note how many times you have to move left and down to get the size block that you want. These moves result in specifying the upper left and lower right cells of the block to be replicated.

The command line should now show the selected block coordinates, e.g. Q3..T12:

Next, use the arrow keys to move the cursor to the upper left hand cell of the section to be blanked out in the spreadsheet, e.g. C5 and press RETURN. The desired 4 by 8 section of cells is blanked out as if by magic.

This is a simple technique that may be known to many Advanced Visicalc users, but there are still some ///'ers who might benefit from this tip.

ON THREE O'Clock

Did you know that the Apple /// has provisions for a built-in clock and calendar? The ON THREE O'Clock is easy to install and does not require a slot. Compatible with all Apple /// programs, simply save your files and the time and date will be saved along with it. You can then use the System Utilities or other file listing utility to see the date files were created or modified.

Includes battery holder, cable, micro chip and easy to follow instructions for installation and use. Batteries not included. Now only \$39.95+\$3!!!

Continued From Page 6

features that have not been included are generally those that have few uses for most people. While some spreadsheets advertise a hundred functions, 95% of the time only the first four or five are used. This makes /// EZ Pieces not only acceptable for most functions but even as a standalone program, a preferable choice for most users.

There are 3 other reasons we can think for preferring /// EZ Pieces over VisiCalc for almost all /// users. (The exclusions are merely those that need the extra functions and those that have already put in the time to learn and get used to VisiCalc.) The reasons are:

1) integration - the /// EZ Pieces product has two other sections, the Data Base and Word Processing sections. It is very nice to be able to use most of the same commands between the separate sections, and to be able to move data back and forth between the sections.

2) template availability - since the format for /// EZ Pieces files is the same as it's child's (AppleWorks, the most popular program ever for the Apple II family) there are literally thousands of files already written for many functions. A large number of these are Public Domain, as in free except for the disk handling fees of user groups. TAU, for instance has so many templates that we have not been able to get anyone to review and sort out the "wheat from the chaff" on an entire box of disks full of templates.

Finally 3), if you ever might have the need to move your carefully entered data and formulas to an Apple II or Macintosh, /// EZ Pieces data can be moved quite simply. Apple II AppleWorks can use the files as is. The Macintosh conversion is simple and only loses character formatting like Bold and italics and character sizing, which is normally only a problem with Word Processing documents, and can easily be readjusted in any case.

Oh yes, there is one more reason. /// EZ Pieces can still be legally bought with the manual. VisiCalc has no support and no official sales. ON THREE is supporting /// EZ Pieces and has added a spelling checker that makes it even more valuable. We suggest /// EZ Pieces to almost every new /// user that has a machine and no software. It is a bargain. Whichever spreadsheet you choose, we wish you happy calculating.

Side Print ///™

For years people have been asking if there was a way to print very wide spreadsheets sideways on the Apple ///. Until now there wasn't. But with our new Side Print /// you can print your /// E-Z Pieces, VisiCalc and Advanced VisiCalc spreadsheets sideways on your Apple DMP, ImageWriter, Epson or OkiData brand printers.

Side Print /// is available today for only \$29.95 plus \$3 for shipping and handling.

Apple ///'s For Sale

If you've been looking for a spare or backup Apple ///, now's the time to get one. The powerful Apple /// computers with monitor & a 90 day warranty is now available from ON THREE.

Save hundreds of dollars on one of the worlds finest microcomputers. Please add \$35 for shipping, handling and insurance.

The 512K Apple /// with monitor is now **only \$799** and a 256K Apple /// with monitor is **only \$399**.

Don't be caught with a dead Apple ///, get an extra one today!

AUTHORS WANTED!

We are accepting article submissions for review and possible publication from readers who are willing to share their Apple /// knowledge and experiences with others. If you would like to contribute to the pages of ON THREE Magazine, here's your chance! We're looking for articles of general interest, short programs, tutorials, hints on getting things done easier & more efficiently, games and anecdotes. Anything goes!

Just send your article or program on diskette to ON THREE. If it's chosen for publication we will check it for accuracy and even correct those silly spelling errors. Before you know it, you will become a rich (at least in spirit) and famous author. Your work will be read worldwide, by a captivated & spellbound audience.

For a copy of our author guidelines, please send a self-addressed, stamped envelope to ON THREE Magazine, 8920 Yolanda Avenue, Northridge, CA 91324, or give us a call at (818) 701-1355.

Letters To The Editor

by Bob Consorti

Questions And Answers From Your Apple /// Experts

New User Needs Help

Dear Mr. Consorti,

Your friend, John Legler of the University of Utah, called me today and suggested you might be able to help us with our "new" Apple ///plus computer.

We are a non-profit organization that works with the disabled and one of our services is to provide basic computer training for them. We depend on donated materials and this computer is one of these. Our funds are extremely limited and our budget is very tight so we find it hard to find the money for most materials. The owner's manual and utilities disk are the only materials that came with it. A printer was also included. No one here is familiar at all with this computer.

I was told by a computer mechanic friend of mine that it should be possible to connect an Apple // disk drive as a second drive to the Apple /// if we could get the correct cable. We have a spare drive but are not sure this can be done and do not know how to get or make such a cable. Can you please supply us with this information?

We installed a CP/M card and have the Word Star program. We also managed to get an Apple][Emulation disk to use with this computer. Our other computers are the Apple][+ and Apple //e so we have some programs for them and some will run in the Apple ///plus in Apple][Emulation mode.

Any additional equipment, books, programs or information about Apple /// computers or the Apple //'s that you might know about or that you or others might be willing to donate will be appreciated. We will be looking forward to hearing from you at your earliest available moment. Thank you for your time and consideration.

May God Be With You All,

Rev. Clyde Shideler
P.O. Box 495
San Luis Rey, California 92068

Dear Reverend Shideler,

While not completely incompatible, disk drives built

for the Apple // can not be used on the Apple ///. The diskettes that the two types of drives can be interchanged but the drives themselves simply will not work on different machines.

The Apple /// emulation disk provides for a very limited emulation - the Apple II that was around when the Apple /// was designed - the Apple II Plus with 48K of memory. Most of the new programs written for the Apple //e and IIGS will not run on the Apple /// in emulation mode.

However, there are a great variety of programs that run on the Apple /// in its native mode. I will get to them in a moment. First to get up and used to the Apple /// I would suggest that you get the **McGraw Hill Guide To The Apple ///**. This contains a variety of useful information on the Apple /// that will help first time users get comfortable with the machine.

If you have an Apple //e you may be aware of a program called AppleWorks. AppleWorks for the //e was a direct port of the Apple /// program known as ///E-Z Pieces. Both of these programs contain a word processor, data base and spreadsheet. On a regular 128K Apple //e you have a work space (desktop) of about 55K. On a regular 256K Apple /// you have a work space of approximately 185K. The files and disks produced by ///E-Z Pieces and AppleWorks are directly compatible and completely interchangeable. You can take your data disk from the Apple /// to //e with no conversions at all.

We carry ///E-Z Pieces and dozens of other products for the Apple ///. We also produce a bi-monthly magazine for the /// which shows you how to get the most out of the machine. A sample copy of it will be sent to you.

Missing Percent Signs Revealed

Dear Bob,

I read with some interest Lloyd Cason, Jr.'s article in your January/February ON THREE because I thought it contained the solution to a problem I have been trying to solve for some time. The problem has to do with executing a Business Basic program through use of the technique demonstrated in Lloyd's program in lines 670

Disk Drives For All Of Your Apple /// Storage Needs

Are you tired of swapping floppies? Tired of the few minutes it takes to boot your system each morning? Sick of not being able to save your files on those tiny 140K disks? Well, have we got a deal for you! No matter what your need we have a disk drive that fits the bill.

You can get a 20 or 40 Megabyte hard disk drive or a 3.5 inch 800K drive from ON THREE. A 20 megabyte hard disk is the equivalent of over 140 floppy disks, all in one convenient and easy to use place.

With the Sider brand of hard disks or even the 800K micro-floppy disks, you can eliminate the floppy disk shuffle forever. Store all of your files on the Sider or 800K drives and get to them so much faster. The Siders are over 10 times faster than a regular floppy disk and far more reliable. Never again will you need worry about losing or damaging a diskette.

ProFile Upgrade Program

How long have you had your 5 megabyte Apple ProFile hard disk? Two years, three, four? Have you ever wondered what it would be like to use the latest technology Sider hard disks & enjoy the much greater speed & reliability? Do you ever get worried about you old ProFile breaking down?

If you have any of these questions, we have the answer - **Upgrade Today!** Our new ProFile upgrade program is designed for every Apple /// user that has a ProFile hard disk. Simply order our Sider 20 or Sider 40 hard disk drives and we will give you a \$150 rebate on your old ProFile! If you have two ProFile's we'll give you up to \$300 off the price of a Sider. Now you can get the best hard disks for as little as \$599!

* After ordering a Sider, return your old ProFile with interface card, cabling and power cord within 60 days to obtain the \$150 rebate for each ProFile (limit 2 rebates per Sider order). Your ProFile must be in good working order as we will not accept non or barely-working drives.

Sider 40 A/T Hard Disk

The latest in a line of inexpensive yet very fast hard disk drives for the ///, the Sider 40 A(Econo) and T (Turbo) offers a full 40 or 42 megabytes* of storage for your ///.

The Sider's are by far the fastest hard disk drives available for the Apple /// and are the most reliable. With an average access time of 3 times faster than a ProFile, the Sider 20 and Sider 40A are very fast, but the Sider 40T is an incredible 7 times faster!

Attractively styled to fit next to your Apple ///, the Sider 40A costs **ONLY \$1199 + \$35** shipping and handling and the Sider 40T is **ONLY \$1499 + \$35 s/h.**

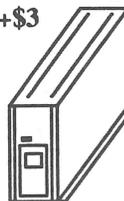
* Because the Apple /// can only handle disks of up to 16 megabytes in size, the Sider 40 A/T is partitioned into 3 volumes. Two are 16 megabytes in size and the third holds the remaining 8 or 10 megabytes. The Sider 40 A/T will not work in Titan ///+I/e emulation mode, you should use the Sider 20 for that.

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. All for **ONLY \$499+\$10!**

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

The Sider 20 Hard Disk Drive



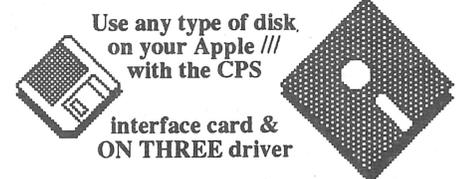
If you have a Titan ///+I/e board your

choices have been very limited if you want a hard disk that worked in ///+I/e emulation mode. The Sider 20 expands your options by working in the native Apple /// mode, the Apple II & Titan ///+I/e 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 Sider 20 comes complete with interface card, Apple /// driver disk, documentation and cabling. The Sider 20 even supports Apple II DOS, Pascal and Apple II CP/M partitions through it's powerful installation utility. The Sider 20 is a truly great hard disk. All for only **\$899+\$35**

CPS 800/400/140K 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 5 1/4 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

and 680. For convenience, I've repeated those lines below:

```
670 file$=path$(i)+program$(i)
680 RUN file$
```

However, upon attempting to run Lloyd's program (as has been the case whenever I've attempted to define a program name by a similar format), I receive the statement **BAD PATH ERROR**. In the case of Lloyd's program, the menu screen is generated with no problem, but when I press RETURN on the program of choice, I receive that error message.

I've checked and rechecked my typing of the program but can see nothing wrong. My version of Business Basic (1.1) just does not seem to recognize this form of a file definition. In fact, having booted up with the factory version of Business Basic in drive 1, I get the same error message if I try to run the provided "Hello" program through us of either of the following commands:

```
file$="HELLO" or file$=".D1/HELLO"
run file$      run file$
```

Do you have any suggestions?

Sincerely,

Barry W. Smith
San Jose, California

Dear Barry,

I've checked my copy of the program and have found no problems with it. I also checked it on version 1.1 of Business Basic and it worked fine. I do have an answer for one of the problems and can point you in the right direction on the other.

When entering:

```
file$="HELLO" or file$=".D1/HELLO"
run file$      run file$
```

you will run into the immediate mode problem of Business Basic. The RUN command with a non-immediate mode expression, in this case a string is not allowed under any version of Business Basic.

On the other problem, after you get the error, type **PRINT file\$** and see what string it contains. My guess is that it will either be nil (empty) or be missing a pathname separator (/). If you missed one of the integer signs (%) in the pathname building lines, the string would end up nil.

On further checking the too obvious problem was apparent. In lines 670 and 680 it should be **i%**, and not **i** as listed in the magazine. I apologize for the error.

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

Have you ever wanted to simply draw, sketch out floorplans or put together some artwork on your Apple ///? If so you need **Draw ON /// - The Best Graphics Program For The Apple ///**. You can draw circles, boxes, lines - enter text in a variety of sizes and styles, pickup, move and copy objects from libraries of screen images, shrink, expand, rotate, invert and texture images on the screen - **In Black/White AND Color!** You can zoom in on a particular portion of the screen to do very finely detailed work. And with our *Brush* capability, you can use any object on the screen as a drawing tool.

Features such as rubber-banding of lines, user adjustable grids and easy to follow menus make Draw ON the only graphics package for the Apple /// that is both powerful and easy to use. Draw ON gives an individual tremendous power. You can use it in creating charts, preparation of slides and tables for presentations, and letterhead design. You can make changes to the dull graphics that your other programs create by adding borders, textures and different typefaces. Even CAD applications, drafting and flowcharting are now possible on your Apple /// with Draw ON ///. Combined with an excellent instruction manual, you can be doing useful work in less than an hour.

So you know the product. It's the most popular graphics program on the market for the Apple ///. Draw ON /// is the standard for drawing, painting and creating images on the Apple ///. Draw ON /// works with the joystick, mouse, graphics tablet (\$20 extra) and the new TrackBall /// to provide page after page of great looking charts, graphs or other drawings. Why don't you have it? Don't you want a graphics program, or is pencil and pen good enough? If you've been waiting for the price to drop, wait no longer. For a limited time, order Draw ON /// for **\$100 OFF** its regular price of \$179. For **ONLY \$79** plus \$5 for shipping and handling order the best graphics program for the Apple ///.

When ordering please specify the printer & interface card you are using. We support almost every printer connected to the PKASO and PKASO/U interface cards and the Apple DMP, ImageWriter and Epson (MX, FX and RX) line of printers via any interface card or connected to the RS-232 port on the back of the Apple ///. Draw ON /// requires a 256K or 512K Apple ///. Works perfectly with Selector /// & Catalyst and may be installed on your hard disk for quick access.

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, a communications 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 \$69+\$6.

ASCII Chart

This Desktop Manager add-on lists the decimal, hexadecimal and corresponding character values of all ASCII keyboard characters. A second screen shows the decimal and hexadecimal 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 \$29.95+\$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! \$24.95+\$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!

Sophisticated 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! \$29.95+\$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!

Macro Manager Continued...

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 accessories Macro Manager uses no additional memory. Only \$24.95+\$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 \$29.95+\$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 \$19.95+\$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 \$24.95+\$3.

Extra-Special Sale

For a limited time, in addition to the fantastic sale prices of The Desktop Manager and its add-on accessories (already 25-50% off), you can get the main accessories along with ANY two add-on accessories for **ONLY \$99 + \$9 s/h.** At these low prices we may have trouble keeping them on the shelf so hurry and order your copy today!

MOVING?

If you are in the process of moving, please give us a *minimum* of one month's 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.

DeClassifieds

FOR SALE: Apple ///, 5 Meg. ProFile, Monitor ///, two floppy drives, software included. \$375 (412) 438-2811.

FOR SALE: Apple /// system. Look what you get for \$699. Excellent condition Apple /// with 512K, Monitor, Titan ///+//e, external drive, parallel card, clock, video interlace, joystick. /// software - Lazarus, Communications Manager, Fortran, Pascal, Business Graphics, Business Basic, Grafpak plus more. Manuals: SOS Reference, Device Drivers Writers Guide plus more. Call Alan (408) 257-0879.

FOR SALE: Apple /// 256K, NEC Monitor, 2 Corvus Disk Drives, 10 meg and 20 meg. Apple /// Pascal, Business Basic and Word Juggler. Asking \$1000 or best offer. Call J. Bayer, I.S.P.I. (516) 766-2867.

FOR SALE: Apple /// XComp 16 megabyte hard disk, \$299. Like-new Corvus 20 megabyte hard disk \$499. Includes Selector pre-installed on both hard disks. Price includes shipping and handling. Call Bob for details at (818) 701-1355.

DeClassifieds Work!

Been searching for hard to find hardware or software? Need to sell some excess equipment? Try an inexpensive DeClassified ad! Our readers tell us that they really get results! Place your ad by phone or mail. All copy must reach us 30 days prior to publication date, e.g. April 1 for the May/June issue.

Rates \$2 per word \$25 minimum.

Subscriber discount \$1 per word, \$15 minimum.

Mail your copy with payment to:

ON THREE DeClassifieds
8920 Yolanda Avenue
Northridge, CA 91324
Or Phone (818) 701-1355

Uncopyprotect Driver

The Uncopyprotect Driver allows you to make backup copies of AppleWriter ///, VisiCalc /// and Advanced Visicalc. It also allows you to install those programs on hard disks and eliminate the need for key disks.

Protect your original copies of these valuable copy-protected programs and order your Uncopyprotect Driver today. Priced at only \$29.95 plus \$3 shipping and handling - This is the one of the few programs you must have!

How Would You Like A Fast, Reliable And Easy To Use Hard Disk 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 sooooo slow or because they've had a problem with it losing information.

A while back we started work on a product we call Go Back. 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 need.

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!

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 finishing 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 you want a reliable, very quick and inexpensive (around \$50) program for backing up your hard disk, drop us a note or give us a call at (818) 701-1355. Just leave your name and address so we can notify you if and when the project is finished.

Lazarus ///

Lazarus /// allows you to restore or undelete almost any file which you've accidentally deleted. Completely menu driven, it's incredibly easy to resurrect your deleted files. One wrong keypress can send a month's worth of work into limbo. The right keypress with Lazarus /// will recover it in a few short seconds. Lazarus /// is normally priced at only \$49.95. For a limited time you can get a copy for only \$39.95 + \$2 s/h.

Next Time In ON THREE:

Multiple Columns In Word Juggler
US Geography
& Much, Much More!

Fantastic Products For Your Apple ///

///**E-Z Pieces**

///**E-Z Pieces** is a fully integrated spreadsheet, word processor and data base manager rolled into one program. ///**E-Z Pieces** combines the power of the three most commonly used programs 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 II and the Apple ///**E-Z Pieces**. It utilizes the full memory available in your Apple ///**E-Z Pieces**, 180K on a 256K Apple ///**E-Z Pieces**, 414K+ on a 512K machine! This best seller was originally \$245. You can get your copy for only \$135+\$3.50 s/h.

Modems For The Apple ///

If you want to enter the wonderful world of communications, an ON THREE modem is all you need. For a limited time, both our 1200 baud and the faster 2400 baud modems come with the **Communications Manager**. With it you can talk with other Apple ///**E-Z Pieces** users on **CompuServe™**, the **Source™**, **Dow Jones™** and other information services. Even connect directly with another PC!

Fully Hayes compatible our modems are an exceptional value as they include both communications software and all necessary cabling. 1200 BAUD modem is **ONLY \$129.95** and our 2400 BAUD modem is **ONLY \$249.95**. \$10 for s/h on either modem.

Do You Use Draw ON Or The Graphics Manager?

If so you should have an Apple Mouse or the new Trackball ///**E-Z Pieces**. With the mouse or trackball, using **Draw ON** will be that much easier. ON THREE has a good supply of both the Apple ///**E-Z Pieces** mouse which works in either the Apple ///**E-Z Pieces** or ///**E-Z Pieces** and the TrackBall ///**E-Z Pieces**.

StemSpeller - ///E-Z Pieces Spelling Checker****

Compatible with standard ASCII files, Pascal Text, **StemWriter** and ///**E-Z Pieces** word processing files, **StemSpeller ///** is fast and very easy to use. It has a 50,000+ word main dictionary and the ability to create auxiliary dictionaries of words you commonly use. Written in 100% assembly language for speed and comes as a standard interpreter that can be run by itself or loaded and run under **Selector** or **Catalyst**. In stock and available today. Originally priced at \$69.95, **StemSpeller ///** is available for a limited time at only \$49.95 + \$5 s/h.

StemWriter ///

This new word processor from Australia lets you view two files simultaneously and combines all of the features you wanted most into a powerful document processing system! 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 subscripts and superscripts, utilizes a desktop like ///**E-Z Pieces** and the four arrow keys to "see and point". It also uses the full memory available in your Apple ///**E-Z Pieces**. Has redefined numerical keypad, and file managing on built-in utilities program. Many more state of the art features! Originally \$99, for a limited time you can get **StemWriter** for only \$79.95!

ON THREE, Inc.

Your Apple ///**E-Z Pieces** Experts

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Kirkland, Washington 98083

**BULK RATE
U.S. POSTAGE
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