

ON THREE

®

The Magazine For Apple /// Owners and Users

Volume 6, No. 9/10

September/October 1989

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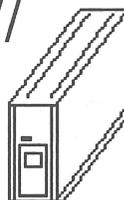
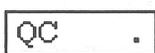
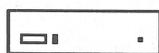
1988 Bibliography

Repairing Your ProFile

Apple /// <-> Macintosh File Transfers

Please check your magazine label and check that your subscription has not just run out. If so you will be shortly missing the only link Apple /// owners have to new and exciting products. Please renew your subscription today for the low price of only \$20 to enjoy uninterrupted service.

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



Do you use a ProFile, Quark, Sider, UniDisk ///.5 or CPS disk drive?

Are you sick of the time it takes loading each of your different programs? Tired of searching through stacks and stacks of floppy disks for a particular program? Do you have a hard disk or a large capacity floppy disk drive? If so you can cure all of these headaches and more with the purchase of Selector ///!

Selector allows you to place all of the programs listed below (and many more) on your hard disk or large capacity floppy disk drive. Instead of waiting and waiting for a particular program to boot up, you simply boot your Apple /// with the Selector disk. When you want to run a program, just select it from the easy to use Selector menu by highlighting it and pressing RETURN. In a flash the program is loaded from the hard disk and you can be using it in seconds, not the minutes it usually takes.

Selector /// works perfectly with the Apple 5 and 10 megabyte ProFile, the Quark QC 10 and 20 drives, the Sider 10, Sider 20, Sider 40, the Trustor drives, the UniDisk ///.5 and the new CPS 800K drive. It even has an automatic installation program that places Selector on your hard disk or other floppy drive.

Selector can speed up using your Apple /// and make your use of the Apple /// more productive and beneficial. It even works with programs that *you* write in Basic, Pascal or assembly language! Selector can hold hundreds of programs with its hierarchical menus while other selectors only allow you 12 or 24 programs.

Selector is the only switching utility for the Apple /// that is completely compatible with virtually every disk drive and program for the Apple ///. Order Selector /// today and become a real power user. Special offer! Order Selector /// today for only \$49.95 plus \$7 s/h. That's **50% off the regular price!**

Access ///	BPI Accounting	Fruit Machine	PFS: File*
Access 3270	Business Basic	Go Back	PFS: Report*
Advanced VisiCalc	Business Graphics	Graphics Manager	Quick File ///
Apple II Emulation	Cobol	Graph'n'Calc	Script ///
Apple File ///	Crossword Scrambler	Haba Merge	Senior Analyst ///
Apple Speller ///	Draw ON ///	Keystroke Data Base*	Side Print ///
Apple /// Pascal	Comm. Manager	Keystroke Report Generator*	StemSpeller
Apple Writer ///	Desktop Manager	Lazarus ///	StemWriter
Backup ///	EasyTerm	Mr. Sandman	VisiCalc ///
BattleFleet	Fortran ///	Multiplan	/// E-Z Pieces

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

New Stuff

I think everyone will be pleased with the articles this month. Leading off is a piece done by yours truly. If you have a ProFile please read it over. If you've ever had a ProFile fail - study it. If you've ever lost data because your ProFile died - memorize this article! It may be able to help you get your ProFile back up and running *without* losing data. There's also a section in their for avoiding problems like the infamous directory structure damaged problems that plague many of us.

Our one reader in Belgium, Hendrik Van der Straeten, brings us an interesting piece on transferring information to and from the Apple /// and Macintosh. It's very informative for those of us who work/live in a multiple computer environment. Lastly, David Ottalini brings us up to date with his bibliography of all of the articles that **ON THREE** published in 1988.

Now I'd like to tell you about one of

the things that I've been working on over the past months that you will shortly see on the trusty old Apple ///. First off, some of you may remember that we were going to bring out the Sider tape drive for the Apple /// so ///'rs could have tape backup. Well, some time ago the company that was supplying the tape drives ceased making them which put a serious crimp in our plans. The good news is that they've come out with a new all SCSI tape drive that attaches to the normal Sider interface card. You will be hearing from us shortly on this one and I know you'll like it when it's finished!

That's it for this month. Next time we have another game for you - Lunar Lander and an interview about the Apple /// with Andy Hertzfeld, one of the original Apple employees. We may also have a couple of interesting new products for you, so keep an eye out for the next issue of **ON THREE**!

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!

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!

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

Call for info. on our spare 128K memory boards and memory board insurance.

256K Memory Upgrade

If you need more memory but don't want to change 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 and chip extractor, free technical support, 90 day warranty and fully populated 256K memory board. All this for only \$169+\$10 Order yours today!

512K Memory Upgrade Kits

We now supply the 512K memory boards with either no memory (0K) or with 256K of memory installed. If you have an Apple /// with 256K you can order the 512K with 256K of memory. Then, remove the memory from your board with the supplied extractor tool and plug it into the 512K to get a full 512K of memory. Likewise, you can buy the extra memory elsewhere and order the the 512K with 0K of memory. 512K/0K \$159.95. 512K/256K \$299.95. + \$10 s/h.

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City _____ State _____ Zip _____			LOCAL STATE TAX	
Credit Card _____ Card No. _____			GRAND TOTAL	
Exp. Date _____ Phone _____				

Repairing Your ProFile

by Bob Consorti

A How-To Guide For Common Problems

In no event will ON THREE be held liable for any types of damage caused by any of the procedures outlines in this article. The person performing the work takes full responsibility for their actions and agrees to hold ON THREE blameless and harmless from any use of information contained in this article.

Have you ever thought what you would do if your ProFile hard disk crashed? Aside from buying a new hard disk (which you probably will do sooner or later), what happens if you have important information on your ProFile that you need to recover?

The answer to that question is a difficult one, far beyond the scope of this article to attempt to explain. The solution, although not a good answer most times, is to backup your information regularly. If you begin to understand that anything that you haven't backed up will be lost sooner or later you will have a greater respect for the necessity of regular backup sessions.

Other than preventative maintenance of backing up regularly, what can you do when your ProFile goes bad? The answer here is, 'a few things'. First off, make sure that the cables are connected properly. It's funny but I've found that a good portion of the hard disk problems we hear about are from simple cable malfunctions.

If the cables seem okay, try the system (Profile and interface card) on a different Apple ///. If it works on the second system you have a problem in the main computer and your information is most likely intact. If it fails in the second system we must begin a systematic attempt to track down the offending part. First try swapping the cable from the interface card to the drive with a cable that is known to work. If it then works get a new cable - it's less expensive than a new hard disk!

If the new cable has no effect, try exchanging interface cards. If it works, get a new interface card. If not, continue - we have some more checking to do. Actually, if you feel adventurous, you can try swapping chips on

the good and bad interface card to determine if it's simply chip that went bad or if something in the interface card itself is shot.

There are a number of components to the ProFile. Inside the case there is a power supply and another interface board which is called the ProFile analog board. This is on the left side of the unit. Finally, on the right side of the unit is the hard disk assembly.

At this point it may be wise to distinguish between some of the failure modes possible on the ProFile. First off, your ProFile may simply not turn on. This is usually the result of a power supply problem in the ProFile case. Next your drive may power up to speed but never begin or stop in the middle of the self-test where the drive light flashes rapidly for a minute when the drive is initially turned on. This is usually a combination of problems in the analog card and in the hard disk assembly. Lastly your drive may eventually complete its self-test but it will display a number of bad blocks when you verify the volume from the System Utilities, or display I/O errors in your programs when you attempt to access the disk. This is most often a problem in the hard disk assembly but sometimes in the analog board.

Directory Damage

This is one more potential problem but it's not usually caused by a hardware failure of the ProFile, but rather by an operating system problem. If you ever get the message 'Directory Damaged' or something similar, the ProFile may be in perfect condition, but the areas on the ProFile that tell the Apple ///'s operating system where the files are on the disk (directories) may be overwritten or corrupted with bad information.

There are a number of ways this can happen but it's often characterized by the drive spinning up as normal but then you are unable to access all or some of the information on your ProFile. Follow through the steps presented below.

If they don't fix the problem try to simply reformat the ProFile with the System Utilities. Afterwards, if that was successful, do a verify of the ProFile to make sure that there are no bad blocks. If all goes well you can immediately start using your ProFile again. Please note that directory damage is most often brought upon by an operating system problem, but can also be caused by some of the problems listed below.

Power Supply Replacement

If your drive is simply not spinning up to speed, contact one of the service centers listed at the end of this article and arrange to get a new power supply sent to you, or to send your ProFile in for a power supply replacement.

Bad Blocks - I/O Errors

I've seen ProFiles whose only problem was that the chips on their analog board were loose. To fix this you first need to take the cover off of the ProFile. There are a number of screws on the ProFile that hold the case on. First, make sure that the power is off and that the power cord is removed. Next if you turn the ProFile around so that the back is facing you, you will notice four screws that hold on the two back panels.

These must be removed first and then you can take the two metal back panels off. Then if you turn the ProFile upside down you will see three screws on the bottom front edge of the ProFile. After removing these you will be able to pop the cover off. Note that this may take a little work, particularly if you've never opened the ProFile before.

As you take the top off you will note a small cable that connects on one end to the ProFile analog card and on the other end to the inside light in the case. You must now disconnect this from the analog card end but remember which side is up as you will want to put it back in the same position. Once you're finished with that you can work on the analog card itself.

Note that the analog card has two connectors on the right side of the card. One is a short one which comes from the power supply and supplies power to the analog card. The other, wider one, attaches the analog card to the hard disk assembly on the right.

If you look at the analog card you will see a series of chips in sockets on the board. If you press each one of them down you will hear a series of creaks and groans that characterize the chips being reseated into their sockets.

When you're done with the chips on the analog board you may want to take off and clean the connectors on the right side of the ProFile. You can use a cotton swap with rubbing alcohol on it to clean the contacts. When done you can reconnect the cables and then put the cover back on the ProFile. Note that when placing the top back on it may require the aid of a small, thin flat-head screwdriver to 'pop' the top back into position. After the top is on, place the back two panels into the case and screw them in place.

The moment of truth is here. You can reattach the power cord and cable from the ProFile's interface card and see if things worked. If it doesn't, and if you have a spare ProFile you can swap the analog cards to see if that's the problem. If so you can order just a replacement analog board or even swap chips on the analog boards until you find the bad chip(s).

Now if you still can't get the ProFile up and running you've got a big problem. Before we get into this let's define a few things. There are two different types of formats when referring to disks (floppy or hard). The first is called a hard format. It involves the laying down of certain pieces of information on each track (concentric rings that hold information) of the disk. This information tells the controller of the hard disk where blocks are in that track. The second type of format is done by the Apple ///. This lays down the Apple /// directory and other items used by the operating system to tell it where the files are on the disk.

Some hard disks don't allow you to do a low level format while others do. The absence of a low level format means that the format (from System Utilities) usually only takes a couple of seconds. For example, the ProFile will format almost instantaneously. This is because it doesn't allow the low level format and the System Utilities program is simply writing out the directory information. A floppy disk drive will take anywhere from 20 seconds to a minute to format.

During this time you may be able to hear a series of tiny

clicks coming from the drive. This is the low level formatting of each track on the disk. What you're hearing is the stepping of the read/write head of the drive from track to track. After it's done the directory information will be laid down on the disk and the format will be completed.

Some other hard disks do allow low level formats. The Sider is a good example. During their format you will likewise hear a series of tiny clicks that indicate the low level format of a track of information at a time. They usually take a few minutes to format.

Now you may be asking yourself what does these terms low level, high level, tracks and other things have to do with a bad ProFile? Well, a common occurrence on any disk drive is a bad block. A bad block is a section of the disk that can't be read from or written to because the information on the track that tells the drive where that block is is somehow damaged or the block itself has become damaged.

There are a number of other very technical details that I won't bore anyone with, so let's end it by saying that if the drive is reformatted and the track information is laid down on the disk again, the cause of the bad blocks and the bad blocks themselves are usually cured. That is why when a ProFile fails with numerous bad blocks, it can sometimes be fixed by doing a low level or *factory* format. This clears up the bad blocks on the drive and gives you a nice clean disk drive to work with.

The ProFile can't be factory formatted on an Apple ///, but only on a Lisa computer system. There are two companies that we know of that perform this service. They are listed at the end of this article. If your ProFile has bad blocks, please contact them for a factory format. Likewise, if the procedures listed above didn't help get your ProFile back up and working, please contact them for further assistance.

Avoiding Directory Damage

The best way to avoid directory damage is to always follow the same procedure for shutting off your /// and ProFile. This involves **ALWAYS** quitting the program you are in before turning things off. The easiest way to

create damaged directories is to turn your computer off while it's in the middle of a search, update, save or posting of information to the hard disk. If you use PFS and ever turn things off while a form is displayed and not while on the main menu you will get directory damage.

If the power goes out in the middle of saving a file to disk you will get directory damage. Likewise, if the power goes out or if you turn off the Apple /// in the middle of a file copy, bad things will happen to your directory structure.

Note that some programs (PFS, for example) don't have a quit option. The recommended procedure for those is to go back to the main menu and then turn things off while there. This should prevent the common types of user created directory damage.

What Do I Do If I Have Directory Damage?

Depending on the type of directory damage, you may be able to backup the information on your hard disk to floppy disk. If so do it and do it quickly! After backing up, use the System Utilities to format the ProFile. This will give it a clean new directory to work with. Next, restore the information from the set of backup disks and you're back in business. Follow the procedures outlined above and you shouldn't have any more directory damage.

How Long Will My Hard Disk Last?

Hard disks, like their older cousins floppy disks, are made up of a thin disk of material that is coated with a substance called the surface substrate. The surface substrate possesses magnetic properties. The information on any type of disk is recorded as a series of flux reversals on the surface substrate of the disk itself. These flux reversals make up a pattern of binary 0's and 1's that store the data which we all rely upon.

The information is read and written with a small magnetic read/write head that hovers above the surface of the disk. In the case of a floppy disk it actually touches the surface of the disk and in the case of hard disks, the read/write head floats just above the surface of the disk.

In both these cases there is a small but continual wearing

down of the surface media substrate that holds the information. After an extended period of use the surface substrate is worn thin enough so it can't reliably hold the flux reversals and you will start to get failures from the drive due to media problems. This is the normal cause of events as entropy (the movement from an organized state to a less organized state of things) rules in our universe.

The length of time that a hard disk will last before its media wears out is usually referred to as its mean time between failure (MTBF). In the case of the early hard disks such as the ProFile, the MTBF was around 5-10,000 hours. That works out to be about 3-5 years of normal use. The newer hard disks such as the Sider brand have a MTBF between 20,000 and 40,000 hours which should mean between ten and twenty years of use before the darn things wear out.

We All Live In A Disorganized Universe

Just as planned by the estimated MTBF, the ProFile hard disks have been dying off frequently over the last few years. Since the last ProFile was made in early 1985, most people have run out of time with their hard disk and it is now beginning to give them problems. Most everyone complains when their ProFile fails, fully expecting that the thing would last forever!

But, as with all mechanical objects, the ProFile simply wears out and needs to be replaced. The choices that people have when their ProFile fails are quite simple, they can either get a different ProFile, chuck their Apple ///'s or get a new hard disk. You'll note that I didn't say *new* when referring to getting another ProFile. This is because they haven't made ProFile's for close to five years now and the ones that have been sitting on the shelf gathering dust (or repaired units) don't classify as new in anyone's book.

Since most people have a great deal invested in their Apple ///'s few seriously consider getting a new computer as the new ones costs quite a bit more than the older ones do and learning a new machine and new set of programs is time consuming to say the least.

That leaves the last option, getting a new hard disk. The only new hard disks for the Apple /// are the Sider line which we carry. That consists of a 20, 40 and 70

megabyte series of hard disks in a compact case that fits to the side of your Apple ///. Priced quite low they offer old Apple /// ProFile users greatly improved speed and storage capacity.

When you consider that the 4.75 megabyte ProFile cost \$2,495 when it was introduced, the \$799 price of the Sider 20, \$1299 for the Sider 40 and the \$1599 price of the Sider 70 are very attractive for Apple /// users looking for a new, faster and larger hard disk drive for their ///'s.

ProFile Service Centers

There are only two companies that do any type of repair on ProFile hard disks. Both of them also offer a low level or factory format for the ProFile. This is not to be construed as an endorsement of either of the companies.

The first service center is Sun Remarketing. They've been in business as long as ON THREE has and has an excellent record of handling all types of ProFile repairs. From various reports, I've heard that Sun takes an average of 5-10 days to repair and return a ProFile.

**Sun Remarketing
Logan, Utah
(800) 821-3221**

The other company that does ProFile repairs is the Lisa Shop. They primarily do work on the old Lisa computers but also repair ProFile hard disks. I've had reports of very long repair times from a number of Apple /// users and I had a ProFile that they promised would be repaired and returned in 48 hours - it took *ten* weeks for them to return the drive.

**The Lisa Shop
Woodland, California
(916) 668-5637**

That's about it. I hope that this has been an informative aid in diagnosing and treating your ProFile hard disk. If you have any questions about the procedures listed in this article please contact me at the following address.

**Bob Consorti
123 Groveland Avenue
Riverside, IL 60546
(312) 447-3924**

ON THREE Bibliography: 1988

by David Ottalini

A Look At The Year In Review

1988 was another momentous year for ON THREE. Simply put, the /// market dried up, forcing some major changes for the company. Primarily, the marketing arm of ON THREE moved to Washington State, while the support arm ended up in the San Fernando Valley of Southern California. (Now in Chicago Illinois!)

As for ON THREE Magazine, President/Publisher Bob Consorti took over again as Editor, and has been able to hold steady the publication's goal of providing /// users with a useful and entertaining forum about our computer. Dwindling renewals did bring a change: ON THREE now publishes bi-monthly. And the ads have all been centralized and consolidated, a move appreciated readers.

That brings me to the 1988 Bibliography. As in previous years, this listing provides a complete rundown of the articles, columns and letters published. It will also be part of a planned update to my "Apple /// Encyclopedia", ThreeWorks (which will include a bibliography of all the Apple /// articles for the year.)

Finally, I would urge all readers to consider writing just one article for the magazine! "Read My Lips": ON THREE needs our support. This publication has given much to its readers. It's time to give a little back (any you'll get paid to boot!). Think of it this way: publishing just one article will put your name up in lights AND ensure you a kinder, gentler place in history, as part of this yearly bibliography and in ThreeWorks.

To grease the skids a bit more, I have provided ON THREE with a copy of the Washington Apple Pi /// SIG's transcription of the Phase /// Conference (on disk). I have asked that for the next year, each new author (that is, an author who is publishing in ON THREE for the first time) be given a copy. I hope it proves to be an additional incentive to bring new and exciting articles for all to enjoy!

Subject	Title	Author	Month	Vol	Issue	Pg(s)
Aladin ///	An Even Better Way To Install Aladin	Harrer	July	5	7	23-24
Aladin/Hard Disk	A Better Way to Install Aladin	Brineaux	March	5	3	18-20
Apple ///	Three Attack	Fritz	Nov/Dec	5	11/12	19-22
Apple ///	The Apple /// Goes to Church	Linton	Nov/Dec	5	11/12	25-24
Basic Color	Brightening Up Basic	Johnson	Nov/Dec	5	11/12	23
Basic Editing	Editing Business Basic	Lagoe	March	5	3	9-11
BB Program	Checkbook ///	Snow	January	5	1	13-15
BB Program	Automatic Telephone Dialing	Thompson	April	5	4	18-23
Beginner Basics 01	The Beginning ///	Rann/Rann	January	5	1	25-27
Beginner Basics 02	The Beginning ///	Rann/Rann	February	5	2	5-8
Beginner Basics 03	The Beginning ///	Rann/Rann	March	5	3	5-7
Beginner Basics 04	The Beginning ///	Rann/Rann	April	5	4	5-8
Beginner Basics 05	The Beginning ///	Rann/Rann	May	5	5	5-8
Beginner Basics 06	The Beginning ///	Rann/Rann	June	5	6	5-8
Beginner Basics 07	The Beginning ///	Rann/Rann	July	5	7	5-8
Beginner Basics 08	The Beginning ///	Rann/Rann	August	5	8	5-7
Beginner Basics 09	The Beginning ///	Rann/Rann	Sep/Oct	5	9/10	5-7
Beginner Basics 10	The Beginning ///	Rann/Rann	Nov/Dec	5	11/12	5-8
Bibliography	A 1987 Bibliography of On Three	Ottalini	August	5	8	19-20
Column C01	Apple Sauce	Consorti	May	5	5	3
Column C02	Apple Sauce	Consorti	June	5	6	3
Column C03	Apple Sauce	Consorti	July	5	7	3
Column C04	Apple Sauce	Consorti	August	5	8	3+
Column C09	Apple Sauce	Consorti	Sep/Oct	5	9/10	3
Column C10	Apple Sauce	Consorti	Nov/Dec	5	11/12	3+
Column DOC01	Ask 'Doc'	Christenson	January	5	1	22-34
Column DOC02	Ask 'Doc'	Christenson	February	5	2	27-30
Column DOC03	Ask 'Doc'	Christenson	March	5	3	26-27
Column DOC04	Ask 'Doc'	Christenson	April	5	4	24-25
Column R01	Ranntings	Rann/Rann	January	5	1	18-19
Column R02	Ranntings	Rann/Rann	February	5	2	19-20
Column R03	Ranntings	Rann/Rann	March	5	3	13-14
Column R04	Ranntings	Rann/Rann	April	5	4	13-14
Column R05	Ranntings	Rann/Rann	May	5	5	19-21
Column R06	Ranntings	Rann/Rann	June	5	6	19+
Column R07	Ranntings	Rann/Rann	July	5	7	19-20
Column R09	Ranntings	Rann/Rann	Sep/Oct	5	9/10	19-20
Column R10	Ranntings	Rann/Rann	Nov/Dec	5	11/12	15-16
Column S02	Apple.Sauce	Sheppard	February	5	2	3
Column W01	Apple.Sauce	Wolff	March	5	3	3
Column W02	Apple.Sauce	Wolff	April	5	4	3
Communications	Using a Modem To Dial Up A Comm.	Consorti	Sep/Oct	5	9/10	23-24
Contest	Taylor Pohlman's Challenge: Contest	Ottalini	July	5	7	25-26
Desktop Manager	Using TDM To 'Fill In The Holes	Martin	June	5	6	9-10+
Desktop Publishing	Desktop Publishing ///	Lomartire	February	5	2	9-12
Desktop Publishing	Desktop Publishing With the Apple ///	Ash	Nov/Dec	5	11/12	9-11+
Fit Apple Users	How To Keep Fit with your Apple ///	Greenberg	February	5	2	23-24
Forth	Using the GoFORTH Editor	Lomartire	June	5	6	22-24
Hang-ups	Program Hang-up Problems	Thompson	April	5	4	9-10
Letters 01	One, Two, /// Forum	Sheppard	January	5	1	29
Letters 02	One, Two, /// Forum	Sheppard	February	5	2	21-22
Letters 05	Letters To Your New Editor	Consorti	May	5	5	23-28
Letters 06	Letters To The Editor	Consorti	June	5	6	25-26
Letters 07	Letters To The Editor	Consorti	July	5	7	26+
Letters 08	Letters To The Editor	Consorti	August	5	8	25-28
Letters 09	Letters To The Editor	Consorti	Sep/Oct	5	9/10	25-28
Letters 10	Letters To The Editor	Consorti	Nov/Dec	5	11/12	24+
Memory Upgrade	The 512K Upgrade Kits	Consorti	Sep/Oct	5	9/10	21-22
Mistakes 01	/// Mistakes	Consorti	May	5	5	10
Mistakes 02	/// Mistakes	Consorti	June	5	6	27
New Products	New Products	Sheppard	January	5	1	3
Phase ///	Phase /// Report	Rann/Rann	February	5	2	25-26
Power Supply Conv	110-220 Volt Conversions	Consorti	Nov/Dec	5	11/12	17+
Program Selectors	Migrating From Catalyst To Selector	Bloom	July	5	7	9-10+
Programming	Business Basic Extensions	Consorti	Sep/Oct	5	9/10	11-18
Review	Data Base ///	Fritz	January	5	1	5-11
Review	StemWriter ///	Brineaux	February	5	2	13-15
Review	Trackball ///	Brineaux	March	5	3	22-23
Review	TrackBall /// - The Sequel	Brineaux	May	5	5	9+
Review	Update On The TDM Super Disk #2	Martin	July	5	7	21
Review	Review ON: StemWriter - Sequel	Brineaux	August	5	8	9-10+
Review	Review ON: TDM Super Disk #3	Martin	August	5	8	21-24
Review	Review ON: ThreeWorks	Bloom	Sep/Oct	5	9/10	9-10+
Switching Utilities	Migrating from Catalyst to Selector	Bloom	July	5	6	9-10+
Testimonial	Why the /// is for Me	Roth	January	5	1	31

```

program STRIPPER;
{ This program strips the first string terminated by a colon from a PFS }
{ data file created by the PRINT to DISK option in the PFS FILE menu. At }
{ the same moment your DATA file is translated to an ASCII file by the }
{ concat-statement, you can also do this by adding .ASCII to the outputfile }
{ of the PFS program. The result of the whole operation is an ASCII file }

var   in_file: text;
      out_file: text;
      in_name, out_name, dummy: string;

begin
  write ('What is the original file ? Enter filename :-> ');
  readln (in_name);
  reset (in_file, in_name);
  write ('What is the destination file ? Enter name :-> ');
  readln (out_name);
  outname := concat (out_name, '.ASCII');
  rewrite (out_file, out_name);

  repeat
    readln (in_file, dummy);
    delete (dummy, 1, (pos(':', dummy))+1);
  { Attention please, after the ':' }
  { there must be a blank character }
  { in the PFS-field, or you will }
  { have to modify this program !!! }
    writeln (out_file, dummy);
  until (EOF (in_file));
  close (in_file, lock);
  close (out_file, lock);
end.

```

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.

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 that 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!!!

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, 123 Groveland Avenue, Riverside, IL 60546, or give us a call at (312) 447-3924

Apple /// <-> Mac File Transfers

by Hendrik Van der Straeten

A Guide To Swapping Data With A Mac

In your January/February issue of ON THREE, I found a letter to you from Barry W. Smith (San Jose, CA). He bought a Macintosh and wants to transfer files from the Apple /// to his new computer. I have no address of Barry W. Smith, please send him a copy of this letter. You may also publish this letter if you wish. Here is the story.

I did several file transfers from the /// to the Mac. I started at the very beginning with the Apple /// when this computer was released in Europe. I was very lucky because my Apple /// did never fail. The machines now on the market are very fast. Life is faster too, so I can't wait anymore hours to search and print the records I need from my large databases. It was a must to transfer the data to another computer. But I still use the Apple /// to solve several problems.

The principle is very easy. Make an ASCII file of your data. Transfer this file to your Macintosh or your IBM-PC. Create on your second computer a database and put your ASCII-file in the created structure. It is possible with all databases of the Apple ///. You can create an ASCII file from DATA file using The Desktop Manager. It is also possible to write a Pascal program to change file types.

There are different methods to exchange files between the Apple /// and another computer. the simplest and most practical method is by exchanging 3.5 inch diskettes and let the Macintosh read these diskettes (The files are in SOS or ProDOS format). Another method is to connect the two machines by a cable and to use on both machines a communications program (Access /// or The Communications Manager) on the Apple /// or Red Ryder or MS-Works on the Mac).

I prefer the first method. A few years ago I bought from ON THREE the UniDisk 3.5. I also has an Apple UniDisk 3.5 drive with interface card for the Apple II. Simply put the UniDisk driver in your SOS.DRIVER and you can copy what you want onto a 3.5 inch diskette. Put this diskette in your Macintosh and transfer the files

via the program Passport or Apple File Exchange in a folder on your mac. The easiest way is the Apple File Exchange utility that comes with every Mac.

From now on you work with an ASCII file on your Mac. There are many programs to replace characters, carriage returns and so on to fit your needs for your new database. For this task MS-WORD is excellent but another word processor will also do the job. There are also many good desk accessories that do the same job like MacSink. You can also modify the ASCII file on your Apple /// before you exchange the files. It is not very difficult to write a Pascal program on the Apple /// to do this.

I'll give you one example. I had to transfer a whole PFS-file (you know, that is a database) to a Macintosh and then to a IBM-PC database. Some fields in the PFS-database were empty. When you print to disk via PFS File, an empty field is not printed as an empty line, it is skipped. To overcome this I printed to disk with the field names. For every empty field, PFS printed the field name followed by a colon (:) and that's all. Now you have to strip these fieldnames from the contents of the fields. There where the field was empty, a blank line appears. This task was done by a very modest and simple Pascal /// program, I called STRIPPER. It's listed at the end of the article.

Be careful, this program is very simple and does no checks! If you want a better and safer program, contact TAU (Third Apple Users, c/o Lavona Rann, 1113 Wheaton Oaks Drive, Wheaton, IL 60187).

Why do I prefer this method and not the method with a cable? Because it is very simple, you do not need to take care of protocols and the last important reason, the UniDisk 3.5 drive you buy can also serve on the Mac as an external drive (you have only to open it and disconnect the interface!

Program Listing On Page 8

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 T Hard Disk

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

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 is very fast, but the Sider 40T is an incredible 7 times faster!

Attractively styled to fit next to your Apple ///, the Sider 40T is now priced at **ONLY \$1299 + \$35 s/h.**

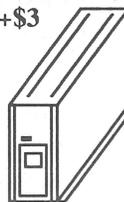
* Because the Apple /// can only handle disks of up to 16 megabytes in size, the Sider 40 T is partitioned into 3 volumes. Two are 16 megabytes in size and the third holds the remaining 10 megabytes. The Sider 40 T will not work in Titan ///+I/e emulation mode, you should use the Sider 20 for that.

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



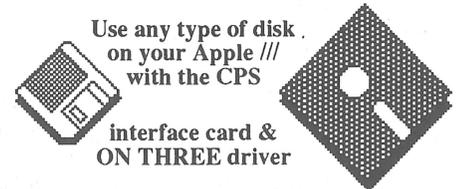
If you have a Titan ///+I/e board your

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. Now only **\$799+\$35**

CPS 800/400/140K Drives



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 5 1/4 inch drive, or a Apple 3.5 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: Now only \$249
CPS 400K Drive: \$149
CPS 5 1/4 inch 140K Drive: \$139
Add \$6 s/h per drive ordered

NEW Product:

The Sider D7T

The Sider D7T (Turbo) is the latest in the line of low cost, high performance Apple /// disk drives from ON THREE. The largest drive ever offered for Apple /// users, the D7T can hold over 66 megabytes of programs and data. Best yet it has an average access of only 29 milliseconds, making it the fastest hard disk available for the Apple ///. And to top it off, the Sider D7T is a SCSI hard disk which means you can also use it on your Macintosh or any other computer with a SCSI port.

Because of limitations within the Apple ///'s operating system, the Sider D7T is partitioned into five volumes. The first four hold 16 megabytes each and the last one hold 2.7 megabytes, for a total of 66.7 megabytes (136680 blocks). The Sider D7T costs only \$1599 plus \$35 for shipping & handling and is available for immediate delivery.

Incredible new prices on our entire line of Sider hard disk drives

For a limited time, due to lowered costs on our Sider brand of hard disk drives, we're able to pass these savings on to you.

The Sider 20 hard disk is now **only \$799**. The Sider 40T is now **only \$1299**, that's down \$200 from the regular list price. With our newest Sider, the D7T which is priced at **only \$1599**, we now offer a complete line of hard disks for all of your needs.

From the budget conscious to the power user who demands performance and a great price, we have your hard disk needs covered.

Remember, all Sider's carry a full one year warranty on parts and labor and are the performance leaders.

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

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 you 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 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.

DeClassifieds

FOR SALE: I have one brand new Micro-Sci A143 560K disk drive that's in perfect condition. Includes manual, drivers and disk drive. \$299 gets you this great disk drive. Call Bob at (312) 447-3924.

FOR SALE: Two Apple ///'s (512 and 256), ProFile, Micro-Sci A143, Graphics Tablet, Apple /// Mouse, mucho software. Best offer for the package. Moving to Florida November 1. Call Coville for list: (904) 437-1919.

**If you have something to sell,
or are looking for s hard to
find item, try our DeClassified
section - it's worked for hun-
dreds of people just like you!**

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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.

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

Mail your copy with payment to:

ON THREE DeClassifieds
P.O. Box 3452
Kirkland, WA 98083
Or Phone (206) 659-6245

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 (206) 659-6245. 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 months 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:

Lunar Lander

An Interview With Andy Hertzfeld

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 ///. It utilizes the full memory available in your Apple ///, 180K on a 256K Apple ///, 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 /// 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 ///. With the mouse or trackball, using Draw ON will be that much easier. ON THREE has a good supply of both the Apple //e mouse which works in either the Apple //e or /// and the TrackBall ///.

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 ///. 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 /// Experts
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