

HOW TO BACK UP YOUR COPY-PROTECTED DISKS

hardcore

computing

Volume 1 Number 1 Premier Issue \$3.50

Soft Key

Part One:
How To
Back Up Your
Copy-protected
Applesoft Disks

Guide to
BIT COPY
Programs

1. Locksmith
2. Back-It-Up
3. Copy II Plus

Censorship
in Computer Magazines

Utility R.W.T.S.
Disk Edit



about the cover . . .

STARLIT VOYAGE
BY Ryuji

Combining the aspects of two animals, the fleetness of a horse and the flight of a bird, this imaginary creature exemplifies freedom...to run, to leap, and soar to the stars. On her voyage to the beyond, she carries in her right hand a half-eaten apple. Drawn with india ink and felt tip pen, the artist tried to capture the spirit of creativity and imagination.

Attention Subscribers

Although presently only a quarterly magazine, **HARDCORE** Computing will go bimonthly and then monthly as soon as possible. Meanwhile, your one-year subscription is for the 4 quarterly issues plus 8 **UPDATES** (printed on the 8 other months) and all the **ALERT** Bulletins sent out whenever we feel information is too important to wait.

UPDATES: Until **HARDCORE** goes monthly, you will receive **UPDATE** Bulletins which, like the regular magazine, will contain important program changes, corrections, additions, new programs and lots of new tips and hints. The regular columns may or may not be present. The **UPDATES** will be reprinted in part or whole in the next magazine. However, those buying the magazine on the newstands will have to wait the full three months for the **UPDATES** while subscribers will get them monthly or sooner (**ALERT** Bulletins). Of course, the magazine will contain the regular columns as well as more articles not found in the **UPDATES**.

ALERT Bulletins: When we feel that information is too valuable to be held till the next **UPDATE**, it will be mailed immediately as an **ALERT** Bulletin.

The magazines, **UPDATES** and **ALERT** Bulletins comprise the subscription package. We would like to thank all those who subscribed to **HARDCORE** prior to its sale on the stands. Thanks also to the few bold advertisers who invested in our emergence by placing their ads in our pages:

Sensible Software, Inc.
Central Point Software, Inc.
Sympathetic Software

V. I

HARDCORE Computing

No. 1

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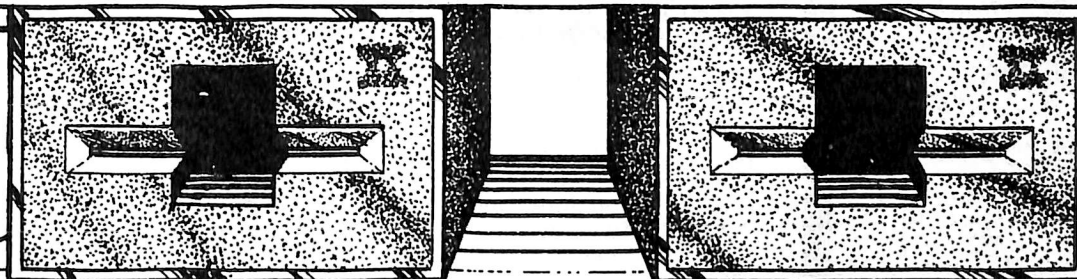
Please address inquiries to the attention of these departments:

EDITOR: letters to the editor
MANUSCRIPTS: manuscripts, hints, programs
SUBSCRIPTIONS: new and old subscriptions
CIRCULATION: dealer inquiries
ADVERTISING: ads

Specific columns and editors:
ADVENTURE TIPS: Mike Flynn
SOFTWARE REVIEW
HARDWARE REVIEW
NEW PRODUCTS
OTHERWORDS
WRITER'S MARKET

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HARDCORE COMPUTING

“What I need is a USER’s Magazine.”

HARDCORE . . .

A magazine dedicated to the Apple-users.

Go ahead. Look it up in your Websters or your Funkandwagnalls. There is no such word in the English language.

There’s **HARD CORE**: a firm, unyielding, unchanging, stubborn central part of an object, like the hard core of a petrified apple.

And there’s **HARD-CORE**: absolute, unqualified, true, total . . . such as hard-core rebels, or hard-core idealists, (and, yes, hard-core pornography . . .).

But there is only one **HARDCORE** and that is: **HARDCORE COMPUTING**. And it means whatever you want it to mean.

When I acquired my Apple II+, I examined the spectrum of computer magazines that contained information for Apple-users. The list was large, yet none truly met my needs. I was after a magazine that had useful information for a true Apple-user (someone who wanted to get into the “core” of the Apple and all its peripherals). Most seemed to be peddling software, and doing it very uncritically.

Then I became aware of a raging, silent battle between Apple-users and the magazines. The users were accusing the magazines of censorship, of hypocritically announcing their objective to be a magazine for Apple-users while encouraging the suppression of information (in this case, advertising info about a program that would permit the user to make legal backups of protected disks). The magazines, on the other hand, were obliquely accusing the Apple-users of being pirates and thieves. It was then I realized that most of the magazines had to take a stance against consumer “piracy” because those magazines were actually software houses themselves or they were financially dependent on other software houses. It would be suicide for them to stand up for the Apple-users.

This problem became more apparent when “Locksmith”, a bit-copier that would make duplicates of many copy-protected diskettes, was censored (the magazines refused to publish the ad, thereby denying their readers the knowledge of the existence of such information).

That was censorship! And the battle was on. They knew that every serious Apple-user had both a need and a right to make back-up copies of protected disks.

Any magazine that took a stance against the Apple-users could not be a magazine for me, no matter how large or profitable it was (for now I knew how they came to be so profitable: at the expense of their readership).

Because there was no magazine out there for me, I decided to fill that void myself . . . and I have run into nothing but problems since then.

Our hope is that there may be many who are tired of being kept ignorant by the other magazines and told that it is for their own good. I hope that there is a **HARD CORE** of computerists who dislike being manipulated by the software industry, a **HARD-CORE** group who deplore censorship as practiced by other magazines, and a host of Apple-owners who feel that there is a need for a Apple-computer **FREE-PRESS** magazine like **HARDCORE COMPUTING**.

We, at **HARDCORE COMPUTING**, have been the focus of much anger from software vendors. Just as the power of the software industry has pressured the other computer magazines, we expect that same power to descend upon us.

You see . . . magazines are handsomely supported by advertising revenue. In this respect we expect to encounter some difficulty, to say the least. We will probably be supported mostly by subscription.

Sincerely,

Chuck R. Haight,
Publisher



a
few
words
from
the
publisher



HARDCORE PROGRAM LIBRARY CATALOG

In this Premier Issue, we offer:

Code	Program	(sectors)	\$ DRC
U-001	DiskEdit 1.0	(19)	\$ 3.00

(Specify 13 or 16-sector. Add \$5.50 per disk for postage, handling, and cost of disk. Add \$1.00 for Documentation, if needed.)

All letters we receive addressed or directed to the attention of the EDITOR are assumed to be "submitted for publication." Those letters published are chosen as representative of a sample, or unique in content and may be edited.

Note to writers . . .

Manuscripts should be printed on white bond and must be double spaced. Your submission of a manuscript (eg. article, program or listing) means that you attest that the manuscript is original, that you hold all the rights to it, and that you intend to sell us all rights to articles, and first publication plus first reprint rights to program listings (which means that disk and cassette copies of the program are available from our Program Library unless otherwise stated).

If you decided to self-market your program, the HARDCORE Program Library (as a service to our readers) will be allowed to sell your program until 1 month after the next issue of HARDCORE is published. And as a service to self-marketers, we also will run a mini-ad (1" high by 2" wide) for you and your program in the next 3 issues of Hardcore . . . free of charge!

All samples, complimentary copies and other merchandise sent in for review become part of the Hardcore Review Inventory-Library and will not be returned.

If you have a product you think is good enough to be reviewed by Hardcore then we encourage you to send a copy to either Hardware Reviews (includes firm and coarseware) or Software Reviews (includes books and magazines). Please include full documentation/instructions that your customers would receive after purchasing your product.

Hardcore sometimes reviews products not received for review. We also encourage advertisers to send samples of products advertised in Hardcore. Although we do not endorse the products advertised in Hardcore, we do sometimes alert the readers to particularly bad or good buys. Receipt of a sample does not ensure a positive review, nor does the non-receipt lead to a negative review. We will, however, note whether a sample was supplied for review.

Disclaimer

All opinions stated in reviews, editorials, and articles are the products of their authors. Hardcore encourages its writers to be honest, open, and accurate. All claims made by advertisers are their own. If, however, you feel you have been wronged by one of our advertisers, or by any computer-oriented product vendor please make your concerns known to us. Drop a letter to CRAB-APPLES (the voice of the consumers).

We cannot be responsible for lost material nor can we return manuscripts, disks or tapes unless accompanied by a self-address sufficiently stamped envelope. (You should always keep a copy of anything you submit.)

. **programs for sale**

. **letters to the editor**

. **note to writers**

. **self-marketing offer**

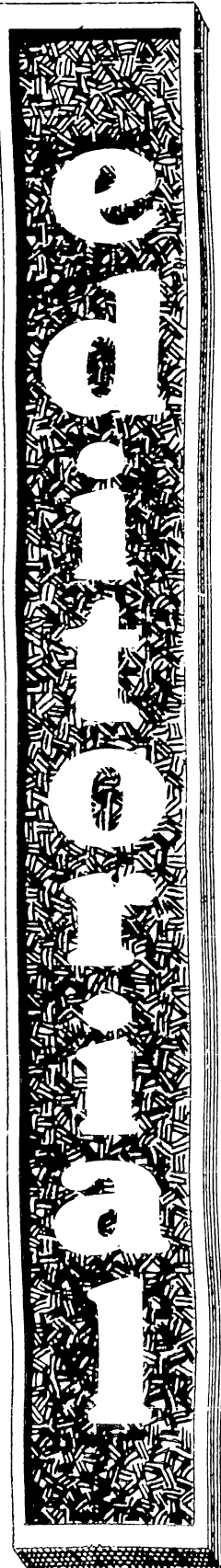
. **product review policy**

. **opinions and claims**

. **keep a copy**

They don't want their readers to back up **CENSORSHIP** in computer

Bev R. Haight



Censorship! Secrets! Information purposely withheld or hidden away . . .

If a periodical refused to publish certain information that the readers desire or need; is that censorship?

If a periodical refused to publish an advertisement that gives the readers that desired or needed 'secret' information . . . is that censorship?

Or more specifically . . .

If a computer magazine's editorial policy is to deny the publication in their pages of any information about the ease and necessity of making back-up copies of your copy-protected software . . . is that censorship?

And if they refuse to publish ads that tell of a product that will make those back-up copies . . . is that censorship?

I answer: yes, yes, yes, and yes! They are obviously withholding information in an attempt to mislead their readership. In so doing, they have abused the trust of their readers and damaged their credibility as an information source.

If you don't know what I'm talking about then you are one of their victims as are all the others who don't know about the bit (nibble) copiers and the censorship of Locksmith ads, among others. If you don't know about Locksmith, then their editorial campaign of ignorance has succeeded. If you think that making back-up copies of copyrighted programs is illegal then those magazines have succeeded in their propagandizing.

And most of all, if you still think that the word "software pirate" refers to some other person professionally engaged in and making a living from copying and selling software that they have no rights to . . . well, you just might be a pirate and not even realize it!

IMAGINE THIS SCENARIO . . .

You just finished typing in a program published in a well-known computer magazine. A friend comes over and you make your friend a copy . . . Well, at that moment of generosity, you have just become a software pirate, legal and ethically and if that idea makes you guilty or angry then read on. You had no right to give that copy to anyone. You had no right to copy it for a friend; you had no copyrights at all!

Such transactions are the "rampant acts of piracy" that software companies and their subsidiary magazines claim to be the most harmful threat to that industry. Not the companies who 'steal' a program, put a new name and label on the package and resell it as their own . . . and not the professionals who make a living 'pirating'.

When the editors speak of 'pirates', they are referring to you and me and our 'innocent', casual exchanges of software. We are the pirates! We are that 'threat to the entire software market'. It would not be too erroneous to say that we, the software consumers, are all pirates!

Yet without the consumer, there would be no market! So something is terribly wrong with any system that labels all its consumers as 'criminals', and pirates of the most vile kind.

OUTDATED, OBSOLETE SYSTEMS

The very technology that created the market for the software is, perhaps fortunately, the very technology that creates the atmosphere for casual copyright violations such as piracy (theft).

The concept of absolute copyrights, a hold-over from the old days of information exchange (ie., the printed word) is

one of the obstacles that stand in the way of the technological evolution of information exchange (hereafter called info-x). Info-x has come a long way since the early days of non-written languages . . . evolving to clay tablets and papyrus to printing presses (where copyrights were started) to audio-video exchanges to computers . . . on its way, perhaps, to universal and instantaneous info-x like cybernetics . . . or even computer-assisted telepathy. Indeed, computers should even evolve to the point where they will be self-programming in the same way that you and I are; we are not "programmed", we learn! Will such "programs" still be absolutely copyrighted? If so, then all speech, and all behavior is copyrightable in a similar manner! Imagine such a world:

No one could quote anyone for fear of copyright infringement unless you were lucky enough to misquote. Since video and audio information is absolutely copyrighted, then no one could take a photo of anyone without violating the copyright laws. And you could not record anyone's voice without their approval. Your architect would have all copyrights to your house, so please don't take pictures of it. And don't take pictures of your car either, or toys . . .

It's a rather ridiculous scenario. We take pictures and make audio and video recordings easily without worrying about copyrights, even if what you are recording is not your own property. No copyright laws regulating such info-x could be easily enforced.

In a similar manner, according to copyright "fair use" laws, making a personal copy (via voice, photo, zerox, etc.) of copyrighted material is not in violation of copyright laws. If it was illegal then people would be unable to make criticisms, comparisons, or examples of copyrighted works and that would inhibit freedom of information exchange (the free press, etc.). In fact, all the quotes reprinted in this magazine would not be possible without the "fair use" laws that permit some reasonable copying of copyrighted works.

Technology made matters more complex. The tape recorder made it easy to pirate music from the radio, from concerts, and from each others' phonograph albums. It is now quite common, even though it is illegal, to exchange personally-recorded tapes of albums, audiotapes, T.V. shows and Videotapes.

Enforcement of the copyright laws have been directed, and unsuccessfully in many instances, toward catching the professional pirate, not the consumers who are only expanding their library. The shit hit the fan when Sony brought its Betamax video recorder to America. Disney and Universal Studios took Sony to court in an effort to halt the retailing of the video-recorder (which would permit pirating of movies and television programs). Sony won, and now you enjoy the privilege of pirating programs off the air. Again, freedom of info-x won over censorship and info-x suppression.

Now the hue and cry is about computer program piracy. The same old reasons are given for suppressing information and hardware that will permit the consumer to exercise info-x rights:

1. Pirates will be able to use the information/instruments.
2. The market will collapse and the industry will die.
3. WE WILL LOSE MONEY!

'protected' disks! magazines

First of all, the professional pirates already have the information or they wouldn't be in the business of piracy. Besides, denying the general populace of information simply because some minority will utilize it for selfish or antisocial goals is not a valid reason for censorship. Ignorance has never been a fertile ground for creativity and invention, though it has been the cesspool out of which arise such creatures as oppression and continued repression.

Secondly, the record and movie/tv industry have used the same excuses in their legal battles to encourage censorship and to repress info-x and have lost on constitutional grounds. The nation is still filled with creative writers, performers, etc. Their reason for creativity is creativity itself!

Thirdly, and most importantly, the suppression of info-x encourages price-gouging and over-pricing in general. By delimiting the number of creative people who have the suppressed information that will permit them to contribute to the supply side of the market, the industry maintains inflated prices. No true competition exists because those that have the 'secret' don't want anyone else to get it and enter the market. Copy-protection (how to do and undo it) has been suppressed by the industry, and look at the prices! By providing a more free atmosphere of information exchange, there will be more people supplying programs. The profits will not be as great, because the powerful software oligopoly will have been demolished. The free market forces will prevail and the artificially inflated prices will drop to a more reasonable level.

A STEP TOWARD TOMORROW

The next step in info-x evolution is the concept of limited copyrights. Copyright laws have slowly been moving in this direction because the courts have not been enforcing the more strict and unreasonable limits of the laws against personal bartering of copied copyrighted materials (such as the exchange of taperecorded copies of music and readings). Such enforcement would be met by consumer resistance because the populace, who casually and guiltlessly make such exchanges, would view such copying (piracy) as part of their ownership rights (even though it is not). Such enforcement would bring about changes in the laws that would limit the copyright laws even more.

If books and magazines could be duplicated as easily and inexpensively as can music recordings and software "albums", this step in info-x evolution would have taken place long ago. And until that step is taken, we, the consumer, will be copyright pirates whenever we generously give, or greedily trade our copies of copied albums, tapes, and diskettes.

Let's take that step toward tomorrow today. Let's change the copyright laws, and replace them with regulations that still encourage and reward creativity without infringing on consumer desires and needs. Let's replace them with something more appropriate to the computer era of easy duplication, recording and transmission of information.

1. Decriminalize the consumers and legalize the personal bartering of copyrighted information.

2. Discontinue the lucrative but unethical practice of copy-protection of software. Such a practice is similar to sealing a car's engine in black glass so that the consumer cannot see how it works (nor be able to make personal modifications.)

... continued on page 21

Other words

on bit-copy programs . . .

"MICRO is unconditionally opposed to the illegal copying of software listings, cassettes, diskettes or any other protected material. I am embarrassed that the need has arisen to make what should be an obvious statement of policy. Due to the publication of an advertisement in our January and February issues, a number of advertisers and readers have expressed concern that MICRO appeared to be supporting the illegal copying of protected disks. In retrospect, I believe that I made a mistake in allowing the ad to run . . ."

"The advertisement referred to above was for a program that would copy "protected" diskettes."

"The staff of MICRO will now review every ad and, where there are problems, take appropriate steps."

Robert M. Tripp, Publisher/editor, MICRO, editorial, #34, March 1981, page 5.

"Several other magazines in the industry have recently been running advertisements for a program that copies (duplicates) protected software for a particular machine. One of the magazines (Micro) checked with us to see our feelings on such advertising. We indicated that we wouldn't run such ads, given that the software in question could be used to produce copies of "protected" and proprietary software. We understand that Micro has since decided to do the same.

"We applaud this move toward protecting the rights of the software industry, and encourage additional comment."

Robert Lock, Publisher/editor, COMPUTE!, editorial, volume 3, #3, page 4, 9.

"The presence of a number of commercially available bit copy programs will probably stimulate many software companies to review their service policies. Those reviews should produce constructive new policies which improve pricing and availability of replacement packages. That will be a positive step.

"The presence of commercially available bit copy programs can make it easier for software pirates to make unauthorized copies of commercial software for broad distribution. That is potentially a negative result.

"But the Bit Copier itself, is not logically or legally responsible for either. It is simply a program — one which can be used badly, or well.

"The simple fact is, Bit Copy programs are now here."

Mike Harvey, Publisher/editor, NIBBLE, volume 2, #2., editorial, page 3.

How to COPY THE

Always back up your software library.

That should be the first rule of any wise computerist.

When you acquire the original of any program, you should copy it and use the copies instead of the original. Put the original in a container that can protect it from destruction. And if it is particularly valuable, you should even store some of the copies in various places of safety. Similarly, copy the documentation, making a working copy to use while storing the original on the shelf someplace safe.

All your software should be copied because, even if it isn't particularly valuable, it is probably very costly to replace (since software prices are still so high).

EVEN THE COPY-PROTECTED PROGRAMS

But, (you complain bitterly) how can you make back-up copies of the non-standard format (copy-protected) disks? Easy . . . and that's what this column is all about: how to copy the uncopyables!

While the editorial battle rages in some of the other computer magazines that are taking a rigid stance against people who back up their copy-protected software, we have already chosen the opposite road.

We support the consumer, the user.

And while the road that the other mags are following has already led to secrecy, suppressed information and censorship; our road leads to the open exchange of knowledge that permits valid free choice.

While other editors practice a form of censorship for the "good" of their readers (who, they feel, yield too easily to the temptation to trade copies), we at **HARDCORE COMPUTING** proclaim that it is our duty to fight this plague of suppression and secrecy being spread by the software marketers and the magazines they advertise in.

And while their editors and publishers are deciding just how to keep their readers in the dark, we are trying to remove that growing shroud of ignorance.

We feel that computers, by their ability to handle modifiable algorithms, will bring about greater independence and individuality. The use of computers in industrial production can turn a redundant assembly

line into creative customizing assemblers . . . each product being different and fitting to the needs and wants of its purchaser.

BUT . . . when pre-packaged programs come in a form that permits their functioning but not their examination and modification then those programs are no longer oriented toward independence and individuality. They are annoying anachronisms from the days of the old-fashioned assembly lines and worse . . . for the copy protection prevents their being customized.

That is, however, a solvable annoyance. If you desire to alter your programs to make them fit your needs and desires . . . then this column is for you.

CUSTOMIZE YOUR PROGRAMS

We show you how to "unlock" a program, place it on normal D.O.S. so you can list it, fix or alter it to your heart's content. Or you can easily make as many back-up copies as you want.

HARDCORE

I do not condone commercial piracy. However, I do believe that users have a right to make backups and even alterations in any program that they obtain. **HARDCORE** will supply that information for the users.

Many (most?) software houses want to maintain their inflated prices, so they will not be too happy with our editorial viewpoints or our stance on information exchange. Many want and need a consumership ignorant in certain aspects of their computer's uses: such as making back-up copies.

THESE SOFTWARE COMPANIES WILL BOYCOTT HARDCORE COMPUTING.

And because a magazine's survival depends upon advertising revenue, they hope that by doing so they will put us out of business thereby censoring that information.

The other computer magazines do not want to be boycotted by their advertisers so that they will continue their policy of censorship until stopped by a court decision. And, of course, some of these magazines are "fronts" for a software house, a sort of catalog disguised as a magazine.

THESE TYPES OF MAGAZINES WILL PROBABLY REFUSE TO PUBLISH OUR ADS.

Because exposure and circulation are necessary to keep a magazine alive, perhaps they hope that this will put us out of business. In this way, they will have extended their own powers of censorship over another informa-

UNCOPYABLES !

In this issue we show you several ways that do not use a bit-copy program. However, to use two of them, you must have integer in ROM or the integer card in your Apple II or II+ (You must be able to get the monitor prompt when RESET is hit) and a cassette tape recorder (you know, that thing you use to 'pirate' music from the radio, records and from other cassettes!) Without ROM integer you can't break out of the Applesoft program, and without the cassette recorder you can't save the program to put it on normal D.O.S.

One method uses 'demuffin' (remember: MUFFIN comes with your 3.3 Master diskette. We show you how to turn it into Demuffin). This method lets you alter or fix a program and to put it right back onto the protected diskette, or onto normal D.O.S.

To take you through the steps in bypassing the copy protection, we use a concrete example: AKALABETH, a hi-res Applesoft adventure game. We chose this example simply because it was brought

to our attention that it needed a 'FIX'. It scrolled too fast for the player to read the 'hit points' of the foe.

We provide a 'FIX' for that minor problem as well as an addition:

TELEPORTATION IN AND OUT OF THE DUNGEONS

(For those who go too deep into the dungeons and are about to starve to death, we show you how to add a teleport option for wizards that allows you to get whisked safely to the surface so you can cash in all that gold!)

Should you have other 'FIX'S', share it with the **HARDCORE** readers.

SoftKey

SOFTKEY shows you how to access (copy, download to normal DOS, or update) the contents of so-called copy-protected disks. The Softkey series is divided into two parts:

Softkey to a specific program/disk, and

Softkey to a general class of disks, in this case . . . disks containing mainly applesoft programs.

SOFTKEY TO AKALABETH, page 16

(2 methods to access Akalabeth and bypass the copy-protection:

1. A program that will copy the protected files.

2. Use special Demuffins to capture (copy) the protected files.)

SOFTFIX AND ADDITIONS, page 18

(for Akalabeth: A. FIX for scrolling problem . . . B. ADDITION of magical teleport command to descend/ascent many levels at once!)

SOFTKEY TO "APPLESOFT" DISKS, page 26

(2 methods to "download" Applesoft files from protected disks and put them on normal DOS so that they can be listed and altered:

1. Use Special Demuffins to capture the files.

2. (Using the integer monitor to capture the files.)

THE DEMUFFINS, page 28

(change Muffin into two different Demuffins and use as directed to capture protected files.)

MAP MOVE, page 29

(a necessary R.W.T.S. program to let you use Demuffin to capture files.)

...end...

ALERT!

tion outlet. If the Apple-users do not learn of the existence of our user-oriented magazine, such a ploy will have succeeded.

In order to protect their software sales from what they perceive as a threat, **SOME COMPUTER STORES WILL NOT CARRY HARDCORE COMPUTING ON THEIR MAGAZINE RACKS.**

And if you belong to a computer club that is actually just a "front" for a computer store or a software house, then, just maybe, **YOUR CLUB WILL NOT LET YOU LEARN OF THE EXISTENCE OF HARDCORE COMPUTING.** You will be just one of many people who comprise a captive consumership or even an unknowing software source for a true commercial "pirate" software house (one that "steals" member-donated programs and subroutines and markets them under a different company name.

We sent flyers to a great many Apple-users groups. If you haven't heard about us from your club officers, then you have valid grounds for suspicion. Ask them about **HARDCORE COMPUTING.**

Isn't it time you found out if the club you support is really an Apple-users club?

And, above all, let other members learn of **HARDCORE's** objectives and motives. After all, **HARDCORE** is user-supported, not ad-supported.

(-----ed.)

CENSORSHIP IN COMPUTER MAGAZINES

part 2.

An interview with:

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hardcore

ajooDJEY

Dave Alpert is the head of Omega Software, Inc. as well as the president of the Northern Illinois Apple Users Group.

HARDCORE: Did you write Locksmith?

DAVE: No.

HARDCORE: Then who wrote Locksmith?

DAVE: I am not allowed to talk about the author.

HARDCORE: When was Locksmith written and later marketed?

DAVE: It had been under work for well over a year. The first ad appeared Christmas Eve, last year. I had anticipated running advertisements in about 8 magazines and planned on 3 appearances, initially, in each one.

HARDCORE: While Locksmith was being created, did you suspect that you would be the focus of so much controversy?

DAVE: Yes and no. I suspected that there would be opposition to it and that it would be controversial but I did not expect the illegal actions and activities of others in terms of forcing us out of the advertising of our product. Let me quote you something:

U.S. Public Law 96-517 U.S.C 117.

LIMITATIONS ON EXCLUSIVE RIGHTS: COMPUTER PROGRAMS

“Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaption of that computer program provided:

“(1) that such a new copy or adaption is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or

“(2) that such new copy or adaption is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

“Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptions so prepared may be transferred only with the authorization of the copyright owner.”

[...Approved December 12, 1980. This is an amendment to section 117 of title 17 of the United States Code.....ed.]

That legitimizes bit-copy programs. We had been in the process of coming out with our program and when we saw that . . . we knew that we were there.

We contracted advertising in Creative and Micro. And we placed ads in Call A.P.P.L.E., Softalk and others. Micro published on Christmas Eve and Tripp, the editor of Micro, immediately got phone calls from other software vendors who said that if he continued to run our ad they would withdraw their advertising. It was too late for him to stop the second printing of our ad but he did cancel my third ad. And in response to that pressure, he wrote his editorial that appeared in the March issue [---see column called “OTHERWORDS”-----ed.], Creative Computing also bowed to the same pressures but didn't editorialize about it.

Bob Tripp of Micro made calls to any other magazine he could get his hands on. In his editorial he says: to ask them if they were going to run my ad . . . and so on. I have information

APPLE DISK COPY

Logo from controversial ad. banned by major computer magazines.)

that he told them that if they ran our ad, they would lose business. He went on a campaign to spread this information.

The responses to these magazines have been such that the users around the country, by and large, have written them, telling them what hypocrites they are for bowing to the financial pressure of the other advertisers . . . something I can understand. After all, it is their livelihood.

Tripp himself has been criticized and he won't publish those letters, of course. I had people call me and say that they sent letters to Tripp telling him that they wanted to boycott Micro, or that they wanted to boycott the people who advertise in Micro. I told them not to boycott the magazine.

The magazines are not as at fault as those people who violated my legal right to advertise by threatening the magazines and interfering with my contracts by threatening not to run advertisements.

Dave Alpert of Omega Software about the "Locksmith" ad. controversy.

HARDCORE: You sound angry.

DAVE: I'm not as mad at the magazines as I am at some of the software vendors who ah . . . well, let me put it this way . . . Neither Locksmith nor Omega nor myself have violated any laws, in any way, shape or form. But I do believe that there are others, out there, who have violated the law . . . in their attack upon our company and upon our ability to advertise a legal product. That our product is a two-edged sword, notwithstanding, they have no right to deny us our legal right to advertise.

There are software vendors who think I'm nothing more than a crook . . . which I'm not and don't intend to be.

In fact, it is the other software vendors who created the market for Locksmith by their inconsiderate attitude toward providing customer service and back-up. I have received hundreds of letters from Locksmith owners telling me how grateful they are to have the ability to make legitimate back-ups. Scores of these letters have also contained horror stories of treatment by software vendors.

By the way, the prime hypocrite in this whole affair is right up there by you.

HARDCORE: What do you mean?

DAVE: Val Golding at Call A.P.P.L.E. He is doing the same thing that Bob Tripp has done in terms of telling people that they would not be able to get other advertising if they ran mine. He threatened to destroy the International Apple Corps (I.A.C.) newsletter last month. He was the editor of it at the time (he's since been replaced). They had contracted an ad with me and he told them (and I have this in writing from the president of the I.A.C.) that their group had decided that nothing that they submitted for publication in the Orchard would be allowed to appear if they ran my ad. The same two days, 3 software vendors called the president of the I.A.C. and said that: we hear that you're running the Locksmith ad . . . cancel our ad if you do. And his letter says that: I was threatened with the loss of 60% of my copy and a large percent of the advertising. I would have been unable to go with the magazine. So, obviously, they cancelled my ad.

HARDCORE: Yes, I heard that it's Synergistic Software . . .

DAVE: Well, there's more than just Synergistic . . . Anyway, there are a lot of people there who are software people and that was one of the reasons they changed their attitude about this . . . and rather than be fair and run the ad and the editorial because it's the right thing to do, (which was in the editorial that he was going to run but didn't) . . . They decided they were not going to run the ad.

HARDCORE: How were you informed that your ads were refused?

DAVE: Some of them were business-like and conducted themselves as one would expect, by writing a letter. Call A.P.P.L.E. phoned me in the evening. Softalk even sent me my money with interest!

HARDCORE: Did you receive any form letters? I ask because I wonder just how many ads they normally refuse . . .

DAVE: In most cases, I believe, this was the first they had ever refused.

HARDCORE: Did you have any conversations with those editors where you tried to talk them back into running your ad?

DAVE: My attorneys are handling that, and I can't comment too much on that except to say that we sent them a letter that said that we thought their acts were illegal.

HARDCORE: Is the Locksmith still selling strongly?

DAVE: Obviously, not as strongly. I've sold thousands already and I believe that I could have sold 3 or 4 times as much had I been able to advertise.

There is something else in general that I think you should know. I sympathize somewhat with the games people because the games people are the ones who are hurt most by piracy because of these cliques of people organized to steal programs. I have no sympathy for those who have software that you have to use in business everyday and who make absolutely no provision or very unreasonable provisions for legitimate backups. VisiCalc is one example and they've changed their policy somewhat in response to the advent of bit copy programs. But at one time you had to send them thirty bucks for a backup and then had to wait as long as 6 weeks!

HARDCORE: How else is Locksmith now being marketed, in the face of what appears to me as 'restraint of trade'?

DAVE: Word of mouth.

...end...

Ad. was withdrawn from HARDCORE just prior to publication.



Let me quote something here:

VisiNews, volume 1, #1.

March 1981, page 4.

CONTROVERSY RAGING OVER VISICALC COPYING

"Locksmith" and other controversial programs for copying protected diskettes are now circulating around computer clubs. Curiously, VisiCalc sales have shot up 50% in the last two weeks at the New Hyde Park, Long Island Berliner Computer Store after they started selling Locksmith, owner Bob Berliner says. Why? "Now businessmen have an easy way to get VisiCalc backup copies," he said.

[...VisiNews is not affiliated with Personal Software, Inc. which markets VisiCalc. For more info on VisiNews, write: VisiNews, Box 341, Kings Park, NY 11754----ed.]

HARDCORE: Had you ever met Val Golding?

DAVE: I've known him for a while and I met him again at the I.A.C. meeting in Las Vegas, in conjunction with the Consumer Electronics Show there. I was a committee chairman for the I.A.C.

They were talking about the running of ads for the bit copy programs and I informed everyone that Locksmith was my program (I couldn't have them talking about it with me in the room without them knowing that I was the guy marketing it.)

After the meeting, the very first one in line to ask for a copy of Locksmith was Val Golding. I sent him a copy a few days later. I have a copy of his editorial he was going to run along with my ad, an editorial he didn't run after talking with the people up there.

I don't know if it's completely accurate but . . . the people up at Call A.P.P.L.E. are almost all software vendors themselves.

bit copy programs

that will copy the "uncopyables"

by Karen Fitzpatrick

Making copies of any software you own (back-up or archival) is not illegal. And it makes good sense. Software prices are too high for anyone to casually take the chance of crashing an original.

The problem is: How to copy a protected disk. The simple solution is to use a Bit-copier.

Unlike DOS, a Bit-copier does not depend on a standard format of information. It does not use checksums or address and data marks. Instead, it makes a bit-by-bit copy of each track.

A bit-copier is a **MUST** for anyone who purchases "protected" software. But trying to find one or information about one is like trying to pet a porcupine. You're lucky if you only get stuck once. Asking your dealer could net you any response from a blank look to open verbal abuse.

So, to make it easier, we decided to review what was available. We could only find three:

Locksmith - Omega Software Products
Back-It-UP - Sensible Software
Copy II Plus - Central Point Software

If we missed anyone, let us know and we'll include you in a follow-up. Simply follow the instructions on **HARDCORE Review Policy**, page 3).

We have rated these bit copiers on:

Reliability - Good copy?
Ease of use - User-friendly?
Amount of displayed information?
Documentation - Easy to read and understand?
Speed - How fast it copies?

One of the problems with using a bit copier to make back-ups is determining if the copy is really good. With some programs it is readily apparent but with others a flaw in the copy may not show until you are deep into the program. In the case of a data base or similar program the flaw could surface with disastrous results. **CAUTION: In order to copy 16-sector disks the new 16-sector PGA PROM must be installed on your disk-controller-board. (One possible solution for owners of The Scanner (Sensible Software) is to use the Scanner to capture the DOS used by the "protected" disk. Then the Scanner can test for bad sectors. This only works on a few disks.**

---Bobby)

Locksmith

An elegant solution to your back-up worries. Locksmith supports single and dual drive copy with single controller. It boots on 13 or 16-sector Apple II's. A back-up copy is on the flip side of the disk. Locksmith supports half-track mode. The user may specify start and end tracks and track increment (eg: .5, 1, 1.5, etc). In half-track mode Locksmith erases the target disk before copying. Synchronized track copy and extended error retry is available in selected track modes. If both copies of Locksmith become unusable, Omega Software Products, Inc., will replace the original disk for \$3.00 postage and handling.

Reliability: I don't expect a copy program to be able to copy every protected disk on the market, but I felt that Locksmith did a superior job. In a comparison test of 25 programs, Locksmith copied all but 2. Also, the promise of updated versions to overcome the new disk protection methods gives reassurance that Locksmith will not become obsolete.

Ease-of-use: Locksmith has easy to understand program prompts and is user-friendly. It requires only 4 key strokes to start the copy process. If you hit the wrong key or need to stop the program during copying, press ESC to return to the menu. To quit the program you must turn off your computer.

Amount of information given during disk copy: I felt that Locksmith gave you plenty of information concerning what was being copied. The codes are easily identifiable and give you a clear picture of what is being written on your disk.

Documentation: I felt that the documentation for Locksmith was excellent. It comes across as clear, informative, and professional. The only thing that is not explained in the code listing is the meaning of 'O' but, after the program starts running, its meaning becomes obvious. I found that the small printing on the documentation made it difficult to read. I felt that it would have been better as a booklet instead of a single sheet of paper.

Speed of copy: It takes Locksmith an average of 5 to 6 minutes to copy a disk. The time is dependent on the number of retries it takes to copy a track. I usually start the program and then go for coffee.

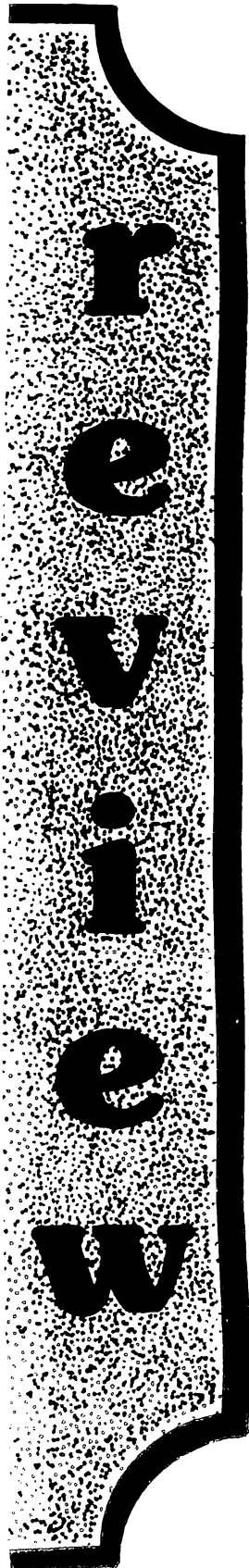
Copy II Plus

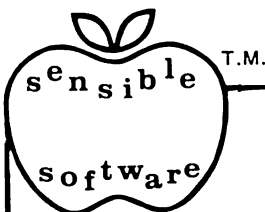
Copy II Plus is supplied with 16-sector format on the front side and with 13-sector format on the flip side. It boots FAST. It supports single and dual drive copy and dual controller cards. A damaged disk will be replaced for a flat fee of \$10.00. Copy II Plus does not support half tracks. The user may specify start and end tracks.

Reliability: I found that Copy II Plus has some difficulty in copying disks. Of the 25 disks tried only 11 of them copied true. Some started out good but ran into trouble part way into the program.

Ease-of-use: Copy II Plus is easy to use and has enough prompts to let you know what is going on. The only thing that got me was that, with all those prompts, it never prompted me to insert my disks. Again, to quit the program you have to turn off your computer.

Amount of information given during copy: Copy II Plus gives you no information as to what is going on during





SENSIBLE SOFTWARE, INC. IS PLEASED TO INTRODUCE...
OUR 1981 COLLECTION OF SUPERIOR SOFTWARE FOR THE APPLE COMPUTER...

APPLESOFT-PLUS STRUCTURED BASIC (APLUS)

\$25.00

32K + , Disk II, ROM/RAM Applesoft, Apple II/Apple II +

APLUS is a 4K machine language utility that adds the following structured programming commands to Applesoft basic: 1) WHEN..ELSE..FIN, 2) UNTIL, 3) WHILE, 4) UNLESS, 5) CASE, 6) SELECT (variable), and 7) (OTHERWISE). Multi-line IF..THEN statements are also supported. APLUS allows the use of "named" subroutines or "procedures". The programmer can now instruct a program to "DO CURVE-FIT" without worrying about the location of the subroutine. APLUS automatically indents "&LIST"ed programs to clarify the logic flow. The APLUS "&CONVERT" command replaces the above structured programming commands with "GOTO"'s and "GOSUB"'s to provide a standard Applesoft program as output. New programs can now be written using "GOTO"-less logic.

APPLESOFT PROGRAM OPTIMIZER (AOPT)

\$20.00

32 + , Disk II, ROM/RAM APPLESOFT, Apple II/Apple II +

AOPT is a 2.2K machine language utility that will substantially reduce the size of an Applesoft program without affecting the operation of the program. AOPT automatically: 1) Shortens variable names, 2) Removes remarks, 3) Removes unreferenced lines, 4) Appends short lines together, 5) Removes extra colons, and 6) Renumbers line numbers. AOPT will convert a verbose, well documented, development version of a program into a memory-efficient, more secure, production version of the same program. This is the ORIGINAL and the BEST optimizer on the software market today!

DOS PLUS

\$25.00

32 + , Disk II, DOS 3.3, Apple II/Apple II +

DOS PLUS is the software solution for living with both 13-sector (DOS 3.1, 3.2, and 3.2.1) and 16 sector (DOS 3.3) Apple diskettes, DOS PLUS adds 8 new commands to Apple DOS. Three of these are built-in and five are user definable. The built in commands include: 1) ".F" to "flip" between DOS 3.2 and 3.3 (The user need not re-boot and any program that resides in memory will not be affected by the flip. The DOS version can even be changed within a program!), 2) ".S" status command informs you what DOS version is currently active, and 3) ".B" BLOAD- analysis is also provided to inform the user of the starting address and length of the last accessed binary file. DOS PLUS also includes a DOS COMMAND CHANGER program to allow easy customization of Apple DOS commands to suit individual tastes.

DISK ORGANIZER II

—NEW—

\$30.00

48K, Disk II, Apple II / Apple II +

DO II is the fastest and friendliest utility available today for organizing files on an Apple II diskette. DO II provides the following functions: 1) TITLING in Normal, Inverse, Flashing, Lower case, and other characters normally not available, 2) CUSTOM REORDERING of the directory, 3) ALPHABETIZING, 4) DYNAMIC DISPLAY of ALL filenames on a diskette (including deleted files), 5) RENAMING files with the same character options as TITLING, 6) UNDELETING, 7) DELETING, 8) PURGING deleted files, 9) LOCKING (all or some), 10) UNLOCKING (all or some), 11) USE of DOS sectors for increased data storage, and 12) a SIMULATED CATALOG to show the modified directory **before** it is written to the diskette. DO II is completely MENU DRIVEN and attains it's speed by altering a RAM version of the catalog. DO II uses a very powerful SMART KEY to automatically locate the next valid filename for any specified disk operation. Compatible with DOS 3.1, 3.2, 3.2.1, and 3.3 as well as MUSE DOS to allow manipulation of SUPER TEXT files! (Note: Updates available for \$5.00 and original diskette.)

PASCAL LOWER CASE

—NEW—

\$25.00

48K + , Disk II, Apple II / Apple II + , Language System

This is the most recent commercially available LOWER CASE MOD for Pascal for the Apple II. It is the only currently available modification that is compatible with both versions of Pascal (1.0 and 1.1). The Pascal version is automatically checked prior to updating system Apple. If you have any of the hardware lower case adapters you can now input the following characters directly from the keyboard: | ~ ` ^ _ and \. This modification does NOT interfere with any of the 'Control' character functions implemented by the Pascal environment and will 'undo' any alterations made by other commercially released modifications.

QUICKLOADER

\$25.00

48K + , Disk II, Apple II / Apple II + . . . (2 Disks)

If you find yourself doing the same things over and over -- QL will help you do it faster! QL is a unique disk that lets you load DOS, a language card (optionally), and an application program of your choice extremely rapidly. QL boots as a 13 or 16 sector diskette and is easy to set up and use. To change the setup, you merely load your Apple RAM with the new data and use the "RECONFIGURE" option of QL. The next time you boot your QL disk, it will quickly load your new setup (Language Card, DOS, Application program) into your Apple! QL can reduce the time to perform these functions by up to 80%! Now that you've read this, you say "But I can already do all of that!" QL doesn't do anything new -- it just does it MORE CONVENIENTLY and FASTER! Try it, you'll like it!

DISK RECOVERY ("THE SCANNER")

\$30.00

48K + , Disk II, Apple II/Apple II +

This program is long overdue. You need no longer be concerned with the problem of physically damaged disks. Just as "Apple Pascal" provides a "BAD BLOCK SCAN", DISK RECOVERY will do a complete scan of your Apple diskettes' recording surface. Damaged areas will be "marked" as used in the disk directory so that no attempts will be made to "WRITE" to a bad sector. The VTOC will be completely redone to reflect both the bad sectors and actual disk usage. A complete report is generated advising the user of all corrections. A resulting "DISK MAP" is presented for your review. The greatest advantage of this program over the other versions is that it can be used on either NEWLY INITIALIZED DISKS or disks that ALREADY CONTAIN PROGRAMS as well as the SPEED of analysis. THE SCANNER is fully compatible with both 13 and 16 sector diskettes. This is a must for all Disk II owners!

ALSO AVAILABLE:

- SUPER DISK COPY III** **\$30.00**
- MULTI-DISK CATALOG III** **\$25.00**
- THE NEW PROTECTOR** **\$250.00**
(Call or Write for Information)
- LUNAR LANDER II** **\$15.00**
- MASTER MAZE** **\$15.00**

SENSIBLE SOFTWARE, INC.
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VISA and MASTERCARD WELCOME
Michigan Residents add 4% Sales Tax
Please add \$1.00 postage & handling for each item ordered.

Who Copied What?

LS	Q&D	O/F	CII	Disk
X	X	X	X	ABM
X	X	X	X	Akalabeth
X	X	X	0	Both Barrels
X	0	X	X	Budge's 3-D
X	0	X	0	Computer Air Combat
X	0	X	0	Computer Ambush
X	X	X	X	Computer Quarterback
X	X	0	0	Creature Venture
X	0	X	0	Cyber Strike
X	X	X	X	Data Factory 4.0
X	X	X	X	Data Factory 3.0
X	X	0	X	Disk-O-Doc
X	X	X	0	Easy Draw
X	X	X	X	Easy Writer
0	X	X	X	Galaxian
X	X	X	X	Invaders
X	X	0	0	Loch Ness Trek
X	0	0	0	Mission Asteroids
X	X	X	0	Phantoms Five
X	0	X	0	Reversal
X	0	0	0	Scanner
X	X	X	X	Star Cruiser
X	0	X	0	Warp Factor
X	0	X	0	Wizard & Princess
X*	X	X	X	Zork

x = copied. 0 = not copied. * = parameter changed.
 LS = Locksmith. CII = Copy II+.
 Q&D, O/F = Back-It-Up.

the copy routine. I felt cheated in some way because I was unable to check on any errors. (The speed of this program makes it unnecessary to know the status of each track. That information is more important to the slower copiers where a time savings would result from copying only the tracks in use. --- Bobby)

Documentation: The instructions for Copy II Plus came off sounding very self-righteous and I resented that. I felt that I was getting a lecture and that was not the information I was looking for. Several remarks were flippant and some were very defensive, which seemed unprofessional. However, fair is fair, when it got down to explaining the program the text was clear and easily understood.

Speed: Of all the qualities of Copy II Plus, this was the best. It copied most programs in less than 1 minute. If the reliability were increased, this would be a top seller.

Note: Central Point Software, Inc., is releasing an updated version of Copy II Plus. This version will feature:

- Automatic half-tracking
- Multiple controller
- New error checking
- Increased speed

A full review is upcoming.

Back-It-Up

Back-It-Up boots on the 13 or 16-sector DOS and requires 48K of memory. It has two copy programs on the same disk: the Quick and Dirty method and the Old Faithful method. I have reviewed them as separate copy programs. They both support single or dual drive copy. Old Faithful also supports dual controllers.

The ultimate **APPLE®** copy program

COPY II PLUS

\$39⁹⁵

VERSATILE — Copy II Plus copies multiple formats — DOS 3.2, 3.3, PASCAL, FORTRAN and most "protected" diskettes!

FAST — Copy II Plus copies nearly any diskette in less than one minute. That's faster than most standard copy programs. Written entirely in ultra fast assembly language.

Search no more for that universal copy program. Copy II Plus is the most advanced copy program available for the Apple II Computer. Compare capability, compare speed, compare price, then call or write to order Copy II Plus. Requires Apple II with 48K and at least one Disk Drive.

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 Central Point, OR 97502
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1. Quick and Dirty

Quick and Dirty always copies tracks 00 to 22 hex (0 to 34 decimal). It does not support half-track mode.

Reliability: Q&D copied well. Of the 25 disks tested, Q&D was unable to copy only 9.

Ease-of-use: Q&D is relatively easy to use. It requires only three keystrokes to get the program running. It prompts you to insert your disks and is fairly user-friendly. A drawback with Q&D is that there is no simple way to quit the program. You must turn the computer off, then on again, to reboot.

Amount of information: Q&D only gives you information regarding the tracks that are empty and which track it is either reading or writing. There is nothing wrong with that but I'd like to know if there are any copy difficulties.

Documentation: The documentation for both Q&D and Old Faithful are written together. I found it difficult to read the information provided. It was as though the editors were speaking in another language. While the instructions for Q&D are short, I felt that they could have been written better.

Speed: Q&D is, as the name implies, quick. It took an average of just over 2 minutes to copy a disk.

2. Old Faithful

Reliability: Old Faithful copied well. As stated in the documentation, Old Faithful is used to make a more critical copy of your disk. And as the name implies, Old Faithful is faithful. Of the 25 disks tested, Old Faithful copied 20.

Ease-of-use: The first-time user will find Old Faithful difficult to understand. The program asks a lot of questions. Although it does have a default entry feature which is convenient. Nowhere in the program does it prompt you to insert your disks, which can also be confusing for the first-time user. I found this when I attempted to use the 'Quick Scan' feature and started to scan my bit-copier and not my source disk. Old Faithful has an ESC feature which will halt the program and return you to the menu. I felt that Old Faithful was not user-friendly.

Amount of information given during copy: Old Faithful gives you plenty of information during the copy routine. It looks much like Locksmith in this aspect. Its codes are explained both on the screen and in the documentation. This I found was helpful.

Documentation: As stated above, the documentation for both Quick and Dirty and Old Faithful were difficult to understand. Since Old Faithful is much more complicated, so are the instructions. The printing is large and coupled with the style of instruction, makes the documentation hard on the eyes.

Speed: Old Faithful will make you old. It took an average of 8½ minutes to copy a disk. I found a couple of disks that took 16 to 22 minutes to copy. (Old Faithful will lock-up on certain tracks on some disks and continue to read the same track. It is a good idea to watch for this the first time you make a copy of any disk. --- Bobby)

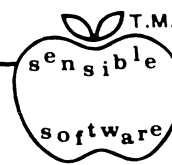
Which Is Better?

Top of the list = highest score

Bottom = lowest score

[of the 5 criteria: R (reliability), E (Ease of use), A (Amount of screen info during copying), D (documentation), and S (Speed).]

R	E	A	D	S
LS	LS	O/F	LS	CII
O/F	Q&D	LS	Q&D	Q&D
Q&D	CII	Q&D	CII	LS
CII	O/F	CII	O/F	O/F



BACK.IT.UP

WE DID NOT WANT TO RELEASE THIS PROGRAM!

Sensible Software, Inc. is now making available to the public, for the first time, our own "in-house" duplication program. Now that "bit by bit" copying has been made available by another company, we feel obliged to supply the end user with the BEST! BACK..IT..UP will duplicate almost any diskette in your Apple library. BACK..IT..UP functions with both 13 and 16 sector formatted diskettes including DOS 3.1, 3.2, 3.2.1, and 3.3. as well as Pascal and Fortran. "Uncopyable" secured disks with modified versions of DOS may also be backed-up. The only requirements for BACK..IT..UP are a 48K Apple II or Apple II+ with one or two Disk II drives. The program is so sophisticated that a novice can use it with the greatest of ease!

The release of this program in no way implies that Sensible Software supports software piracy and is intended for the sole use of the computerist who wishes to "back-up" their diskette library. Duplication of some diskettes may be an infringement of copyright protection under Federal law. Please note that BACK..IT..UP will not copy itself. Sensible Software does have, however, a very liberal \$5.00 disk replacement policy.

Introductory Price of \$60.00

Sensible Software, Inc.

6619 Perham Drive

West Bloomfield, Michigan 48033

313/399-8877

VISA and MASTERCARD Welcome
Please Add \$1.00 Postage & Handling per Disk
— Dealers Inquiries Encouraged —

Please Note: Owners of Sensible Software's "Protector" series diskettes should write for our update policy.

adventure tips

...by Mike Flynn

Fellow Adventurers:

Hail and well met! Thou has chanced upon the powerful charm known as "Adventure Tips". And a powerful charm it will be, with your help.

With the advent of **HARDCORE**, the opportunity has manifested itself to produce a column for my fellow adventurers. The premise upon which this column is based is "reader support". What I will attempt to accomplish is to establish a sounding board for you, the reader. If you have completed any adventures, send in a complete description of how you went about winning the game (ie. a list of all the magic words and where they apply as well as a map or list of all the correct directions and any other pertinent info). Likewise, if you have only finished a portion of the game, send in any info pertaining to the game up to the point where you have left off. Also, if you are stuck at a certain point in a game, write in with your questions and I will do my best to give you a tangible clue. If we get enough maps, or just a conglomeration of information pertaining to a particular game, then I will construct a map using the info. This way, when you write in and tell me that you want the entire set of clues or map, then it will be no problem to send you that info (free of charge, of course).

Another point I should stress: I will not print dead giveaways in the magazine. If you want a dead giveaway, then tell me and I will be happy to send you a personal response. (of course, I can only give the clues that I have at my disposal, so get those letters rolling.)

In the future issues of **HARDCORE** this column will consist of your letters, and my responses. So for this issue, I will give some of my own personal clues.

The Wizard And The Princess

Keep a sharp eye out for a safe rock to get by the coiled snake.

Always head north whenever possible. But bear in mind that a lot of useful things will not always be in a northerly direction.

If any reptiles in the desert need help, consider being a good samaritan.

If you are stuck at the first chasm and you have all the items that were in the desert (or think you do) then try combining two similar items.

If you have been robbed by a snide little gnome, a rather small crevice will be very helpful. And if you can't "go crevice" then you weren't very nice to something back in the desert, so start over!

Feed all the animals that you can.

Remember . . . everything that you find is useful (even if you can't trust an apple?)

Creature Venture

Read the instructions, there are some very valid clues there.

The devil plays a very big part in this game, so it might be very helpful to look up all the references to this fellow in a Bible.

Consider the Alice in Wonderland odyssey.

Mission Asteroid

Time is of the essence. Bear in mind that this is a real-time game.

Respect your senior officers.

Don't give away any privileged information to civilians.

Examine all of your possessions.

Don't make any unnecessary moves.

You actually need check the time only once.

In conclusion, I should mention that at the present time, I have a completed map of the Wizard and the Princess, Mission Asteroid and the Crother and Woods adventures. (Colossal Cave)

So get those clues in the mail and, by far, have fun.

If you want a personal response to your letters, please include a self-addressed, stamped envelope. Also, if you have any criticisms, suggestions or anything else you think I should be aware of, don't hesitate to drop me a line.

Until next time,
Mike Flynn

c/o **HARDCORE COMPUTING**
14404 East D Street
Tacoma, WA 98445

HARDCORE NOTES...

National Adventure Software Exchange

Adventure enthusiasts:

I am trying to form a noncommercial original adventure software exchange. I need people who are interested in writing and exchanging adventure software. I am proposing a national mail-correspondence club dedicated to this purpose. I have written a BASIC adventure to start things off with. If you have an interest in this idea, please

write me.

Paul Callahan
632 Deaver Dr.
Blue Bell, PA 19422

(Found in the June BYTE's unclassifieds, page 463. No computer type was mentioned.)

Adventure magazine: MAGNETIC FANTASIES

We recently received a complimentary copy of the first issue (February) of a magazine dedicated to 'adventure' enthusiasts. It got a so-so review in Byte. Since this is their first issue, it would not be fair to judge them yet.

Called MAGNETIC FANTASIES, it has 26 typewritten pages of CFS (Computer-Fantasy-Simulation) reviews, articles and lists of:

1. Articles on CFS
2. CFS LISTings in magazines

3. CFS games available on the market
 4. and CFS books, T-shirts, puzzles, tips, manuals, etc.
- Publisher: Claude Plum
Editor: Richard Koch
Art Editor: Arnett Taylor

Its cover price is \$2.95. Address: **Magnetic Fantasies, 1626 N. Wilcox, No. 403, Hollywood, CA 90028.** If we get some recent copies, Ole Master Flynn, our Adventure Expert, will undoubtedly review it.

Apple Sac takes user-control precautions

In order to avoid a situation where a computer-user's club becomes controlled by one or more software businesses, Apple Sac of Sacramento, CA, has proposed changes to its bylaws:

"No member of Apple Sac shall hold office in Apple Sac if that member:

a. Is affiliated with a commercial software company engaged in development for sale of Apple software, either by partnership, as an officer of the company, or as an employee of that company.

b. Is being paid by any commercial software company for programs or services rendered.

If, at any time during his term of office, any officer becomes involved with any commercial software company as described previously, that officer shall resign immediately."

We, at HARDCORE, applaud this move toward user-control of clubs. Is your club a true user's club, or just a front for a software operation? A good check would be to ask yourself: "Has my club made available to me the complete names, addresses and phone numbers of all its members, or is it trying to prevent its members from gathering together outside of its control?" If either case is true, then you are a member of a pseudo-user's club. ----ed.

Killer who stole computers is still at large

Found in the June CALL A.P.P.L.E., page 7 and verified by phone with Detective Ron Schultz . . .

Killed: Henry and Lavern Rumberger, owners of the ABS Computer Center in Olympia, Washington, on February 22, 1981.

Stolen:

Apple II+, 48K #152415
Apple II+, 48K #95802
Apple III, 128K #001065
Disk II #197994
Disk II #215227
Stockwatch 15N #5908

D.C. Hayes Micromodem #113902
Epson MX-80 Printer #316570
Centronic 737 Printer #12349
IDS 440 Printer #3166
BMC B/W Monitor #65101709
Sanyo B/W Monitor #60702903
Sony KV1216 Color TV #503527

If you purchase any of these products, please take time to examine the serial numbers to check for a match. You could help put away a killer. Should you find a match, please contact Detective Ron Schultz of the Olympia Police Department at (206) 753-8413 or 753-8205.



by Bobby

to AKALABETH,

Akalabeth is a hi-res adventure/maze/treasure-hunt game distributed by California Pacific Computers.

In this first SOFTKEY, we provide 2 methods of "downloading" Akalabeth from its protected diskette so that you can make the FIXes described in SOFTFIX and Additions, page 18.

The first method uses a Special SOFTKEY TRANSFER Program and a few CALLs to move files to an unprotected disk. The second method is more complex but it can be used on other similarly protected diskettes containing Applesoft program (see Softkey to 'applesoft' disks, page 26.

Method #1

This method allows you to back-up Akalabeth on to another 13-sector, 3.2 disk. (Use Muffin to transfer programs from this disk to 16-sector, 3.3 disk.) This copy of Akalabeth will not be copy-protected. (If you want to copy-protect it, see "Disk Lock", page 31).

It requires a 3.2 initialized disk.

WARNING: Follow these steps exactly. Do not try to save back onto the protected disk or you will garbage your original.

Step 1: Boot the 3.2 disk. (For those with 3.3 DOS, you must boot the Basics disk first, then insert the 3.2 disk.)

Step 2: Type in Transfer program (be certain that the data statements are entered correctly). SAVE Transfer. RUN Transfer. (This will load all of Akalabeth's binary files onto your initialized disk. These files consist of a "move" routine, and three pictures.)

Step 3: Type in the following commands:

A. **CALL 768** (This calls the routine that changes your DOS addresses so that it can access the protected Akalabeth files).

B. **LOAD I WELCOME TO AKALABETH I** (There are 3 spaces between the "I" and "WELCOME" and between "AKALABETH" and the "I").

C. **CALL 800** (This calls the routine that changes the DOS addresses back to normal so you can save the files to your disk.)

D. **SAVE HELLO** (to your disk).

(Now you have saved the first file on normal DOS.)

E. **CALL 768**

F. **LOAD IQ COPYRIGHT 1980 I**

(The Q is a control Q. Type it in by holding the CTRL key down while pressing the Q key. The Q should not print. There are 6 spaces between the CTRL Q and "COPYRIGHT" and between "1980" and the "I")

G **SAVE MAIN PROGRAM** (to your disk).

All the files are SAVED under different names so you must modify certain lines in the HELLO program to make Akalabeth run.

1. Type: **LOAD HELLO**

2. Type **O** return (to delete line O)

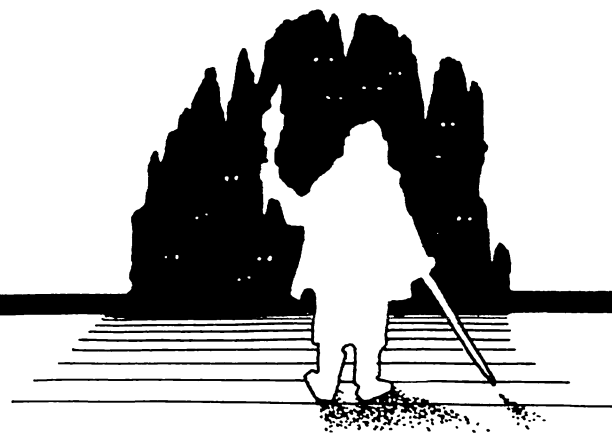
3. Enter (change) the following lines to:

```
5 PRINT CHR$(4)"BLOAD MOVE"
8 PRINT CHR$(4)"BLOAD PIC1,A$4000"
```

Akalabeth SOFTKEY

```
5 TEXT : HOME : VTAB 12 : PRINT
  "SINGLE OR DUAL DRIVE COPY? (S/D) "
  ; : GET A$ : PRINT A$ : A$ = LEFT$(
  (A$,1) : DD = 1 : IF A$ = "D" THEN
  DD = 2 : GOTO 10
6 IF A$ < > "S" THEN PRINT CHR$ (7) :
  GOTO 5
10 GOSUB 63000 : CALL 768 : GOSUB 120
  ***** 26 Spaces between the I's *****
20 PRINT CHR$ (4) "BLOADI
  I,D1" : A$ = "PIC1"
  : GOSUB 100
  ***** 26 Spaces between *****
  ***** CHR$(17) and the I *****
40 PRINT CHR$ (4) "BLOADI" CHR$ (17)
  " I,D1"
  : A$ = "PIC2": GOSUB 100
  ***** 25 Spaces between *****
  ***** CHR$(17) and the I *****
60 PRINT CHR$ (4) "BLOADI " CHR$ (17)
  " I,D1" :
  A$ = "PIC3": GOSUB 100
  ***** 24 Spaces between *****
  ***** CHR$(17) and the I *****
80 PRINT CHR$ (4) "BLOADI " CHR$ (17)
  " I,D1" : A$
  = "MOVE" : GOSUB 100
```

World of Doom



```
10 PRINT CHR$(4)“BLOAD PIC2,A$4000”
8998 POKE 16384,0:POKE 103,1:POKE 104,64
8999 PRINT CHR$(4)“RUN MAIN PROGRAM”
```

4. Type: **SAVE HELLO**

Akalabeth will now run when you type:

RUN HELLO

Some of you are now asking “what about pic3?” I don't know. It isn't used in the program but it was on the disk so we transferred it anyway.

TRANSFER Program

```
90 CALL 800: HOME : END
100 IF DD = 1 THEN GOSUB 110
102 CALL 800 : ST = PEEK (43634) +
PEEK (43635) * 256 : LN = PEEK
(43616) + PEEK (43617) * 256 :
PRINT CHR$(4) "BSAVE" A$ ",A" ST
",L" LN ",D" DD : CALL 768 : IF DD
= 1 THEN GOSUB 120
104 RETURN
110 HOME : VTAB 12 : PRINT CHR$(7) :
PRINT "INSERT DESTINATION DISK IN
DRIVE "DD : INPUT " PRESS
RETURN WHEN READY " ; X$ : RETURN
120 HOME : VTAB 12 : PRINT CHR$(7) :
PRINT " INSERT SOURCE DISK IN
DRIVE 1." : INPUT " PRESS
RETURN WHEN READY " ; X$ : RETURN
63000 FOR X = 768 TO 831 : READ A :
POKE X , A : NEXT

63010 DATA 169,222,141,118,185,141,8,
185,169,217,141,178,185,141,86,
185,169,173,141,139,185,169,181,
141,29,185,169,6,141,1,172,96,
169,213,141
63020 DATA 118,185,141,8,185,169,222,
141,178,185,141,86,185,169,181,
141,139,185,169,173,141,29,185,
169,17,141,1,172,96
63030 RETURN
```

Method #2

Requirements:

Applesoft in ROM

Muffin

3.2 Initialized disk.

1. Convert Muffin to Demuffin (see Demuffin, page 28).
2. Transfer the Demuffin program to the 3.2 disk. (3.3 DOS users can use Demuffin to transfer the Demuffin file to the 3.2 disk.)
3. Boot the 3.2 disk. (3.3 DOS users must use the Basics disk.)
4. Type in the “Map Move” programs (see Map Move, page 29).
5. **SAVE** to disk, then **RUN** it. When prompted for destination track, type in return.
6. **BLOAD DEMUFFIN.**
7. Complete the following pokes into DOS and Demuffin:
POKE 47478, 213
47499, 181
47538, 22
47368, 213
47389, 173
47446, 222
44033, 6
4257, 6
8. **CALL 2051** and follow Demuffin prompts (see Demuffin Instruction, page 28.)

9. Type in the following program:

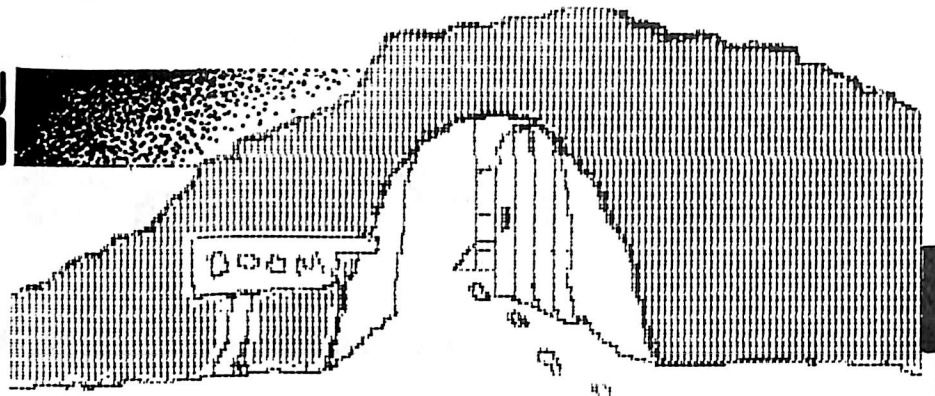
```
10 PRINT CHR$(4) “RUN I*****
*****I”: REM THERE ARE 26 ASTERICKS
```

10. **SAVE AKALABETH**

To play the game, simply type:

RUN AKALABETH

SOFT-FIX and additions



One of the reasons for removing programs and files from copy-protected disks is: You can now FIX them, alter them, and even make ADDITIONS to them. In other words, you can now customize them to fit your particular needs.

Since you have already "freed" Akalabeth from its "protected" disk, you can now FIX its annoying scrolling problem as well as add on this new magic command: TELEPORTATION.

PROBLEM: The "hit points" of the foes (you are fighting) often flash (scroll) by so fast that you can't see what they were and therefore cannot make valid combat decisions.

FIX: Put in a pause after it prints the hit points. There are other minor FIXes that modify screen format, greetings and farewells (Quit has been changed to eXit).

SPECIAL MAGICAL ADDITION: To help the brave Magi descend into, and ascend out of, the forbidden depths of this World of Doom, we have added a special magical teleportation option. (Use only if you have 1 or more magic amulets because teleportation "burns up" amulets just as if you had used the Magic Ladder-Up or Ladder-Down commands.)

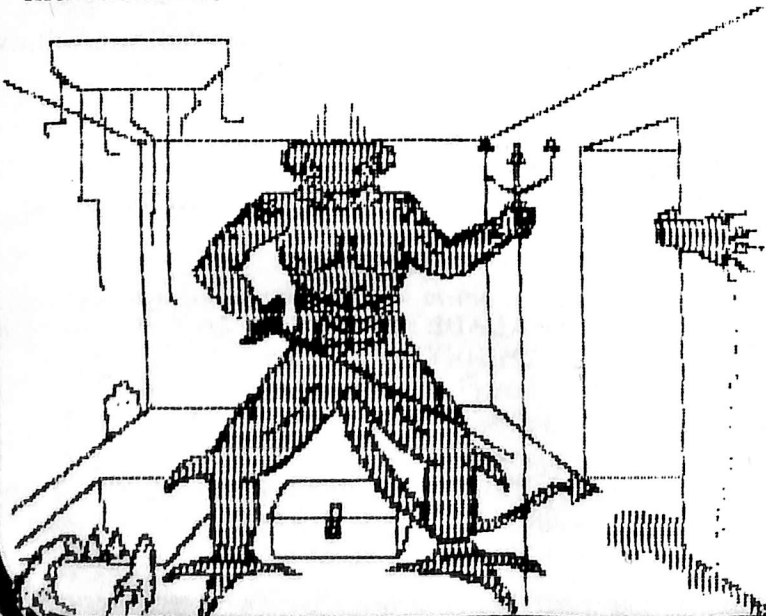
When you choose this 5th option: TELEPORT, you'll see: 1-UP 2-DOWN. Take your choice. If you choose UP, you will continue upward until either you surface or you run out of amulets and get: OUT OF MAGIC message. Choose DOWN and you'll be asked: HOW MANY LEVELS? It is a GET statement, so choose a number from 1 to 9 and don't bother to hit 'return.' If you run out of magic now, you're really in a World of Doom!

If you have a FIX or an ADDITION for any prepackaged programs on the market (whether they are on protected disks or normal format disks), drop a note to the Editor and we'll let the other Apple-users know about it (either in the UPDATES or the next issue). You'll also get bylined as its contributor.

Type in the following changes/additions.

...end...

Silentype print of screen image from Akalabeth introduction.



Silentype print of mysterious binary file from Akalabeth.

```

1664 PRINT M$ (MN) ; "'S HIT POINTS="
      ; MZ% (MN , 1) : FOR QS = 1 TO
      500 : NEXT
1682 PRINT "1-UP 2-DN 3-KILL 4-???"
      : PRINT "5-TELEPORT" : GET Q$ :
      Q = VAL (Q$) : PRINT Q : IF Q < 1
      OR Q > 5 THEN 1682
1685 ON Q GOTO 1686 , 1690 , 1691 ,
      1692 , 1800
1800 VTAB 21 : CALL - 958 : PRINT
      "1-UP 2-DOWN " ; : GET Q$ : QQ =
      VAL (Q$) : PRINT QQ : IF QQ < 1
      OR QQ > 2 THEN 1800
1810 ON QQ GOTO 1820 , 1840
1820 IN = IN - 1 : PRINT CHR$ (7) :
      IF IN = 1 THEN 1581
1822 IF PW (5) < 1 THEN PRINT
      "OUT OF MAGIC" : GOTO 1090
1824 IF RND (1) > .75 THEN PW (5) =
      PW (5) - 1
1826 GOTO 1820
1840 PRINT "HOW MANY LEVELS? " ; :
      GET Q$ : QQ = VAL (Q$) : PRINT
      (Q : FOR QS = 1 TO QQ : IN = IN +
      1 : IF RND (1) > .8 THEN PW (5) =
      PW (5) - 1
1844 IF PW (5) < 1 THEN QS = QQ :
      PRINT "OUT OF MAGIC"
1846 NEXT : GOTO 1090
60020 DATA "HIT POINTS..",
      "STRENGTH....", "DEXTERITY...",
      "STAMINA.....", "WISDOM.....",
      "GOLD....."
60081 VTAB (11) : HTAB (18) : PRINT
      "X-EXIT"
60210 PRINT
      "WHICH ITEM SHALT THOU BUY " ; :
      GET Q$ : IF Q$ = "X" THEN PRINT
      : PRINT "GOOD LUCK" : FOR Z = 1
      TO 1000 : NEXT : TEXT : HOME :
      RETURN
60237 VTAB (10) : HTAB (13) : PRINT
      C(5) ; " "

```

This is a list of computer magazines that we have at the office and that have something or other about Apple computers. They are included here for the benefit of readers who are searching for other periodicals to expand their library and knowledge.

We have also taken the liberty of rating each of them according to our **HARDCORE** user-oriented bias. For a more detailed analysis of particularly helpful articles, see the column called **DIGEST**.

Each apple has two sides in order to rate the two major areas of interest to users:

LEFT: Reviews and general info.

RIGHT: Programs, aids, Apple-specific info.

The larger the Byte the higher the rating. An apple core means that we recommend that particular magazine for apple-users even though it may have features that we don't particularly like. Ad percentage is approximate. Copy prices and subscriptions are domestic unless otherwise noted.

For more information on subscriptions, see your local computer store or write to the magazine at the address shown below.



APPLE ORCHARD

P.O. Box 1493
Beaverton, OR 97075

quarterly, \$3.50 per issue, \$10 per year.
Spring, volume 2, #1: 28% ads, 96 pages.



BYTE

P.O. Box 590
Martinsville, NJ 08836

monthly, \$2.50 per copy, \$19 per year.
May issue: 63% ads, 512 pages.



CALL A.P.P.L.E.

304 Main Ave., Suite 300
Renton, WA 98055

9 times a year,
\$2.50 per copy, but mailed free as a benefit of
membership.
subscriptions unavailable.
May issue: 43% ads, 68 pages.



COMPUTE!

P.O. Box 5406
Greensboro, NC 27403

monthly, \$2.50 per copy, \$20 per year.
March issue: 46% ads, 168 pages.



CREATIVE COMPUTING

P.O. Box 789-M
Morristown, NJ 07960

monthly, \$2.50 per copy, \$20 per year.
May issue: 49% ads, 226 pages.



INTERFACE AGE

Box 2654
Clinton, IA 52735

monthly, \$2.50 per copy, \$18 per year.
February issue: 46% ads, 144 pages.



Kilobaud MICROCOMPUTING

P.O. Box 997
Farmingdale, NY 11737

monthly, \$2.95 per copy, \$25 per year.
May issue: 45% ads, 258 pages.



MICRO, THE 6502 JOURNAL

P.O. Box 6502
Chelmsford, MA 01824

monthly, \$2.00 per copy, \$18 per year.
May issue: 33% ads, 96 pages



NIBBLE

P.O. Box 325
Lincoln, MA 01773

8 times a year, \$2.50 per copy, \$17.50 per year.
"MAY" volume 2, #2: 61% ads, 112 pages



PERSONAL COMPUTING

50 Essex St.
Rochelle Park, NJ 07662

monthly, \$2.00 per copy, \$14 per year.
January issue: 26% ads, 112 pages



SOFTALK

11021 Magnolia Boulevard
North Hollywood, CA 91601

monthly, \$1.50 per copy,
but subscriptions are complimentary to all
owners of Apple computers in the U.S.
May issue: 50% ads, 76 pages.



SOFTSIDE

P.O. Box 68
Milford, NH 03055

monthly, \$2.50 per copy, \$24 per year
May issue: 33% ads, 96 pages.



LIBRARIAN
... other computer magazines ...

USING BOTH SIDES OF

Both Sides of the Debate ...

Appledigest, like "Readers Digest," will contain condensed articles from other periodicals. When more than one article is included, then they will have a common subject. In this case, the subject is "using the other side of the single-sided diskettes."

With the DISK II drive, you have the ability to use both sides of your "single sided" diskettes. That means that you'll have double the storage capacity, and all you need to accomplish this feat is a standard hole punch (preferably a hand held implement), and something (a pencil?) to mark the diskette surface...But should you?

This special DIGEST examines this topic in three parts:

1. Flip your Floppy, the basic "how to" of flipping...digested from: "Flipping Your Disk" by M.G. Sies, which appeared in the March '81 issue of COMPUTE!, page 71.
2. Don't Flip It, a warning of the risks involved in flipping...digested from: "2 sided disks" by D. Buchler of Mini'App'les from material supplied by Dysan Corp., in the Spring, 1981, p. 27.
3. A view of Disk Prep and Disk Scanner, two programs that will let you use the reverse sides even if there are bad sectors...

PART 1 FLIP YOUR FLOPPY

The only thing that prevents you from using both sides of your single-sided diskettes is that it is effective "write-protected." In other words, there is no notch for the write-enable switch to slip into...so you can't write on that side unless you 1. disable that switch or, 2. make a notch on the other side. For those who already know about this simple operation, please go on to part 2 or 3.

Take two floppies and flip one over so that they are facing each other. Mark where and how far in the original notches are and then use the hole punch to cut the second notch. Be sure that you neither cut too deeply that you actually cut into the inner diskette, nor too shallowly that the switch cannot slip through.

(...the switch is triangular and pushes up through the gap. A round hole may have to be deeper in order to let this object pass...ed.)

Now all you have to do is INITIALize it normally. If you get an I/O ERROR, then you are ready for part 3. But read part 2 first.

PART 2 DON'T FLIP IT!

Some makers of minifloppies and diskette drives do not recommend that you use both sides of your diskettes if you have a one-head drive because:

1. When the drive head is applied to one side, a felt loading pad is pressed against the other side. That pad will accumulate oxide particles that may scour the reverse side. When flipped, the contaminated pad may then scour the prime side as well. This may lead to premature loss of data and the accumulation of read errors that may go unnoticed or be intermittent...making your drive unreliable.

2. The direction of rotation is reversed when the diskette is flipped and this may dislodge oxide particles that have accumulated on the liner material. The results would be similar to risk No. 1.

Neither problem occurs on a two-head drive because 1. the pressure pad is replaced by another write head, and 2. the direction of rotation does not change.

YOUR DISKETTES

PART 3 CHECK FOR FLAWS

Sometimes the flip side of your one-sided diskettes will contain flaws. These are areas where the oxide coating on the disk are too thin to reliably store data.

To avoid losing your valuable files, it would be wise to check the flip side before use. It's also a good idea to check the front side. Sometimes DOS will write a bad address or data mark. The disk will then appear to have a flaw but reINITializing the disk will clear this.

There are at least two software packages (programs) that will check your disks for flaws and then alter the Volume Table Of Contents (VTOC) so that these bad sectors are defined as already used:

1. **Disk Prep, by Sympathetic Software** (\$25). See AD on this page.
2. **Disk Recovery ("the Scanner"), by Sensible Software, Inc.** (\$30). See AD on page 11.

A review of these software packages will be in the next issue (and upcoming UPDATE).

Attention Software Vendors and Authors: If you have a similar program (one that can be used for the above stated purposes), now is the time to speak up. All such programs we receive will also be reviewed (see review policy, page 3).

Readers: If you have more information on the topic of "FLIPPING YOUR DISK", drop the editor a note. Are there any diskettes that cannot be flipped or are more likely to be flawed than the others? What are the best disks that can be flipped? What about the dangers of flipping? Has anyone lost files on the proper side of the diskette because the flip side was used? Questions, questions, questions . . . Let us know your answers. **...end...**

DOUBLE your DISKETTES

The only reasons your Apple][cannot use the back side of your diskette are:

1. There is no notch.
2. The diskette manufacturer did not test the back side, or worse, put the flawed front to the back.

A nibbling tool will solve problem number 1.

DISK PREP will solve problem number 2.

DISK PREP formats and tests your disk. Sectors with flaws are left so that they cannot be used. Your disk is left ready to boot, complete with a flaw report program saved on it.

\$25.00

sympathetic* software
9531 Telhan Drive
Huntington Beach, CA 92646

California residents add
\$1.50 sales tax

Dealer inquiries invited

... continued from page 5

...CENSORSHIP...

3. End the industry's practice of information repression and censorship of data (that is already shared among the suppliers but not known among the consumers. This includes irresponsible and selfish editorial policies that "protect" the suppliers (at the educational and informational expense of the readers and consumers).

4. Stop overpricing the software! Computer programs and related codes are really little more than a hybrid between literature (instructions) and mathematical formulae (algorithms and equations). While equations are not copyrightable, instructions are. Most such programs do not entail even as much effort as the writing of a novel, yet some are being sold for hundreds of dollars! Imagine a book costing that much . . .

THE SOFTWARE MONSTER

The software industry as a whole is a powerful, greedy oligopoly that could destroy itself by its own hands. Its overpriced wares remain inflated because the consumers are still ignorant of the actual value of such para-literatures. Each program is still thought of as a Masterpiece of limited printing, like a Picasso print. Each program is considered a work of art that is not to be touched, only admired and used

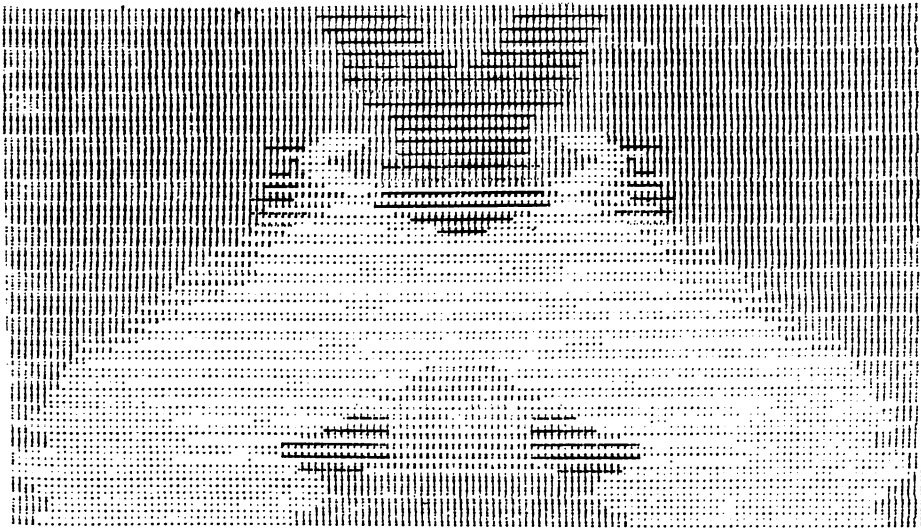
as directed. Competitive, alternate programs are not being written because as long as the consumers are semi-ignorant of how such programs are constructed, consumers will not be encouraged to become authors (and all consumers are potential authors).

Indeed, if the copy-protection epidemic is allowed to continue, computer programs will soon become another "black box" item that consumers use without knowing how or why it works.

I assume that in the near future this era of transition will be seen as the time of greed, where a few software companies took control of the market, created a protective software cartel that kept the consumers ignorant of the ease with which programs are written. This period of ignorance, the dark-ages of software, will pass as higher-level computer languages approach everyday language, where the difference between true literature and computer programs will vanish entirely.

But until then, it is up to you, the consumer, the so-called "pirates", to keep the cartels from growing even more powerful, from turning computer software into magic diskettes from whence miracles mysteriously arise at the secret incantations (RUN, IN#6, etc.) of the software wizards who guard their secrets jealously.

...end...



green

INK

by B. Bryte

Creative subroutines and mini-programs fall into the category of GREEN

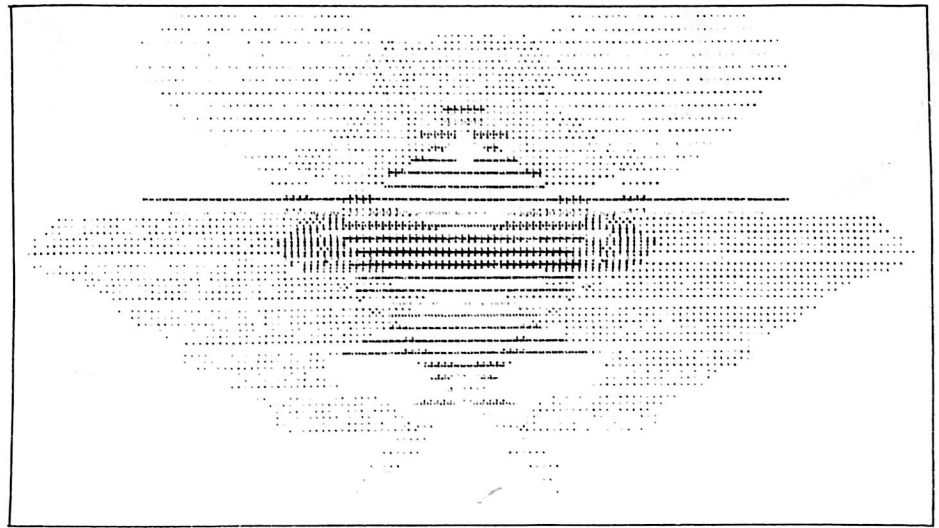
Integer (INT)

```
10 X0 = Y0 = COLR
20 INIT = - 12288 : CLEAR = -12274 :
   BKGND = - 11471
30 PLOT = - 11506 : LINE = - 11500 :
   FULLSCREEN = - 16302
50 MUSIC = - 10473 : PITCH = 767 :
   TIME = 766 : TIMBRE = 765
60 POKE TIMBRE , 32 : POKE TIME , 2
70 MUZIK = 1 : DELTA = 5
100 CALL INIT
110 Y = 96 : X = 139 : FLAG 1 = - 1 :
   FLAG 2 = 1
120 POKE FULLSCREEN , 0
130 FOR BLOT = 1 TO RND (10) + 5
140 COLR = RND (12) : GOSUB COLR +
   5000
150 EDGE 1 = X/2 - RND (X)-1 : EDGE 2
   = X/2 - RND (X) - 1
160 GAP = RND (3) + 1
170 FOR A = Y - RND (Y) TO Y + RND
   (Y) .STEP GAP
180 FLAG = FLAG 1 : EDGE = EDGE 1 :
   GOSUB 1000
190 FLAG 1 = FLAG : EDGE 1 = EDGE
200 FLAG = FLAG 2 : EDGE = EDGE 2 :
   GOSUB 1000
210 FLAG 2 = FLAG : EDGE 2 = EDGE :
   Y0 = A
250 X0 = X + EDGE 1 : CALL PLOT : X0
   = X + EDGE 2 : CALL LINE
260 X0 = X - EDGE 1 : CALL PLOT : X0
   = X - EDGE 2 : CALL LINE
300 GOSUB 2000 : NEXT A , BLOT
450 COLR = RND (8) : GOSUB COLR +
   5000
500 FOR PAUSE = 1 TO 49 : POKE TIME ,
   10 : POKE PITCH , PAUSE : CALL
   MUSIC : NEXT PAUSE : POKE
   TIME , 2
900 CALL BKGND : GOTO 130
1000 IF RND (15) > 13 THEN FLAG = -
   FLAG
1005 KEY = PEEK (-16384) : POKE
   -16368,0
1010 IF KEY = 160 THEN 3000
1015 IF FLAG > 0 THEN 1100
1020 EDGE = EDGE - RND (DELTA)
1030 IF EDGE < - X THEN 1050 : RETURN
1050 FLAG = - FLAG : EDGE = - X :
   RETURN
1100 EDGE = EDGE + RND (DELTA)
1110 IF EDGE > X THEN 1150 : RETURN
1150 FLAG = - FLAG : EDGE = X : RETURN
2000 MUZIK = MUZIK + 1
2010 IF MUZIK > 49 THEN MUZIK = 1
2020 POKE PITCH , 50 - (A/4) : CALL
   MUSIC : RETURN
3000 POP : GOTO 140
5000 COLR = 0 : RETURN
5001 COLR = 42 : RETURN
5002 COLR = 85 : RETURN
5003 COLR = 127 : RETURN
5004 COLR = 170 : RETURN
5005 COLR = 213 : RETURN
5006 COLR = 128 : RETURN
5007 COLR = 255 : RETURN
5008 COLR = 42 : RETURN
5009 COLR = 95 : RETURN
5010 COLR = 170 : RETURN
5011 COLR = 213 : RETURN
```




BLOTS

APPLES. These programs can be incorporated into other programs to create a finished whole.



For those with a psychological twist in their personalities, we present a mini-program that creates colorful hi-resolution designs that are bilaterally symmetrical . . . in other words, "ink blot tests".

This program also incorporates the sound routines available in Applesoft (buzzes) and integer (tones) because it is listed in both languages.

Suggested uses for this GREEN APPLE are: as a demonstration of the hi-res color capabilities of your Apple, or part of a game's introduction, or even as its own Ink Blot Test game with question-humorous answer exchange.

For beginners, it is an easy introduction to hi-res graphics and Apple sounds that you can alter to fit your needs. And it is a chance to compare the same "program" written in two languages.

Instructions: (SPACE) will make the program switch to another color-pattern.

Some improvements that I suggest, should you like to use this to display or print the "ink blots", would be to add a subroutine that saves the picture to disk or tape, and perhaps some other command options such as: color selection for background or pattern, or color alterations, or even color choices while the program is running (by tapping the keys). How about using the paddles to control the variables so that you can design your own patterns without relying on the RND factor?

...end...

Applesoft (FP)

```
5  CHANGE% = 5
10  HGR2
15  Y = 96
20  X = 137
25  F1 = - 1 : F2 = 1
30  FOR B = 1 TO RND (1) * 10 + 5
40  HC% = RND (1) * 8 : HCOLOR = HC%
50  S1 = X / 2 - RND (1) * X : S2 =
    X / 2 - RND (1) * X
55  GAP% = RND (1) * 3 + 1
60  FOR A = Y - RND (1) * Y TO Y + RND
    (1) * Y STEP GAP%
70  F = F1 : S = S1 : GOSUB 1000 : F1 =
    F : S1 = S
80  F = F2 : S = S2 : GOSUB 1000 : F2 =
    F : S2 = S
90  HPLOT X + S1 , A TO X + S2 , A
95  HPLOT X - S1 , A TO X - S2 , A
100 Z = PEEK (- 16336)
110 NEXT A , B
120 FOR BUZZ = 1 TO 25 : FOR BZZ = 1
    TO BUZZ : Z = PEEK (- 16336) :
    NEXT BZZ , BUZZ
900 CALL 62454 : GOTO 30
1000 IF RND (1) * 13 > 11 THEN F = - F
1005 KEY = PEEK (- 16384) : POKE
    - 16368,0
1010 IF KEY = 160 THEN POP : GOTO 40
1020 IF F > 0 THEN S = S + RND (1) *
    CHANGE% : IF S > X THEN F = - F :
    S = X
1030 IF F < 0 THEN S = S - RND (1) *
    CHANGE% : IF S < - X THEN S = - X
    : F = - F
1090 RETURN
```

CHRS(4) is a column devoted to the Apple Disk Operating System (DOS). Understanding DOS is a key to better worlds. Your computer can have up to 48K of memory (64K with Language Card) but a disk has 140K (113K - 13 sector) of storage space. This is a window to bigger and more versatile programs. DOS allows functions not available in Applesoft or to cassette users. Programs no longer need to be complete in themselves. With random access to files on a disk, your program can save and recall data and even chain to another program on the disk. In CHRS(4) you will discover:

How DOS works

How to use all the DOS commands

How your data is stored on the disk

How to protect your files from others

How to customize DOS

Certain tools are required to help you understand DOS and to allow you to manipulate your disk files. The most important is a disk editing utility. In this issue you will acquire one of these tools and learn how to use it. It is called: DiskEdit . . .

DiskEdit is a user-oriented direct disk-access program. What do those buzzwords mean? Well, DiskEdit allows you to Read or Write any sector on your disk. This means that you can:

Directly Edit files on disk

change text in binary files

insert illegal characters in REM's

directly alter data base files

Move Sectors (even between disks)

repair crashed disks

Directory Title Formatting

remove illegal characters in file names

write flashing and inverse titles

repair VTOC

unDELETE deleted files

hide file names

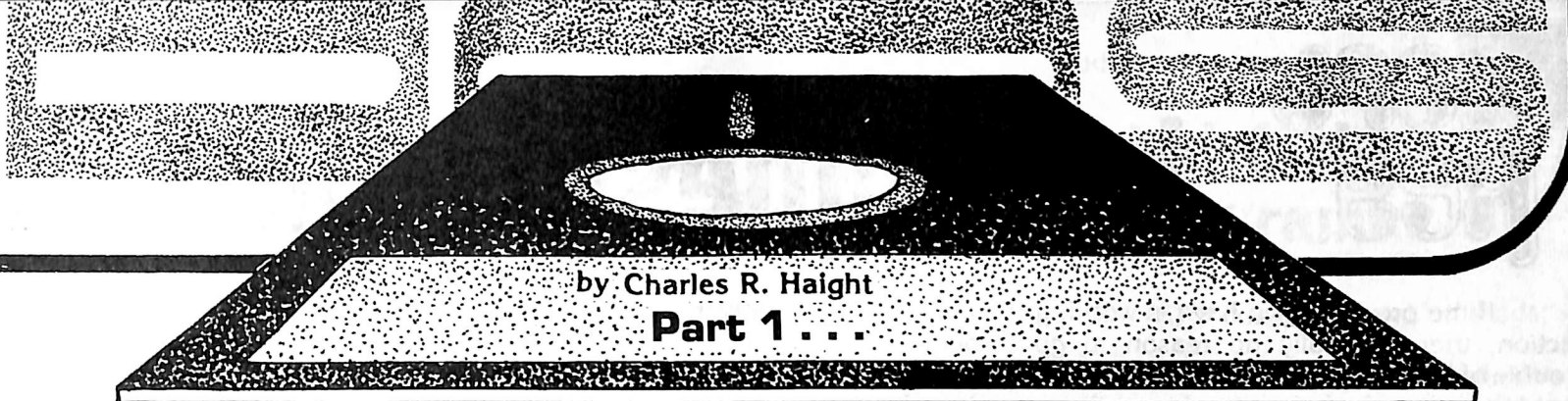
There are other programs available that do the same job. But they cost a lot of money and they're not user-friendly.

DiskEdit will display an entire sector in hex (hexadecimal) or ASCII. (the others display a portion of each sector requiring you to use multiple key strokes to see the other parts.) DiskEdit is simple to use. The commands are single key entry (You don't have to keep hitting return). There are two edit modes. The first changes a single byte and exits back to the command parser. The other allows continuous changes and only exits when you hit esc (escape). With DiskEdit you can directly enter control, inverse and flashing characters. Input and display information can be in hex or decimal. The shimmering cursor is easy to identify even with a screen full of inverse and flashing characters. The pointer allows you to jump the cursor to any absolute position within a sector. The 'Next' and 'Last' commands allow you to single step thru Track/Sectors. DiskEdit has a simple escape. If you change your mind, pressing the **esc** key will set the defaults and return you to the command parser.

The keyword is simplicity. DiskEdit is the most user friendly direct disk access program around. It is available on disk for the price of a blank disk plus shipping (see page 3) or you may type it in yourself.

These are the command keys:

- A** ASCII changes screen display to all ASCII characters
- B** unused
- C** CONTINUOUS EDIT allows multiple key entry (use esc key to exit)
- D** DRIVE prompts you for new drive (hit esc to reset default)
- E** EDIT single key edit
- F** FORMAT changes EDIT format to normal, flashing or inverse (only visible in ASCII screen format)
- G** unused
- H** HEX changes screen display to all hex characters
- I** UP moves cursor up
- J** LEFT moves cursor left
- K** RIGHT moves cursor right
- M** DOWN moves cursor down
- L** LAST reads last sector
- N** NEXT reads next sector
- O** unused
- P** POINTER allows cursor to be jumped to any absolute position in the displayed sector
- Q** unused
- R** READ prompts you for Track/Sector to read (esc key resets defaults and exits, return key sets defaults and continues)
- S** SLOT prompts you for new slot (esc key resets defaults and exits)
- T** reserved
- U** UPDATE flips input/output mode between hex and decimal, updates display information
- V** unused
- W** WRITE prompts you for Track/Sector to write to (esc key resets defaults and exits, return sets defaults and continues). After entering the Track and Sector DiskEdit will beep three times and pause. This is your last chance to change your mind. Hit return to continue or any other key to escape.
- X** EXIT clears screen and exits to basic
- Y** unused
- Z** unused



by Charles R. Haight
Part 1 . . .

Using DiskEdit to re-format CATALOG

CAUTION: DiskEdit could cause irreparable damage to your files if typed in incorrectly or if used carelessly. Experiment on a scratch diskette until you are sure you have the program entered correctly and until you understand how to use it properly. Never practice on a disk containing files that you value.

Type in the DiskEdit program and save it on your Utilities disk. (If you don't have a Utilities disk then it's time you started one.)

Insert a blank disk in drive #1 and type the commands in the steps listed below. Remember: All of the commands and most of the inputs for DiskEdit are single key strokes. Don't press return unless prompted to do so.

1. **INIT DISKEDIT, D1, V1** return

INITializes the disk and SAVES DiskEdit as the hello program. (The hello program is the program that DOS will automatically run when you boot the disk.)

2. **NEW** return

3. **SAVE FIRST** return

4. **SAVE SECOND** return

5. **SAVE THIRD** return

Clears memory and SAVES 3 dummy files to give you something to work with.

6. **RUN DISKEDIT** return

7. Press any key

The bottom 2 lines are your status indicators. They tell you the track (TRK) and sector (SEC) that you are viewing, which SLOT and DRIVE is being used, what the screen and input format is, the pointer (PTR) position and what mode you are in.

8. Press the **R** key

9. Type **11 F** (3.2 users: type **11C**)

10. Press the **A** key

You are looking at the first part of the directory where the file names are stored. At the upper left hand corner of the screen is a shimmering ">". This is the cursor or pointer.

11. Use the **I, J, K, M** keys to position the pointer in front of the **F** in **FIRST**.

12. Press the **C** key

13. Hit the left arrow → key 7 times (Don't be alarmed when the pointer moves to the right. It's supposed to.)

14. Hit the = key 24 times

15. Hit **esc**

16. Position the pointer in front of the "T" in "THIRD."

17. Repeat steps 12-15

18. Position the pointer in front of the "S" in "Second"

19. Press the **F** key twice

The Input/Output prompt at the lower part of the screen will change to an inverse (ASC). This indicates that you will be entering inverse characters.

20. Press the **C** key

21. Hit the left arrow ← key 7 times

22. Press the **space** bar 5 times

23. Type **DISK UTILITIES**

24. Press the **space** bar 5 times

25. Hit **esc**

26. Press the **W** key

27. Hit the **return** key 3 times

28. Press the **X** key

29. Type **CATALOG** return

You've just completed your first lesson in Directory Title Formatting or "Mousing" around in the CATALOG. Experiment with Disk Edit using this same scratch diskette.

DISKEDIT: UTILITY R.W.T.S.

This program is Applesoft and for 16-sector DOS. Users of 13-sector DOS will need to make the following changes:

Line #450 change **KY% > 15** to read **KY% > 12**

Line #12010 change **SE% = 15** to read **SE% = 12**

Line #13000 change **SE% < = 15** to read **SE% < = 12**

4 **REM COPYRIGHT 1981**

5 **REM HARDCORE COMPUTING**

10 **TEXT : HOME : HIMEM : 36863 : GOSUB
63000 : GOSUB 50 : GOTO 1000**

******* Pointer Position *******

12 **HTAB (HT% - 1) * 3 + 1 : VTAB VT% +
2 : RETURN**

... continued on page 32

to 'Applesoft Disks':

If the program you have is working to your satisfaction, there is really no reason to go through the trouble of "unlocking" the copy-protection. I recommend that everyone obtain a bit-copy program and use it to back up your software. The methods described here are for programs that you feel need FIXing. In order to FIX them, you have to be able to list them.

The whole purpose of "Copy The Uncopyables" is to allow the user to get into a protected pro-

gram and to make changes in that program.

Another reason for putting programs on normal DOS is to conserve disk space by placing more than one program on a disk. If you just make a bit-for-bit back-up of ten disks, you now have 20 disks. However, by "downloading" the protected program to normal DOS, you can probably put all ten on two or three one-sided disks.

As soon as this column is printed, the copy-protection method and its SOFTKEY that we have

1. The Fast And Nifty Demuffin Method

Requirements:

- Applesoft 3.2 or 3.3 with Integer card.
- Tape Recorder.
- Blank Initialized disk (3.3 or 3.2 as appropriate).
- Muffin (found on your 3.3 master disk).

Preliminary steps:

1. Convert Muffin to Demuffin (follow instructions under "DEMUFFINS," page 28).
2. BLOAD Demuffin. SAVE to tape.
3. Type in the RWTS program. (see "MAP MOVE" on page 29). SAVE to disk.
4. Peek at protected DOS to find the VTOC location:
 - a. Boot protected disk
 - b. Flip Integer card switch to UP position
 - c. Hit RESET to fall into the monitor
 - d. Type AC01 'RTN'. You should see this:
AC01-11

If you don't, then write down the Hex number that appears after the dash and use the Conversion Table (see MAP MOVE) to change the number to Decimal.

- e. Flip Integer card switch to DOWN position and reboot DOS.

5. Run Map Move. When prompted for the destination track, enter the converted decimal number. This will move VTOC on your initialized disk to the same track-sector as the VTOC on the protected disk.

You are now ready to download the protected disk.

1. Boot the protected disk.
2. Flip Integer card switch to UP position and hit RESET to enter the monitor.
3. LOAD Demuffin from tape.
(If you ran the MAP MOVE program, then you also have to change the VTOC flag in Demuffin located at 10A1. Type 10A1: (hex value) and enter the hex value you found at AC01.)

4. Type 3D0L 'RTN'. The listing should look like this:

3D0L

03D0-	4C BF 9D	JMP	\$9DBF
03D3-	4C 84 9D	JMP	\$9D84
03D6-	4C FD AA	JMP	\$AAFD
03D9-	4C B5 E7	JMP	\$B7B5
03DC-	AD 0F 9D	LDA	\$9D0F
03DF-	AC 0E 9D	LDY	\$9D0E
03E2-	60	RTS	
03E3-	AD C2 AA	LDA	\$AAC2
03E6-	AC C1 AA	LDY	\$AAC1
03E9-	60	RTS	
03EA-	4C 51 A8	JMP	\$A851
03ED-	EA	NOP	
03EE-	EA	NOP	
03EF-	4C 59 FA	JMP	\$FA59
03F2-	BF	???	
03F3-	9D 38 4C	STA	\$4C38,X
03F6-	58	CLI	
03F7-	FF	???	
03F8-	4C 65 FF	JMP	\$FF65
03FB-	4C 65 FF	JMP	\$FF65
*			

If it doesn't, and there are only minor differences, then change it so it does. (To change a memory location while in the monitor, you type the location in hex followed by a colon followed by a hex number then a space then the next hex number.

When you are finished, hit 'RTN'.

5. Type 803G 'RTN'. You will be in Demuffin. (See Demuffin instructions, page 28)

If you encounter an error before any files are written then you have to use surgery (method 2).

...end...

How To Back Up Copy-Protected Disks Containing Mainly Applesoft Programs

shown will become obsolete. New methods will be devised by the software houses, and new SOFTKEYs will be published.

This, then, is the **HARDCORE SOFTKEY** for protected Applesoft disks. In upcoming issues, other SOFTKEYs will be presented:

SOFTKEY to Integer disks.

SOFTKEY to Binary files.

And of course, the program-specific SOFTKEYs.

This issue's SOFTKEY consists of two methods:

1. **The Fast and Nifty Demuffin Method.** This one should be tried first and will work whenever DOS has not been extensively altered.

2. **The Open-Heart Surgery Method.** If DOS has been mutilated, then you have to go in and remove the files one by one. This is slow and involved but should work with most Applesoft disks.

2. The Open-Heart Surgery Method

Requirements:

Apple II + 48K

Applesoft in ROM

Integer card

Tape recorder

Blank initialized disk (3.2 or 3.3 as appropriate.)

This method is not for beginners. It requires some knowledge of programming and involves a number of monitor commands. An understanding of Zero Page locations is helpful.

No matter what has been altered, this method will work because the computer must know the program location in order to RUN it.

The following locations apply to Applesoft in ROM and 48K DOS. They are used by the computer to tell it where the program is located and what to do with it. Addresses are given in standard format (eg. hex lo-byte, hi-byte).

\$D6 is the RUN flag. Any time this byte has the high bit set the program in memory will auto-run.

\$3F2, \$3F3 is the reset vector. See page 37 of your Apple II Reference Manual (AII RM)

\$3F4 is the power up byte (EOR of \$A5 and the value at \$3F3. See page 37, AII RM.

\$67,68 is the start of program pointer. See page 140 of the Applesoft Basic Programming Manual (ABPRM).

\$AF,B0 is the end of program pointer. See page 141, ABPRM.

\$9DBF (CALL-25153) reconnects DOS. See page 144 of your DOS Manual (DOSM).

\$A851 (CALL-22446) reconnects the input hooks. (Bypasses \$9DBF and any time-bombs that may have been planted there.)

\$AA60,AA61 is the length of the last loaded program. See page 144, DOSM.

\$AA72,AA73 is the start of the last BLOADED program. See page 144, DOSM.

The following steps were written for an Apple II + 48K with Applesoft in ROM and an Integer card. If you have Integer in ROM and an Applesoft card be sure to reverse the appropriate steps. (eg. When it says to flip the switch UP on your Integer card, you would flip the switch DOWN on your Applesoft card.) Hitting 'RTN' after commands is implied and will only be used in certain lines for clarity.

1. Boot the back-up copy of your program disk. (Never use the original.)

2. Flip the Integer card switch to the up position and hit RESET to get the monitor prompt (*).

3. Type **67.68 'RTN'**. If the number is not \$801 then write it down for later reference.

4. Type **D6:0 'RTN'**. This resets the Run flag.

5. Type **3F2:03 E0 45 'RTN'**. This changes the reset vector to jump into the current language. Flip the integer card switch down, hit RESET. Type LIST. You should now be able to list the program. If the program does not list you may be trying to list a binary file. Check \$AA72,AA73 to see if this is true.

6. Save your program to tape.

7. Take a good look at your listing. Write down the names of any files that are loaded or run and the start address of any binary file if given. List all pokes and calls.

8. On some protected disks the command parser in DOS is changed. This tends to wipe out some of the common commands (eg: LOAD, SAVE, CATALOG). Another popular trick is to change DOS so it does not allow any direct commands. In order to load and save the files that make up your program, select the first line entry that loads or loads a file. Delete all line entries above and below the selected line. (ie: you want line 5, so you DELETE lines 0 thru 4 and 6 thru 63999.)

9. **CALL-25153.** (If it bombs, then restart, repeat all steps up to 9 and now CALL-22446.) This reconnects the DOS. Then type RUN. This will LOAD your selected file.

... continued on page 36

demuffins...

Muffin is a program on your 3.3 DOS Master disk. Those of you with 3.2 DOS will need to get a copy from a friend or your local dealer. Muffin is used to transfer 13-sector files to 16-sector disks. To do this, it contains an image of 13-sector RWTS (Read or Write a Track and Sector). It uses the 13-sector RWTS to read the file and then writes to your 3.3 diskette using the resident DOS. Demuffin does just the opposite.

There are 2 versions of Demuffin:

1. Demuffin . . . writes 13-sector (3.2) format.
2. Demuffin Plus . . . writes 16-sector format.

For 3.2 systems...

DEMUFFIN

Demuffin is created by changing the jumps in the program so that it uses the resident DOS to read the file and the 13-sector internal image to write.

1. BLOAD MUFFIN
2. CALL-151
3. Type in the following:
1155:00 1E return
115B:D9 03 return
1197:A0 20 return
15A0:A0 D2 C5 D3 C9 C4 C5 CE D4 return
4. BSAVE DEMUFFIN, A\$803, L\$1900

15A9:A0 C4 AE CF AE D3 AE return
15B6:B2 return
15F7:C4 C5 return
20A0:A9 1E 8D B9 B7 20 FD AA 48 return
20A9:A9 BD 8D B9 B7 68 60 return

For 3.3 systems...

DEMUFFIN PLUS

For 3.3 DOS users, Demuffin can be modified to write files to 16-sector disks. You'll need the Programmer's Aid ROM (The Integer card comes with this ROM).

1. Boot 3.3 DOS
2. Type INT return (for Integer card)
3. BLOAD MUFFIN
4. CALL - 151
5. Type in the following:
 - a. D4D5G return
(Initializes the Programmers Aid Code-Relocation feature.) See page 16 of your Programmers Aid Manual (PAM).
 - b. 1900 B800.BFFF ctrl Y* return
(Tells the relocate routine what we're moving and where it goes.) See page 16, PAM.
 - c. 1900 B800.BA10 ctrl Y return
(Moves the first Code segment down to \$1900.) See page 17, PAM.
 - d. .BC57M return
(moves the Data segment.) See page 17, PAM.
 - e. .BFFF ctrl Y return
(Moves the last Code segment.)
 - f. 1155:00 1E return
115B:D9 03 return
1197:A0 20 return
15A0:A0 D2 C5 D3 C9 C4 C5 CE return
15A8:D4 A0 C4 AE CF AE D3 AE return
15F7:C4 C5 return
20A0:A9 1E 8D B9 B7 20 FD AA return
20A8:48 A9 BD 8D B9 B7 68 60 return
6. BSAVE DEMUFFIN PLUS, A\$803, L\$1900

Directions and Explanations

First of all, be sure that you are using the correct Demuffin for the disk you are writing to (3.2 or 3.3).

Demuffin directions are identical to Muffin's. You want to convert the files, so you have to select the disk slot and drive and the file name you want to convert. It is helpful to type = for the file name so that all the available file names will be displayed when you answer yes to the question: Do you want prompting. Now you can choose

which files you convert (transfer). If a file doesn't transfer and you get an I/O ERROR, you'll be dumped back to the menu. Just repeat all the steps but don't bother converting the files you have already converted, and BYPASS THE PROBLEM FILE (It probably isn't necessary to the program anyway). Continue to convert as many files as you can following the directions given in various SOFTKEY examples.

MAP MOVE:

```

5  LOMEM : 4400
10 GOSUB 1000
20 TEXT : HOME : VTAB 12 : HTAB 10 :
  INPUT "DESTINATION TRACK? " ; AN$:
  AN% = VAL (AN$) : IF AN% < 4 OR
  AN% > 34 OR LEN (AN$) > 2 THEN 20
25 T2% = AN% : IF AN% < > 17 THEN T1%
  = 17 : GOTO 40
30 HOME : VTAB 12 : HTAB 11 : INPUT
  "SOURCE TRACK? " ; AN$: AN% = VAL
  (AN$) : IF AN% < 4 OR AN% > 34 OR
  LEN (AN$) > 2 THEN 30
35 T1% = AN% : IF T1% = T2% THEN END
40 TEXT : HOME : VTAB 12 : PRINT
  "MOVE BIT MAP FROM " T1% " TO " T2%
  ". (Y/N) " ; : GET AN$: PRINT AN$
  : A$ = LEFT$(AN$,1) : IF A$ < >
  "Y" THEN 20
100 POKE TRK , T1% : POKE SCT , 0 :
  POKE CMD , RD : CALL 768
110 IF T1% = 17 THEN POKE 4153 +
  (T2% * 4) , 254
120 POKE TRK , T2% : POKE CMD , WR :
  CALL 768
999 STOP
1000 FOR X = 768 TO 796 : READ A :
  POKE X , A : NEXT
1005 TRK = 780 : SCT = 781 : CMD = 788
  : RD = 1 : WR = 2 : RETURN
1010 DATA 169,3,160,8,32,217,3,96,1,96
  ,1,0,0,0,25,3,0,16,0,0,1,0,0,96,1
  ,0,1,239,216
  
```

\$HEX - DECIMAL Conversion Chart

\$03- 3	\$0E-11	\$13-19	\$1B-27
\$04- 4	\$0C-12	\$14-20	\$1C-28
\$05- 5	\$0D-13	\$15-21	\$1D-29
\$06- 6	\$0E-14	\$16-22	\$1E-30
\$07- 7	\$0F-15	\$17-23	\$1F-31
\$08- 8	\$10-16	\$18-24	\$20-32
\$09- 9	\$11-17	\$19-25	\$21-33
\$0A-10	\$12-28	\$1A-26	\$22-34



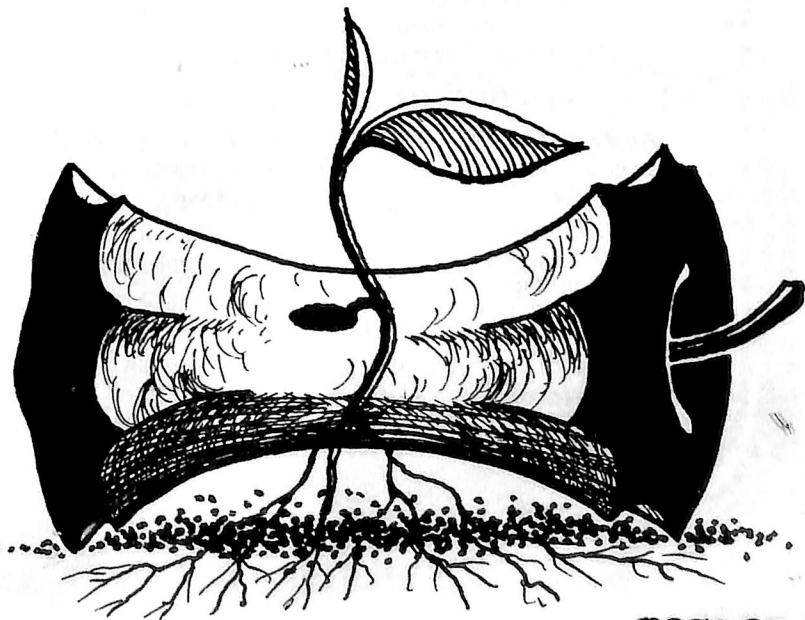
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Writer's Markets

In a continuing effort to encourage potential writers and to stimulate their creativity, this column will include reviews of various software-writers markets, as well as any complaints or praises that readers-writers send to us regarding their experiences with certain publishers or agencies.

We must, in all honesty, add this disclaimer: Inclusion in this column is a service to the readers and therefore does not imply a recommendation. That is up to the readers. (But we are very interested in how you are treated by these and other such publishers and agencies. Write in and tell us about them.)

I decided to start this column off with a review of markets not intimately tied to other computer magazines but whose ads I saw in those same magazines. An informal "questionnaire" was sent to them just a few days before my copy deadline. Only a couple responded: 1. The Blacksburg Group, Inc., and 2. Westico.

The Blacksburg Group, Inc.

(The Blacksburg group, the first to respond to my inquiry, sent along a packet of information that included a sample contract, writers' guidelines for both programs and books, as well as several advertising flyers and catalogs they have used to market their products.)

a. First-time authors?

"Yes, we work with so-called first-time authors, as well as people who have published elsewhere."

b. Rights and Royalties?

"We do not purchase any programs, but work on an exclusive license basis with an author. Royalties vary, depending upon many different things such as program length, mass appeal, complexity, potential market, and so on. We will talk with an author about a specific royalty percentage only after we have taken a look at the program(s)."

c. Apple software?

"Software is about equally split between the TRS-80 and the Apple systems. We do not do translations for the author. We have separate contracts for different computers and languages."

d. Program requirements?

"Programs are analyzed for their marketability, then for clarity of documentation, simplicity, ease of use, human orientation, etc. Each program is analyzed by itself."

e. Audience?

"(Engineers, technicians, scientists, hobbyists and experimenters who want to do more with their computer than land on the moon or shoot down 'Invaders'.)"

f. Contact:

"The Blacksburg Group, Inc., P.O. Box 242, Blacksburg, Va. 24060. Tel. (703) 951-9030."

g. Notes . . .

"While we have many contacts throughout the industry, we work closely with Howard W. Sams and Co., and they recently published our circuit design package (software). We are also very interested in talking with people who have interesting ideas for new books about computers, computer applications, languages, etc., and would be particularly interested in finding someone who could do Apple-related books for us." (All right all you Apple-minded writers, don't miss out on this market!ed.)

"We now have 37 computer programs in seven software 'packages'. There is a need for other technically-oriented programs in the areas of engineering, science, statistics, data base management, circuit design, computer-aided design, data processing, computer-aided instruction (CAI), amateur radio, and so on. If a program is technically oriented, we are interested in looking at it."

WESTICO, The Software Express Service

a. First-time authors?

"We will consider publishing programs offered by "first-time" authors. The application and quality of code and documentation are the primary criteria."

b. Rights & Royalties?

"The specific rights we negotiate depend on our evaluation of the market which can be served by the program, and the factors mentioned above."

c. Apple software?

"A high percentage of our programs can run on the Apple directly or with a CP/M SoftCard. We translate media formats but do not make language translations."

d. Program requirements?

"Does the program adequately perform some useful task of interest to a significant population?"

e. Audience?

"Westico serves the managers and professionals who use microcomputers to do their jobs more easily, faster and better."

f. Contact:

"Phil Woellhof, Vice President - Marketing, 25 Van Zant St., Norwalk, CT 06855. Tel. (203) 853-6880."

g. Notes . . .

"We regularly advertise for new software in BYTE and other media. Some (software*) are written by well known software houses, while others are the single product of part-time authors. Many authors overestimate the value of their programs and underestimate the skills and costs associated with professional marketing and distribution. They are often slow to recognize that complete, but simple and non-technical documentation is a primary requirement for a large number of users. The majority of application programs will be purchased by users with a very limited knowledge (and interest) in the technical aspects of computers or software. They simply want to get their job done as easily as possible."

A product list was provided that included over fifty programs in the fields of accounting, data management, planning-analysis, time accounting, text processing, language processors, telecommunications, development tools and miscellaneous ranging in price from \$1495 for Micro Info's ESQ-1 Legal package to development tools like Compiler Systems' CBasic or text processors like Organic's TextWriter for a little over \$100.

Westico also has a "24-hour hotline" so that people can order their products more easily.

Well, that wraps up this column. If you are looking for software authors and wouldn't mind being reviewed for our readers, just drop us a note and we'll send you our questionnaire.

DISK

LOCKS

How To Copy-protect Your Disks

There are thousands of ways to make a disk uncopyable. Every programmer has a favorite method. Mine is to change the address or data marks. These are the bytes that tell the Disk Operating System (DOS) where it is and what it's reading.

The address mark consists of a start flag, volume-track-sector-checksum information and an end flag.

The data mark consists of a start flag, one page of data and an end flag.

Changing the address or data marks is simple. Residing within the DOS is the RWTS (Read or Write a Track and Sector). When you initialize a disk, DOS calls the RWTS which writes the address and data marks for each track and sector. If you change the address or data mark in the RWTS core then any disk you initialize from this core will have the changed address and data marks and be uncopyable (at least by normal methods).

The locations for 3.3 DOS are 47413 and 47262. These are only two of a number of locations. A more complete explanation will be in your first UPDATE. (ONLY SUBSCRIBERS RECEIVE UPDATES --ED)

The locations for 3.2 DOS are 47446 and 47326. The normal value at these addresses is 222. When you change this byte, be sure to change both locations to the same value. And be sure you're POKING the correct location for your DOS. Use a value between 160 and 250.

Follow this routine:

1. Boot normal DOS
2. **LOAD** your Hello program.
3. Insert a blank disk in your drive.
4. **POKE** (1st location), (new value)
5. **POKE** (2nd location), (new value)
6. **INIT** (Name of your Hello Program)

You now have a protected disk. The normal Apple copy programs will not work on this diskette. To use it, you must boot the disk. This will load the Changed DOS.

In order to LOAD programs onto this disk you must change the two locations that you POKEd earlier. Follow these steps:

1. **Boot normal DOS**
2. **LOAD your program**
3. **POKE (location 1), (new value)**
4. **POKE (location 2), (new value)**
5. **Insert the protected disk in your drive**
6. **SAVE (program name)**

Muffin could also be used to upload programs to your protected disk from a 13-sector disk. The steps would be the same except for the following changes:

2. **BLOAD DEMUFFIN**
5. **CALL 2051**
6. **Follow the Muffin prompts**

Muffin will prompt you for the source and destination slot and drive. Then it will ask for the program name. If you want to transfer more than one program, type an 'equals sign' (=). This is the wild card character and means: Transfer All Programs. It then asks if you want prompting and you should answer **yes**. Muffin will now display each program name and ask if you want to transfer it.

After you have transferred all the programs you want, you'll need to consider something else. In order to get the full benefit of this method of copy protection a special HELLO program should be used. This program should set the run flag as well as lock out the RESET switch and ctrl C and then it should RUN your program. The following is a sample:

```
0 ONERR GOTO 1
```

```
1 POKE 214, 128: POKE 1010, 102: POKE 1011, 213: POKE 1012, 112: PRINT CHR$(4) "RUN Name of your program."
```

Your program should contain one additional line. That line should change the two locations you poked when you initialized the disk back to what they were originally. For example:

```
10 POKE (location 1), 222:POKE (location 2), 222
```

This changes DOS back to normal. If someone were able to stop the program they wouldn't be able to access your disk.

UTILITY R.W.T.S.

... continued from page 25

```
15 GOSUB 12 : PRINT " " ; : VT% = INT
    (KY% / 13) : HT% = KY% - (VT% * 13)
    + 1 : GOSUB 50 : GOTO 8050
```

***** Print Dashes *****

```
20 FOR X = 1 TO 40 : PRINT "-" ; :
    NEXT : RETURN
```

***** Print Hex *****

```
25 PRINT MID$(A$, KY% + 1, 1) ; :
    RETURN
```

***** Shimmering Cursor *****

```
27 GOSUB 12
28 KY% = PEEK (- 16384) : IF KY% <
    128 THEN INVERSE : PRINT ">" CHR$(
    8) ; : PRINT " " CHR$(8) ; :
    NORMAL : PRINT " " CHR$(8) ; :
    GOTO 28
29 POKE - 16368, 0 : RETURN
```

***** Get Key *****

```
30 KY% = PEEK (- 16384) : IF KY% <
    128 THEN 30
31 POKE - 16368, 0 : IF KY% < > 155
    THEN RETURN
32 TK% = PEEK (TR%) : SE% = PEEK (SC%)
    : GOSUB 50 : GOSUB 100 : GOSUB 65
    : POKE CM%, RD%
33 ONERR GOTO 1000
34 POP : GOTO 34
```

***** Poke Changes *****

```
45 POKE 36864 + PT%, KY% : GOSUB 12 :
    PRINT " " ; : POKE NM%, KY% : CALL
    HH% : GOTO 8030
```

***** Print Prompts *****

```
50 VTAB 23 : HTAB 1 : CALL - 958 :
    INVERSE : PRINT "TRK" ; : HTAB 9 :
    PRINT "SCT" ; : HTAB 17 : PRINT
    "VOL" ; : HTAB 31 : PRINT "PTR" :
    PRINT "SLOT" ; : HTAB 9 : PRINT
    "DRIVE" ; : HTAB 18 : PRINT "I/O" ;
55 VTAB 24 : HTAB 30 : FLASH : PRINT
    "COMMAND" ; : NORMAL : PRINT " " ;
    : RETURN
```

***** Get Sector *****

```
60 CALL IO%
    ***** Print Buffer *****
65 CALL MV% : RETURN
```

***** Print Prompt Values *****

```
100 VTAB 23 : HTAB 5 : IF IX% THEN
    PRINT TK% " " ; : HTAB 13 : PRINT
    SE% " " ; : HTAB 21 : PRINT PEEK
    (VO%) " " ; : HTAB 35 : PRINT PT%
    " " ;
```

```
102 IF NOT IX% THEN POKE NM%, TK% :
    CALL HX% : HTAB 13 : POKE NM%,
    SE% : CALL HX% : HTAB 21 : POKE
    NM%, PEEK (VO%) : CALL HX% :
    PRINT " " ; : HTAB 35 : POKE NM%,
    PT% : CALL HX% : PRINT " " ;
```

```
104 HTAB 25 : IF HA% = 1 THEN PRINT
    "(HEX" ; : GOTO 120
```

```
106 IF FX% = 0 THEN PRINT "(ASC" ; :
    GOTO 120
```

```
108 IF FX% = 1 THEN PRINT "(" ; :
    FLASH : PRINT "ASC" ; : GOTO 120
```

```
110 IF FX% = 2 THEN PRINT "(" ; :
    INVERSE : PRINT "ASC" ;
```

```
120 NORMAL : PRINT ")" ; : VTAB 24 :
    HTAB 6 : PRINT PEEK (SL%) / 16 ;
    : HTAB 15 : PRINT PEEK (DR%) ; :
    HTAB 22 : IF NOT IX% THEN PRINT
    "HEX" ; : RETURN
```

```
122 PRINT "DEC" ; : RETURN
```

```
150 PRINT CHR$(7) CHR$(7) ; : RETURN
```

***** Error Routine *****

```
180 ERR = PEEK (ER%) : POKE 34, 1 :
    POKE 35, 21 : HOME : VTAB 12 :
    HTAB 12 : IF ERR = 16 THEN PRINT
    "UNABLE TO WRITE"
```

```
182 IF ERR = 64 THEN PRINT
    "DISK DRIVE ERROR"
```

```
184 PRINT CHR$(7) CHR$(7) CHR$(7) ;
    : FOR X = 1 TO 2000 : NEXT : POKE
    772, 0 : POKE 35, 24 : GOTO 65
```

***** Get Hex/Dec Key *****

```
200 GOSUB 30 : IF KY% = 141 THEN
    RETURN
```

```
210 KY% = KY% - 176 : IF KY% < 0 OR
    KY% > 22 THEN GOSUB 150 : GOTO 200
220 IF KY% > 9 THEN KY% = KY% - 7 : IF
    KY% < 10 OR KY% > 15 THEN GOSUB
    150 : GOTO 200
```

```
225 IF ED% THEN RETURN
```

```
230 IF IX% AND KY% > 9 THEN GOSUB 150
    : GOTO 200
```

```
240 RETURN
```

***** Calculate Key Value *****

```
300 IF ED% OR NOT IX% THEN KY% = A1% *
    16 + A2% : RETURN
```

```
310 KY% = A1% * 10 + A2% : RETURN
```

UTILITY R.W.T.S.

```

***** Get Track-Sector *****
400 VTAB 23 : HTAB 1 : FLASH : PRINT
   "TRK" ; : NORMAL : PRINT " "
   CHR$ (8) CHR$ (8) ; : GOSUB 200 :
   IF KY% > 15 THEN KY% = PEEK (TR%)
   : GOTO 430
404 IF NOT IX% AND KY% > 2 THEN 430
408 IF KY% > 3 THEN 430
410 A1% = KY% : GOSUB 25 : GOSUB 200 :
   IF KY% > 15 THEN KY% = A1% : GOTO
   430
420 A2% = KY% : GOSUB 300
430 IF KY% < 0 OR KY% > 34 THEN PRINT
   CHR$ (7) ; : GOTO 400
434 TK% = KY% : GOSUB 100
438 VTAB 23 : HTAB 1 : INVERSE : PRINT
   "TRK" ; : HTAB 9 : FLASH : PRINT
   "SCT" ; : NORMAL : PRINT " "
   CHR$ (8) CHR$ (8) ; : GOSUB 200 :
   IF KY% > 15 THEN KY% = PEEK (SC%)
   : GOTO 460
439 IF NOT IX% THEN 460
440 A1% = KY% : GOSUB 25 : IF KY% > 1
   THEN 460
445 GOSUB 200 : IF KY% > 15 THEN KY% =
   A1% : GOTO 460
450 A2% = KY% : GOSUB 300 : IF KY% < 0
   OR KY% > 15 THEN PRINT CHR$ (7) ;
   : GOTO 438
460 SE% = KY% : VTAB 23 : HTAB 9 :
   INVERSE : PRINT "SCT" ; : NORMAL :
   GOSUB 100
465 IF PEEK (CM%) = 2 THEN VTAB 24 :
   HTAB 30 : FLASH : PRINT
   "??WRITE??" CHR$ (7) CHR$ (7)
   CHR$ (7) ; : NORMAL : GOSUB 30 :
   IF KY% < > 141 THEN 32
470 POKE SC% , SE% : POKE TR% , TK% :
   GOTO 60

```

```

***** Command Parser *****
1000 POKE 216 , 0 : ED% = 0 : GOSUB 55
   : GOSUB 100 : IF PEEK (772) > 0
   THEN GOSUB 180
1005 GOSUB 27
1010 KY% = KY% - 192 : IF KY% > 0 AND
   KY% < 27 THEN ON KY% GOSUB 2000,
   150,5000,4000,3000,6000,150,7000,
   8000,8000,8000,12000,8000,13000,
   150,14000,150,15000,16000,150,
   9000,150,17000,18000,150,150
1020 GOTO 1000

```

```

***** Set ASCII Screen Format *****
2000 HA% = 2 : POKE FM% , HA% : GOTO
   65

```

```

***** Edit Mode *****
3000 VTAB 24 : HTAB 30 : FLASH : PRINT
   CHR$ (7) ">>EDIT<<" ; : ED% = 1
3001 NORMAL : GOSUB 12 : PRINT "> "
   CHR$ (8) CHR$ (8) ; : IF HA% = 1
   THEN 3100
3005 GOSUB 30 : IF NOT FX% THEN 45
3010 IF KY% < 160 THEN 45
3020 IF KY% < 192 THEN KY% = KY% + 32
   : GOTO 3040
3030 KY% = KY% - 32
3040 IF FX% = 1 THEN KY% = KY% - 96 :
   GOTO 45
3050 KY% = KY% - 160 : GOTO 45
3100 GOSUB 200 : IF KY% > 15 THEN
   PRINT CHR$ (7) ; : GOTO 3100
3110 A1% = KY% : GOSUB 25
3120 GOSUB 200 : IF KY% > 15 THEN
   PRINT CHR$ (7) ; : GOTO 3120
3130 A2% = KY% : GOSUB 25 : GOSUB 300
   : GOTO 45

```

```

***** Set Drive *****
4000 VTAB 24 : HTAB 30 : INVERSE :
   PRINT "SET DRIVE" ; : HTAB 9 :
   FLASH : PRINT "DRIVE" CHR$ (7) ;
   : NORMAL : HTAB 15 : PRINT " " ;
   : GOSUB 200 : IF KY% > 15 THEN
   GOTO 50
4010 IF KY% < 1 OR KY% > 2 THEN 4000
4020 POKE DR% , KY% : GOTO 50

```

```

***** Continuous Edit *****
5000 VTAB 24 : HTAB 30 : FLASH : PRINT
   CHR$ (7) ">C-EDIT<" ; : ED% = 1
5010 GOSUB 3001 : GOSUB 100 :
   GOTO 5010

```

```

***** Normal-Flashing-Inverse *****
6000 FX% = FX% + 1 : IF FX% > 2 THEN
   FX% = 0
6005 RETURN

```

```

***** Set Hex Screen Mode *****
7000 HA% = 1 : POKE FM% , HA% :
   GOTO 65
***** Move Cursor *****
8000 GOSUB 12 : PRINT " " : KY% = KY%
   - 8 : ON KY% GOTO 8010,8020,8030,
   1000,8040
8010 VT% = VT% - 1 : IF VT% < 0 THEN
   VT% = 19 : GOTO 8045
8015 GOTO 8050
8020 HT% = HT% - 1 : IF HT% < 1 THEN
   HT% = 13 : GOTO 8010
8025 GOTO 8050
8030 HT% = HT% + 1 : IF HT% > 13 THEN,
   HT% = 1 : GOTO 8040

```

UTILITY R.W.T.S.

```

8033 IF VT% = 19 AND HT% > 9 THEN HT%
      = 1 : GOTO 8040
8035 GOTO 8050
8040 VT% = VT% + 1 : IF VT% > 19 THEN
      VT% = 0
8045 IF VT% = 19 AND HT% > 9 THEN
      HT% = 9
8050 GOSUB 12 : PRINT ">" : PT% =
      VT% * 13 + HT% - 1 : RETURN
      ***** Set Input/Output Mode *****
9000 IX% = NOT IX% : RETURN
      ***** Last Sector *****
12000 SE% = SE% - 1 : IF SE% >= 0
      THEN POKE SC% , SE% : GOTO 60
12010 SE% = 15 : POKE SC% , SE% :
      TK% = TK% - 1 : IF TK% >= 0
      THEN POKE TR% , TK% : GOTO 60
12020 TK% = 34 : POKE TR% , TK% :
      GOTO 60
      ***** Next Sector *****
13000 SE% = SE% + 1 : IF SE% <= 15
      THEN POKE SC% , SE% : GOTO 60
13010 SE% = 0 : POKE SC% , SE% : TK% =
      TK% + 1 : IF TK% <= 34 THEN
      POKE TR% , TK% : GOTO 60
13015 TK% = TK% + 1 : IF TK% <= 34
      THEN POKE TR% , TK% : CALL IO%
      : CALL MV% : GOTO 1000
13020 TK% = 0 : POKE TR% , TK% :
      GOTO 60
      ***** Get Pointer *****
14000 VTAB 24 : HTAB 30 : INVERSE :
      PRINT "SET-PTR" ; : VTAB 23 :
      HTAB 31 : FLASH : PRINT "PTR"
      CHR$ (7) ; : NORMAL :
      PRINT " " CHR$ (8) CHR$ (8)
      CHR$ (8) ; : GOSUB 200 : IF KY%
      > 15 THEN GOSUB 50 : GOTO 8050
14010 AL% = KY% : GOSUB 25 : GOSUB 200
      : IF KY% > 15 THEN KY% = AL% :
      GOTO 15
14020 A2% = KY% : GOSUB 25 : GOSUB 300
      : IF NOT IX% THEN 15
14030 AL% = KY% : GOSUB 200 : IF KY%
      > 15 THEN KY% = AL% : GOTO 15
14040 A2% = KY% : GOSUB 25 : GOSUB 300
      : IF KY% < 0 OR KY% > 255 THEN
      PRINT CHR$ (7) : GOTO 14000
14050 GOTO 15
      ***** Read Track/Sector *****
15000 VTAB 24 : HTAB 30 : INVERSE :
      PRINT ">READ<" ; : NORMAL :
      PRINT CHR$ (7) " " ; :
      GOSUB 400 : GOTO 50
      ***** Set Slot *****
16000 VTAB 24 : HTAB 30 : INVERSE :
      PRINT "SET SLOT" ; : HTAB 1 :
      FLASH : PRINT "SLOT" CHR$ (7) ;
      : NORMAL : HTAB 6 : PRINT " " ;
      : GOSUB 200 : IF KY% > 15 THEN
      GOTO 50
16010 IF KY% < 1 OR KY% > 7 THEN 16000
16020 POKE SL% , KY% * 16 : GOTO 50
      ***** Write Track/Sector *****
17000 POKE CM% , WR% : VTAB 24 :
      HTAB 30 : INVERSE : PRINT
      ">WRITE<" CHR$ (7) ; : NORMAL :
      GOSUB 400 : POKE CM% , RD% :
      GOTO 50
      ***** End *****
18000 TEXT : HOME : END
      ***** Poke Subroutine *****
63000 FOR X = 768 TO 928 : READ A% :
      POKE X , A% : NEXT
63010 DATA 1,0,0,0,0,169,3,160,15,32,
      217,3,176,22,96,1,96,1,0,0,0,32,
      3,0,144,0,0,1,0,0,96,1,0,1,239,
      216,162,255,142,4,3,96,173,3,3,
      76,58,3,173,3,3,174,0,3,224,2,
      240,4,32
63015 DATA 218,253,96,32,237,253,96,
      169,1,133,37,32,34,252,169,0,133
      ,36,141,2,3,169,13,141,1,3,162,1
      ,32,74,249,174,2,3,189,0,144,174
      ,0,3,224,2,240,9,32,218,253,32,
      74,249,76,135,3,201,128,48,6,
      201,160
63020 DATA 16,2,169,174,32,237,253,169
      ,160,32,237,253,169,160,32,237,
      253,238,2,3,240,8,206,1,3,208,
      201,76,80,3,32,156,252,230,37,32
      ,34,252,169,22,133,34,96
      ***** Define Variables *****
63030 SL% = 784 : DR% = 785 :
      TR% = 787 : SC% = 788 :
      CM% = 795 : ER% = 796 :
      VC% = 797 : RD% = 1 : WR% = 2 :
      IC% = 773 : MV% = 834 :
      FM% = 768 : HA% = 1 : FX% = 0 :
      TK% = 0 : SE% = 0 : HT% = 1 :
      VT% = 0 : HX% = 810 : IX% = 0 :
      A$ = "0123456789ABCDEF" :
      HH% = 816 : NM% = 771
      ***** Init Screen *****
63040 GOSUB 20 : VTAB 22 : GOSUB 20 :
      PRINT "INSERT DISK - PRESS ANY
      KEY TO CONTINUE " ; : GOSUB 30 :
      GOTO 60

```

...end...

! TRICKS and ?

This column is devoted to short programs or programming tricks that do something 'nifty.'

1 . . .

NO LIST PROGRAMS

If you use DOS and would like to baffle your friends or protect your program listings from casual prying then **type the following line** (exactly as it is written) **into one of your programs**. When you get to the ! type in a control **D**. (The control **D** is entered by holding the CTRL key down and pressing the **D** key. The **D** should not print.)

The line on your screen should look like this:

```
ØREM IT'S NO FAIR IF YOU PEEK!FP
```

SAVE the program before you list it. When you LIST the program it should look like this:

```
Ø REM IT'S NO FAIR IF YOU PEEK!
```

And that is ALL you will get. The rest of your program will not be listed because it's gone.

If you count the characters from the **Ø** to the ! you'll get 33. Applesoft tries to LIST programs using 33 columns instead of the full 40. The 34th character is folded over and printed on the next line (There are exceptions). DOS gets control at the 34th character when fold over occurs and normally passes control back to Applesoft. However, if the 34th character is a ctrl **D** then DOS thinks that it has been given a command and will process the remainder of the line accordingly. The **FP** at the end of the remark tells DOS to reset the Applesoft program pointers and has the same effect as the **NEW** command in Applesoft. You can replace the **FP** with any other DOS command. How about CATALOG?

2 . . .

HIDDEN LINES

Hiding a line or changing the visible portion is another neat trick. To do this, type in the following steps exactly as shown (Press return after each step):

- NEW
- 1REM12345672 REM HELLO!
- 5 A = PEEK(103) + PEEK(104)*256 + 4
- 10 FOR X = 0 TO 6: POKE A + X,8: NEXT
- LIST
- Look at it carefully ...
- RUN

g. LIST

Notice anything different?

h. SPEED = 1

i. LIST

The REMark in line #1 has been overwritten by the second half of the REMark making it appear to be line #2. Line #5 PEEKs the start of program pointer and adds an offset to it. Line #10 changes the numbers 1 thru 7 in the REMark into backspaces. The result is the apparently changed REMark. A line could be completely buried using this technique. Important GOSUBs and GOTOs could be disguised as REMarks. A second Copyright notice could be hidden this way. The list is endless. (Be sure to reset SPEED to 255 afterwards.)

3 . . .

A TIME BOMB

Zero page location **214 (\$D6)** is the run flag for Applesoft. If the number stored here is greater than **127 (\$80)** then the program in memory will **AUTO-RUN** each time you try to issue a command. In order to list the program or change a program line, the number in location **214** would have to be changed to a value smaller than **128**. If you were to insert the following lines into your program, it would be difficult for the uninformed computerist to tamper with or change the program:

```
2 POKE214,255
```

```
3 IF PEEK(214) <> 255 THEN NEW
```

Line #3 should be inserted in the program in several different places (with appropriate line numbers).

4 . . .

LOCKING YOUR PROGRAM INTO THE RUN MODE

This technique is often used to prevent unauthorized tampering. It's a neat trick to play on a friend. It can be done by inserting the following lines into the beginning of a program:

```
Ø ONERR GOTO 1
```

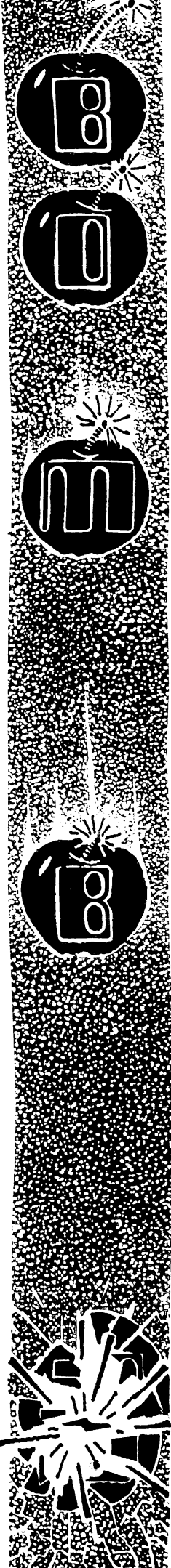
```
1 POKE 214,128
```

```
2 POKE 1010,102
```

```
3 POKE 1011,213
```

```
4 POKE 1012,112
```

Line #0 locks out the ctrl **C**. Line #1 sets the RUN flag and lines 2 thru 4 change the RESET vector to point to the RUN command in Applesoft. Now the program will restart each time you hit RESET or ctrl **C**.



ARE YOU A HARDCORE WRITER?

HARDCORE COMPUTING is looking for hard-core computerists to write columns, articles or programs.

COLUMNS

If you have an idea for a column and would like to become a **HARDCORE** columnist or feature writer, then drop the Publisher a note. Please include a sample of your proposed column and a letter briefly introducing yourself, your background, your interests and expertise. If you haven't written before, don't let that stop you from dropping us a letter.

Some suggested column ideas are:

Primers and lessons in learning programming languages: machine code, BASIC, PASCAL, etc.

Use of certain software such as graphics packages, editors, data systems, word processor, etc.

How to create your own adventure or arcade game.

How to write a data base, mail-list, or graphics package.

ARTICLES

We are also looking for **HARDCORE** articles on Apple computing in general. They may be submitted independently or sent in to be published under one of the columns we have planned. These multi-writer columns include:

PASCAL AIDS (hints and aids to using PASCAL.)

SOFTIES (short to medium length Applesoft programs and the accompanying article describing the program uses and variables. Softies are used to help computerists learn more about Applesoft capabilities and quirks.)

INSIDE INTEGER (like softie except with Integer.)

GREEN APPLES (mini-programs and subroutines that are complete in themselves but would be better if part of a larger program. (An example is in this issue).

PROGRAMS

If you have an original program and would like to share it with other **HARDCORE** readers then send us a cassette or diskette with the entire debugged program and the accompanying external documentation or an article describing what it is and how it does what it does. We pay from \$20 to \$100 to print the article and listing in **HARDCORE**. Some readers would rather buy the tape or diskette instead of typing it all in themselves, so we offer you TWO means of selling your software:

1. Do your own mail-order. The listing and the article will act as advertising, and those interested in purchasing the program can send their bucks to you directly. It's a great way to start your own software business.

2. Join the **HARDCORE** Program Library. We offer the program on diskette along with any others in the **HARDCORE** Program Library. We charge our readers for the diskette, postage and handling, and then offer each program at what we call the Direct Royalty Charge (DRC) of \$1 to \$5, depending upon demand. The DRC is what you receive for each program of yours that we sell through the **HARDCORE** Program Library. You would receive a quarterly royalty check (the amount is announced in the magazine). Our readers would then be able to get many programs on the same diskette. It is less expensive for the readers and less work for the writer.

Our diskettes are not copy-protected, so your programs are bound to be bartered. One advantage of this method is the potential of program improvement through reader input. The improvements are then included in the updated versions. Copy-protection would slow or halt such program evolution.

(**HARDCORE** is also interested in programs created to support other software systems including VisiCalc, various data systems, etc.)

We work closely with our writers and we generally pay from \$20 to \$100 for articles, columns or programs. The bigger bucks go to the authors of in-depth, **HARDCORE** articles full of apple-aids and useful, well-written programs. The lesser bucks go to writers who submit hints, small programs or articles that have less **HARDCORE** content. We pay for content, not length. (We also publish the \$\$\$ received by the author of each article we print . . . a policy not practiced by other magazines in general.)

What is a **HARDCORE** article?

It is a no-frills how-to step-by-step trip through some aspect of Apple-dom. Articles in upcoming issues include:

All about hi-res shape tables . . . how to make them, animate them, and store/save them.

All about Applesoft and Integer machine language subroutines and how to use them.

PEEKs and POKEs: a list and explanation of what they do.

All about Apple sound routines and how to make any sound you like.

Installing Apple accessories and peripherals and a list of suppliers.

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...OPEN SURGERY...

10. SAVE the file to tape and repeat steps 1 thru 9 until all files are SAVED.

11. Boot normal DOS. LOAD the files one at a time from tape and SAVE to your disk.

12. Examine all the Applesoft listings to make cer-

tain that you have transferred all the files.

Now that all the files are on normal DOS, you can examine them for hidden bombs (program lines that serve no other purpose than to garbage the program. See "Apple Tricks").

...end...

think about it . . .

NO PROGRAM IS PERFECT FOR EVERYONE.

All of them will soon need improvements, updates, additions and other modifications.

But Copy-Protection of a disk prevents you from changing them!

Copy-Protection is:

anti-back-up (it does not let you back up the disk.)

anti-listing (it prevents you from viewing the listings.)

anti-customizing (you cannot alter it to fit your needs.)

in other words . . . it is: ANTI-USER!



HARDCORE:

**opposes copy-protection
as it is now used.
will reveal how it is done
and un-done.
shows users how to back up
such disks**

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