

CLUB NEWSLETTER

What's New _____

By Bob Ward

It's been a busy month... between the overstated Columbus Day Virus scare and the stock market plunge on Friday the 13th, what is a person to do. I didn't have a virus attack my FAT, although it would be much appreciated if I could lose some BODY FAT, nor did it end in my BOOT. I don't even wear boots so wouldn't expect to have that problem. So my partitions are in tune, my cylinders all lined up and my sectors are where they belong. The bottom line is when I start my computer, it still works. Now the stock market is a different situation. I wasn't running any good shareware stock market forecasting program and I'm too cheap to buy a commercial program. So be it for this month!

If you are traumatized by viruses then I suggest you try SCAN44X.ZIP on our new library disk #350. This file contains a memory resident version 4.2 and non-resident version 4.4 of Viruscan. This program will zoom through your hard disk looking at

all your .EXE and .COM files for 43 (42) known viruses. Probably by the time you get this newsletter they will have added a couple new viruses it scans. I'm really having trouble keeping up with the newest version as it's been updated three times in the last two weeks.

On a more serious note we had one excellent meeting last month. Thanks to Dave Farlow from Prime Solutions we learned the "nuts and bolts" of hard disk technology. And what we didn't learn about theory is built into their excellent hard disk utility - Disk Technician. This program comes in two flavors.... DT Advanced, which is menu driven and has all the bells and whistles and DT Professional which searches out and solves all the same hard disk problems as the Advanced version but requires a little more input from the user. Mr. Farlow left us with 3 copies of Advanced and 3 copies of Professional which we gave to those 6 members who wrote the most uni-

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Everything You Wanted to Know About Floppies But Were Not Told

By Jerry Korht
 Vickie Brown

Reprinted from NY PC User's Group

One of the most dangerous misconceptions affecting the world of personal computers is the one that says, "If a floppy disk formats OK, then it's good". We have all had experiences that disprove that notion. Yet, perhaps because we don't know why it is false, many of us go on believing.

Those of us who buy brand-name diskettes labeled "100% certified" are likely to be confused as well as annoyed and inconvenienced by the phenomenon. After all, we pay extra for a product that supposedly passes the series of

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Floppy Disks

tests specified by The American National Standards Institute (ANSI) in ANSI Standard X3.125-1985 (for 5.25-inch diskettes) or draft number 9 of X3.127/198x (for 3.5-inch diskettes). And those documents were written to ensure disk reliability and interchangeability among machines. How can a disk pass the ANSI battery of tests and then not work? In two words, it can't.

Research conducted by Memcon Corp. (see sidebar, The Memcon Floppy Disk Reports) suggests very strongly that a few manufacturers are cutting costs by omitting one or more of the tests in the ANSI documents, yet are continuing to label their products as "100% certified". Some are omitting one or more altogether, while others seem to have adopted a sample approach, in which they test only a fraction of their disks. Both approaches, of course, are not sanctioned by ANSI. Two tests are critical. Although ANSI specifies more than a dozen tests, two of them are particularly critical for assuring disk quality: the Missing Bit test and the Extra Bit test.

Disk Testing Procedures

These tests are designed to find flaws such as bumps, scratches, and thin spots in an individual disk's magnetic coating. Some other tests evaluate the composition of the coating, and can therefore be applied statistically to each batch of disks. The Missing Bit and Extra Bit tests, by contrast, determine how well the coating was applied, and must therefore be conducted on each disk individually.

The Missing Bit test has four steps: First a string of ONES is written onto the track under test. Second, the actual analog strength of each written pulse is measured. Third, the average strength, called the track average amplitude (TAA), is calculated. Fourth, the individual pulse amplitudes are compared to the TAA. The test criterion is very simple: none of the measured pulse strengths may be less than 40% (for a 5.25-inch disk) or 45% (for a

3.5-inch disk) of their respective TAAs. Since most pulses are in the range of 85% to 115%, those figures are very generous.

To carry out the Extra Bit test, the track is DC erased, and the pulse amplitudes are again measured. Ideally, the pulse amplitudes should then be zero. But given the imperfect nature of magnetic materials, some residual magnetism will inevitably remain. For this test, the passing mark is 20% for both disk types. That is, if the measured amplitude after erasing is more than 20% of the TAA, the disk fails. Again the test provides rather generous margins. After DC erasing, most pulse amplitudes will be well below 10% of the TAA.

It sounds pretty simple, and it is. Unfortunately, the test must be performed over the entire surface of each and every disk, which takes a significant amount of time and can add as much as a nickel to the manufacturer's cost of making a diskette. With the 5.25-inch floppies selling for as little as a quarter in some cases, manufacturers clearly have a powerful motivation to cut corners -- and very often they do.

Adding to the problem, many industry authorities sincerely believe that the Missing Bit and Extra Bit test are redundant. These experts believe that a disk that cannot pass one of these tests will not pass the other one either. While true for some types of flaws, that notion is definitely not true for others. For example, a piece of foreign matter embedded in a disk's surface may cause the read/write head to lose contact with the disk surface and will therefore cause the disk to fail both tests. But a thin spot may cause a Missing Bit error without affecting the Extra Bit performance. And a fine scratch could easily cause an Extra Bit failure without causing any Missing Bit problems.

Formatting OK Isn't Enough

But why are these tests necessary? Isn't it enough to make sure that a disk can be formatted? Won't that catch all disks with surface blemishes? No, it won't. Consider, for example, a 5.25-

inch disk with a thin spot at which the pulse amplitude is only 35% of TAA. That disk will format properly and will probably hold data for a while, provided it is read on the same drive it was written. But it is doomed. As soon as the drive wears a bit and causes a head-alignment change, or as soon as the thin spot wears a bit and gets microscopically thinner, the disk will drop that bit and fail.

The point is that ANSI spec includes a safety margin that allows for disk and drive aging and for drive-to-drive differences. It is intended to ensure both long-term reliability and machine-to-machine interchangeability. The fact that a disk formats without problems proves only that it is working at that moment. It says nothing about its future prospects or its ability to work on other machines.

Buying Smart

OK. You understand the importance of buying disks that really have been certified. How do you assure yourself that you're getting certified disks? First of all, stay away from unbranded diskettes. Despite the conventional wisdom that they are manufacturer's overrun of quality equal to branded products, they are almost certainly rejects. True, the majority of them will format correctly, but as noted earlier, that doesn't prove much.

Next, read the label carefully. Does it say "100% ANSI Certified" or words to that effect? If not, choose another brand. The key word is ANSI; if that's missing, you don't know a thing about the testing criteria.

Unfortunately, some brands claim to adhere to the ANSI Standards, yet fail to meet them when tested by Memcon. What can you do about that? Price is no guide. The 1987 survey of 5.25-inch diskettes found no correlation between price and quality. And preliminary results from the 1988 study indicate the same lack of correlation for 3.5-inch floppies.

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WHAT'S NEW

que and original slogan about Disk Technician. Congratulations to Bob Hunt, Dennie Chandler, Miriam Stanley, Richard Shirley, Virginia StPeter and Dozier Vickers. If you weren't one of the fortunate ones don't despair. Prime Solutions also extended one great deal to our club for members who wish to purchase Disk Technician..... 50% off either version. This amounts to \$30 for the Professional version and \$75 for the Advanced version. To get your copy at this reduced price call 619-272-4008. To receive this discount you must state you are a member of SLO Bytes PC User's Group and that you want the 50% discount. They'll be happy to take your money and you will be happy with the product.

One thing to note, if you have formatted and partitioned your hard disk with DOS 4.* Disk Technician will not work unless the partition is 32 megabytes or less. This version of DOS can create one giant hard disk beyond the 32 megabyte limit of earlier versions. At this time Disk Technician will not recognize any partition larger than 32 megabytes.

Next month will be a change in pace. I have 3 interesting Video tapes which we will show through the 6 color monitors in the room. Concurrent DOS by Digital Research will be the first. If you are thinking of multi-tasking you need to see this one. Sierra Online has a great demo on their game programs (My wife is a fan of their software). See Leisure Suit Larry in action or explore the greatest depths of Kings Quest IV and the Pearls of Rosella...Or experience how it was during the gold rush days. All these adventures use graphics and are dependent on user input. Finally we'll see a short demonstration of Xerox's Ventura Publisher. I chose this demo to gain a little sympathy from the audience since I use Ventura to format and create the newsletter.

Who else but George will handle the early meeting. This month will be a short preview to our December meeting as he is going to demonstrate a few

of his favorite utilities. Of course Dr. DOS will gladly answer all your DOS questions. Come on now, don't be bashful. The purpose of this club is to exchange ideas and knowledge. We can't do that unless someone asks a question to begin with. So come prepared.

Bits n' Bytes

- Many thanks to Teri Sorgatz, our treasurer and talented desktop publisher for creating our new logo and banner. The name "club newsletter" is a temporary title until someone comes up with something more descriptive. Give Bob Ward a call if you have something more inspiring.
- Comdex is close, November 13th to be exact. I am pretty sure we will have some free passes available at the meeting. If you know you are going and have not registered we can save you \$75.00.
- In a couple months we will be starting a new year. If you're tired of seeing the same old faces and would like to see a change in officers let us know so we can put you in nomination. President, Vice President, Secretary, and Treasurer... take your choice. Get involved!
- Next month either your newsletter is going to be early or late but don't despair, you will get it. With Comdex the 13th through the 17th and Thanksgiving the following week, I'm either going to have to plan in advance or shine it until after Turkey. I suspect you'll be getting it early next month. Or maybe you can see George, Sam and myself in a Circus Circus motel room licking stamps to get the newsletter out. I'm glad you can see it, we can't!
- If you would like to see any specific software company demonstrate their product, let us know. Although we are midway between where "all the action is" we have been pretty lucky or persuasive getting companies to come the distance.

DOS Tips

Here are a couple DOS tips, the first picked up from a SCPCUG newsletter, the second my own creation.

Blank Lines & the ECHO Command

To cause blank lines to be displayed with the ECHO command in all versions of DOS, follow the ECHO command with a space and an ASCII BackSpace character. The BackSpace character (normally shown as ^H) can be generated in many word processors and text editors by using the CTRL-BackSpace or CTRL-H command. While in WordStar, for example, you can insert an ASCII BackSpace character in the text by first issuing the CTRL-P command followed by the H key.

Saving Your Hard Disk Structure

Now I know many of you don't back up your hard disk even though it is constantly emphasized in just about every article printed in this newsletter. Well if you have all your files/programs on floppy disks maybe you don't need to use a commercial backup program but let's at least take one minute to backup the STRUCTURE of your hard disk. By this I mean all the names of your subdirectories and all the files in each of those subdirectories. Use the following command.

```
C:\tree /f A:C_PART.FIL
```

This saves the names of your subdirectories and the files within each subdirectory to a file called C_PART.FIL on a floppy in your A: drive. Should you have more than one partition go to that partition (D, E, or F) and issue the same command changing the destination file to represent the name of your partition. Remember TREE is a DOS external command so you must be pathed to that DOS file or have it in the root directory of each partition. Note that hidden subdirectories or files will not be shown with this command.

Floppy Disks

So what can you do? If you're a big user, you can demand 100% certification and make your demand stick. Big customers are in a position to visit manufacturing facilities—either announced or unannounced—to observe the manufacturing and testing process, interview employees, and take whatever other steps they deem necessary to assure themselves that they are getting what they are paying for.

Medium-sized customers who can't afford the time and effort of source inspection are advised to insist on written guarantees -- with penalties spelled out for noncompliance -- that the disks are being 100% tested in accordance with the appropriate ANSI spec. You can then have random samples of product tested by an independent laboratory. The rest of us can only be guided by the result of the 1987 survey of 5.25-inch disks and the 1988 study of 3.25-inch media. The 1987 survey found only three brands to be in 100% compliance with both the Missing-Bit and Extra-Bit tests. Those brands were BASE, JVC, and Memorex. For the 3.25-inch category, there were four winners: C.Itoh, IBM, Sony, and TDK.

Finally, we can express our outrage -- and not simply accept a replacement -- when we buy a box of "certified" diskettes and find one that won't format. Of course, such complaints will be truly effective only if we are willing to put our money where our mouths are. So long as we continue to buy diskettes on price alone, we will continue to have unreliable storage media.

Jerry Korth is a co-founder of Memcom Corp. Jerry is a frequent speaker at conferences on magnetic recording, and has published several papers on the subject. he holds several patents in the area.

THE MEMCOM FLOPPY DISK QUALITY REPORT

Memcom Corp., a manufacturer of disk certification and duplication equipment, is this country's leading independent duplicator of diskettes. As a provider of disk duplication services, they buy hundreds of thousands of diskettes per month, and was understandably very concerned a couple of years ago by what appeared to be a decline in the quality of floppy diskettes.

To ascertain just how bad things were, Memcom last year undertook an unbiased survey of the quality of 5.25-inch diskettes and published the results as the 1987 Floppy Disk Quality Report. Encouraged by the enthusiasm with which that report was received, the company decided this year to conduct a similar survey on 3.25-inch diskettes. Research for the 1988 report is complete, and the report is in the process of being written.

For both studies, name-brand disks were purchased at multiple locations around the country and tested in accordance with the relevant ANSI standard. In addition, all 100 disks of each brand were subjected to a simple PC functional test to make sure that they could be formatted and that they were capable of storing data. All the disks purported to be 100% certified.

Sad to report, both surveys found not only that many diskettes did not meet the ANSI standard, but that a significant number could not even be formatted. More frightening yet, one of them was totally nonfunctional, having two cookies in its jacket, and two others were hard sectored, making them completely useless in a PC environment.

In light of these observations, one is forced to conclude that certain manufacturers are labeling as certified, diskettes that have not, in fact, been tested in accordance with the relevant ANSI standard.

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Sun	Mon	Tues	Wed	Thu
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5 Meeting	6	7	8	
12	13	14	15	1

Calendar

November 5th

Video demos of Concurrent DOS, Ventura Publisher, & games by Sierra Online. Let's play Leisure Suit Larry!

November 13-17

Comdex in Las Vegas

December 3rd

Fun with SLO Bytes. Many door prizes and a brief demonstration of club members' most popular Shareware programs. Nomination of officers. Don't miss this one.

\$\$\$-4-Sale-\$\$\$-4-Sale-\$\$\$

New HP ScanJet..... \$995

New Panasonic Dot-Matrix multi-mode printer (Model 1592) with auto sheet feeder..... \$495

Call Bob Hansen at 238-5313

Backup Choices

By Joseph R. Gomolski, CPA

Colorado Springs User Group Newsletter,
April 1987

Reprinted from CPC Newsletter, March 1987

Do you have a workable backup procedure?

Several years ago when the typical micro setup consisted of a dual floppy system, the subject of backup was not nearly as important as it is today. Backing up one floppy with another is simple and relatively easy. If you have a master disk it is immediately copied upon receipt and never used. However, data disks are different. If the disk is used frequently, a backup is necessary. If the information on the disk is more in the nature of archive data, a backup may be skipped.

Today large hard disk systems have become the norm. Many manufacturers are closing out production on ten megabyte units because the market is demanding the twenty megabyte size as standard. As a smart buyer, you can drive a good bargain on those close out ten megabyte units. For example, a ten megabyte unit that sold for \$750 last year can not be purchased in the mid \$300 range. The backup devices available at present all seem to have one or more serious drawbacks. Following is a review of the main options.

Floppy disk backup

The main problem with floppy disk backup is that it is slow and tedious.

With the twenty megabyte disk, you will need sixty floppies to backup the full system, and it will take almost two hours to complete the backup.

Despite the drawbacks, the price is economical. If you have a typical system, you already have the equipment

necessary to do an adequate backup, and there are steps you can take to greatly ease the process. By adding the commands "buffers=64" and "files=20" to the system's config.sys file, you can increase the backup speed. These commands will increase the speed at which your floppies copy by almost four times. The elapsed time to back up a twenty megabyte unit is closer to forty-five minutes, than two hours. Management of your data is important if you are to have an effective backup procedure. Many programs allow you to specify a path in the program initialization that tells the system where to find stored data. In Word Perfect for example, your data files could be stored in a subdirectory of their own. The path would be as follows:

```
C:\WP\DATA\
```

The reason this works so well is that if you want to backup just your Word Perfect data files, you can do so by invoking the following command:

```
BACKUP C:\WP\DATA A:/S
```

This enables you to backup only selected portions of your hard disk, so when you do a backup it does not take an inordinate amount of time. Therefore, the first step is to determine how to manage the files on your hard disk system. A good way to do this is to set up a separate subdirectory for each program and a separate subdirectory for each program's data files. Note, if you use an old style program such as Wordstar, which does not allow you to set a path to the program data files, your job is more complicated. In this case the solution involves use of ram disks and batch files, or use of the DOS command: SUBST.EXE. If you keep your program and data files separate, the process of backup is much simpler. For example, if you are a typical professional user, your twenty megabytes are probably divided as follows: You have about ten megabytes of programming, six megabytes of data files, and four megabytes free. By segregating your program and data files you can be

more effective and reduce the amount to time you spend in backup mode. You probably will need to backup the entire system no more than monthly. Your program files change so infrequently that a monthly backup of the whole system will be adequate. What do you do in the interim? You may wish to backup the previous days work. This can be accomplished easily by adding a simple command to your autoexec.bat file. The command is:

```
BACKUP C:\ A:/S/M
```

This informs the system to backup all new files since the last backup was run. Since this is part of your autoexec.bat file and therefore automatic, the process of backup becomes much simpler. Try twenty daily backup disks. Monday to Friday week #1 and Monday to Friday week #2. At the end of week #2 the second level of backup is exercised and all data subdirectories are backed up on their own set of disks. It is recommended you have three sets of backup disks:

1. Daily backup disks
2. Biweekly data backup disks
3. Monthly or even Bimonthly system images

The second time a system image backup is run, the DOS command is:

```
BACKUP C:\ A:/S
```

It is recommended that another set of system backup disks be used, the second time. Why? Because, it is very time consuming to reconstruct a hard disk system with twenty megabytes of information without an adequate backup. This is true even if you assume you will find all the master program disks, and by hunting and seeking you will get copies of all data files. Where will you find copies of the new batch file you wrote last week, or the three from the week before? And how about those data files? Are they the latest version? How can you be sure? So a rolling backup of the system image is desirable. Cost is minimal in com-

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Backup

parison to the potential risk. You will spend several days reconstructing your system if it crashes and you are unprepared. And unfortunately the time when your backup disks are most vulnerable is during backup. If your system should fail during backup, you will not have a backup, with which to recover your system. There are two more devices that can greatly speed up the process of floppy backup. The one you may find most useful is the 1.2 megabyte floppy sold with all AT compatible machines. It will store four times the volume of information that can be stored on the 360K floppies and will allow for a more speedy backup. If you have a new 1.2 megabyte floppy, use it for backup. The cost of a new 1.2 megabyte floppy is approximately \$125 plus the cost of a controller if you do not already have one. By using them you can substantially reduce the number of floppies needed for backup. A twenty megabyte disk will use only 16 of these high density disks, double sided quad density, 96 tracks per inch. If you own an AT compatible machine this is definitely the preferred backup device. You can also purchase a software enhancement to speed up the backup process. Programs such as Fastback can speed up the process even if you have your config.sys file as outlined above. In the case of a twenty megabyte disk you may be able to backup the entire disk in approximately twenty minutes rather than thirty plus. Cost of this program, is in the range of \$150.

WHAT ARE THE ALTERNATIVES TO FLOPPY BACKUP?

TAPE DRIVES

There are many different tape drives from which to choose. They all seem to suffer from a common ailment, cost. There's a lot of money to be tied up in these systems. Typical costs seem to be at or near the cost of the same size hard disk system. Most consumers balk at paying as much for a backup unit as they do for their primary storage system. Also, the formats these

units come in are not standardized. Few systems are compatible with someone else's system.

TWO HARD DISKS

Some technicians recommend simply buying two hard disks and backing up one to another. With the prices of hard disks plummeting, this is not an unreasonable idea. However, don't give in to the temptation to use the extra 20 megabytes for other storage. This method of backup is pretty efficient, and generally faster than either of the above methods. One obvious drawback is that your backup remains on site. With this method you will not be able to do a rolling backup. A nice feature of a rolling backup, is that you are able to keep one of your backups off site, so that in the event of a fire or other disaster you are covered. In this case you will lose an important consideration in backup protection. If you install the second hard disk in an external case you will be able to move the backup off site, but be careful to park those heads, to prevent damage to the disk.

REMOVABLE MEDIA

Perhaps the best backup available today involves the use of removable media. The most wide-spread and useful implementation of this concept is the Bernoulli Box. It is a wonderful backup method and expensive. In its most desirable form, it comes with two twenty megabyte drives. The twenty megabyte cartridges can be bought in the \$25 plus range, as opposed to 50 cents for a 360K floppy. This is not an unfavorable price comparison. With this system, backups for twenty megabytes are no more difficult than for a floppy. But the costs are high (\$1500 range) for a complete dressed out dual twenty megabyte system.

VIDEO TAPES

One of the more interesting backup methods involves the use of a video

tape machine. Videotrax is a product consisting of a board that goes inside the system unit, a video tape machine, and a software program to link the two. The board and software cost \$595. Their videotape machine costs \$800. Generally any VHS format machine can be used, although the machine specially designed for the task has features that warrant close inspection. Each video tape will hold approximately eighty megabytes of information. The data transfer rate is in the megabyte per minute range, so the method is fairly quick and reliable. The advantage is that you may already own a video tape machine. The method produces a backup which can be stored off site, a most valuable feature.

WORMS

(Write Once Read Many)

These are a slight variant on the CD-ROM drives, which themselves are a slight variation on the compact disk players which are storming and conquering the field of audio stereo reproduction. Within the next six months to a year, you will probably be able to purchase a WORM drive, and with it your backup problems will be gone. Each one of these drives will hold hundreds of megabytes of data. If you backup a twenty megabyte drive to a WORM drive, you will be able to create and store true archival data. So on one 300 megabyte disk you will end up with 15 separate backups taken at different times, allowing you to recreate your entire system image as of any particular point in time. This has great possibilities. Costs of these units are expected to be low, probably under \$500 when production is geared up. Best of all, you will also use these drives to access large databases such as the Tax Court Regular Decisions, or the Internal Revenue Service Rulings in effect as of a certain date. These devices will enlarge our scope of library usage enormously.

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Backup

Conclusions and Recommendations

Backups are important, so work out a procedure that meets your needs. Regardless of which method you use, implementation of data management techniques is critical. As the capacity of hard disk drives continues to grow, management of data will become more and more important. In a future report, data management suggestions and routines will be reviewed. For the present, given all the various considerations, the best backup procedure is the Bernoulli Box. It is excellent, though expensive. If monetary considerations stand between you and the best system in the world, then give strong consideration to backup on floppies, particularly if you have a 1.2 megabyte floppy in your system. WORM drives are coming soon and they will make today's backup devices worthless. They will probably be available within the year, so if you can wait, a quantum leap in backup technology is just around the corner.



SLO Bytes Library

Take a look at the following 5 disks which are packed with new software for this month:

#349 Educational: **DSZTUTOR** - a tutorial on DSZ (used with ZMODEM protocols). **LUNCHBOX** - simple game for matching keyboard symbols (3 - 5 year olds). **WORLD260** - great geography program. **FOURIER2** - Fourier wave synthesis. Most of the programs on this disk require color graphics or better.

#350 Utilities: **SCAN44X** - scans your files for 43 known viruses. **COPYCON** makes batch files automatically. **DBOOT1** - reboots your computer with configuration of your choice. **DIAGS** - shows diagnostics of computer components. **ATF3** - change attributes of files. **TSR** - a series of programs dealing with memory resident programs. **VIEW212** - view two text files simultaneously... and many more.

#351 **MarketMaster** ver 1.26 - Stock market forecaster.

#352 WordProcessors: **SBW110** - SoapBox Writer version 1.10, a simple wordprocessor. **WM** - WordMaster 1.2 - an easy wordprocessor.

#353 Graphics / Print Applications: **CSHOW720** - CompuGraphics ver 7.2a. A great GIF reader. **OCR** - Optical character recognition for the HP laser printer. **QFONT15** - soft fond editor for HP fonts (good!)

UPDATES:

#082 **LIST70** from 6.4a to 7.0
 #237 **CORE29** from 2.7 to 2.9
 #266 **THEDRAW** from 3.1 to 3.2
 #308 **PKZ102** from 1.01 to 1.02
 #319 **PLANTMAN** to version 1.11
 #335 **HDTST128** from 1.21 to 1.28
 #339 **PICEM20B** from 1.9b to 2.0b
 #340 **SPLIT49** from 4.8 to 4.9
 #341 **WHERE31** from 2.8 to 3.1
 #343 **SHEZ48** to version 4.8



Salvaging Damaged Floppy Disks

By John Cammarata
 Long Island PCUG

Reprinted from The Greater South Bay PCUG.
 March 1988

I have developed a method to salvage floppy diskettes that have been physically damaged. Success has been realized with diskettes that have been wedged in a desk drawer, sat upon, damaged in packing and bent in mail handling, despite DO NOT BEND markers, front and back, in two colors.

The key to this salvage operation is the removal of the floppy itself from the protective plastic jacket and then inserting it into an undamaged jacket. I have found that the damage that prevents the floppy from being usable is in the plastic protective jacket. This plastic jacket becomes permanently deformed due to the bending and other abusive action, and does not recover. This bend, dent and other deformation, prevents the floppy from rotating freely in the jacket when turned by the floppy disk drive. If the floppy can not rotate in the jacket it cannot rotate at the operational speed because of the high drag on its surface caused by the jacket damage rubbing on the floppy's surface. In cases where there was severe denting of the plastic jacket, as would have occurred in a packaging machine, the disk did not show any surface damage. In the case of the floppies bent in the mailing process and the "sitting on" process, the jackets showed edge deformation and the disks exhibited a slight sign of bending, more noticeable with shadow lighting on these surfaces. I made no

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Save Floppy

effort to try to straighten the floppies and found that they worked well when inserted into undamaged jackets.

The first step in the salvage process is to open one end of the plastic protective jacket. I use a single edge razor blade inserted into the space of the top fold on the back of the jacket. Sliding the razor along the seam will cut into the several thermal welds made in the assembly process to close the jacket. Lift this seam, bending it back so that there is clearance for the floppy to be removed. This step shows how the plastic wants to bend back unless you put enough force to straighten it. You can bend it back with no concern of damaging it. Remove the floppy without putting your fingerprints on the surface. I use a pair of cotton gloves typical of those used in electronic assembly plants. Any method will do which will get the floppy out to a clean surface without touching the floppy's recorded area.

I select the host plastic jacket from a floppy that has been discarded for reasons of surface scratches, worn oxide or whatever, as long as the plastic jacket is not damaged. The host jacket does not have to be of the same manufacturer as the original damaged unit. This is one item in our computer inventory wherein specifications have helped to standardize the size of floppy disks.

Following the above process to open the end, remove the bad floppy disk and discard it. Put the floppy to be salvaged into the undamaged jacket, insuring that the recorded areas are not touched and that hub reinforcing ring is on the same side of the disk as it was originally. Failure to put the floppy right side up will result in a disk drive error when you run the disk.

With the floppy in the new jacket, turn the floppy in the jacket by hand, holding the hub ring to see that it is free in the case. Bend the floppy flap down

to restore the disk to a complete closure by rubbing the seam on the edge when the diskette is on a flat surface. I use Scotch tape to seal the seam and find it as effective as the original thermal weld.

Test the salvaged diskette in your drive as usual. You should find it working well. This process will work if there are no major bends in the floppy which appear to be a sharp surface bend. I have not found any of these in those that I have salvaged.

In accordance with good practice, make a backup and use the backup for everyday use. As part of my life test program of this salvage process, I have used one of these disks, that I salvaged over a year ago, working it as a file disk, with never a thought that it had not been born that way.



New Members

Welcome to the four new members who joined SLO Bytes this past month. We hope all your computer questions will be answered through SLO Bytes.

Vincent Abella	541-6483
Girard Brenneman	928-0956
Bruce Gulliver	929-3863
Phill Tardami	772-5838

To the following members... Your membership has expired. You will be dropped from the mailing list if you haven't renewed by the end of the next meeting.

Tony Agrusa
Thomas Beal

Membership

More Expired Memberships

Karen Beckwith
Ronald Crummitt
Jim Gibbons
Debora Gulovsen
Evelyn Hilden
Clyde Hostetter
Dan Janal
Rick & Rona Lee

FLOPPY DISKS 4-SALE at the meeting

Royale Grey DSDD 360K
Unformatted Floppy Disks
with labels, tabs, and sleeves
70 Cents Each

MEI DSDD 360K
Unformatted Floppy Disks
with labels, tabs, and sleeves
50 Cents Each

High Density Disks 1.2 MEG.
90 Cents Each

MEI 3.5" 720K
Unformatted Floppy Disks
90 Cents 4 Each

New Library Disks
90 Cents Each

All Disks fully guaranteed against defects.

Club Information

The SLO BYTES Newsletter is a monthly publication of SLO BYTES PC User's Group located in San Luis Obispo, California. Information in this Newsletter is derived from both our own membership and other PC User Group Newsletters. The purpose of this publication is to inform our members of meetings and provide information related to the use of IBM PC's and compatible computers.

Membership: Dues are \$18 per year. Newsletter only is \$10 per year. Full membership entitles you to our monthly newsletter, full use of the public domain software library and discounts at local computer stores.

Article Submission: Deadline for submission of articles is the 15th of each month. Articles should be provided in ASCII format without any type of formatting from your wordprocessor including tabs, indents, extra spaces, or highlighting. We prefer articles on disk but will accept hardcopies if necessary.

Disclaimer: Neither SLO BYTES PC User's Group, its officers, editor, or contributors to this newsletter assume liability for damages arising out of this publication of any article, including but not limited to the listing of programming code, batch files and other helpful hints.

Reprinting of this Newsletter: Articles from this newsletter may be reprinted by other user groups if credit is given to both the author and newsletter from which it was taken. Reproduction of articles with a specific © Copyright notice is prohibited without prior permission from the original author.

Advertising: Commercial advertisers, request ad packet from Bob Ward. Members may advertise personal computer equipment or software for free. Submit your ad to Bob Ward.

Direct all correspondence to Bob Ward, 2100 Andre Ave., Los Osos, CA. 93402. Call (805)756-2164 M-F 7:30am - 5pm and (805)528-0121 all other times.

Treasurer: Teri Sorgatz, 832 S. 7th Street, Grover City, CA. 93433 Phone 489-2516

Meeting Times

General meetings are held the 1st Sunday of every month, unless noted otherwise in the newsletter calendar, at 2:30 pm in the Cal Poly University Biology Department, Fisher Hall 286. Special Interest Groups (SIGS) meet at 1:30 - 2:15 pm.

New User's SIG - F.H. 286

Our Public Domain Library is in Fisher Hall 292.

SLO BYTES BULLETIN BOARD

(805) 528-3753 2400/8/N/1

PC Files & Message Section

SYSOP: George Campbell

All Welcome - 24 Hours



Treasurer's Report

Here's what's in the bank after deposits and expenses in September:

Beginning Balance:	\$1733.78
Expenses:	\$ 171.90
Income:	\$ 330.00
	=====
Balance:	\$1891.88

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Store Discounts

Paradise Computers 3485 Sacramento, unit B San Luis Obispo 544-7127	5%	All computers, peripherals and software.
	10%	Ribbons, paper, disks & other expendable items.
Star Computers 855 Morro Bay Blvd. Morro Bay 772-7827	5%	Any software in stock.
	10%	Paper, ribbons, cables, and other supplies.
Computer Logic 973 Foothill Blvd. #4 San Luis Obispo 544-8347	10%	Off list - all computers, software, computer peripherals, and products. Contact Bruce, Paul or Dave for discount.
WITCO Computers 3563 Sueldo, Bld. B San Luis Obsipo 549-0811	10%	Off complete systems, peripherals, supplies but not including software.
	5%	Off computers alone.
FISBOSA Systems 3121 S. Higuera, F San Luis Obispo 549-9027		