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SOME LOCAL BULLETIN BOARD NUMBERS

<u>TITLE</u>	<u>PHONE NUMBER</u>
Puget Sound 99ers BBS.....	784-4142
TIBBS NW-Ed Durffee.....	641-5884
Aberdeen.....	533-0951
Teletravel.....	742-9034
Shuttle.....	885-INFO
Bremerton.....	377-1845
Lynnwood-Mike Allen.....	775-3660
Queen Anne Computer Shoppe (QACS)....	283-0953
KJR Radio BBS.....	878-0158

Minutes from the April meeting

George Sjaastad Secretary

The meeting was called to order at 7:00 PM by Chuck Wynne who introduced the officers.

Attendance was 38 members and 4 visitors one of whom was from Kitsap County.

Old Business - None

New Business: September Computer Fair - Barbara Wiederhold reported extensive plans for the fair and guests which include C Regena, Craig Miller, Lou Philips and more big names in the TI 99 community.

Publications: Home Computer Magazine is now defunct, Millers Graphics news letter and Club line-99 from Australia are good sources of information. Continued support is expected as there are 2.8 million TI99's out there.

Club's Computer: Chris George reported that the CorComp Box needs repair. A motion was passed to authorize fixing it. It was suggested to contact either C C Clark 871-3373 (repairman) or send the box back to CorComp for repairs and updates.

Chuck Wynne reported on: his interview with Barry Traver (early programmer for 99er Magazine) about Diskazine-a disk magazine (6 issues for \$30.00), PR Base freeware data base program, and a light pen for \$15.00.

Bulletin Boards:

PC Pursuit is a Service from GTE \$25 per month for as many 60 minute calls as you want 6:00 PM to 7:00 AM to BBS only.

Bremerton BBS (377-1845) Danny Stevens

The meeting was split into 3 groups:

- 1 Watched video of LA computer Fair
- 2 Extended BASIC programming lead by Rick Lewis
- 3 Demonstration of 128K Myarc card by Bremerton representative.

The club meeting dissolved as usual at about 10:00 PM. A very successful meeting and it is notable that the members are getting more social, maybe name tags will help next time to help people to get acquainted.

THE PRESIDENT SAYS

By Chuck Wynne

There is talk of the price of disk drives going up, as well as other Japanese products. This is due to the decreased value of the dollar as opposed to the yen. It is suggested that you act now on these purchases. It might save you some money!

Last month I told you of some problems using a straight cable to transfer files from the TI to a IBM compatible using the Cor-Comp RS232. Well, it turns out that pins 4 and 5 to the IBM have to be shorted to make it work. In fact, the only pins that need to be connected between the two computers is 2,3, and 7 straight, and 4,5 shorted. You will still need a program on both machines to transfer files. Still the best way is to use a modem and do it over the phone line.

It looks as if the Computer Shopper is getting better. There is much more for the TI now that Ron Albright and Jonathan Zittran from the TI forum have taken the helm. Thanks guys!

Here is a one line mortgage payment program that was in the Tips from the Tigercub, and improved by us. You will have to type as much of it as you can, then press enter, then press fctn REDO and run the cursor to the end of line to get it all on one line. This trick will work for you in programming also. Write the Tigercub for some good stuff. Tigercub Software, 156 Collingwood Ave. Columbus, OH 43213. Because space is limited in our news letter, we will try to have these available at our meetings to those that are interested.

```
100 CALL CLEAR :: INPUT "P=AMT, R=RATE,N=YEARS: ":P,R,N :: PRINT
"$";INT((P*R/1200)/(1-1/(1+R/1200)^(N))O+.5)/100;"PER MONTH"
:: ACCEPT X$ :: GOTO 100
```

We are trying to organize a software Saturday for July 12th. This would give the club a chance to run library software all day for everyone's benefit. Were looking for a place to have it now.

Name the news letter will be voted upon at our May meeting. Bring your entries. So far-- The Tight Wad, MyTI Forager, TI One ON, The Foray, QWERTI, have been thought of. Mail or bring your entry. Ed Durfee has volunteered to fill in for Gene Christiansen who will be absent.

BITS AND PIECES

By Gene Christiansen

It has just been learned that the Queen Anne Computer Shoppe is to receive one of the twenty proto-types of the new Myarc computer. This great coup has been accomplished by faith of two people. One of these is Barb Wiederhold, the proprietor of QACS (her nickname, not mine). If not for her unfailing belief in the TI 994/A and her dedication to its promotion, we would be like many other communities that have NO retail outlet for software, hardware, and advice. (It is through her efforts that the upcoming TI Convention is taking place.) This shows where her heart lies!!!

The second member of this pair is Lou Phillips. It is his faith that

has led to the development and production of the new machine. His faith has been in the beauty of the TI operating system, etc. which continually proves it to be the "Little Machine That Can".

Mr. Phillips also has faith in Barb Wiederhold. He believes, and rightly so, that the Queen Anne Computer Shoppe will prove a great testing ground for his product.

This testing will, of course, take many forms. At one end of the spectrum are Phil Jordan and Tom Wynne who will be writing and testing software for the Myarc. At the other end will others of us who will be curious and want to just "kick the tires". Barbara wants people to come by and play with this machine so that OUR input can be sent to Myarc concerning any sort of improvements or modifications that may be made!!! I find this very exciting - to have some say in the development of a new product!!!

We owe our thanks to these two of the "faithful" for their continued support of the TI 994/A, and its new generation.

Other news is that registrations for the upcoming TI Convention are moving at a great pace. Make sure that you call Barbara to secure the package that you want, to find out more on the various activities that will be happening, OR to offer that valuable help that is always needed!!! ((206) 283-0953)

Modifications to our BBS are progressing. Chris George promises to have ALL of the pesky bugs out "real soon".

New software continues to be produced almost daily for the TI. Please call Barbara at QUAC or Janie Lawrence at "Bits and Chips" ((206) 775-7390) for what has been coming out, or better yet, stop by and buy something - it helps to keep them in business.

The Queen Anne Computer Shoppe has its BBS up and running. Check it out by calling the business number at night or on the weekends. Thanks go to Scott Darling for his help in getting the modifications set up.

Finally good to see the long-awaited follow-up article by Richard Buck in the Seattle Times. In case you missed it (I don't know how), it was in the Monday (5/5/86) "Scene" section. Thank you, Richard, for taking the time!!! And thanks also to all the letter-writers who prompted and prodded him!!! Now we can all write and call him to say "THANKS, RICHARD!".

If you have not managed to send in your entry for the "Name the Newsletter" contest, bring it along with you to the next meeting. We will vote on all of the entries then. We are still accepting entries for "Best Original Software" but the deadline is approaching! (It is July 7th.)

How about having a "Software Saturday"? It should be well ahead of the convention, so as to avoid any complications. It would provide an opportunity for us to meet other groups and to put a face to those people we know only by modem. This event could be a great place to pick up "FREEWARE" or public domain software, as well. Bring your ideas to the

next meeting along with suggestions for forming an organizing committee (to find space, etc.).

Mike Allen, who has been handling the bulletin updates for our club board, now has his own BBS. The hours are 6PM - 10PM, Monday thru Friday, and 2PM - 8PM on Saturday and Sunday. Program upload and download capabilities make this board worth your while!!! The phone number is 75-3660. By the way; "Thanks, Mike" for the work you have done on our board!!!

Well, that's about all for now. Keep the mail coming, even if it is to gripe - we want to hear from you!!! Until later, happy computing!
SUPPORT OUR LOCAL DEALERS!!!

THE LADY OF THE NORTH

By Gene Christiansen

North of Seattle lies the friendly community of Edmonds. Here, on Highway 99, just a little north of Aurora Village, can be found another supplier for the TI 99/4A. The name of this establishment is "Bits and Chips" and Janie Lawrence is its proprietor.

When TI got out of the home computer business in 1983, Janie purchased as much software and hardware as she could, knowing that the 99/4A would continue to live on. It is this keen business sense that also prompted her to not just be a dealer, but a distributor as well. This action has enabled her to keep her prices competitive while maintaining a larger place of business than other TI dealers.

Although her shop is not totally dedicated to the 99/4A, Janie is highly supportive of it. (She sells the Sanyo, an IBM clone, and IBM software, too.) Janie has taken a lot of time to become knowledgeable of both systems so as to a reference for both machines. I have found that though I might be able to stump her with a question, Janie is not adverse to tapping her vast number of contacts to help the customer. Even if it means having to ask the proverbial "dumb question". She, too, is a dealer who cares that the purchaser/user goes away satisfied. The "Little Lady with a Big Heart" has been known to call a customer days later to find out how things are going or to offer further help, if possible.

Janie's contacts include Chuck Wynne (this group's president), who is usually able to repair most hardware and offer technical advice, and Chet Hoover, whom she employs part time. Chet is one of the best resources for Multiplan in the area. Sometimes, too, you might be able to get a hold of Janie's husband, Al Lawrence, who is a pretty fair technician, as well.

Her resources include software assistance, as well. She maintains a file of user/hobbyists that can get most of questions answered for just about anyone - no matter the type of program/application and its problem area.

This shop is also dedicated to the CorComp line of hardware and software for those 99ers that prefer those products. Janie is a good source for info about all the new gear that this company offers. She is usually the one who introduces CorComp's products to this area.

The friendly, genial atmosphere of "Bits and Chips" makes it great place to go, especially to find hard-to-find items. Janie will also special order stuff if you have read about something but can't get it.

The address is 23637 Highway 99, Edmonds, WA 98020. The phone number is (206) 775-7390. Stop by or call her soon. You will be glad you did!!!

READER AND MEMBER SURVEY

We at the Puget Sound 99ER's would like to know something about our readership. I know that when you joined you supplied some information about yourself, hobbies, and your system's configuration. However, if you are like me, you have made vast enhancements to the "TV, console, and cassette" - which is where I was when I paid my first dues. Also, we know that this publication is read in other areas than just the great state of Washington and there are many who are helped/informed, though they are not group members. For these reasons, we are looking to update our files. Would you help us?

Caverns of Glink

By Tom Wynne

```

100 REM CAVERNS OF GLINK-BY TOM WYNNE
110 CALL CLEAR :: CALL SCREEN(4):: RANDOMIZE :: MEN=4
120 CALL CHAR(137,"3B3A12FEBB0B2B6C",140,"000007C")
130 I:DISPLAY AT(1,5):CHR$(137);" CAVERNS OF GLINK ";CHR$(137)
140 DISPLAY AT(10,1):" USE S AND D TO MOVE LEFT":" AND RIGHT.":" PRESS SPAC
E TO JUMP"
150 DISPLAY AT(20,3):"PRESS 'P' TO START GAME."
160 CALL KEY(0,K,S):: IF S=0 THEN 160 ELSE IF K=80 THEN 170 ELSE 160
170 CALL CHAR(138,"FFFFFFFFAAAAFF",139,RPT$("F",16))
180 CALL CLEAR :: FOR I=1 TO 50
190 R=INT(FNE*19)+5 :: C=INT(FNE*31)+1 :: L=INT(RND*(32-C))
200 CALL HCHAR(R,C,138,L):: NEXT I
210 DISPLAY AT(1,1):"POINTS=";POINTS :: DISPLAY AT(1,23):"MEN=";MEN :: CALL HCHA
R(24,1,138,32)
220 R=23 :: C=10
230 CALL SPRITE(0,137,16,177,73,0,2,140,7,177,254,0,-10)
240 CALL LOCATE(0,1,R*8-7,C*8-7)
250 CALL POSITION(0,DR,DC):: IF DC<7 THEN 290 ELSE CALL COINC(0,1,0,2,5,H):: IF H
=-1 THEN 300 ELSE CALL KEY(0,K,S):: IF S=0 THEN 250

```

Continued on page 16...

CONFESSIONS OF AN EX-PIRATE

By Anonymous

Can you remember way back, when you first bought your computer system? You spent a lot of your hard earned money on all these real neat (and expensive) pieces of hardware. And it was great! Lights came on, things made noise, disk drives grunched... But yet something was missing.... SOFTWARE!!!

No big deal. Just run down to the store where you bought your system and spend some more money.... "Whatintheheckdoyoumean \$99.95 for TI-WRITER???"

"Multi-plan and Extended Basic cost that much, too???"

"#%\$*!#+(!"

"What do you have for under \$40.00? Munchman, Parsec, Blasto, and Teach Yourself Extended Basic? Youhavegottobe \$#% \$\$ (kidding!!!"

So you go out and make some friends with questionable reputations. One of them walks up to you one day and hands you a disk saying "Have I got something for you - don't pass this on to anyone else!"

You run home, shove the disk into your machine, and you catalog it...

"Hmm, this isn't too bad; couple of public domain BASIC programs, a user-written checkbook ballancer, and ...

"Whats this BUCKROGERS?? How did that guy get this?"

So, quickly making a backup copy, you return the "original" to your "friend".

And then you say the magic words..."GOT ANYTHING ELSE?" The next time your "friend" gives you five disks. Again you rush home to your computer and fire it up .

"Boy! Is this stuff great! Arcade games, Text games, Productivity software..."

A friend stops by your house complaining about the high price of software... And you say, "No problem!!! Have I got something for you! Waddaya want? I've got everything.!!!"

Sound familiar? Most of us (myself included) at some time or another have done this to some degree. Some make it their mission in life. After all, what is the harm in sharing a program with a "friend"?.

The computer industry name for this practice -PIRACY- sounds kind of daring and exciting.

Why don't we call it what it really is --- THIEVERY!!! Stealing software is no different than walking into a store, taking an item off the shelf, and walking out without paying for it. Except that it is harder for the software author to get you for stealing his or her product.

If programmers wanted to give their programs away, they would'nt have

put price tags on them!!!

There are a few more backlashes from the act of piracy (stealing). Copy protected software and lack of new product development.

Let us first look at copy protection. Personally, I would rather like a software developer to spend more time on finding ways to get more out of my machine than how to guard his or her latest masterpiece. Just so they can make a few well-earned bucks.

Most protection schemes are either broken or bypassed within a week or two of release of the new product anyway. And protection schemes also make your drives work harder (listen when a protected program is loading - the heads are really moving back and forth across the disk) resulting in more wear and tear on your equipment. Sounds great! Some disk-controller cards will work just fine on non-protected programs but they won't even run protected software!!!

How about making back-ups of software you did purchase? Forget it! And for some real fun, try installing protected software on a hard disk or a ram disk. You can't! Or trash your original (and only) program disk. You need that mail list or report finished by the end of the week? Sorry, 3 to 6 week wait. Plus you must send in your original disk. Pity the poor author who doesn't copy protect. Well, he or she will get famous, not rich, just famous. These are just a few of the benefits of STEALING software.

Does anyone realize just how important new product development is to continued existence of our TI's? Just in case no one told you, Texas Instruments doesn't supply 99/4A hardware or software any longer. Who does? It is the small companies. There is only one large software house writing for the TI and they write adventure games (seen any copies of THEIR stuff?). There are no Aston-Tate's, Microsoft's, or Lotus's writing for our beloved TI! Most of our software is produced by small companies. Do you really think that they will continue to bring out new programs that will just go from one pirate to the next?

And how about those Freeware authors? Those people who work or go to school and write software at night and on the weekends, sometimes for months, and then have the gall to ask you to send them ten or fifteen dollars if you like or can use their program. How many people ever do? According to the authors, not very many. The crazy part is that most of these programs are really quite good! Some like PRbase and DM1000 v3.1 are very useful. Those like Danny Micheal's "Screen Dump" and "Neatlist" allow us to do things that we couldn't do before.

But send these people money? "Why should I, when I can get it for free?" What the pirate (thief) doesn't realize is that nothing is "FREE". As the man says, you can pay me now or pay me later. We ALL will pay for this "FREE" software by eventuall having a machine that will only run the oldest, out-of-date programs around.

How long do you think they are going to write for this machine? Why the hell should they? So they can be ripped off some more? I don't think so.

Did you know that there is a TIBB's in our area "up and running" on PIRATED software? Do you think that the authors, most of whom write good software, are too stupid to know when they are getting screwed?

I predict that the future of our machine is very cloudy indeed. It's a simple formula SOFTWARE+HARDWARE=PRODUCTIVITY AND/OR ENJOYMENT!!!

Then what are we going to do?

Well, to people that accept pirated (stolen) software, DON'T.

To the those that do the pirating (stealing), KNOCK IT OFF!!

To software producers, please charge a reasonable price. And if you must protect your goods, please put two copies in the package so that the legitimate users are protected, too.

I sucked up software with the best of 'em . No more!!! Why? I saw that, for machines that are in production, there are 15 to 30 titles a MONTH being released for them. But for orphan computers - zip. So far we've been lucky. Are you willing to push that luck? I'm not.

TI LOGO PART I

By Tim Babcock

GETTING STARTED

This is the first in a series of articles that I will be writing on the operation and programming of TI-LOGO II. For those of you that might have the first version of LOGO, the only difference will be in the areas of memory and maybe a few little changes in graphics plus there is no sound on the first LOGO.

Make sure that you have the following equipment hooked up to your computer:

- A) 32K MEMORY CARD
- B) 1 DISK DRIVE AND DISK CONTROLLER OR TAPE DECK
- C) RS232 CARD AND PRINTER (OPTIONAL)

Once you have all of the above equipment you are ready to get started.

Once you insert your TI-LOGO II cartridge and press 2 to get to LOGO a cursor will appear in the upper left hand corner of the screen. It will take a few seconds for the computer to initialize the work space for LOGO. Once that is done we are set to go.

Logo is waiting for you to type in one of the built-in commands such as RECALL, SAVE or one of the turtle commands. For the first example we will experiment with the turtle.

```
TELL TURTLE
FD 3
RT 80
FD 8
LT 30
```

Although this program doesn't do much it is merely just an example of how to use this language. There are two modes when using this language. One is the turtle mode that we are in now and the procedure editing mode.

You will notice that when you typed in each of the above commands, that several things occurred. First when you typed in TELL TURTLE you seen a small triangle in the middle of the screen. That triangle is the turtle and the turtle is waiting for a command for you to type in. For instance, we told the turtle to do 4 things. First we told the turtle to move forward three (FD 3), make a right turn at an 80 degree angle (RT 80). Then the turtle moved forward 8 more units. Finally the turtle took a 30 degree left turn.

Another way to type the same commands is through the procedure editing mode. A procedure is simply a program without line numbers and is designed to recognize commands beginning with a procedure name and ending with the command END. The commands we just worked on can be typed in like this.

```
TO SAMPLE
```

What this brings us to is the procedure editing screen. Now as you look at the screen you will see the TO SAMPLE procedure title followed by the cursor. Now press enter and enter in the rest of the commands that we did using the turtle. After the last command type in END and hit enter. Then press function 9. Your procedure should look like this:

```
TO SAMPLE
FD 3
RT 80
FD 8
LT 30
END
```

To execute the procedure type in TELL TURTLE, press enter. Next type in SAMPLE, and press enter. You will notice that the procedure does the same thing as we did previously.

Just remember when you create a procedure that works with the turtle, you must type in the TELL TURTLE command before executing the procedure.

If you want to save the procedure to disk type in the command SAVE. You will notice a screen that asks for the file type. For this example we

will use option 1 PROCEDURES. Next another screen will ask you for the device. If you have a cassette press 1, if you have a disk drive press 2. Next type in the file name and press enter. Your program is now saved and you should be back at the light blue command screen. If you wanted to send your procedure to the printer, type in the command PRINTOUT. You will be then asked for the device name (like PIO or RS232) followed by the character length or your printer (like 40, 80, or 132 columns). The procedures that are now stored into memory will be printed out.

In the next lesson I will cover multiple procedures and how they are joined together to make a program.

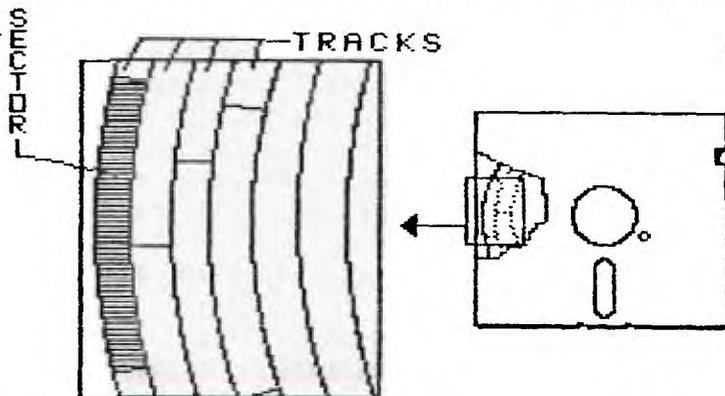
Comparison Study: TI99/4A vs. IBM MS-DOS diskette formats

By Tom Wynne

My dad (Chuck) and I have two full TI systems. We also have a Sperry PC. It is fully IBM compatible and can run all sorts of confusing software. I was curious about how much more power my Sperry PC really had. I first thought that with 512K bytes of memory, I should not have to worry that much about running out of memory. Wrong!! I only have 64K of memory available to me in BASIC! I also have tried to make a small data base in Turbo Pascal for my Sperry. I could only get about 60 different names in at once. My main curiosity was how the Sperry diskette format differed from the TI99/4A diskette format. In this study, I will compare the IBM compatible disk format with the TI CorComp disk controller format.

I found out that both formats give you about the same amount of available disk space. The Sperry has about 362496 bytes available and the TI has about 368128 bytes available. Both the TI and the IBM compatible format have 40 tracks per disk and each track holds about 4608 bytes. However, the TI format divides its tracks differently than the IBM format. These divisions are called sectors (see figure 1).

FIGURE 1: DISKETTE STRUCTURE



DOUBLE SIDED, DOUBLE DENSITY
40 TRACKS, 18 OR 16 SECTORS PE
256 BYTES PER SECTOR

The TI divides each track into 18 separate sectors (or 16 for the Myarc format) with each sector holding 256 bytes (18 sectors * 256 bytes per sector=4608 bytes per track). The IBM format divides their tracks into 9 separate sectors with each sector holding 512 bytes (9 sectors * 512 bytes per sector=4608 bytes per track). Notice the difference in the number of sectors and the bytes per sector. This is the main reason why the IBM and compatibles will not read TI99/4A disks and vice versa. Table 1 shows the formats of the IBM compatible MS-DOS (Microsoft Disk Operating System) and the TI99/4A CorComp double sided, double density disk format.

TABLE 1: IBM MS-DOS AND TI99/4A DISK FORMAT COMPARISON

COMPUTER SYSTEM	# OF TRACKS	# SECTORS PER TRACK	BYTES PER SECTOR	# OF SIDES	TOTAL STORAGE CAPACITY(BYTES)
TI99/4A CORCOMP	40	18	256	2	368,640
IBM MS-DOS	40	9	512	2	368,640

I did a test to see which format was the best. I took a file that was approximately 700 bytes long and checked how much space it took on the diskette. I found that the TI system used up 3 sectors while the IBM format used up 2 sectors. It looks like the IBM format is more efficient right? Wrong!!! Remember that the IBM format uses 512 bytes per sector. Lets find out how many bytes are wasted. In both formats, only one file can occupy a sector at once. Even if one byte of a sector is used, that whole sector must be used. For the TI CorComp format, 3 sectors is 768 bytes (256 bytes per sector * 3 sectors = 768 bytes). In the IBM format, 2 sectors is 1024 bytes (512 bytes per sector * 2 sectors = 1024 bytes). The file (700 bytes long) on the TI system takes up 3 sectors and wastes 68 bytes, while the same file on the IBM format the file takes up 2 sectors and wastes 324 bytes!! This is because the sectors are so large on the IBM format that they must use the whole sector no matter what (see table 2). My theory is that the more sectors there are, and the less size of the sectors, the memory usage will be more efficient and less wasteful.

TABLE 2: MEMORY USAGE FOR A 700 BYTE FILE

COMPUTER SYSTEM	SECTORS USED BY FILE	BYTES AVAILABLE FOR USE BY FILE	BYTES USED BY FILE	BYTES WASTED
TI99/4A CORCOMP	3	768 (3x256)	700	68
IBM MS-DOS	2	1024 (2x512)	700	324

I conclude that the TI99/4A CorComp disk controller is the most efficient in diskette memory usage than the IBM MS-DOS compatibles because the CorComp controller uses smaller sectors with less size. The CorComp controller is the most efficient for not wasting as much memory as the IBM MS-DOS system.

Some final notes: Since the Forth Interest Group has not done very well in attendance, there will not be any (official) meetings any more. I will, however, try to be present at the Queen Anne Computer Shoppe every Saturday for any questions you may have. Please call me at 745-3249 or Barb Wiederhold at 283-0953 for any questions.

Forth Screen Printing Routine

By Tim Hollobon

This routine will enable you to print multiple forth screens to printer. You just type:

```
33 40 PRINTS
```

Screens 33 through 40 will be printed to your printer. A form feed will be sent after three screens have been printed on a piece of paper.

NOTE: This command will waste a lot of paper if you attempt to print a screen that has been BSAVED. A BSAVED screen is made up of control characters and when printed, type fonts will be changed and there will be plenty of form feeds.

```
0 VARIABLE KEEP
: PRINTS SWCH
  0 KEEP !
  1 + SWAP
  DO
    10 EMIT 10 EMIT
    I LIST
    1 KEEP +!
    KEEP
    2 > IF
      12 EMIT
      0 KEEP !
    ENDIF
  LOOP
UNSWCH ;
```

NEWSLETTER NOTES

As you know by now, we are going to choose a name for the newsletter from your submissions. All you have to do is to think up a name for the newsletter and tell what it is at the May meeting. We will then have everyone vote on the name which best suits our club newsletter. The winner's entry will be published on the June newsletter.

You may have noticed that the print is much finer. Well, Chuck Wynne purchased a great Daisy Wheel printer from Phil Jordan which prints excellent quality type. Thanks to Tom Wynne, Gene Christiansen, and to all the people who submit articles. Your submissions keep this newsletter the best our group can offer. Thank you!!!

Caverns of Glink-Continued from page 7

```

260 CALL GCHAR(R+1,C,CH):: IF CH=138 THEN 270 ELSE 220
270 CALL SOUND(1,32,0):: CALL HCHAR(R+1,C,139):: FC=PTS=POINTS+2 :: DISPLAY AT(
1,1)SIZE(12):"POIN:=";POIN": :: IF POINTS/2=250 THEN 180
220 IF K=32 THEN 330 ELSE IF K=83 THEN 410 ELSE IF K=68 THEN 440 ELSE 250
240 CALL LOCATE(#2,R*8-7,254):: GOTO 250
300 REM HIT
310 CALL DELSPRITE(#2):: FOR I=1 TO 10 :: CALL PATTERN(#1,137):: CALL SOUND(1,-3
,0):: FOR J=1 TO 10 :: NEXT J :: CALL PATTERN(#1,32):: NEXT I
320 MEN=MEN+1 :: DISPLAY AT(1,22):"MEN=";MEN :: IF MEN=0 THEN RUN ELSE 220
330 REM JUMP
340 FOR I=R TO R-2 STEP -1
350 CALL LOCATE(#1,I*8-7,C*8-7):: CALL GCHAR(I,C,CH):: IF CH>32 THEN 400
360 CALL COINC(#1,#2,5,H):: IF H=-1 THEN 310
370 NEXT I :: FOR I=R-2 TO R :: CALL LOCATE(#1,I*8-7,C*8-7):: CALL GCHAR(I,C,CH)
:: IF CH>32 THEN 400
380 CALL COINC(#1,#2,5,H):: IF H=-1 THEN 310
390 NEXT I
400 R=R-1 :: GOTO 240
410 REM LEFT
420 C=C-1 :: IF C=0 THEN C=1
430 CALL GCHAR(R+1,C,CH):: IF CH=32 THEN 470 ELSE 240
440 REM RIGHT
450 C=C+1 :: IF C=33 THEN C=32
460 CALL GCHAR(R+1,C,CH):: IF CH=32 THEN 60SUB 470 ELSE 240
470 REM FALL
480 FOR I=R+1 TO 23
490 CALL LOCATE(#1,I*8-7,C*8-7):: CALL GCHAR(I+1,C,CH):: IF CH>32 THEN R=I :: GO
TO 240
500 CALL COINC(#1,#2,5,H):: IF H=-1 THEN 310
510 NEXT I :: GOTO 240

```