

~~~~~  
W-AGE/99 \* NEW-AGE/  
99 \* NEW-AGE/99 \* N  
EW-AGE/99 \* NEW-AGE  
/99 \* NEW-AGE/99 \*  
~~~~~

* by JACK SUGHRUE, Box 459, East Douglas, MA 01516 *
#5

Anyone in the TI World owning a disk system at least a month and has not yet contacted Jim Peterson at TIGERCUB Software is certainly leading a severely deprived life.

Jim has the largest collection of stuff at the cheapest prices possible for our amazing 4A. He couples this "best for the least" business with a fantastic knowledge of the machine and a kind, generous spirit. No one knows the BASIC and XB workings of the TI better than Jim. He is an expert in everything!

Mr. TI, as he is known by his thousands of admirers, seems to take to his computer the way Jean Henri Fabre took to ants. He is meticulous and creative and understands the soul of the 4A. I'm still in awe of his skills and dedication and influence.

There is no one in the entire TI World (unless he or she has been hiding under a rock since the 70s and has just been handed a machine) who has not felt the influence of this mild-mannered, modest man.

I've come across hundreds of programs with his fingerprints on them: programming enhancements and tools he has given to us. For years Jim gave newsletter editors free tutorials called "TIPS FROM THE TIGERCUB" which were (and are) so jam-packed with wonderful programming goodies that it is hard to imagine what TI life would have been without this marvelous source. He still sends these "CARE" disks to sharing newsletter editors. He has also written the ultimate tutorial on programming in the form of subprograms that can be easily merged into any XB program (including a subprogram that makes BASIC programs into XB programs). These loaded disks of subprograms (called NUTS & BOLTS) can be purchased from him and readily used with your own or other programs. These Tigercub touches are what I see on almost every good XB program written for the TI in the past half decade."

Jim has also written so many programs for the Public Domain that we just take for granted that these kinds of programs have "always been there." They weren't. Until Jim gave them to us. There isn't a user group library in the world that doesn't have heaps of programs from Mr. TI.

He also writes numerous "commercial" pieces of software. "Commercial" only in the sense that they are for sale. They were low-priced and of high quality in the heydays of the 4A when everything was high-priced and too often of extremely poor quality. Years later, I still use a large number of his programs in school (SYNONYMY, MECHANICAL APTITUDE TEST, SCRAMBLE, SQUINCH (a fiendish word game), to name a very few). I wouldn't like to be without the other Tigercub utility and game programs I've enjoyed so much over the years (particularly the unendingly fascinating NUTS & BOLTS disks, which I had the honor of demo-ing at a recent computer fair. [I had the greater honor of meeting Jim at the great TI fair in Lima, Ohio.] The man's remarkable and is universally liked (which is remarkable unto itself).

[Jim's three NUTS & BOLTS disks (with a descriptively succinct manual/tutorial) are now only \$10 each. His five disks full of "TIPS FROM THE TIGERCUB", a newsletter editor's Godsend, are only \$5 each.

His 120 original programs (a refundable \$1 for the catalog) are now just \$1 each!]

Praising Jim's efforts on our behalf is not the purpose of this article. (It's just impossible to write about Tigercub without doing so.) The purpose of this article is to tell you about the latest goodies to come out of Tigercub. Jim, because of his huge number of TI contacts (without a doubt more than anyone else in the world), has been able to put together the largest collection of Public Domain and Fairware programs, files, and templates in existence.

This PD extravaganza can be dipped into by sending a refundable dollar for this catalog. (\$2 for both the Tigercub and TI-PD catalogs.) Within is an unbelievable world of goodies. A 4A maniac's paradise! At only \$1.50 per disk! Not per program. Per FULL disk! And that's postpaid!

These disks do not contain a pile of junk you'll never use, either. They are selected from the thousands Jim has in his library. And they are catalogued and sub-catalogued and regrouped.

An example: Interested in music? Those are the 600 series. What kind of music? Well, remember those great graphic/music combos of Sam Moore? 600 is a disk called "SAM MOORE MUSIC #1" (341 sectors). It has 11 super selections on it. But there is also a "SAM MOORE MUSIC #2" (343) and a 3 (348) and a 4 (337) before #604 moves to "BILL KNECHT HYMNS" (334) and so on.

You get the picture. You get a disk full of the kind of things you want and can use: educational programs, graphics, printer utilities, typing, health, you name it. Games are broken down into so many categories it's amazing. Three disks of just CARD games! All programs now run in XB and all come with Tigercub's famous Loader, forerunner of all the good loader programs found elsewhere. Jim has games broken down by specific type: "ROAD CROSSING GAMES", "KEYBOARD MANEUVERING GAMES", "Q*BERT GAMES", "FORMER COMMERCIAL GAMES", "EASY GAMES FOR KIDS", "KING KONG TYPE GAMES", "TWO-PLAYER JOYSTICK GAMES" (there are loads of one-player), "GERMAN GAMES", on an on, page after page.

There's even such esoteric stuff as "LIGHT PEN PROGRAMS (including a disk file which teaches you how to make your own light pen).

There are disks of programs about Chemistry; Hi-res Drawing; Physics; Children's Programming with Speech; Sorts, Scrambles & Searches; Auto-loaders; Calculators & Converters; Astronomy, Religious Programs. The list seems endless.

The catalog gives you the full listings of the files on the disk: "FINANCIAL PROGRAMS" (356 sectors) includes the following selections with authors where known: Amortization Schedule (M Holgers); and #2 (J Roche); Compound Interest (C Good); Estate Tax Securities (R Shumaker); Debt Calculator (K Romstedt); Financial Math (C Ehniger); Financial Statemnt Ratio Analysis (C Colton); Investment Analysis (A Robertson) AND 15 more!

Just the work and time involved in the collecting, reviewing, selecting, debugging, sorting, creating full disks, cataloguing, printing, and distributing must be incredible. To charge \$1.50 a disk is the greatest TI giveaway of all times.

Order the catalogs today; then, after you wipe the drool off the table, order as much as you can to show Mr. TI how much you support his endeavors. TIGERCUB Software, 156 Collingwood Ave., Columbus, OH 43213.

[If you use NEW-AOB/99 please put me on your exchange list.]

VERIFY A FORMATTED DISK?

by GARY W. COX



(taken from the St. Louis 99ers newsletter-The Computer Bridge)

When I format a disk, should I verify it? Verifying the disk when formatting (also known as initializing a disk) determines if the disk formatted properly without any errors. DM1000 gives the user the option of verifying or not verifying by typing a Y or N beside the Verify question. When the disk is being verified, the computer counts through each sector of the disk to verify that each sector is good after being formatted. If a sector is found to be bad (computer is unable to read and write to that portion of the disk) then that sector is locked off so that it cannot be used. After verification a 100% good disk will show 2 used on the sector information. If a bad sector was found it would show 3 used, if 2 bad sectors were found it would show 4 used and so on. However, note that when using the Disk Manager 2 cartridge, the sector information will show 0 used on a good disk and then 1 used for 1 bad sector and so on. 2 sectors of the disk are actually used to store directory information (this is how the computer finds programs on the disk). The disk manager 2 cartridge just doesn't tell you 2 sectors are used - as it says that 358 are available (on SS/SD disks) and 0 used - while DM1000 is actually providing more correct information, that 360 sectors are available and 2 used. The amount of sectors available are still 358 for single sided, single density disks (SS/SD).

In short, when using DM1000, if more than 2 sectors come up used after formatting, a bad sector(s) was found on the disk. When using the Disk Manager 2 cartridge, if more than 0 is found used after formatting, a bad sector(s) was found.

Thus it is advisable to verify a disk when formatting because if the disk was not verified and later on when using the disk a bad sector is attempted to be written to, a write error may occur or even worse, data may be lost from a bad sector in which data is written to. Since disks are so cheap now days, if I find a bad sector on a disk I usually throw that disk away as one sector could mean that other sectors are weak and could eventually cause data to be lost. Note that initializing the disk only takes a short time, the verify process is what takes so long. That is why the option to verify or not to verify was added into the DM1000 program.

One last note, Disk Manager 2 will always verify the disk after formatting, DM1000 allows you the option of not verifying if you are 100% sure the disk is good. Note though, that if errors are received on several disks, the program may not necessarily be a bad disk but the drive may need cleaning or a problem may exist with the drive itself.

MINI

A DIFFERENT APPROACH TO SPEECH



by
KEVIN COX

The program opposite does not look much like the normal 'speech program', as it consists mainly of CALL LOADS, but this method works much quicker than the usual CALL SAY method.

When the computer encounters a CALL SAY(" "), it stops execution of the program until it has completed the CALL SAY subprogram, while in the CALL LOAD(" ") method the computer continues on with the program, not waiting for the subprogram to be completed.

The phrases are listed in the Editor/Assembler manual on page 422. The 2 bytes following the phrase are noted and the digits reversed and 64 is added to each digit. After inserting the numbers it must finish with 64, and then 80 is needed at the end to tell the computer to speak that line.

The first program will do all that for you. All you have to do is insert the numbers as they appear in the manual. This program runs in either Extended BASIC or in BASIC with the Mini-Memory module.

(Thanks to Kevin Cox and the Hunter Valley newsletter Aug 1988)

```

10 REM *****
20 REM *SPEECH CONVERSION*
30 REM *   NUMBERS   *
40 REM *   by Kevin Cox   *
50 REM *   USING THE E/A   *
60 REM *   MANUAL   *
70 REM *   9th July 1988   *
80 REM *****
90 CALL CLEAR
100 PRINT "INPUT 4 HEX NUMBERS"
110 INPUT "SEPARATE BY
      COMMAS -:A#,B#,C#,D#"
120 IF A#="A" THEN A#="10"
130 IF A#="B" THEN A#="11"
140 IF A#="C" THEN A#="12"
150 IF A#="D" THEN A#="13"
160 IF A#="E" THEN A#="14"
170 IF A#="F" THEN A#="15"
180 I=VAL(A#)
190 I=I+64
200 IF B#="A" THEN B#="10"
210 IF B#="B" THEN B#="11"
220 IF B#="C" THEN B#="12"
230 IF B#="D" THEN B#="13"
240 IF B#="E" THEN B#="14"
250 IF B#="F" THEN B#="15"
260 H=VAL(B#)
270 H=H+64
280 IF C#="A" THEN C#="10"
290 IF C#="B" THEN C#="11"
300 IF C#="C" THEN C#="12"
310 IF C#="D" THEN C#="13"
320 IF C#="E" THEN C#="14"
330 IF C#="F" THEN C#="15"
340 J=VAL(C#)
350 J=J+64
360 IF D#="A" THEN D#="10"
370 IF D#="B" THEN D#="11"
380 IF D#="C" THEN D#="12"
390 IF D#="D" THEN D#="13"
400 IF D#="E" THEN D#="14"
410 IF D#="F" THEN D#="15"
420 K=VAL(D#)
430 K=K+64
440 PRINT KIJIHII;64;80
450 OPEN #1:"PIO"
460 PRINT #1:KIJIHII;64;80
470 CLOSE #1
475 PRINT
480 PRINT "ANOTHER SET OF
      NUMBERS (Y/N)"
490 CALL KEY(0,K,S)::
      IF S<1 THEN 490 ELSE
      IF K=89 THEN 100 ELSE END

```

USING A MODEM By Dick Beery

This is the first in a projected four-part series of articles about using a modem with your TI computer. Our new newsletter editor, Bill Wood, has asked me to write such a series to encourage more people to use modems and to help them get started. Several years ago, I wrote a similar series for this newsletter, but that information is largely out of date. So this will be an all-new approach.

Even if you don't own or use one, chances are you're familiar with modems. Basically, a modem allows a computer to send and receive information over a telephone line. This information can consist of messages and other text files (for instance, this article was sent from my computer to Bill's over a modem), games and other types of programs, and even graphics images.

As you are probably aware, computers use digital processing, which means that all information is reduced to a series of ones and zeroes. On the other hand, telephone lines transmit audible (sound) information such as voice and music. The modem serves as a "translator" between one type of information and the other. When you send information over the modem, it translates the computer's digital signals into audible tones, and when you receive information, it converts the audible tones sent by another modem into digital signals that your computer can understand.

Types and prices of modems can vary widely, so it helps if you belong to a computer users' group or have one or two friends who are knowledgeable about modems before you run out to buy one. If you purchased a used TI99/4A system, it may have included Texas Instruments' early acoustic modem. These modems are equipped with a

cradle in which you put the telephone handset. The modem creates audible tones that are picked up by the microphone part of the handset and listens for tones coming back through the speaker portion. Although these acoustic modems are no longer made, there's nothing to prevent you from using one. But they do depend upon a tight seal between the telephone handset and the modem to ensure proper data transmission, so you may want to try several of your phones with the modem to see which provides the best fit.

The majority of modems made today are of the direct-connect type--the modem plugs directly into your telephone line and usually has another outlet so that you can plug a standard telephone into the modem. These modems tend to be more reliable, since they generate audio signals internally and don't depend upon a telephone's microphone and speaker. In fact, with the right software for your computer, you can use some of these modems without even having a telephone hooked up to the line.

Modems are usually classified by the maximum speed at which they can send and receive data. This speed is measured in bits of information per second, or "baud." Earlier modems, such as the TI acoustic, could transfer information at 300 baud, which meant that 300 ones and zeroes were going through the phone line every second. To give you an idea of what that means, this article would have taken about five minutes to send at 300 baud.

Nowadays, many people find that speed much too slow, especially if the call is long-distance. Over the past several years, 1200 baud has been the most common transmission speed, and many

USING A MODEM

computer users have gone to 2400 baud. I recently got one of the 2400-baud models myself and it makes quite a difference. Instead of taking five minutes to send this article at 300 baud, it takes a little over a minute at 1200 baud and only about a half-minute at 2400 baud.

However, all that speed can sometimes be a liability. When you're trying to read information as it comes across the screen rather than simply saving it to a file, it can be difficult to keep up with the higher baud rates. In fact, you may find 300 baud much more comfortable to use in the beginning. Higher-speed modems usually can operate at lower speeds as well, so you could buy one of these, run it at 300 until your familiarity and reading speed increase, and then utilize the higher baud rates.

Why would anyone want to use a modem in the first place? That's a question that may seem important now, but believe me, when you become familiar with the amount of information available over phone lines, you'll be wondering how you ever got along without one.

Think of it this way. Without a modem, you are restricted entirely to the computer equipment and programs that you own. When you connect to another computer by modem, you have access to the information that computer contains. And when you tie in to a computer service available to many computers, you can call on the resources of every other user of that service.

The range of such computer services is impressive. For instance, some banks now permit savers to get a current balance, transfer funds from one account to another and even make some utilities payments directly by computer. In addition, many

libraries are now using computerized card catalogs, and some permit the public to access the catalog by modem. The Public Library of Columbus and Franklin County allows patrons to make selections from its catalog in such a manner, and reserve material to be picked up later in person. The Ohio State University, in combination with the State Library of Ohio, also makes its catalog available by modem. More specific information about these types of services will appear in part two.

A number of other computer services are available on a subscription basis. The largest of these, CompuServe, is based right here in Columbus. These services offer public domain and shareware programs, reference information on a variety of topics, and even shopping areas where you can purchase items over the modem.

The most commonly used computer services, however, are local bulletin board services, so named because they serve as electronic bulletin boards for computer users. These services, usually known as BBSes, are run by computer enthusiasts for computer enthusiasts. They offer areas for users to leave messages for one another and typically include libraries of non-commercial programs that can be "downloaded" right from the BBS to your machine. Interested in getting the latest version of a shareware word processing program for your computer? Just dial up the local BBS and download the program to a disk. Have a question about how to use that program? Leave a message for other users. Chances are, someone else has faced the same question and come up with an answer.

Some BBSes even offer games that you can play "on-line" (while

USING A MODEM

(Continued from page 6)

you are connected to the BBS via modem). People who work in specialized areas, like genealogy, can access the findings of others through on-line databases.

One of the most interesting and fun experiences in modeming, according to many people, is interpersonal contact, one on one, through the computer. I have recently helped several people learn how to do this and invariably they have remarked, "This is really fun! I didn't know how much fun it could be!" All we were doing was sending some programs I had and they didn't over the modem (public domain or fairware, of course) and typing messages back and forth. They found it thrilling to type something and have me immediately type a reply to them. While voice communication is in some ways easier, seeing written communication on the screen can clear up any confusion about terminology and correct spelling. But I think the main attraction is finding a whole new way to communicate with others. Many bulletin board services offer users the opportunity to "chat" with the system operator this way.

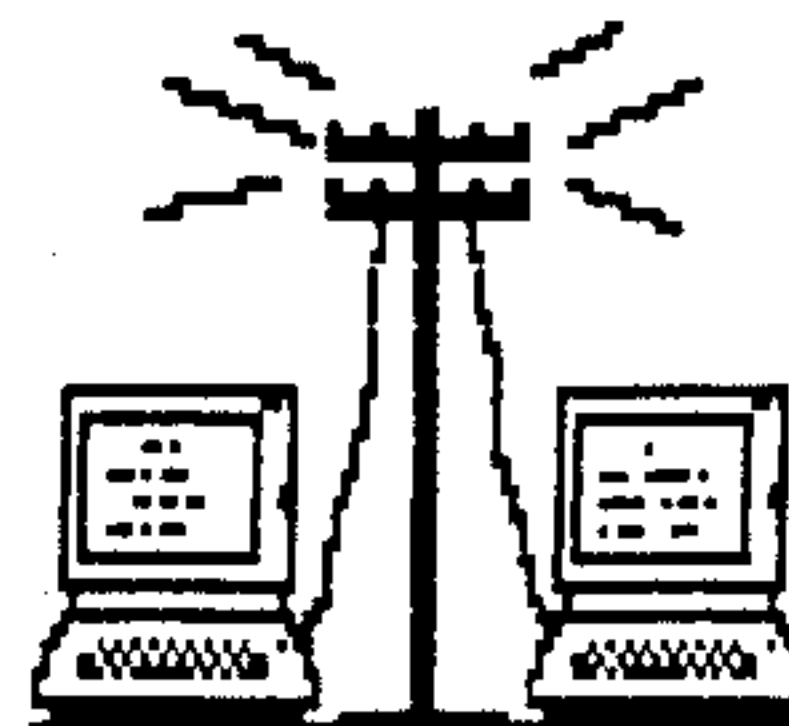
All right, so now you know some of the things that communicating by modem can do for you. The next question, of course, is how much does it cost?

Your start-up expenses will include the cost of a modem and whatever interface is necessary to connect it to your computer. We'll have more on this subject in upcoming segments, but for now you only need to know that a modem doesn't have to be very expensive. Even high-speed models are available for less than \$100. Communications software is also inexpensive. Fairware programs for the TI typically cost about \$15-\$20.

And it doesn't have to cost you much to use that equipment. Currently, modem access to telephone lines is free of extra charge unless, of course, you're calling long distance. However, telephone companies in some areas of the country are attempting to impose a surcharge for modem usage. BBS operators, national database managers, business users, etc., are attempting to combat this, but it's unclear how this issue will be resolved.

Columbus-area TI users are lucky in that there are three BBSes specifically for the 99/4A-Geneve in the local dialing area. If you are already a modem user, you can call (614) 263-3412 to log on to the Spirit of 99 BBS (the CONNI club's official board); (614) 442-1852 to get TIABS, operated by Bud Wright; and (614) 268-1994 for Chuck's BBS, operated by Chuck Grimes. Long-distance users please note: Columbus is not currently available on the PC-Pursuit network, but can be accessed via Starlink. If those names are unfamiliar to you, don't worry--part 3 will contain further information.

Finally, remember: Using a modem can get you important information to enrich your life and expand your horizons, but it should also be FUN! Plan to enjoy it!



From N.H. 99er

DISK DOCTOR

Curtis Alan Provance
Paragon Computing

In the last segment, we looked at how sector 1 is used to record the header of each file. We also recovered a file by inserting its header sector number into the list in sector 1. This month, we'll look briefly at how to recover files from a disk which is physically damaged (typically sectors 0 and or 1).

To recover a "blown" disk easily takes two good disks. Quality disks can be purchased for 25 cents a piece, so there is no reason not to have as many as you need (skip that candy bar and get yourself another couple of disks). Of course, the easiest way to recover data is to have a backup. As far as time is concerned, the few seconds required to duplicate a disk or file are far easier than the hours required to duplicate your work (if it can be done at all).

How can you recover a disk with a "blown" sector 0? You need a copying program that does sector copies. I believe that Nibbler and MASSCOPY both do this; I'll look into sector copiers and report in the next article....

Initialize a good disk. Then do a sector copy from the "blown" disk to the good disk, starting at sector 1 and going to the end. Once you have done this, you can correct the bit-map table by copying each file (not sectors) from the good disk to yet another disk.

If sector 1 is also bad, you can copy from whatever the first good sector you can find to the end of the disk. Then use a disk editor to look for the file headers (most of them will be in the first 32 sectors). Put the sector number of each file header into sector 1 of the good copy disk, then copy all the files onto your third disk.

Next time: the structure of file headers and how to recover long text files which you have written over! Promise!

MORE CALENDAR

by Adrian Robinson

The August ROM article about calendar programs brought forth a comment to the effect that "The program is short but the print format is not very useful."

My objectives in that article were just to establish the fundamental simplicity of the calendar and to set down some fairly efficient calendar programming techniques. In reply, I have revised the program to print a full year on a single page. This is a fairly common format for programs very much larger than this one.

```
10 ! CALENDAR PROGRAM-2
12 ! by Adrian Robinson
14 !
16 ON WARNING NEXT :: CALL C
LEAR :: DIM MO$(12),D$(12)
18 DATA JAN,31,FEB,28,MAR,31
,APR,30,MAY,31,JUN,30,JUL,31
,AUG,31,SEP,30,OCT,31,NOV,30
,DEC,31
20 L$=RPT$("-",20):: W$="SU
MO TU WE TH FR SA" :: FOR I=
1 TO 31 :: M$=M$&RPT$(" ",2+
(I>9))&STR$(I):: NEXT I
22 INPUT " YEAR: ":Y :: IF Y
<1583 THEN PRINT "YEAR MUST
BE LATER THAN 1582": : : G
OTO 22
24 FOR M=1 TO 12 :: READ MO$
(M),L :: CALL MONTH(Y,M,B)
26 IF M=2 THEN IF (Y/4=INT(Y
/4))-(Y/100=INT(Y/100))+(Y/4
00=INT(Y/400))THEN L=L+1
28 D$(M)=RPT$(" ",B)&SEG$(
M$,1,3*L)&RPT$(" ",42-B-L)
:: NEXT M
30 OPEN #1:"PI0" :: PRINT #1
: : : : :CHR$(27)&"E":CH
R$(14);TAB(3);Y;TAB(18);"CAL
ENDAR";TAB(35);Y: : :
32 FOR M=1 TO 10 STEP 3 :: P
RINT #1: : :TAB(14);MO$(M);T
AB(40);MO$(M+1);TAB(66);MO$(
M+2): :
34 PRINT #1:TAB(5);W$;TAB(31
);W$;TAB(57);W$;TAB(5);L$;TA
B(31);L$;TAB(57);L$ :: FOR I
=0 TO 5
36 PRINT #1:TAB(4);SEG$(D$(M
),1+21*I,21);TAB(30);SEG$(D$
(M+1),1+21*I,21);TAB(56);SEG
$(D$(M+2),1+21*I,21)
38 NEXT I :: NEXT M :: PRINT
#1:CHR$(12);CHR$(27)&"0" ::
CLOSE #1 :: GOTO 22
40 SUB MONTH(Y,M,B)
42 B=365*Y+31*(M-1)
44 IF M>2 THEN B=B-INT(2.3+
4*M)ELSE Y=Y-1
46 B=B+INT(Y/4)-INT(Y/100)+I
NT(Y/400)
48 B=B-7*INT(B/7)
50 SUBEND
```


NEXT MEETING TUESDAY JUNE 12, 1990

MUNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

President	W.C. Wyman	839-4134
Vice President	Bruce Willard	852/3250
Secretary	Jim Cox	
Treasurer	Jim Cox	869-2704
Acting Editor	Jim Cox	
Adv.Prog. Chair	Dan Rogers	248-5502
Library	Al/Lisa Cecchini	
Disk Librarian	Lou Holmes	617 965/3584
Tape Librarian	Walter Nowak	413 436/7675
+++++++	Jack Sughrue	476/7630

MAY MEETING. We were honored to have John Willforth from the West Penn 99ers' as our special guest at the meeting. John was nice enough to show and explain the conversion he did on Jack Sughrue's computer, it was a very interesting demonstration. Jack demoed some of the Comprodine software he was selling at the Fair. As regards the fair the group made about \$220, much better than last year. There were 16 members present.

THE "FAYAH". The BCS Computer Fair was held on May 5th. Attendance was down quite a bit this year, but the activity at our tables was very good. Some of the TI greats in attendance included Bud Mills, Terry Masters, John Willforth and many more. Jack put on the only demos of the day. The facility was quite good but the need for more and better promotion was obvious.

JUNE MEETING. Our DDM will be eight games, see below, and we should have copies of everything in the library available. Corson will give a complete report on his honeymoon!!

NEW TI PUBLICATION. Vulcan's Computer Buyer's Guide is a new Computer Shopper like magazine with one BIG difference. It will have a monthly T.I. column. The cost of a subscription is \$12 for 12 issues or \$19 for 24 issues. To order call 1-800-824-0676; M.C. VISA & AMEX are accepted. This looks like a good magazine let's get behind it.

RAFFLE. Every month we have a raffle to help defer the cost of the monthly hall rental. The number of prizes awarded depends on the number of tickets sold. This month we have some TI T-Shirts, disk holders and some games for prizes. If you have some old things you no longer use how about some donations for the raffle.

LIBRARY NOTICE. Please return any items borrowed from our library. If you can not come to a meeting or give these items to someone who will be at the meeting.

REPRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

ARTICLES. I am always looking for articles for this newsletter, anything which interests you will probably interest other members of the TI community, so please share your ideas and opinions with all of us.

LIBRARY ADDITIONS. #84 TI PD II Basketball Stats, Universal Graphics & MSG, Piring Squad, TI Rescue, Trucker. #85 TI PD III Stock Records, Piano, Old MacDonald's Farm, Readfast, Snakes & Ladders. #86 DDM 6/90 Aggressor, Barrage Buzzard, Cave, Drive, Facechase, Fish, Hopper.

WELCOME NEW MEMBER. Bob Zink of Naples, Florida.

```

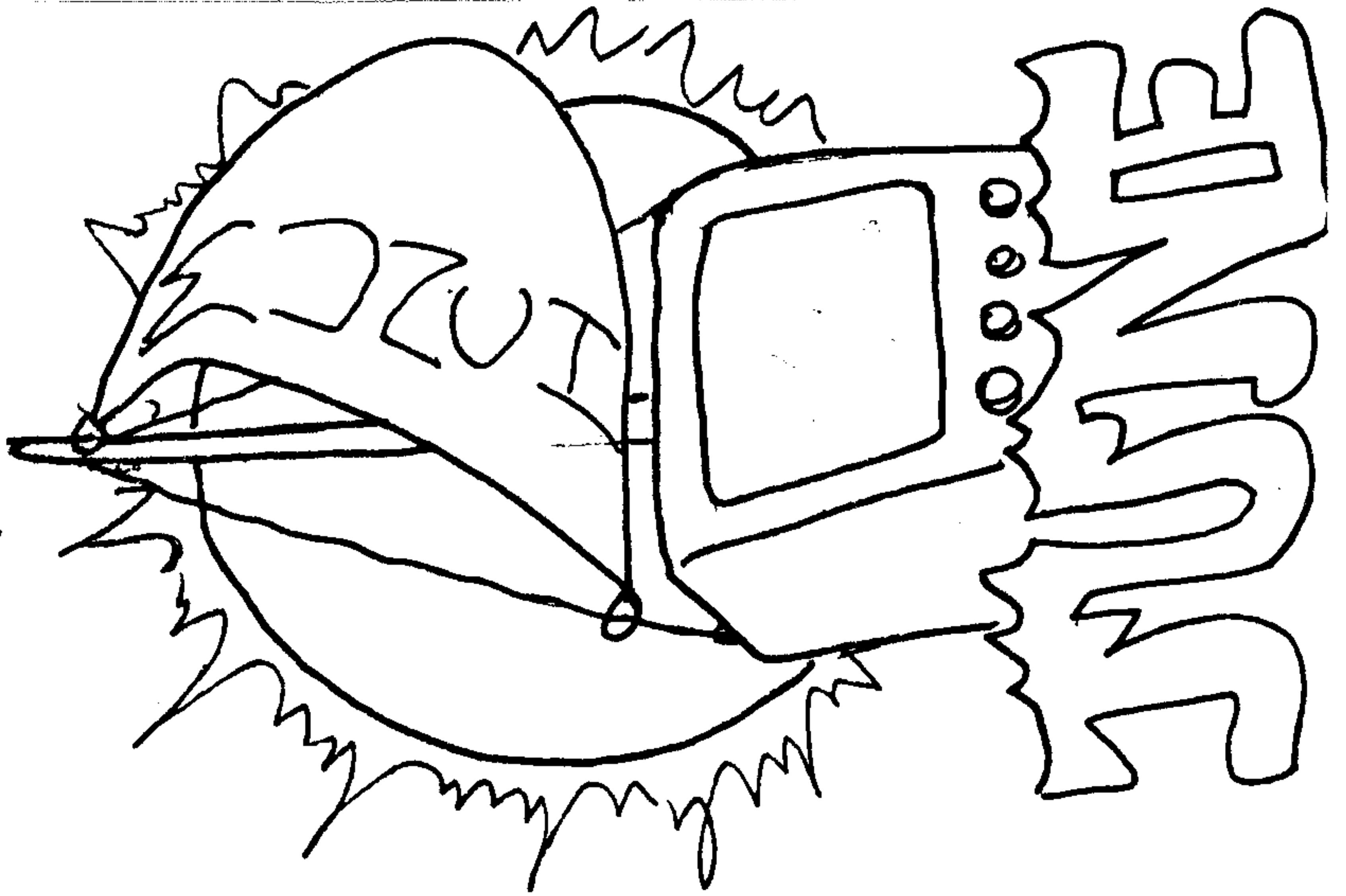
* * * * *
** ** ** **
* * * * *
# # # # #
+ + + + +
+ + + + +
% % % %
$ $ $ $

```

~~~~~

-----  
 Mass Users of the Ninety-nine and Computer Hobbyist:  
 -----

JUNE 1990 Monthly Newsletter Version 9.06



M.U.N.C.H.  
 560 LINCOLN ST.  
 P.O. BOX 7193  
 WORCESTER, MA. 01605-7193



FIRST CLASS



Next Meeting JUNE 12th.

POSTMASTER: Forwarding and Address Correction Requested.