

```

*      *      #      #      @      @      %%%      $      $
**     **     #      #      @@     @      %      %      $      $
*      *      *      #      #      @  @   @      %      $      $
*      *      #      #      @  @  @      %      $$$$
*      *      #      #      @      @@     %      %      $      $
*      *      ###     @      @      %%%      $      $

```

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Mass Users of the Ninety nine and Computer Hobbyist

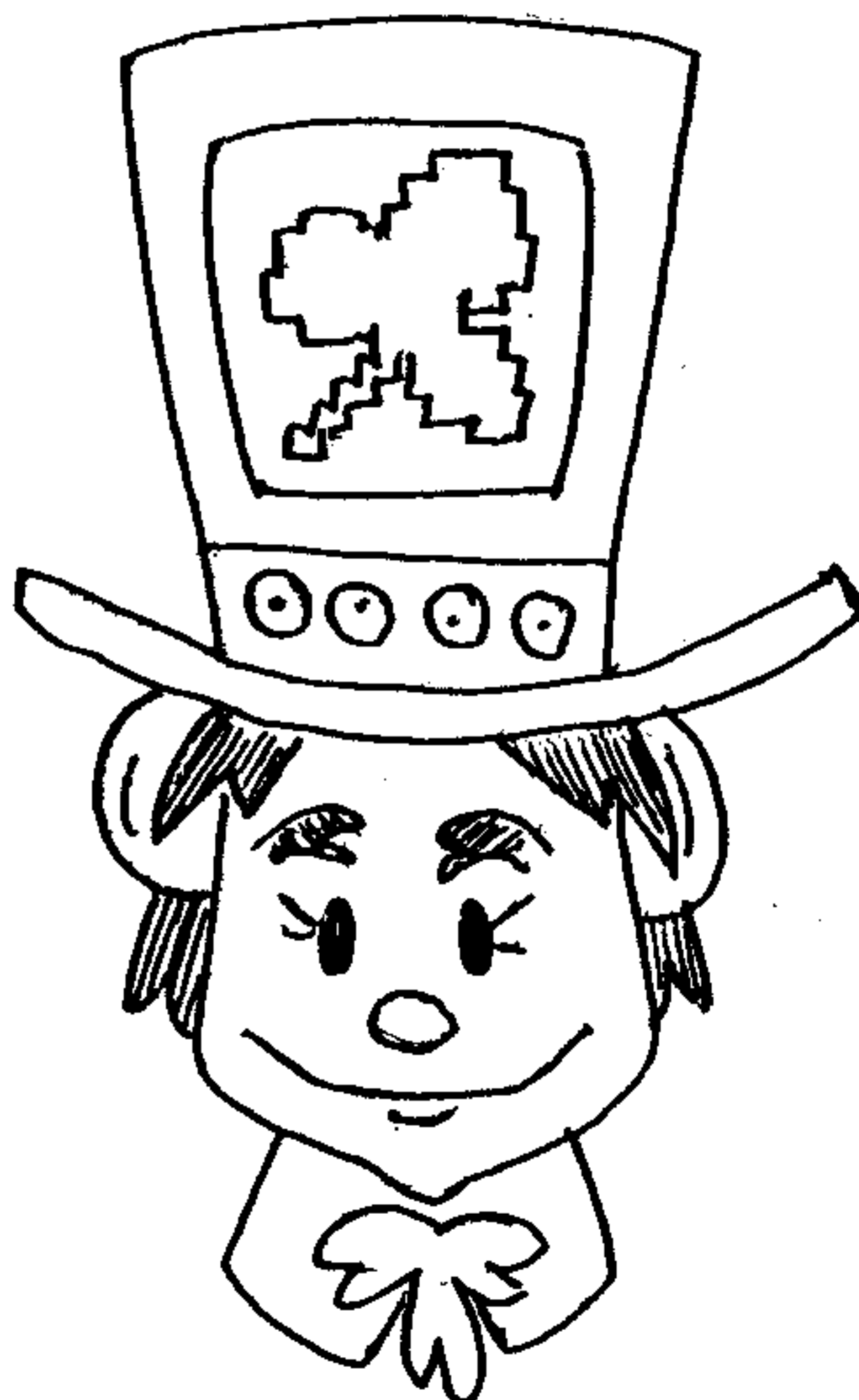
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Mar. 1985

Monthly Newsletter

Version ~~3.15~~

4.3



HAPPY ST. PATRICK'S DAY

## MINUTES OF MEETING II-19-88

The meeting was called to order by Bruce Willard, President at 7:35 PM. Forty members were present

SECRETARYS REPORT was approved as published in the newsletter.

TREASURES REPORT: Balance of \$479.64. Income \$50. Expenses \$59.22 for newsletter. \$10 for monitor rental

### COMMITTEE REPORTS

Don Mason is working to update the files for our library.

Jack Suphrue would like to increase our library of programs. He suggested a joint venture by the members to type one program a month which he will consolidate onto disks. Many members notified him of the need to have the programs available on cassettes as they do not have disk drives

Bernie Miller, Chairman of Hardware, is in Washington DC coordinating with the Users Group there.

The officers meeting was held the first Tuesday of the month. The main thrust of this meeting was fund raising and the membership drive. Bruce invited all members to attend these meetings. Contact him if you wish to participate at the meeting so arrangements can be made to accommodate more than four members at Video Connection. The meetings agenda is to set up a flyer for the membership drive. Members are encourage to get friends, relatives that have TIs gathering dust to join our group

ANNOUNCEMENTS: 128k card, priced at \$259.95 will be \$180 if ordered in February any one interested Bruce has the order blanks.

There is public domain software in the lending library.

The next months raffle :10 SSSD OMNI diskettes in a case. Every other month for the next five months a case of diskettes will be raffled off. You must be present to win. Brian O'Brien will donate SUPER SKETCH for a future raffle. Since this is an expensive item it was suggested that the tickets be \$1 each. The Screen Dump program, donated by JP of TSG, Inc. was won by John Doone.

The meeting adjourned at 7:50 PM.

Members were then able to attend the instruction group. The TI-WRITER group instructor John Doone, The Basic group instructor Jack Suphrue and ASSEMBLY LANGUAGE group taught by Dan Rogers.

Respectfully submitted,  
Vivienne Foster-Erlandson

AGENDA for March 19, 1985

- 7:00 - 7:30 Open Demonstrations  
New Member Registration  
Software Exchange (members only)
- 7:30 - 8:00 Business Meeting:  
Approval of Minutes  
Treasurers Report  
Committee Reports  
Old Business  
New Business  
Announcements  
Raffle
- 8:00 - 9:00 Special Interest Group Meetings  
and Open Demonstrations and Discussions

Basic Programming -- by Jack Sughrue  
TI-WRITER -- by John Doon  
Assembly Language -- by Dan Rogers

Plan for April meeting:

More on TI-WRITER  
Regular and advanced programming to  
continue

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MUNCH OFFICERS AND NUMBERS (all in 617 area)

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President	Bruce Willard	852-3250
Vice Presidents	Ota Jiroutek	852-0835
	John Doon	852-4295
Secretary	V. Foster-Erlandson	481-8060
Treasurer	Jim Cox	869-2704
Editor	Pete Blackford	892-4946
Hardware Chair	Bernie Miller	429-5723
Programs Chair	Pete Rauptis	799-6035
Adv Prog. Chair	Dan Rogers	248-5502
Club Reviewer	Jack Sughrue	476-7630
Library	Al & Lisa Cecchini	
Mail & Messages	Video Connection	852-8213

## PRESIDENT'S MESSAGE

We are in the midst of several functions at present; fund raising, membership drive, larger and better software and textware libraries, and more productive monthly meetings. The fund raising portion started in January and netted the club \$19.00. The February meeting brought us \$27.00 and more (lots more) for the future. See the RAFFLE section of the newsletter for further information on upcoming raffles.

Membership drive meetings have been held in conjunction with the Officers' Meetings. We are progressing well and expect a very professional flier to be ready for circulation by the first or second week of May. This will bring us the desired new members. We are also working on another plan to bring back many renewals.

Our software library is growing by leaps and bounds. The Washington D.C. User's Group is now exchanging software with us. Plans are being made now for a software swap with two other groups, one in Attleboro and the other in Granby, Mass. Don Mason has been putting in many long hours to "fine tune" our software library so that we may make these club swaps. He also has made up tape and disk listings. See in this newsletter Don's article regarding the library.

A big thanks goes out to Archives, Inc. who is giving our group software library a discount on Onni disks. This is a great financial help to our organization.

We also owe thanks to another member. Hector Beaudreau, Proprietor of Bailey Audio-Visual at 141 Chandler St., Worcester. Hector has donated a public address system to M.U.N.C.H. Now everyone will be able to hear at the meetings, even when the air conditioning or heating blowers are running.

Don Mason and I went to the Attleboro meeting the end of February to see how they run their meetings. They have a group larger than ours. However, their meetings are run similar to ours. Their organization is unique though. Their Group, The Club 99er, is a branch of Texas Instruments' Recreational Association. For our March meeting their President and Librarian are planning a visit. Let's make them feel welcome.

I have one last item. The agenda for the April meeting will be changed slightly. The Business meeting will start at 7:15 instead of 7:30. This will give more time to the Special Interest Groups. For those members with children in attendance it will help them to get home a little earlier without missing so much of the SIG. The open demo's, new member registration, and software exchange will still begin at 7:00.

I think this is enough news for now. Remember, if you know anyone with a TI99/4A who doesn't come to the meetings or is not a member, let them know what the club can do for them and bring them to the meetings.

----- Bruce Willard, Pres. -----

**" . . . RAFFLE . . . RAFFLE . . . "**

Now, for what many of you have been waiting for, the March raffle item, a ten pack of Onni disks in a library case. These were donated by OMNI RESOURCES of Millbury. In fact, Onni Resources has donated five such raffle prizes. We will be raffling off these items every other month thru November.

The February prize, a screen dump donated by TSG, was won by John Doon.

For a future raffle Brian o'Brien has donated a brand new SUPER SKETCH. Since this item retails for \$59.95 we must alter the raffle pricing structure slightly. I have heard numerous suggestions of how this could be done. The most prominent being to charge \$1.00 per ticket and run the raffle until we receive \$60.00. This proposal is not cast in concrete. So, think about it and be prepared to finalize the price at the March meeting. Thanks goes out to Brian.

The raffle is open to all who attend. The drawing will be held immediately after the business meeting before we break into the various Special Interest Groups. Remember:

**!!!! YOU MUST BE PRESENT TO WIN !!!!**

Bruce Willard, Pres.

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**LIBRARY NOTICE**

Please return all borrowed materials to the MUNCH library at each meeting. This will give other members a chance to enjoy our collection of "text ware" as much as you have !!! **THANK YOU !!**

## SOFTWARE LIBRARY by Don Mason

---

At this point in time I have undertaken the task of the software library I have found it necessary to recompile the tapes and disks. To get the master cassettes (1-12) that were on C-60's onto C-30's, and to delete the duplication of programs that were throughout the tapes, I found it necessary to make new tapes and disks to help to facilitate this task. You will find that tapes and disks 1-15 are the present programs that we had on hand and 16 thru --- are the recent additions to the library.

There are about 60 new programs on the recent tapes and disks that will be at the March meeting for your enjoyment. In order that members have time to chat and be able to participate in the special interest groups, the new tapes disks will be prerecorded and error free at the meeting. The prices of the tapes are \$1.50 ea. and the disks are \$2.00 ea. The old 60 minute tapes erased are high quality recording tapes and will be for sale at the meeting as well at \$2.00 ea. (10 TDK D60's and 2 Memorex dB60's). There will be listings of all the tapes and disks to receive with the sale of the above mentioned, or at 10 cents each if alone. The money received thru the software exchange will go to the treasury for the club.

New programs are as follows: Checking Balance, Wheel of Fortune, Guess a Letter, Guess a Number, Heavy Metal, In-Between, Keno, Indian, Linear regression, Loader, Money, Music, Roulette, Time, Wawaland, 3D Tic Tac Toe, Areas, Backgammon, Bio-Rhythm, Colorvision, craps, Crayon, Darts, Devil's Dungeon, Forest Fire, Graphics Match, True/False, Wagon Wheel, Adventure, Base Alert, Basketball, Chuck-Luck, Corner Wars, Frogger, Hot-Dog, Indy-500, Insanity, Jumping Jack, Morning Has Broken, Space Duel, Speed-Read, Story Writer, titan, America, Checkers, Chomp, Freeway, Homebound, Make-Mark, Quest, Sound Shaper, Superchase, Taco Man, Ti-Pente, Art-board, Block'em, Brain Tease, Craps, Flip'em, Hangman, IRS Man, Itche, Magic Squares, Match Keys, Mini Golf, Mubble Chase, Robot Chase, Science Fiction Tale, Target, Word Scramble, Anti Aircraft Gun, Auld Lang Syne, Deepspace, Dice, Golf/ball, Koala, Line Up, Math Solver, Disassembler, Relocater, Schmo, Star Trek II, Type Invader .....more.

The Washington User's Group is about to come through soon so there will be much more to come...

IF YOU HAVE ANY COMMENTS OR QUESTIONS PLEASE FEEL  
FREE TO CALL: DON MASON 754-6630 AFTER 5:00P.M.

by Jack Suchrue

Oftentimes I do my best mental work driving to and from school.. I sit in my little Rabbit and converse with myself without worry of being overheard and taken for an eccentric. Which I am. I just don't like being taken for one.

It was while I was negotiating the snow drifts on my way to educating my little fifth graders that I began working on this column.

Although I use my T.I. every day in school, I began to think about HOW I use this great tool/toy in my class. (I also have an Apple IIc in my class, but most of the youngsters and their teacher prefer the more powerful and user-friendly T.I. More powerful! More user friendly! Yup. We take for granted the ease of editing on the T.I. We take for granted the automatic Numbering and Resequencing. And the built-in animation and music and sound. We take for granted the built in subroutines of CALL, such as CALL SOUND and CALL CAHAR and CALL SPRITES and CALL COLOR and so on. No Peeking and Poking for these profound subs on the T.I. None of the above is built into the Apple. But this is less a concern with the outrageously overpriced Apple than it is with the wonderful features of the T.I.)

CAI (Computer Assisted Instruction) is becoming a large part of computer thinking in the schools.

So is Programming.

So is LOGO.

So is word-processing.

But CAI has really had a bad reputation. Justifiably.

In the past, computers were first used (and are sometimes still used) as an electronic flash card. This is okay at times. This is valuable. The computer has infinite patience. (Teachers don't.) And all the time in the world.

But, because of that single aspect of CAI, which was overdone when computers first arrived in the classroom, many good teachers dropped out of the computer-in-the-classroom club.

Most of those early programs were horrible. They were created by technicians, not teachers, and had little to do with the learning process.

Today, it's a little different and becoming a lot different.

Teachers are exploring computerland and discovering marvelous methods to employ these new skills.

LOGO, of course, will continue to have a long life - and should.

But the new CAI stuff by companies like INTELLSTAR and SUNGEN are great learning tools in the CAI file. But, I understand, both these companies are setting out of the T.I. market. So's COMPUTE!, and they were one of the best publishers of T.I. books and magazine articles around. NONE COMPUTER is still doing an excellent job, particularly with ON TAPE and ON DISK materials. Two fairly new magazines, MICROPENDIUM and MINI-MAG99, (also Millers Graphics THE SMART PROGRAMMER ed.) hopefully will take up some of the rapidly-disappearing textware needs of the two million-plus owners of the 99.

These past few months have seen the diminishing spaces allotted to TI books in bookstores. Fewer and fewer are being published. (This was Waldon's answer when I asked them ed.). DATANOST is now gone from us. ARCSOFT is gone. Prentice-hall, Simon-Shuster, Dilithium, TAB all have parted from the I.I. after a one- or two-shot venture. It seems like all the little companies just did one super special and left us: TERRIFIC GAMES, ANLIST, BITS 'N BYTES, and so on and on and on.

Thank goodness HAYDEN and HOWARD W. SAMS are still publishing in our behalf and FAMILY COMPUTING is still including us (even after the death of K-POWER and their earlier kids magazines). It behooves us all to write to ALL THE COMPANIES who are still supporting us and have supported us in the past and tell them how much we love them. BUT MORE IMPORTANT! Buy Their Books and Magazines! Nothing will keep us alive better than a show of the Almighty Buck when a company is making decisions regarding our future.

All these thoughts while plowing through the snow on the way to my fifth-grade classroom.

All leading up to (Taah/daah!): REDISCOVERY!

I set myself the joyous "task" of rereading the good old books I have in my classroom library, books which I've set aside when I started to get more "serious" about home applications and utilities and spreadsheets and data bases and all the other wonders we get caught up in so easily.

To my mind DATANOST made the best I.I. stuff for kids. KIDS AND THE TI-99/4A is a classic and still the best. The author, Ed Carlson, also wrote versions for the Apple, Atari, Commodore, Panasonic, and Vic. I bought two at \$20 each last year. Right now, while they last TexComp is selling them for \$4.95.

The structure of this book (teacher/parent note, lesson plan leading into hands-on lesson and into relevant assignment) is superb. The humorous illustrations really enhance the text. It is large (8x11). The type is dark and easy to read. It has a spiral binder for easy fold-back. My only (and it is the Only) real complaint about the book is the numbering. I hate erratic numbering. I am spoiled by the I.I. But, if that is the only complaint, the book must be terrific. It is.

Even if you've been using the machine for a couple of years, Carlson's text-workshop is a nice refresher course.

Each lesson (chapter) is complete with fine examples. The next lessons build up to and include what has been learned. All this by way of making programmers of children (or adults) in a non-threatening way. The last chapters get into structuring, error-trapping, debugging: pretty sophisticated skills.

The use of the commands is spaced out (in the sense that there are many pleasant tasks to do before learning a new concept) in a logical way.

My kids at school still use this book daily. They still enjoy it. They still learn a lot from it. So do I.



I enjoyed many other books and magazines during this rediscovery period. I'll be sharing some of these revisits in future columns. But next time we'll be discussing the use of game materials for something other than what they were intended.

+++++

Ordinarily, I like to give a sample program or two from each reviewed book. This will give you a little taste of what it's all about. Programs from this book, however, do not do justice to the book. Here are a couple anyway.

---

```
2 REM *** COLOR EATER ***
3 GOTO 1000
100 REM -----MAIN LOOP
101 REM
110 CALL HCHAR(Y,X,32)
115 X=X+INT(RND*3)-1
116 Y=Y+INT(RND*3)-1
120 IF X<>0 THEN 122
121 X=1
122 IF X<>33 THEN 124
123 X=32
124 IF Y<>0 THEN 126
125 Y=1
126 IF Y<>25 THEN 130
127 Y=24
130 CALL GCHAR(Y,X,N)
133 IF N=32 THEN 140
136 CALL SOUND(50,900,10)
140 CALL HCHAR(Y,X,50)
150 A=INT(RND*32)+1
151 B=INT(RND*24)+1
155 CALL HCHAR(B,A,58)
199 GOTO 100
1000 REM
1001 REM === STARTING STUFF ===
1002 REM
2000 CALL CLEAR
2002 RANDOMIZE
2005 F$="FFFFFFFFFFFFFFFF"
2010 CALL CHAR(42,F$)
2012 CALL CHAR(50,F$)
2013 CALL CHAR(58,F$)
2020 CALL COLOR(2,9,5)
2021 CALL COLOR(4,5,1)
```

```

2025 CALL SCREEN(15)
2100 FOR I=1 TO 300
2120 X=INT(RND*32)+1
2121 Y=INT(RND*24)+1
2140 CALL HCHAR(Y,X,42)
2190 NEXT I
2200 REM -----EATER POSITION
2210 X=16
2220 Y=12
2999 GOTO 100

```

```

10 REM ALPHABETICAL
12 CALL CLEAR
20 PRINT "THIS PROGRAM ARRANGES"
21 PRINT "THE LETTERS OF A WORD"
22 PRINT "IN ALPHABETICAL ORDER."
25 PRINT
30 PRINT "GIVE ME A WORD"
31 PRINT
32 INPUT W$
33 PRINT
35 L=LEN(W$)
39 K=1
40 FOR I=65 TO 90
41 REM TEST LETTERS IN ALPHABET
42 REM TO SEE IF IN WORD
45 FOR J=1 TO L
50 G=ASC(SEG$(W$,J,1))
55 IF G<>I THEN 60
56 H$=H$ & CHR$(G)
57 K=K+1
60 NEXT J
61 NEXT I
70 PRINT "HERE IT IS IN ALPHABETICAL ORDER:"
75 PRINT
80 PRINT " ";H$

```

\*\*\*\*\*

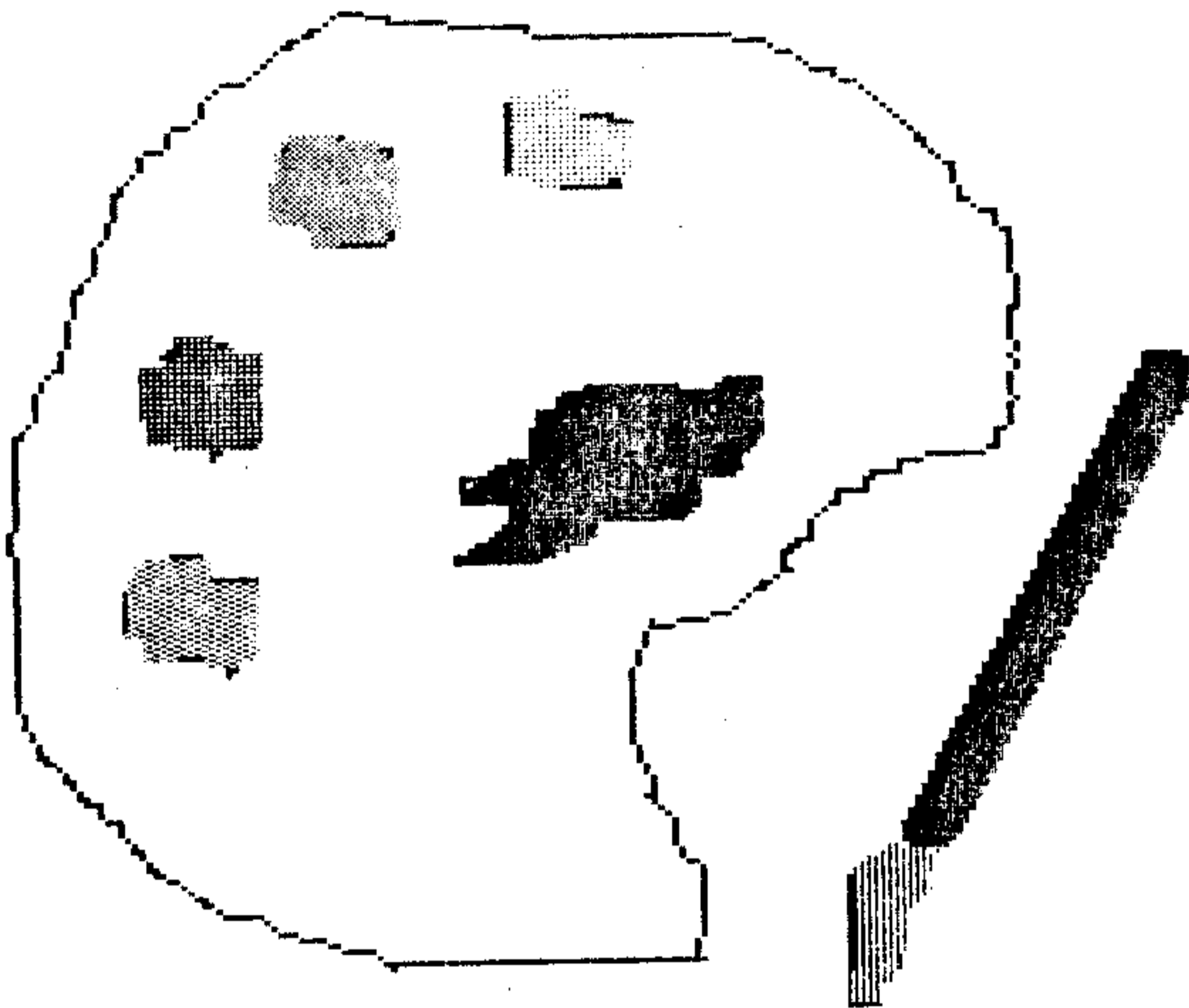
FOR SALE:

Pascal utilities disk and documentation complete. \$30.00 Contact Ronald Boudreau, 33 Michael Street, Fitchburg, MA. 01420. 345-6451



Here are just a few "previews of coming attractions" as they say in the movies. The following items will be reviewed in more detail in upcoming issues of the newsletter.

The SKETCHMATE enhancement for the SUPERSKETCH graphics tablet which many Club members purchased last fall has finally become available, and should make the graphics capabilities of the system as good as any. Here's a "quickie" from the screen print utility:



We'll try to do future covers on the computer!!

The AUTO-TYPE word processing program, first reviewed in this newsletter a couple of years ago, has just been re-written up to version 3. It is now even faster and easier to use than ever, with many enhancements and upgrades which we are still "exploring". Expect a full review in the next Newsletter.

If any Club members have any new hardware or software which you would like to share your excitement (or other feelings) about, PLEASE write about it and we will include your thoughts in an upcoming Newsletter!

\*P\*I\*A\*N\*D\*

MIDDLE -C- OCTAVE



BELOW MIDDLE -C- OCTAVE



by Tony Falco

I have had a long time fascination with the problem of converting the TI-99/4A keyboard into a piano keyboard. Over a year ago I wrote a program for this newsletter called the "MUNCH ORGAN." This program allowed for three octaves and it had the feature that a given note would play as long as its key remained depressed. A disadvantage of that program was that it did not allow for sharps and flats or chords.

In the September 1984 issue of COMPUTE! there was a "Musical TI Keyboard" program. It featured a well organized mapping of the keyboard with both the white and black keys in approximately their natural piano positions. It had, in my opinion, two flaws. There was a musical machine gun effect. When a key was pressed continuously the same note played over and over but with a slight gap of silence between each repetition. It also lacked a way of notifying the user which keys played which notes. The program listed below solves both of these problems. Notes play continuously and the graphics shown above appear on the screen to inform users where the notes are located. It also allows the option of playing regular single notes, major chords, or minor chords with single key strokes.

The program does lack the ability to respond to two keys pressed simultaneously. The November '84 issue of MICROpendium had a program called "Mini-Organ" that used the split-keyboard CALL KEY configuration and allowed two keys to be pressed at the same time, but that did not simulate a piano keyboard and the problem of playing chords remains to be solved.

```

10 CALL CLEAR
20 PRINT "1-SINGLE NOTES
        2-MAJOR CHORDS
        3-MINOR CHORDS
"
30 CALL KEY(O,K,S)
40 IF (K<49)+(K>51)+(S=0) THEN
N 30
50 A--(K=49)-1.26*(K=50)-1.1
9*(K=51)
60 B--(K=49)-1.5*(K=50)-1.5*(
(K=51)
70 CALL CLEAR
80 DIM M(48)
90 FOR C=1 TO 48
100 READ M(C)
110 NEXT C
120 GOSUB 250
130 CALL KEY(O,N,X)
140 IF N=61 THEN 240
150 IF X<>0 THEN 180
160 Q=48
170 GOTO 200
180 IF (N<44)+(N=49)+(N=52)+
(N=56)+((N>57)*(N<66))+(N=68
)+(N=72)+(N>90) THEN 130
190 Q=N-43
200 CALL SOUND(-4250,M(Q),1,
A*M(Q),5,B*M(Q),5)
210 GOTO 130
220 DATA 220,1,247,698,622,1
,277,311,1,370,415,466,1,554
,1,1,1,1,1,1,1,1,165,131
,1,330,139,156,1
230 DATA 523,185,208,233,196
,175,587,659,262,349,117,392
,494,147,294,123,444,110
,29333
240 END
250 FOR S=5 TO 8
260 CALL COLOR(S,5,16)
270 NEXT S
280 CALL COLOR(3,16,2)
290 CALL COLOR(4,16,2)
300 FOR S=9 TO 12
310 CALL COLOR(S,16,2)

```

```

320 NEXT S
330 CALL COLOR(2,5,16)
340 CALL CHAR(59,"FFFFFFFFF
FFFFFF")
350 CALL CHAR(64,"1818181818
181818")
360 CALL CHAR(58,"0028287C28
7C2828")
370 CALL CHAR(47,"0")
380 CALL CHAR(99,"0")
390 PRINT "          *P*I*A*N
*O*": : : :
400 PRINT "          MIDDLE/-C-/
OCTAVE": :
410 PRINT "          @/2;3/@/5;6;7
/@/9;0/@/@"
420 PRINT "          @/c;c/@/c;c;c
/@/c;c/@/@"
430 PRINT "          @/c;c/@/c;c;c
/@/c;c/@/@"
440 PRINT "          @@W@E@R@T@Y@
U@I@O@P@-@"
450 PRINT "          @/@/@/@/@/@/@
/@/@/@/@/@/@"
460 PRINT "          @/@/@/@/@/@/@
/@/@/@/@/@/@"
470 PRINT "          @C@D@E@F@G@A@
B@C@D@E@F@" : :
480 PRINT "          BELOW/MIDDLE/
-C-/OCTAVE": :
490 PRINT "          @/s/@/f;g/@
/j;k;l/@"
500 PRINT "          @/c/@/c;c/@
/c;c;c/@"
510 PRINT "          @/c/@/c;c/@
/c;c;c/@"
520 PRINT "          @Z@X@C@V@B@
N@M@,@.@"
530 PRINT "          @/@/@/@/@/@
/@/@/@/@"
540 PRINT "          @/@/@/@/@/@
/@/@/@/@"
550 PRINT "          @A@B@C@D@E@
F@G@A@B@"
560 CALL SCREEN(6)
570 RETURN

```

## REMARKS on HARDWARE #3

By: Bernie Miller

Last month, I took a trip to Virginia, to visit a former HUNCH member. While I was down there, I went to ALOT of computer stores to see what deals they had on T. I. hardware and software. (Actually, I was looking for a P-code card.) Let me tell you, we Massachusetters are lucky to have so much hardware thats STILL available to us. There is still reasonable quantities of items such as; T.I. Writer and 32K memory card (Toys r us), Modems and printers (Leachmere), games and cables (Video Connection), Books and Manuals (Open Book, B. Dalton), etc, etc...

Down in Virginia, there is nothing! Toys R Us had two games, the local book stores didn't have much, I couldn't find cables or software either. (And no, I didn't get my P-Code card.)

So cheer up, it could be worse!

Rumors, rumors... T.I. will be recalling all, yes ALL cartridges off their retailers shelves, that goes for mail order companies too, so if you still don't have that Touch Typing Tutor cartridge, you'd better hurry before it's too late. (Literally) Sears is selling an Atari Joystick adapter for the T.I. With this adapter, you will be able to use your favorite Atari Compatible joystick on your T. I. The price is \$5.95 and is definately available at the Natick store. That's where I bought mine, and by the way, it works great. Attention PASCAL users, I have a copy of the T.I. released Public domain spreadsheet package called FREEFORM. This program has one setback, though. With it comes absolutely no documentation. You have to figure out how to use it. I will hopefully have the disk in time for the March meeting, and anyone is welcome to copy the program onto one of there own disks. It takes up a whole disk, so make sure that yours is empty. (and initialized...) I also have available two unreleased manuals from T.I. They are the Terminal Emulations on the TI/99 using the 911 and B20, and the GPL (graphics programming language) manual. Combined, they total 277 pages. If you would like a copy of these manuals, please let me know at the meeting. The Xerox fees should be about \$28.00 on each set.

In the world of mailorder... A company in Dallas is giving good deals on T.I. replacement parts. Included in their selection are keyboards for the T.I.; \$3.50 each or 10 for \$19.00, R.F. modular-tors for \$3.50 each or 10 for \$15.00 (really good deal); cassette Y cables \$2.50 each; power supplys for \$3.50 each or 10 for \$19.00; and transformers for \$3.50 each or 10 for a fantastic \$25.00. These prices are great, so if you need anything, just write to the folks at Sebet Electronics, 13650 Floyd Road, Suite 104, Dallas, Texas, 75243. Or call them at (214) 234-B032.

Radio Shack in Natick has abundant quantities of replacement keyboards for the T.I. at the lowest price I've seen so far. Each keyboard, with pin diagrams, is only \$2.95 plus tax.

A company out in Peabody, called BNF Enterprises, puts out a circular around once a month containing a lot of surplus computer equipment that T. I. users can use. Included are printers, monitors, disk drives, cables, keyboards, etc, etc. They are either new surplus, or used, or parts units, and their prices are excellent. They take plastic money too! So why not request a circular from these folks, by writing to them at 119 Foster St., P.O. box 3357, Peabody, MA. 01961-3357.

By the way, the illustrations in this review were made on a Panasonic KX-P1091 printer using the Australian GRAPHX graphics package. Now on to the review...

~~This month's review is of the Panasonic KX-P1091 dot matrix printer.~~ Big brother of the KX-P1090, the 1091 has qualities only found on the expensive printers, at a fraction of their price. (Note: As of the time of this writing, Star Micronics is releasing a "workalike", very similar to the 1091, more details as I can get them) Retailing for \$399.00 (but can be found as low as \$299.00 at Leachmere in Framingham), the 1091 is an excellent addition to a home computer, or the computer at the office. It's sleek off-white color makes it feel right at home with the new beige consoles that T.I. last sold. And as you will soon see, this printer has what it takes to feel at home at the office too.

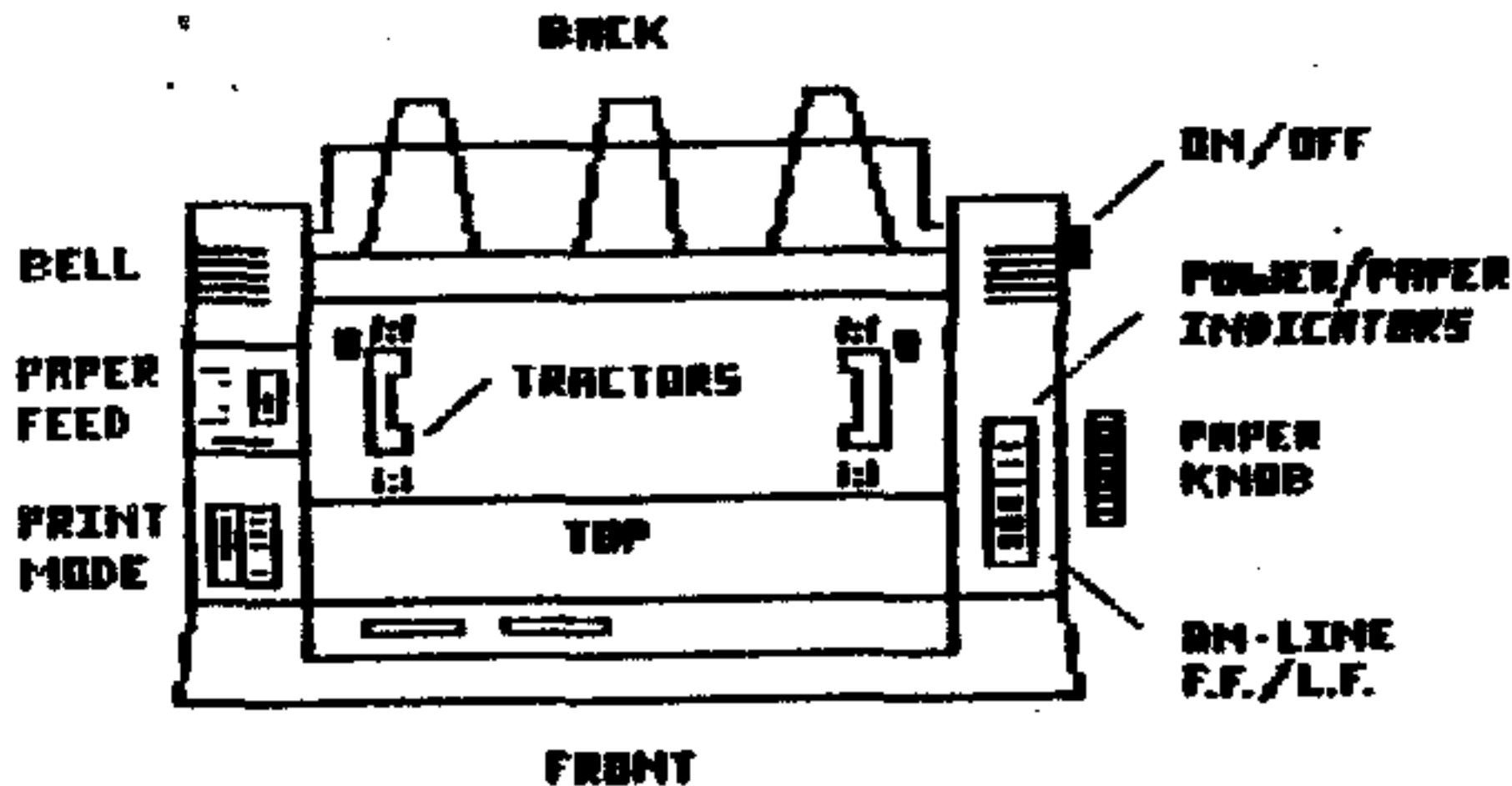
When you take it out of the package, it is strongly recommended that you read the set up instructions before you try to do anything with it. First off in the manual, is a fold out sheet, that clearly names all the parts, and shows their location. Then it shows you how to put the paper separators, ribbon cassette, and covers on. No tools are required, and it should take no more than a few minutes to install everything and start printing in the test mode. One important thing not to forget is that you need to buy a PIO cable to attach the printer to your RS232 port. This can be bought for around \$20.00 at most computer stores. One more thing about costs, a replacement ribbon costs \$9.95, and is available at Leachmere. I have had my printer since September, and I am still using the same ribbon.

The 92 page manual is more than sufficient to operate and enjoy the printer. It is broken down into six sections; introduction, installation, operation, software commands, interfacing, and maintenance. Included also are six appendices, an index, and 41 illustrations and tables. Each command in the software commands section comes with a programming example (must be slightly modified to run on a T. I.) and a sample printout.



Included in this section (the most important section of the manual) are; compressed, enlarged, double strike, superscript, subscript, italic, pica, elite, proportional, near letter quality, and underline print modes, just to mention a few. It can print eight different languages, print bit graphics, both in single and double density, and do a test mode, to make sure everything is working fine. You can even define your own downloadable print characters, like the copyright sign, for example.

There are over sixty commands, not including the DIP-switch options, and physical controls located on the diagram below:



## PANASONIC KX-P1091

- BELL** - sounds when Paper out light is on, or error occurs.
- PAPER FEED** - pick friction feed for single sheets, or tractor feed for fanfold paper.
- PRINT MODE** - pick standard characters, near letter quality characters, or proportional characters.
- ON/OFF** - turns the printer on (automatically ON-LINE) or off.
- POWER/PAPER-INDICATORS** - power light is on when printer is on, Paper out light is on when paper is out, and ON-LINE light is on when the printer is ready to accept info.
- PAPER KNOB** - manually turn paper.
- ON-LINE/ FE/LF** - push ON-LINE to make the printer ready to accept info, push F.F. (form feed) to advance the paper one sheet, or press L.F. (line feed) to advance the paper one line. The line feed button is also used to access the test mode when the printer is turned on.

### Some specs:

- POWER REQUIREMENTS:** AC 120 volts.
- FUSES:** 2A 125V, 3A 125V.
- PRINTING MODES:** draft, proportional, near letter quality, dot graphics.
- CHARACTER SET:** ASCII 96 characters, italic ASCII 96 characters, 32 international characters (11) countries.

**CHARACTERS PER LINE:** Pica, near letter quality - 80 char/line  
 Elite - 96 characters per line  
 Condensed - 137 characters per line  
 Pica elongated - 40 characters per line  
 Elite elongated - 48 characters per line  
 Condensed elongated - 68 characters per line.

**PRINTING SPEED:** Pica - 120 CPS, elite - 120 CPS, near letter quality - 22 CPS, proportional - 75 CPS

**PRINT DIRECTION:** Bi-directional, except for bit graphics.

**PAPER FEED:** Tractor, or friction feed.

**NUMBER OF SHEETS** 3 max, including carbon.

**HEAD SERVICE LIFE:** Over 100 million characters

**RIBBON:** Color - black only  
 life- aprox. 3 million characters.

**DIMENSIONS:** 16 x 11.25 x 4.5 inch (W x D xH).

**WEIGHT:** 6.5 Kg.

The image modes available are as follows:

**IMAGE MODE = 0**



**IMAGE MODE = 1**



**IMAGE MODE = 2**



**IMAGE MODE = 3**



**IMAGE MODE = 4**



**IMAGE MODE = 5**



**IMAGE MODE = 6**



Image mode 3 was used for the printer picture.

The only fault that I could find during my six months of using it is that the print head is often inconsistent in the printing. What I mean by this is that some lines come out darker than others. Although no big deal, it does not make the printout look its greatest. I have written to Panasonic to see if I could adjust something to stop this from happening. Besides this, the printer is, in my opinion, faultless. The near letter quality mode is not found on any printers of its price range, and its sleek design makes me proud to own this great piece of hardware.



M.U.N.C.H.

560 LINCOLN STREET

WORCESTER, MA. 01605

FRIST CLASS

TO:

\*\*\*\*\*  
IMPORTANT NOTICE  
\*\*\*\*\*

Mar. meeting will be on Mar. 19, 1985  
at University of Massachusetts Medical Center  
(Come to the VISITORS entrance and follow the signs for MUNCH...)