~~~~~ TI-101 ~~~~~

OUR 4/A UNIVERSITY

by Jack Sughrue
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#4 ROOTS

Last session, Class, we had a couple questions from Mr. Shakespeare over there by the window. He said he had a nephew in junior high and two elementary school grandchildren.

Okay. Okay, Mr. Shakespeare. Just put your grandchildren's pictures away. So long as we know one's 8 and one's 4 and that your nephew in junior high is having trouble reading.

Got that, Class.

He wants to know what the TI can do for him. Or, more specifically, for the significant kiddies in his life.

There are so many directions one can go here that I'm not sure where to begin. Because I'm so text oriented, I think I'll begin with some sources that may not be dried up yet. There are real books like Fred D'Ignazio's TI PLAYGROUND, which I'll discuss during another class. But, first, I want to discuss Newsletter Childrenware.

Zounds, Mr. Shakespeare! Just be patient. I'm sure I'll answer your questions before you even have to ask them.

Now.

Er, oh, yes; the newsletters.

There were so many great newsletters over the years that provided good, solid, educational material in so many enterprising ways - ways that let the adults learn along by typing in the programs. It would be impossible to even list them all on the blackboard here.

Let me just take a super example and hope that her materials are still on disk in the club's library for new massive circulation.

Sue Harper (the present librarian of the Pittsburgh User Group, P.O. Box 8043, Pittsburgh PA 15216) for years wrote a wonderful column called "Kiddie Corner" (note she didn't succumb to the temptation to misspell "Corner" with a "K") and reviewed material for young (and old) learners. Sometimes the older learners could type the programs for the younger learners.

Although I never met Sue, I have been an admirer of her creativity and writing talent for years.

Anyway, Class, while I was preparing some notes I uncovered some of the old "PUG Peripheral" newsletters and want to share a bit of a Fall '89 issue (when her son was 9 and daughter 11):

"This month, since we are all getting back into the swing of things with school, I thought I would give you a little quiz. Yes, indeed, you can tell I used to be a school teacher! Really, it's not a hard quiz; it's a take-home (for sure) and you have a month to do it! Just five questions, and then a little program to amuse you until next month, when I will give you the answers!

1. Write a program that will make the screen blink the colors of fall.

2. Write a program that will play 'Mary Had a Little Lamb.' I'll
~~~~~

help you on that one - the notes are A,B,A,G,F,G,A.

3. Write a program that will make your name blink on and off until you use FCTN 4 to stop it.

4. Write a program that will turn your name red and make the screen blue.

5. Take all the programs 1 through 4 and make one long program that blinks fall colors, plays the little song, and blink a red name on a blue screen.

GOOD LUCK!

```
10 CALL CLEAR
20 FOR H=1 TO 10
30 RANDOMIZE
40 LET R=INT(RND)+33
50 CALL HCHAR(12,12,R)
60 CALL KEY(0,K,S)
70 IF S=0 THEN 90 ELSE 60
90 NEXT H
100 STOP
```

"This little program ... well, what will it do? Try it and see!
"See you next month!"

Now this short "Kiddie Corner" article is filled with the stuff of learning. First, Class, it made me go back and dig out a couple manuals to solve those five small problems of hers. Very enticing, very educational little problems. Suffice it to say that previous columns of hers led up to skills levels that could achieve these creative extensions. These are real, relevant logic problems for any age. They also include things that younger children must know—for a solution even if parents, grandparents, or older siblings are typing some things in (i.e., What ARE the colors of fall? How does the song go?).

And then that tiny program you have to type in to see what it is supposed to do. Is that a motivator or what?

And the safety net of all the answers next month. But could anyone wait a full month. Nope! This is a true leaning situation for everyone, including those who DO wait the month and type in all the answer programs. However, if you don't wait the month your correct answers are guaranteed to be different from hers. Thus, Lesson Uno: there are many ways to skin a cat.

Although why one would actually WANT to skin a cat has always been beyond me. What does one DO with a skinned cat? Do you use the skinless cat part or the skin itself? Or both?

Anyway, Class, the point does not have anything to do with cats; the point has to do with the great learning tool called the 99/4A.

Sue Harper is only one of many people throughout the whole TI World who wrote excellent early-learner articles.

If every newsletter editor and every librarian in the country looked back in the old issues and disks and tapes and dug out the old programs and articles written by club members about education or for young people and transferred them all to disk for an educational clearinghouse, there would be piles of materials which would constitute a marvelous resource for all clubs, particularly as the new genereation of grandchildren, nephews and nieces are arriving at the right ages for using these services. Remember, Mr. Shakespeare, and all the rest of you who have questions similar to his, that what may be old stuff for oldtimes is new stuff for newtimers.

You may quote me.

But let's get back to Sue Harper. I hope she has all her stuff on disk.

Anyway, she always began her column with a nice graphic (teddy bear in the case mentioned). This was at a time when not too many newsletters used graphics for their local columns.

Sue also did program reviews, as I said, that dealt with learning. These were all excellent, too. For example, in this same '89 issue, she reviewed Jim Peterson's "KINDERTIMES," which I have had the good fortune to use with some younger children with much success.

Here's Sue:

"This program, listed as TCX-1062 on the disk ... is a very nice little program which uses only 12 sectors, and yet has quite a bit to offer.

"The main audience for this program would be third graders learning their multiplication tables, or for a review for the next few grades. The program will accept parameters higher than one digit numbers, but working these problems in your head becomes difficult.

"At the beginning, the program asks the user for the highest number desired and the lowest number desired. These two answers set the parameters for the multiplicands. The format of the program is:

7 X 6 =

and waits for the answer. The answer must be typed in with the highest digit first, which is why I say this program is not suited for 'hard' questions like 167 X 639. In the 7 X 6 example, the user types in 42 and presses ENTER. The user is rewarded with a graphics display for correct answers."

And so on.

Actually, Jim (TIGERCUB) has upgraded this program. He even has a nice, new program that prints out simple worksheets (with answers on a separate sheet). Ideal for any adult who spends time helping children with math. Refer to your notes from previous classes to learn more about this extraordinary (and extraordinarily inexpensive) resource called TIGERCUB.

These rich resources of newsletter and disk and tape libraries of clubs throughout the country are some of the very best sources all of you can use for learners even in today's "high-tech wizardry" marketplace. The TI STILL does what it was made to do better than anybody else.

No, Mr. Shakespeare, I am not going to give you or Ms. Bronte or anyone else in the class the answers to Sue's five problems. That is homework for next class.

Please, please, Class. Give me your attention. Stop that moaning and groaning back there. These five questions will be on the mid-term, so I would definitely have them ready for the next class.

Yes, yes. There were many other people who did such articles for newsletters and magazines. I remember Chick De Marti of the Los Angeles Group often had similar fascinating items in his "Did You Know That...?" column. I wonder if he has all those great columns on disk?

And Fred D'Ignazio ran a regular children's column in COMPUTE, I think. Anyway, TI PLAYGROUND is one of his tested for-and-by-kids program books.

Maybe next class I'll do nothing but educational books, like my favorite, THE ACADEMIC TI.

Meanwhile, do your homework and maybe you can reach Sue or Chick for extra-credit material.

The software, Mr. Bell? We'll get to the tapes and cartridges during another session, right after we finish discussing the rest of the textware. What? The SYLLABUS, Mr. Bell. Must follow the syllabus.

No, Mr. Shakespeare, a syllabus is not like a hexbus. Perhaps if you'd care to walk out with me to my car, I'll explain the differences on my way. NEXT MONTH LESSON #3... Ed.

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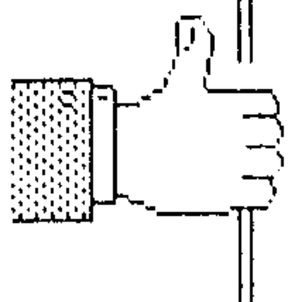

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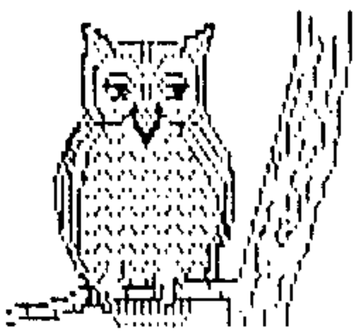

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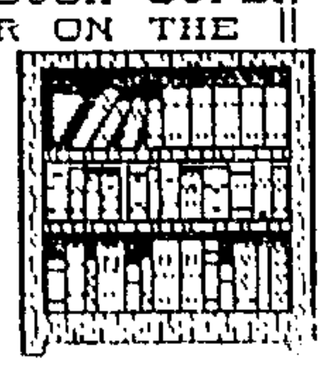

PROGRAMMING MUSIC THE EASY WAY

Part 3

by Jim Peterson

In Part 1 of this series, I showed you the simple routine to set up a musical scale, and showed you how easy it was to merge in various routines to create different effects in single-note music. In Part 2 I showed you how to key in single-note melodies from sheet music. Now, we will get into 3-part harmony.

But first, there are a few more things I should have told you about reading music. You will often see curved lines arching over two or more notes. If the notes are not all the same, ignore those lines - they call for phrasing which you cannot really accomplish. But, if the line curves over two or three of the same note, you will get a better effect if you add all their duration values together and program them as a single note. For instance, if your chart gives a whole note a value of 8 and a half-note a value of 4, and the music has a curved line over a whole note followed by a half-note, just program one note with a duration of 12.

You may find a heavy black bar at the beginning of a measure, with a colon to its right, and somewhere later in the music will be a heavy bar with a colon at its left. This means that the notes between those bars are to be played through twice - and naturally you will want to save time by programming them in a GOSUB as I showed you in Part 2. It can get more complicated than that, but generally you can follow the lyrics to decipher what to do.

Rather rarely, you may find three notes, usually joined together, with a 3 above them. These are called a triplet, and all three of them are to be played, with the same duration for each, in the length of time it would normally take to play one of them. These can create a problem under any method of music programming. The best method is to divide the duration of the note by three and write individual CALL SOUNDs in your music, rather than a GOSUB to a routine, to handle those notes.

Now, let's get on to 3-part harmony. It is just the same as keying in single note music, except that you must also give frequency values to B and C - and, as before, you have to give those values only when they change.

So, load the SCALE routine from the first lesson, and key in this bit of music to experiment with. Notice that I found three repeating phrases and put them in subroutines in 500, 600 and 700 to make this shorter.

```
110 GOSUB 500 :: T=4 :: A=15
 :: B=11 :: C=9 :: GOSUB 100
0 :: T=8 :: A=18 :: GOSUB 10
00 :: T=2 :: A,B,C=0 :: GOSU
B 1000 :: T=2 :: A=23 :: B=1
8 :: C=15 :: GOSUB 1000 :: G
OSUB 600
120 T=2 :: A=21 :: B=18 :: C
=15 :: GOSUB 1000 :: A=23 ::
 GOSUB 1000 :: T=12 :: A=20
:: B=16 :: C=11 :: GOSUB 100
0
130 T=2 :: A,B,C=0 :: GOSUB
1000 :: GOSUB 500 :: T=4 ::
A=21 :: B=16 :: C=13 :: GOSU
B 1000 :: T=10 :: A=25 :: GO
SUB 1000
140 T=2 :: A=28 :: GOSUB 100
0 :: GOSUB 600
150 T=2 :: A=27 :: B=23 :: C
=18 :: GOSUB 1000 :: A=30 ::
 GOSUB 1000 :: T=10 :: A=28
:: B=23 :: C=20 :: GOSUB 100
0
160 T=2 :: A,B,C=0 :: GOSUB
1000 :: T=3 :: A=28 :: B=23
:: C=20 :: GOSUB 1000 :: T=1
 :: A=27 :: GOSUB 1000 :: GO
SUB 700
170 T=6 :: A=25 :: B=21 :: C
=9 :: GOSUB 1000 :: T=2 :: A
=23 :: B=18 :: C=15 :: GOSUB
 1000
180 T=10 :: A=20 :: B=16 ::
C=11 :: GOSUB 1000 :: T=2 ::
 A,B,C=0 :: GOSUB 1000
190 T=3 :: A=28 :: B=23 :: C
=20 :: GOSUB 1000 :: T=1 ::
A=27 :: GOSUB 1000 :: GOSUB
700
200 T=4 :: A=25 :: B=21 :: C
=16 :: GOSUB 1000 :: A=21 ::
 B=18 :: C=15 :: GOSUB 1000
210 T=14 :: A=20 :: B=16 ::
C=11 :: GOSUB 1000 :: T=2 ::
 A,B,C=0 :: GOSUB 1000 :: ST
```

```
OP
500 T=2 :: A=23 :: B=20 :: C
=16 :: GOSUB 1000 :: A=28 ::
 GOSUB 1000 :: A=27 :: GOSUB
 1000 :: A=28 :: GOSUB 1000
:: A=27 :: GOSUB 1000
510 A=28 :: GOSUB 1000 :: A=
23 :: B=20 :: C=16 :: GOSUB
1000 :: A=20 :: B=16 :: C=11
 :: GOSUB 1000 :: A=16 :: B=
11 :: C=8 :: GOSUB 1000 :: R
ETURN
600 T=2 :: A=27 :: B=23 :: C
=18 :: GOSUB 1000 :: A=23 ::
 B=18 :: C=15 :: GOSUB 1000
:: A=21 :: GOSUB 1000 :: A=2
3 :: GOSUB 1000
610 A=27 :: GOSUB 1000 :: A=
23 :: GOSUB 1000 :: RETURN
700 T=4 :: A=27 :: B=21 :: C
=16 :: GOSUB 1000 :: T=8 ::
A=25 :: GOSUB 1000 :: T=3 ::
 A=27 :: B=23 :: C=18 :: GOS
UB 1000
710 T=1 :: A=21 :: GOSUB 100
0 :: T=4 :: A=25 :: B=21 ::
C=16 :: GOSUB 1000 :: T=8 ::
 A=23 :: B=20 :: C=16 :: GOS
UB 1000
720 T=3 :: A=25 :: B=21 :: C
=16 :: GOSUB 1000 :: T=1 ::
A=23 :: GOSUB 1000 :: T=2 ::
 A=23 :: B=18 :: C=15 :: GOS
UB 1000
730 A=21 :: GOSUB 1000 :: A=
20 :: GOSUB 1000 :: A=21 ::
GOSUB 1000 :: RETURN
```

Save that under the filename ROSES, clear the memory with NEW, and key this in -

```
1000 CALL SOUND(D*T,N(A),V1,
N(B),V2,N(C),V3):: RETURN
```

Save that by SAVE DSK1.PLAIN3,MERGE . Load ROSES again and merge it in by MERGE DSK1.PLAIN3 . Add a line -

```
105 D=200
```

and RUN it.

Sounds rather raw and harsh, doesn't it? Try changing that line 105 to -

```
105 D=200 :: V2=5 :: V3=8
```

Try it again. Sound better? The first time, all 3 voices were being played at the loudest volume. Usually computer music will sound better if the harmony notes are given a lower volume.

Experiment and find the volumes you like best. Is the music too slow for you? Just change the value of D. Is it not in your singing key? Just change the value of F in line 100, as I showed you before.

But, does the music still have too strong a beat for your taste? Clear the memory again and key this in -

```
1000 CALL SOUND(-4250,N(A+Z)
,V1,N(B+Z),V2,N(C+Z),V3):: G
OSUB 1010 :: RETURN
1010 FOR W=1 TO T*D :: NEXT
W :: RETURN
```

Save that as NEG3,MERGE because it uses negative duration for 3 voices. Then load ROSES again and merge it in. This time, try line 105 with D=50 and with V2 and V3 as you wish. Sound smoother?

In lines 110, 130, 160, 180 and 210 of ROSES, you will find A,B,C=0 . That makes all three voices silent, because in line 100 N(0) is given a frequency of 40000 which is above the range of human hearing. This is how I programmed those silent pauses, the "rests" which were written in the music.

On a piano or guitar, the strings continue to vibrate during a rest, so that the sound gradually fades out. However, the electronically generated tones of a computer stop very suddenly That is why I often add the duration o the rest to the duration of the preceding note, and play it right on through. Some people think that doesn't sound right, so here is anothe solution. Clear memory again and key this in -

```
2000 FOR W=2 TO 8 STEP 8 ::
CALL SOUND(-999,N(A+Z),V1+W,
N(B+Z),V2+W,N(C+Z),V3+W):: G
OSUB 2010 :: NEXT W :: RETUR
N
2010 FOR Y=1 TO T*D/4 :: NEX
T Y :: RETURN
```

Save that as REST,MERGE. Load ROSES again, merge in SCALE and NEG3 (this will not work well with PLAIN3) and merge in REST. Now go to lines 110, 130, 160, 180 and 210, delete the A,B,C=0 :: and change the GOSUB 1000 after it to GOSUB 2000. Add line 105, run it and see if you like that better Anyway, keep it for now because we will use it again.

You will probably want to have the music play through more than once. Just add :: FOR J=1 TO 4 to the end of line 105 (if you want it to play 4 times) and change the end of line 210 to read NEXT J :: STOP .

I said that you could change the key of the music just by changing the value of F in line 100. There is also a way to change it while the music is playing. After the FOR J=1 TO 4 in 105 put :: Z=Z-(J=2)*3-(J=3)*1+(J=4)*4 That is somewhat complicated but it just means to play the second time three whole keys higher, the third time one key higher still (I know the *1 is unnecessary!) and drop back 4 keys for the 4th time, so you can take it from there and modify it as you wish.

If you want to use that routine with silent rests, change the GOSUB after each rest to 3000 instead of 1000, and add this line -

```
3000 CALL SOUND(-4250,N(A),V
,N(B),V2,N(C),V3):: GOSUB 1
010 :: RETURN
```

This tune happens to end in a rest, which is unusual. If you key in another tune and it seems to end too abruptly, just after that NEXT J and before the STOP, put in a long duration such as T=12 and a GOSUB 2000 to that REST routine to fade out more slowly.

Now, when you are keying in your own tunes, the notes on your sheet music will usually have two or three of those little eggs on the stem. It is best to use the upper one for A, the next one for B, and the lower one for C; the computer could care less, but you will find it easier to keep track of what you are doing. If there are less than three, just go directly below to the bass clef and find a note there. If you still don't have enough, you can always use 0 to make that voice silent. Or, you can usually just let the previous note continue. If your sheet music has guitar chords - those little square grids with dots on them - above the staff, they will give you some help - if there is no guitar chord above the note you are working on, the chord has not changed and it is safe to use the previous harmony notes.

There are many other CALL SOUND routines you can use for different effects. This is similar to the one that Bill Knecht used for his hymns - I call it VIBRA.

```
105 D=1 :: V1=1 :: V2=5 :: V
3=11
1000 FOR J=1 TO T*D :: CALL
SOUND(-99,N(A),V1,N(B),V2,N(
C),V3):: CALL SOUND(-99,N(A)
*1.01,V1,N(B),V2,N(C),V3)::
NEXT J :: RETURN
```

This one I call WUBBA, for no good reason -

```
105 D=1 :: V1=1 :: V2=5 :: V
3=11
1000 FOR J=1 TO T*D :: CALL
SOUND(-99,N(A),V1,N(B),V2,N(
C),V3):: CALL SOUND(-99,N(A)
*1.01,V1,N(B),V3,N(C),V2)::
NEXT J :: RETURN
```

And this one I call TREM -

```
105 D=1 :: V1=1 :: V2=5 :: V
3=11
1000 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V2,N(B),V2,N
(C)*1.01,V3):: CALL SOUND(-9
99,N(A)*1.01,V1,N(B),V2,N(C)
,V3):: NEXT J :: RETURN
```

I included line 105 in those, to merge in the duration and volumes along with the sound routine. Change the value of D to suit yourself, even in decimal increments such as D=1.5 .

It is easy to play a song repeatedly but with a different effect each time. Merge in VIBRA and change its line number to 1010. You can do this by typing 1000 and FCTN X, Enter, FCTN 8 to bring it back, type over the line number, and Enter. Merge in WUBBA and change it to line 1020 in the same way, then TREM and change it to line 1030. Add :: FOR R=1 TO 3 to the end of line 105. Put in a new line 1000 -

```
1000 ON R GOSUB 1010,1020,10
30 :: RETURN
```

And change the end of line 210 to NEXT R :: STOP.

Next time - more different effects, and autochording.

TI-99/4A IN THE YEAR 2000?

EDITORIAL

by

Harold C. Hoyt Jr.

I am still trying to get friendly with the 486. I am remembering the first TI-99/4A console we had, way back in 1980. All we had was the console, a TV and a tape recorder. We kept adding pieces when we could afford them. Sometime later, we added a "free" speech synthesizer with a buy several cartridges offer. A big move was getting an XBasic cartridge. Then another big step, the PE box with SSSD disk drive. What luxury. Then the first RAM disk. All this time working in a very disciplined way in a narrow little 16k (+VDP RAM) limited logic space. With the PE box we had a "huge" 32k expansion.

I've waited a long time for a step up. The TI world almost disappeared completely, but then the TI-99/4A had a rebirth when Some of us realized how far ahead of its time the it really was.

486 POWER! 129 million bytes of hard drive with 15 millisecond access time. Millions of bytes of other memory spread around the system. Built in 64k buffers between the hard drive and your program to make data exchanges superfast. 5 megabytes in word processor support alone. My kids must be trying to wean me from the TI for my own good. They've loaded the 486 with powerful apple type WINDOWS. I've added a few big programs. Between all of us, we've used up 39 million bytes of drive C.

I have an equivalent of the TI Editor/Assembler package that just overwhelms me. I WILL learn to love my new freedom. But, just between you and me, I still think the 4A will be around in the year 2000. Why? Because the 9900 series of microprocessors has a superior logic structure. Texas Instruments had superb engineering on the TI-99/4A. And equally bad marketing. Imagine letting a Commodore VIC-20 push you out of business! They aren't even a Nintendo!

Texas Instruments stock went up and Wall Street breathed a sigh of relief. What a dumb move! Making a HOME COMPUTER! Back to business as usual.

Maybe dumb marketing decisions is the key to many American problems today. Is that it? If TI had continued with new products in 1983 some 99-8 upgrades would be inevitable. Then we wouldn't be in the ridiculous posture of having laptops for business travelers that had a 3 hour battery life.

A recent PC Computing article had tips on how to stretch battery life by shutting down parts of the operating system, minimizing disk accesses and turning down screen intensity. Just maybe your laptop won't quit before your flight lands! A $3000 model allows you to change Nickel-Cadmium batteries without losing data. What a ridiculous development in an age where your electronic wrist watch will sit on your arm for 5 years without battery attention!

Charlie Good, Editor of the Lima UG Bits Bytes & Pixels, carries a 99-8 when he travels. Charlie later transfers text by way of hex bus to a TI-99/4A. No big deal if he forgets to turn the 99-8 off. He is limited by the self discharge rate of the Nickel Cadmium batteries. It's probably good form to recharge them every couple of weeks.

Since memory is so cheap, push memory development a little further and emulate the hard drive with static RAM. Then the only energy hog would be the portable's floppy.

I could be wrong. Some superior products just don't survive bad marketing. BETA VCR is superior to VHS in every way, but VHS is the standard and we are the losers.

Let's have one more example. Energy is critical to the world, right? Freon is BAD, BAD, right? Automobile air conditioners are BAD and leak Freon into the air, right? Automobile executives really earn their big salaries by making important decisions. A really big decision was made to export jobs to Spain and Mexico where labor is cheap. If the cost of manufacturing is low enough a worker who has lost his $20 per hour union job (1980 average UAW, 1992 $7.50/hour) can buy one, right? Only $16000 and 5 years to pay for it. Right?

Then why the <BLEEP!> did they take the little front door windows out of my 1953 Chevvy, saving $2 Mfg. cost?? If you don't know what they are, ask someone over 50. Those, and a nickel's worth of honeycomb insulation in the roof would do away with running the air conditioning 90% of the time. I think you can still get the little windows in some of those Japanese imitation pickup trucks.

NEXT MEETING TUESDAY, JULY 14,1992...HAPPY BIRTHDAY AMERICA!!!!!!

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JUNE MEETING. There were 16 members present. Corson demonstrated how to transfer a file from a TI computer to an IBM computer, and it worked. Those that ordered the Secret Guide to Compputers received them, this book looks very interesting; although, the author doesn't like the TI very much. Ben Parda won he raffle.

JULY MEETING.I am not sure what this month's demo will be. If you want Lou to replace a resistor, make arrangements with him before the meeting. We have three copies of the Secret Guide to Computers to sell. The price is $9.50.

RAFFLE. Every month we have a raffle to help defer the rental cost of our meeting hall. A typical raffle will have game and utility programs T-Shirts, books, bumper stickers, blank discs and all sorts of odds and ends for the T.I.

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.

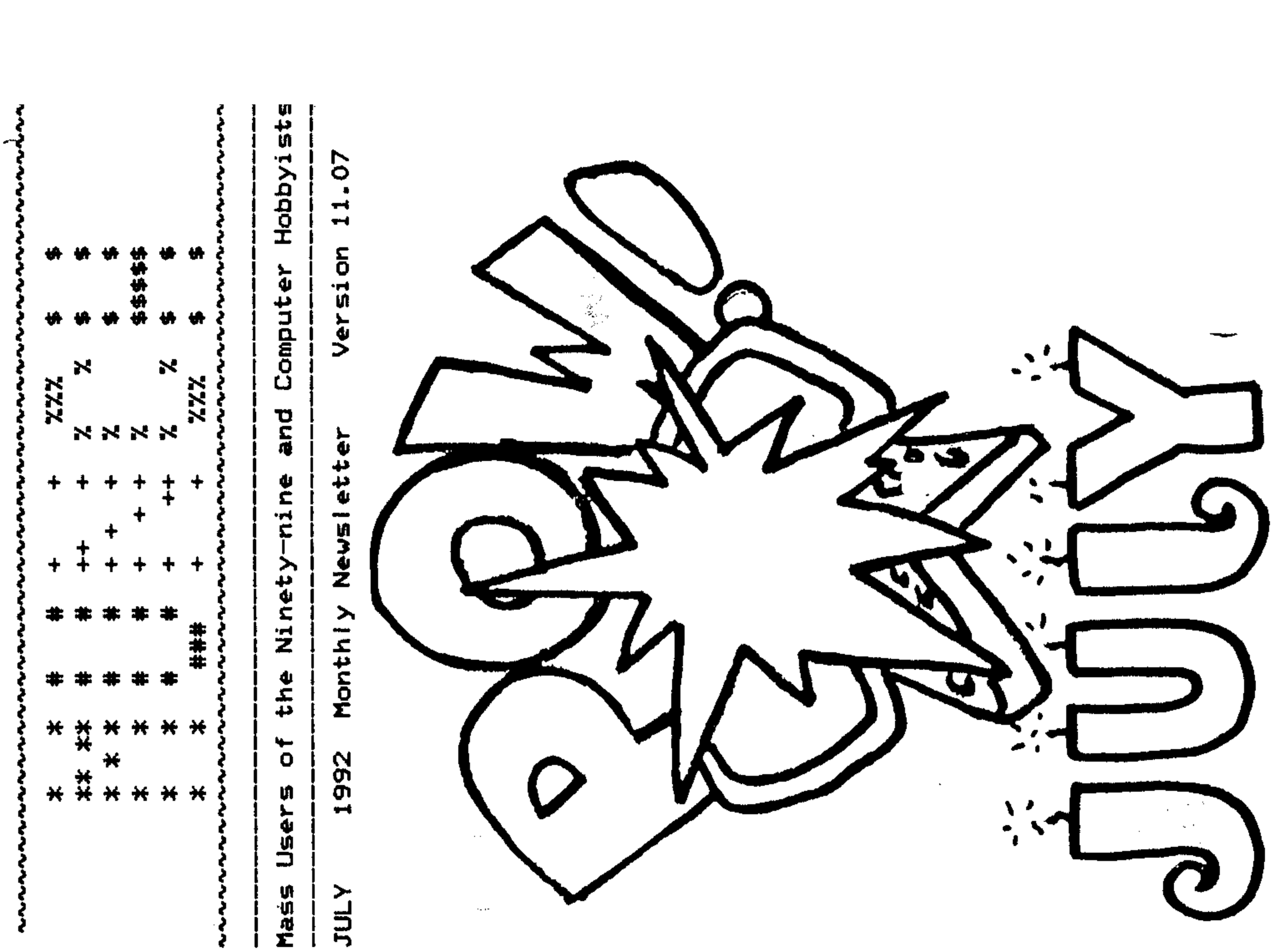
DISK LIBRARY. The disk library will be at the meetings from now on. We have copies of all disks in the library and they are available to members for just $1.50 each for single discs, $2.00 flippies, $3.00 double discs and $4.00 double flippie.

FOR SALE. The group has a TI Count Business Software package available for sale. If interested contact Jim Cox at the above numer or the club address. Bruce Willard has 3 computers, a P-Box with 3 drives and lots of modules for sale, call him for prices. Cecil Pittman Rt.2, ox 223; Picayune, Ms. 39466; 601-708-7286 has a complete T.I. system for sale. See Jim for a complete listing of what is available.

DISK OF THE MONTH. This month's disk is #108, GPL #5 Milton Bradley Games. Included are Attack, Blasto Blackjack & Poker, Hustler, Zero Zap, Hangman, Connect 4 and Yatzee.

THE MUNCH VIDEO is ready, members can purchase it for $5.00, plus $3.00 postage for mail orders.

WELCOME NEW MEMBER. Dennis Lavoie from Millbury, Dennis is looking for either a Cor-Comp or Myarc controller, see him at the meeting.



NEW ADDRESS:

M.U.N.C.H.
C/O J.W. COX
905 EDGEBROOK DR.
BOYLSTON, MA. 01505

FIRST CLASS

Next Meeting JULY 14th.

POSTMASTER: Forwarding and Address Correction Requested.