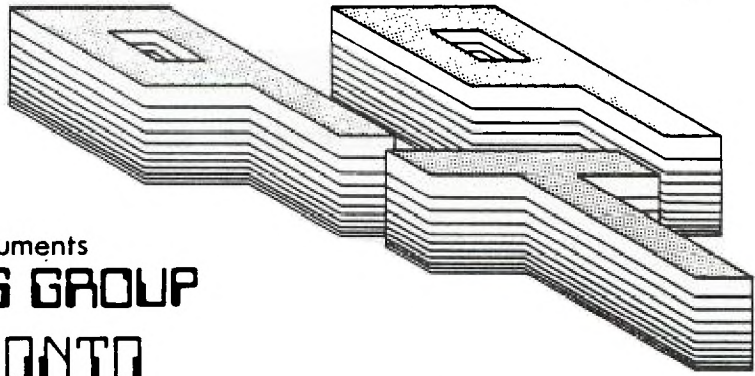


8406 (062)



Texas Instruments
USERS GROUP
TORONTO

FOR THE TI-99/4A COMPUTER

JUNE 1984

NINE T NINE USERS GROUP
55 CORDELLA AVE.
TORONTO, ONTARIO
M6N 2J7



Admission Users Group,
55 Cordella Ave.
Toronto, Ontario
M6N 2J7

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David Huggett

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Vee. Papadimos 491-8602

MEMBERSHIP FEES

FULL MEMBERSHIP	\$25.00/year
ASSOCIATE MEMBERSHIP	\$12.50/year

All memberships are household memberships. An associate membership is only for those who live beyond the commuting distance of Toronto but who wish to receive our newsletter and have access to our library. You are welcome to visit one of our general meetings before joining the group. If you wish more information contact our secretary in writing at the club address on the front cover or call and leave a message with his answering machine.

NEXT MEETING

Remember that the Editor's answering machine will be operative in the announce mode, after 4:00PM on the day of the meeting. This will inform members of any pertinent information should they wish to call.

The meetings are held on the last Tuesday of each month. This month's is June 26 and the next one will be Sept. 25 at Shoreham Public School on 31 Shoreham Drive in Downsview, starting at 7:30PM. Shoreham Drive runs east and west off of Jane street. The entrance to the school is a few hundred yards east of Jane on the south side of Shoreham Drive.

COMMERCIAL ADVERTISING

Any business wishing to reach our membership may advertise in our newsletter. The rates are as follows, (width by height);

FULL PAGE (6" X 7.5")	\$40.00
HALF PAGE (6" X 3.5")	\$20.00
QUARTER PAGE (3" X 3.5")	\$10.00

Please have your ads camera ready and paid for in advance. You may contact the Editor for more information, but leave a message on the machine.

NEWSLETTER ARTICLES

Members are encouraged to contribute to the newsletter in the form of articles, mini programs, helpful tips, jokes, cartoons or even questions. A short article may be submitted in any form but if you don't have II-WRITER it may be better to type the longer ones into your computer using REM statements, and submit the cassette or disk, which will be returned. We welcome the reprinting of any article appearing in this newsletter providing credit is given to the author and to 9T9. If more information is required, call the Editor and please leave a message with the machine.

DISCLAIMER

Opinions expressed in this newsletter are those of the writers and are not necessarily those of the 9T9 USERS' GROUP. 9T9 cannot assume liability for errors in articles, programs or advertisements.

EDITORIAL

This is the last newsletter for the summer as the public school where we meet closes for the summer holidays. We will resume again in September. My answering machine will be on all summer and I may be contacted regarding any questions or information regarding the computer.

I received the second half of Pat Kelly's article but it has little meaning unless printed with the program, which was about four pages and too long for this newsletter. The program will be available in the library.

Vee. is still working on the library and hopefully it will be ready for listing in the September issue.

I wish to thank this month's contributors to the newsletter. Lloyd Dyrow is a teenaged highschool student and his article was printed as received, without editing. Paul Siwy's comments are his own and not necessarily those of the group.

DAVID HUGGETT

LIBRARY ON DISPLAY

by PAUL SIWY

When purchasing a program from our library, those who work hard for a living want to be sure it is one that they won't be disappointed with. To this end I shall in the months to come, be reviewing out library programs. I will be looking for games that entertain and challenge, and utility programs that are useful and don't merely use the computer. Having tried each of the programs I was both depressed and relieved. I was depressed that so few were written by our members and relieved to find that that let us off the hook for the many poor grade ones. The faults I found so frequently came under SIX general categories. Insufficient instructions, lack of prompts, use of time delays instead of call key, tiny or overly simple graphics, bugs (even programs that wouldn't run), spelling errors, near full memory use, and slow running programs. It would appear that my opinion of our programs is low, but actually many of them were quite good. However we do have some real dogs! I found many that weren't even signed but after running them it soon became apparent why. In short, the poor ones didn't necessarily show that the programmer didn't know his stuff, merely that he or she didn't make full use of the basic language, or failed to see things through the eyes of the end user. Games of strategy rather than hand/eye co-ordination seem to be a rarity. Next issue I will begin reviewing some of these programs. Until then, anyone wishing to contact me about organizing a games programming committee please phone me at 423-1698 after 7:00 P.M.

MINIREM'S

by LLOYD DYROW

Do you own the MINI MEMORY command module? Have you ever wondered if you could save your assembly programs to disk? Or send them over the phone via modem to your friend in Alaska? Well I have, and have found a way to do it. It is one CALL LOAD harder than saving a TI BASIC program. What I did was I took advantage of the computer's ability to save BASIC programs in the battery-backed RAM of MINI MEMORY. Changing 16 bytes in the MINIMEM'S RAM fooled the computer into thinking that the assembly language program in MINIMEM was really a 4K TI BASIC program. Here's what I did, (if you own the MINIMEM, load in one of your favorite programs the old way with EASY BUS), now, once the program has been loaded type: (from TI BASIC)

CALL LOAD(28672,90,165,255,80,15,248,0,0,1,27,49,11,48,16,63,255)

OLD MINIMEM

If all works you should now have your assembly program in VDP RAM. (you can try to list it but you will only have to start over with the OLD MINIMEM statement again)

Now save it to RS232, CSI, or DSK1.FileName the way you would a normal TI BASIC program.

In the case of saving to disk type: SAVE DSK1.FileName

Later, when you want to load the assembly program back again, type: (from TI BASIC)

OLD DSK1.FileName

SAVE MINIMEM

CALL LOAD(28672,165,90)

And voila! Your assembly program should now be in MINIMEM'S RAM.

FOR THOSE OF YOU who couldn't care less about zapping programs over the phone, try this: (from TI BASIC/EX-BASIC)

CALL LOAD(-31803,35)

Interested? Try this: (from TI BASIC MINIMEM)

10 CALL POKEV(-32740,255)

20 CALL POKEV(-32741,255)

30 GOTO 10

RUN

No, don't turn off your computer, nothing is going to explode! The CALL POKEV in line 10 turns everything to normal, but the CALL POKEV in line 20 causes that interesting effect (try CALL POKEV(-32741,255) by itself and you will see!) Well that's all I have to say for now. If you'd like help or an explanation of anything here, please call me at 225-5827, as I can't get out to the meetings very often (almost never). If you perfectly understand all this I want to hear from you even more, so remember: ASSEMBLY IS WHERE IT'S AT!

TECH TIPS

by VEE. PAPADIMOS (PRINTER CABLES)

I hope that everyone who followed my instructions in last month's newsletter had no trouble in building their cassette cable interface. If your console didn't burn out then you probably did everything right. This article will cover the making of a cable to connect your computer to any printer.

First of all, some of us do not have the expansion system and don't wish to purchase one. In this case it is still possible to use a printer. One manufacturer that is producing one with a built in interface is Apropos Technology in California. It plugs directly into the console and has many features, including double height printing and user definable characters. The list price is \$299.95 U.S. plus \$35.00 for shipping and handling to Canada, plus 3.5% duty and exchange. If you are going to Buffalo I have seen it at the Boulevard Mall for \$289.00.

This configuration would be the cheapest way to go if you only wanted to work in the basic languages with less than about twelve K, or just wanted to do simple word processing. The latter could be achieved with Dave Huggett's Write On program in the library. It was designed with simplicity in mind and turns the computer into a sort of Display Writer typewriter except that you can have a whole screen of characters before you have to print, instead of just one or two lines.

If you already have the expansion box and the RS232 card then you're all set. You can connect virtually any printer to the T.I. computer, but I prefer to use a parallel interface because it transmits data faster and most printers are cheaper if they do not have a serial card. I will cover the serial port in a future article, as it has other uses besides printing. I own a Gemini-10X as it has a lot of features for the money and is readily available.

To construct your parallel cable you will need three simple parts that are available from Electrosonic. They are:

BELDEN CONNECTOR #9S5J016 (about \$4.00)

BELDEN CABLE #3302-16 (I recommend less than five feet)

AMPHONOL CONNECTOR #75-30360

Connect up the pins in the following way:

Pin #1 from the Belden Connector to pin #1 of the Amphonol Connector.

Pin #2 from Belden to pin #2 of Amphonol.

Pin #3 to pin #3 etc. up to and including pin #9.

Pin #10 Belden to pin #11 Amphonol

Pin #16 Belden to pin #16 Amphonol

The Belden connects to the computer and the Amphonol to the printer. This pin configuration works for the Gemini and the Epson printers.

Good luck, see you in September.

HERE 'S HOW

by GARY WILLERT

As promised, we are starting a column on tips for the beginning programmer. Since this issue has to last you all summer, I thought that I would make it one with enough ideas to keep you going for awhile. In order to do that, I am using a program that was only finished last week. This program (Dog Catcher) was developed in a class of primary students that I work with every week here at Shoreham P.S. Although, technically, the programming is mine, all of the ideas, colours and other details came from the students. We have gone over, in class, all of the commands and techniques used here and I present this program as an example that a good program is not necessarily either long or complex.

Throughout this column, both in this edition and in future ones, the assumption is made that the reader has read (and has available for reference) the USER'S REFERENCE GUIDE. I shall not make it my job to provide explicit instructions on how to use the various commands and features of TI BASIC. Instead, I shall provide tips on how to gain the benefits that these features offer you. A program does not start when you sit down at the keyboard. The work actually starts out as an idea. Over and again, I tell my students, "The computer is an idiot and you must treat it like one." This is not an insult to the computer's capabilities. It merely means that the computer is only capable of doing exactly what you tell it to do. If you start out with a lousy idea, you will end up with a lousy program, no matter how good your programming skills. Therefore, spend some time sitting at a table with a pencil and paper, clarifying your ideas, before you sit down at the keyboard. If you are planning a graphics-oriented program, it is a good idea to use a piece of paper blocked off to the right dimensions to plan your screen layout. I personally like to use "quad pads", blocks of paper with faint quarter-inch squares for this purpose. It is not necessary at this time to plan such details as colour combinations or precise graphic details. These will fall into place as the program develops.

Do not try to write a program like an essay! We can deal at more length with details regarding the order of program construction in a later edition, but what I mean here is, do not try to start at the beginning and work through to the end in the order of a program listing. Instead, deal with areas of logical similarity. With this in mind, remember that the order in which I present the following material may not be the logical order of creation.

1 - 29 Identify the program and provide credits.

30 - 49 Provide the user with the option of seeing the instructions. The key-unit of 3 in LINE 33 causes only upper-case letters to be returned. Note the test in LINE 34. Since TI BASIC does not allow the use of "AND" and "OR", it is necessary for the user to supply arithmetic logic when multiple tests are used. "*" acts as "AND". "+" acts as "OR". LINE 37 sets the DATA pointer to the start of the instructions. Note that 3 loops are used: C controls the column; F controls the row; A allows us to view 1 screen of instructions at a time. If you are not familiar with the technique for writing to the screen without scrolling, then pay particular attention to LINES 42 to 44. This section is universally applicable and the technique may be used in any program where instructions are necessary.

50 - 74 Set up the starting conditions of the game. Because of the placement of the "CALL COLOR..." in LINE 74, the playing field is not displayed until after it is drawn. Note the economy of LINES 67 to 73, where a single loop is used for 3 separate functions. Also note that, here as elsewhere in the program, variables may be used for more than one purpose. LINES 54 to 61 create the characters and colour sets that will be used for the players. The use of 4 sets of characters is not essential to the operation of the program, but has been included for the sake of extra colour on the screen and to aid in identifying the players.

75 - 84 Find an empty position on the playing field and place the 8 characters. There are a number of alternate methods that could have been used for this process, but this one has the advantage of simplicity. The positions of the players are held in arrays (DROW, DCLM, CROW, CCLM). Their positions could be determined by use of "BCHAR", but storing them allows for greater speed of play. The actual work of choosing empty spots on the playing field is done in the subroutine at LINES 151 to 156.

85 - 150 This is the "main" program. These are the lines that are used, along with the appropriate subroutines, while the game is being played. Since the play of the game is relatively straightforward, I shall not work through it line by line, but rather shall highlight a few points. TURN, which was set to 1 back in LINE 51, is used to determine whether we are in the first turn of the game. Although it is redundant to reset the value every time LINE 120 is reached, the alternatives are more complicated. NOW is the indicator of which player is in use.

```

1 REM *****
2 REM * DOG CATCHER *
3 REM * ----- *
4 REM * VERSION 1.1 *
5 REM * FOR THE *
6 REM * TI-99/4A *
7 REM * *
8 REM * JUN 1984 *
9 REM *****
10 REM
11 REM BY GARY WILLERT
12 REM WILLOWTREE
13 REM
14 REM 37-3175 KIRWIN AVE
15 REM MISSISSAUGA,ONT L5A 3M4
16 REM
17 REM *****
18 REM * *
19 REM * THIS GAME WAS CONCEIVED *
20 REM * AND DESIGNED BY THE *
21 REM * PRIMARY COMPUTER CLASS OF *
22 REM * SHOREHAM P.S. (1983/84) *
23 REM * *
24 REM * THANKS, FOLKS! *
25 REM * WITHOUT GOOD IDEAS, THERE *
26 REM * CAN BE NO GOOD PROGRAMS. *
27 REM * *
28 REM *****
29 REM
30 CALL CLEAR
31 CALL SCREEN(13)
32 PRINT "*****": "* DOG CATCHER *": "*****"
   *****: "INSTRUCTIONS? (Y/N)"
33 CALL KEY(3,K,S)
34 IF (K<>7B)*(K<>89)THEN 33
35 IF K=7B THEN 50
36 CALL HCHAR(23,23,K)
37 RESTORE 187
38 FOR A=1 TO 3
39 CALL CLEAR
40 FOR F=2 TO 22
41 READ M$
42 FOR C=1 TO LEN(M$)
43 CALL HCHAR(F,2+C,ASC(SEQ$(M$,C,1)))
44 NEXT C
45 NEXT F
46 PRINT "PRESS ANY KEY TO CONTINUE."
47 CALL KEY(0,K,S)
48 IF S=0 THEN 47
49 NEXT A
50 CALL CLEAR
51 TURN=1
52 RESTORE
53 CALL SCREEN(2)
54 FOR A=1 TO 4
55 CALL CHAR(A*8+104,"00C1CA7C3C3C2424")
56 CALL CHAR(A*8+105,"8098BC98FF98A442")
57 CALL CHAR(A*8+106,"000C12111111FF")
58 CALL CHAR(A*8+107,"0018187E7E1818")
59 READ F
60 CALL COLOR(A+10,F,1)
61 NEXT A
62 CALL CHAR(40,"FFFFFFFFFFFFFF")
63 FOR A=3 TO 8
64 CALL COLOR(A,16,2)
65 NEXT A
66 CALL HCHAR(1,1,40,704)
67 FOR A=1 TO 12
68 READ ROW,CLM,NBR
69 CALL HCHAR(ROW,CLM,32,NBR)
70 READ ROW,CLM,NBR
71 CALL VCHAR(ROW,CLM,32,NBR)
72 CALL HCHAR(1,A+10,ASC(SEQ$("DOG CATCHER",A,1)))
73 NEXT A
74 CALL COLOR(2,4,2)
75 FOR A=1 TO 4
76 GOSUB 151
77 CALL HCHAR(ROW,CLM,A*8+104)
78 DROW(A)=ROW
79 DCLM(A)=CLM
80 GOSUB 151
81 CALL HCHAR(ROW,CLM,A*8+105)
82 CROW(A)=ROW
83 CCLM(A)=CLM
84 NEXT A
85 NOW=1
86 GOSUB 157
87 P=1
88 GOSUB 160
89 CALL HCHAR(23,5,NOW*8+104)
90 IF DROW(NOW)>0 THEN 93
91 GOSUB 162
92 GOTO 90
93 CALL JOYST(1,X,Y)
94 IF (X=0)*(Y=0)THEN 103
95 CLM=DCLM(NOW)+SGN(X)
96 ROW=DROW(NOW)-SGN(Y)
97 MOVE=MOVE-1
98 CALL GCHAR(ROW,CLM,F)
99 IF TURN=1 THEN 101
100 IF F>40 THEN 166
101 IF F=32 THEN 105
102 MOVE=MOVE+1
103 CLM=DCLM(NOW)
104 ROW=DROW(NOW)
105 CALL HCHAR(DROW(NOW),DCLM(NOW),32)

```

```

107 DROW(NOW)=ROW
108 DCLM(NOW)=CLM
109 CALL HCHAR(23,7,MOVE+48)
110 IF MOVE>0 THEN 87
111 NOW=1
112 ROW=24
113 GOSUB 157
114 P=2
115 GOSUB 160
116 CALL HCHAR(24,5,NOW*8+105)
117 IF CROW(NOW)>0 THEN 120
118 GOSUB 162
119 GOTO 117
120 TURN=0
121 CALL JOYST(2,X,Y)
122 IF (X=0)*(Y=0)THEN 130
123 CLM=CCLM(NOW)+SGN(X)
124 ROW=CROW(NOW)-SGN(Y)
125 MOVE=MOVE-1
126 CALL GCHAR(ROW,CLM,F)
127 IF F>40 THEN 141
128 IF F=32 THEN 132
129 MOVE=MOVE+1
130 CLM=CCLM(NOW)
131 ROW=CROW(NOW)
132 CALL HCHAR(CROW(NOW),CCLM(NOW),32)
133 CALL HCHAR(ROW,CLM,NOW*8+105)
134 CROW(NOW)=ROW
135 CCLM(NOW)=CLM
136 CALL HCHAR(24,7,MOVE+48)
137 IF MOVE>0 THEN 115 ELSE 85
138 CALL CLEAR
139 PRINT "DOGS WIN.":"PLAY AGAIN?":
140 GOTO 178
141 T=(F-104)/8
142 IF INT(T)<T THEN 129
143 CALL HCHAR(ROW,CLM,T*8+106)
144 DROW(T)=0
145 FL$=""
146 FOR A=1 TO 4
147 IF DROW(A)=0 THEN 149
148 FL$="0"
149 NEXT A
150 IF FL$="" THEN 176 ELSE 130
151 RANDOMIZE
152 ROW=INT(RND*19+3)
153 CLM=INT(RND*25+4)
154 CALL GCHAR(ROW,CLM,C)
155 IF C>32 THEN 151
156 RETURN
157 RANDOMIZE
158 MOVE=INT(RND*6+1)
159 RETURN
160 CALL KEY(P,K,S)
161 IF K<>18 THEN 165
162 NOW=NOW+1
163 IF NOW<5 THEN 165
164 NOW=1
165 RETURN
166 T=(F-105)/8
167 IF INT(T)<T THEN 102
168 CALL HCHAR(ROW,CLM,T*8+107)
169 CROW(T)=0
170 FL$=""
171 FOR A=1 TO 4
172 IF CROW(A)=0 THEN 174
173 FL$="0"
174 NEXT A
175 IF FL$="" THEN 138 ELSE 103
176 CALL CLEAR
177 PRINT "THE DOG CATCHERS WIN.":"PLAY AGAIN?":
178 CALL KEY(3,K,S)
179 CALL COLOR(2,2,2)
180 IF (K<>78)*(K<>89)THEN 178
181 IF K=89 THEN 50
182 END
183 DATA 6,13,7,16
184 DATA 3,4,26,5,4,14,4,4,26,5,5,14,8,6,7,5,13,5,9,6,7,
5,14,5
185 DATA 8,21,7,5,19,5,9,21,7,5,20,5,14,6,7,5,28,14,15,
6,7,5,29,14
186 DATA 14,21,7,14,13,5,15,21,7,14,14,5,19,4,26,14,19,
5,20,4,26,14,20,5
187 DATA DOG CATCHER,^^^^^^^^^^^^^^,"IS A 2-PLAYER GAME,
1 PLAYER",USING THE DOGS
& THE OTHER,USING THE DOG CATCHERS.,
188 DATA THE OBJECT OF THE GAME IS TO,TAG ALL OF THE
OTHER,PLAYER'S PIECES BEFORE ALL,OF YOURS CAN BE
TAGGED.,,,,,,,,,,
189 DATA PLAYERS ALTERNATE TURNS,STARTING WITH THE
DOGS.,
190 DATA CHOOSE WHICH PIECE YOU WANT,TO MOVE BY PRESSING
THE FIRE,BUTTON UNTIL T
HE DESIRED,PIECE FLASHES & IS SHOWN AT
191 DATA THE BOTTOM OF THE SCREEN.,THEN MOVE IT WITH
YOUR JOY-,STICK. (DIAGONALMOVES ARE,ALLOWED.),
192 DATA YOU MAY MOVE MORE THAN 1,PIECE IN A TURN. THE
TOTAL,NUMBER OF MOVES AVAILABLE IS,SHOWN AT THE
BOTTOM OF THE,SCREEN.,,,,
193 DATA YOU TAG A PIECE BY MOVING,YOUR JOYSTICK AS IF
TO MOVE,YOUR PIECE TO ITS SPOT.,
194 DATA "YOUR PIECE WILL NOT MOVE,,"BUT THE TAGGED
PIECE WILL BE,REPLACED BY A MARKER.,THAT PIECE IS
OUT OF THE,GAME.,,
195 DATA THE DOGS MAY NOT TAG THE DOG,CATCHERS IN THE
FIRST TURN.,,,,,,,,,,

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P H O E N I X S O F T W A R E

 159-3175 KIRWIN AVE.
 MISSISSAUGA, ONT
 416-275-6259

SPECIAL ANNOUNCEMENT TO ALL TI 99/4(A) OWNERS

Since last month's advertisement we have been advised of a change of distribution by CorComp. This will mean a price increase to us when this change goes into effect. Therefore in order to allow as many T.I. owners as possible to benefit, we have extended the introductory prices until JULY 30, 1984. The Corcomp line consists of a 32K RAM Card, an RS232 Card, and a Disk Drive Controller (which will accept up to 4 drives of mixed types). These are available as Expansion Box Cards or as components which fit in the Corcomp RS232 stand alone unit.

		LIST PRICE	SPECIAL PRICE
EXP-32K:	32K RAM EXPANSION CARD	155.00	130.00
EXP-232:	RS232 EXPANSION CARD (2-RS232 PORTS,1-PARALLEL)	133.00	120.00
EXP-DCC:	DISK CONTROLLER	253.00	220.00
SAU-232:	RS232 STAND ALONE UNIT (1-RS232 PORT,1-PARALLEL)	188.00	160.00
SAU-232/A:	RS232 STAND ALONE UNIT WITH 32K RAM + DISK CONTROLLER	499.00	430.00
UK-001:	UPGRADE KIT FOR 2ND RS232 PORT	18.65	16.00
UK-002:	UPGRADE KIT-32K RAM + DISK CONTROLLER	362.00	310.00

All products carry a one year factory warranty. So take advantage of the special prices and reserve yours today.

Payment should be either Money Order or VISA.