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* AUCKLAND COLOUR GENIE USERS GROUP *
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ISSUE NO. 11 DECEMBER 1984

S E C R E T A R Y ' S R E P O R T

Hi,
Another good meeting, with Roger Lockerbie giving a talk on Zen, and how to go about it! We all grouped around the machines and learn't how to use Zen. Roger's 'talk' is further on in this newsletter. Thank you, Roger. For those who don't know, Roger is only 13 years old.

Only 42 were able to come to the last meeting, hopefully, more will be at our Christmas party/social evening. Please remember to 'bring a plate' on the 10th December.

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We would like to welcome all of the following new members:

----Auckland members----
Brian Boreham, 125 Weatherly Road,Torbay
Daryl Major, 90 Gloria Avenue,Te Atatu
Ron Lietz, 76 Renfrew Avenue, Sandringham
Henry van Sitter, Forest Hill Rd, RD1, Henderson

----country members----
Kevin Hunter,18 Elizabeth Street, Feilding
Kevin Smith,P O Box 9427, Wellington
I.M. Scott,9 Kanpur Rd, Khandallah, Wellington
Johnny Keogh, 58 Elmslie Rd, Pinehaven, Hutt County
Brendon Maher, 314 Levers Rd, Tauranga
H. Nausbaum, 135 Waterloo Road, Lower Hutt
Kerry Reid, 124 Orere Road, R.D.2, Clevedon
Andrew Goodchild, 47 Tilbury Street, Lower Hutt
David Ryder, 23 Richmond Avenue, Nelson
Mr D. Habing, 270B Somme Parade, Wanganui
Murray Battersby, Murrellen Piggeries, Raecombe Rd, Sheffield, Canterbury
Waitara High School, Attn: Ron Kivell, Waitara

These are all members who have joined since the last list was published in Newsletter #9.

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State of Accounts

Balance as at the 25th of November 1984		387.76
Monies paid in by members - software sales		+ 1929.00
		2316.76
less monies paid out over the month:-		
rent (for both Nov and Dec)	30.00	
photocopying hire and paper	511.90	
stationery	12.80	
postage	30.00	
software/hardware purchases	243.75	- 818.45
balance in cheque account		$ 1488.31

The first meeting in the New Year will be on 4th February 1984 at 7.30 p.m. There will be photocopies of some good TRS80 programs at our next meeting (on 10th December) - anyone who would like something to do over Christmas is very welcome to take some home and see what they can do with them to get them converted to the Genie. Once they are converted, please send us a tape so that we can put them into the newsletter. (Your tape will be returned). Some of these programs look very good, and most look fairly easy to convert. (Not too many peeks and pokes!) Country members are welcome to write and ask for some if they would like them. I have had 2 copies of each program made. These program listings are courtesy of the Mills family in Wellington.

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Cassette Interface

Mark Langdon now has available, a cassette interface for the Colour Genie. It uses the commands :- CLOAD, CSAVE, and SYSTEM to operate the cassette's motor via the 'REMOTE' jack.

The modification involves fitting a small p.c.b. inside the Genie, and soldering various wires to the main p.c.b. and pins 1 and 3 on the cassette socket.

Unfortunately, the existing cable cannot be used, but he can make some up on request.

The mod. kits are available only when a minimum order of 10 is reached (keeps prices very low).

Prices :-	kitset	$ 16.00
	built and tested	$ 17.00
	fitted into your computer	$ 20.00

For those who feel they are not able to carry out the mod Mark will be happy to do it for you (approx. 2 hours to fit and test.)

If you want one, please order from Nola.

- Mark Langdon

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- 3 have been ordered already - another 7 to go. - Nola

Software Production ---- or the lack of it.

Please forgive the unfortunately necessary delays on any software recently. First of all, my TV went on the blink and I was without it for a week. This means grabbing the family TV in the lounge, which is nearly impossible!! Now, for some unexplainable reason, nothing I copy will verify - and I mean nothing at all!!!! Goodness knows what I am going to do now.

Also, Bak Pak is still delayed due to colour problems. Hopefully, all those who have ordered and paid for this program will get it over the next two weeks. Sorry about the delay over this program, but these little 'gremlins' have been very hard to find.

All the best for Christmas and the New Year.

- Nola Huggins

EDITORS NOTES

Another good meeting last month but with a slightly lower turnout. I assume you are all to busy with your GENIES as there isn't any other good reason.
This months talk was given by Roger one of our younger members who gave a very interesting and imformative talk on the workings and use of ZEN. His notes are included in this newsletter.

With Xmas coming some things to note.

The next meeting on DEC 10 is to be a social gathering with liquid refreshment to be supplied by the club. So pleae bring a plate. There will be no talks but there will still be the oppotunity to order and pick up software. Software sales over Xmas will be available.
Many thanks to
NOLA,OLWEN,KEN,ANDY,ERNIE
and everyone else who has helped to make the club the great success it is.

There will not be a meeting in January. The first meeting of the new year will be on MONDAY 4th FEB.

At that meeting along with the regular features there will be the first of a series of talks to be held in the small room at 8pm for pure beginers in BASIC. The reference for this will be a book called BASIC PROGRAMMING (DO IT YOURSELF) by Arnold Wolff published by CCH Aust Ltd.

Thirdly a few extra programs this month to hold off any withdrawal symptoms over the two month break.

Finally to all the members not able to make the Dec meeting.
MERRY CHRISTMAS and a GOOD NEW YEAR

ON CONVERTING PROGRAMMES :- some notes

by Keith McGill

Many of us have no doubt converted TRS-80 programmes to CG. These do not present too many problems unless you get into some more obscure PEEKS & POKES or SETS & RESETS. Many of the changes involve the different screen formats of the two machines, and these are reasonably straightforward.

However you may not be aware of the improvements that can be made in programmes such as David Ahl's (BASIC COMPUTER GAMES) or Tim Hartnell's (GIANT BOOK of COMPUTER GAMES) which a written in a more universal but "lowest common denominator " microsoft basic. These programmes work quite well as is, but can be improved by exploiting the extra features of CG -- colour,sound,graphics or even the simple PRINT @ function.

For example to add a beep when something happens try a GOSUB to this routine

```
FOR X= 1TO5:CALL357C:FOR P= 1TO20:NEXTP:NEXTX:RETURN
```

Or, in a board game such as OTHELLO in the OCT newsletter try changing "W" (WHITE) and "B" (BLACK) to MODSEL / SHIFT F (WHITE) and MODSEL / SHIFT A (BLACK). You can also add an INPUT to accept the names of the players (N1$,N2$) and substitute these variables for white and black.

Again with OTHELLO as an example try the following change to improve the presentation :- Instead of the screen scrolling each time a move is made and the board is reprinted -- The board stays still and the pieces magically (?) move.

```
8000 PRINT@0,;:PRINT@40,"   1   2   3   4   5   6   7   8"
```

If you do no more than this yu will find that the prin statements "WHITES TURN" "CHECKING" etc will foul things up . You will need to put them into PRINT@ statements too. I suggest changing lines 800,1120,1140,1145,1301 at least b adding PRINT@800, statements each of the same length. To avoid a further difficulty I omitted line 1101 (It could go as an instructions sub-routine if you wish). If you want a little colour too I suggest adding:-

```
8700 COLOUR6:PRINT"W"
8705 COLOUR4
8900 COLOUR7:PRINT"B"
8905 COLOUR4
```

TALK ON "ZEN"

<R> means press "RETURN"

Once ZEN is loaded press "E" <R>
A cursor should appear. Then enter the programme as it shows.---
Press"."<R> and you should have ZEN's prompt, in order to check that evrything is OK type "A" (for assemble) <R>. You will then get an option, type "V" (for video screen). wait for awhile -- If you hear a "ting" followed by a displayed piece of code you have made a mistake. Press "," and you will see that line. Backspace to the begining and type it again then press <R> Now type "A" <R> "V" <R>. When prompt appears you will see what you typed pus some No's and letters.
Now to save it--
Press "A" <R> then "C" <R> L for cassette. You should see "NAME >" followed by a cursor, type in your name for the programme then <R>
You will get the message "tape" put in a blank tape and press RECORD ad press the space bar about 1 second later ZEN prompt will repeat. Now rewind the tape and press both "RST" keys - type "SYSTEM" <R> followed by your name for the programme. Two asterixes should appear followed by the message and a prompt. Press both "RST" keys and type 59E6 <R>. You are now back in "Z E N".

```
ORG 7000H
START:  CALL PMESS
DB'I am the colour genie' 1,13,0
RET
PMESS:  POP HL
LOOP:  LD A,(HL)
INC HL
 OR A
 JR Z,LEND
PUSH HL
CALL 33H
POP HL
JR LOOP
LEND:  JP (HL)
ORG 41E2H
JP START
EXEC START
END
```

ROGER

The Input Module

Ever had trouble with REDO?.EXTRA IGNORED? or, shown your friends your latest creation.only to have one of them press the wrong key,sending your program into fits?

I have, and therefore I was pleased to review one of the latest utilities from Gumboot, the Input Module.

The concept of this program is simple enough.It is Basic program which is either 'merged'or inserted into your own programs.It sits at the end of your program and becomes part of it.All inputs from the keyboard are then handled by this module.(not an INPUT statement in sight).

You write your program as normal, but replace any INPUT statements with a call to the module, i.e. you use a GOSUB.It allows you to define what sort of characters your program will accept i.e. Integers, Decimals, Letters, Commas,mixed etc. It stops all the stupid little mistakes which are so easy to make.Remember the old adage "Garbage in,Garbage out"? It also lets you get on with writing your program,without having to write heaps of code to catch every conceivable error.

Not only that, it lets you set the number of characters your program will accept. Say you've drawn a nice form on the screen,with an input waiting for a telephone number. Some loony comes along and types in 15369758432,right through your nicely drawn box.The Input Module stops all that. Another nice function is the Field Brackets,which are visual indicators to the user of your program,telling him how many characters he can type in. e.g.Name [ ]

That is how it would look-pretty neat huh?These can be on or off. The distance between the brackets is set by the number of characters you are allowing the user of your program to input.

Further functions are: the ability to set upper and lower limits to numeric inputs;a keyboard bleep,and string padding with blanks.

It is very easy to use, and comes with full instructions(these are very clear and concise).The module takes away a lot of the hassle of writing long,complex programs, in fact, anything using INPUT statements.

My verdict?A very good program, which you will be turning to time and time again, it lets you write programs to a professional standard,without being a professional.I am certainly going to use it, and I think it will be a Godsend to a lot of people.

E.J.

P.O.B.Graphics Editor.

What is a P.O.B.? Well, apparently, it stands for Picture Object Block, so now you know. A P.O.B. is a large, user defineable object of 16 X 24 pixels(384 pixels)

Examples of the pictures you can make are, cars, faces, helicopters,animals etc.If you are into writing your own games, or just want good graphics in your programs, this is for you.

On running the program, you are presented with a large grid,and asked if you require mirror image.If you do, anything designed on the left side of the grid is mirrored on the right hand side,(useful for drawing butterflies etc)You use the arrow keys to move a marker,and can light any of the pixels.You can also Auto fill the pixels, allowing you to fill objects in. My first attempt was a train.I then pressed a key, and up came a 16 colour pallet,a column of commands,and a box. After a few seconds, a train appeared in this box,a perfect miniature of my large train(which was still on the screen)it was white, and the number 1 appeared underneath the box.

You can use simple commands to change the colour of the POB, using the sixteen colour pallet.There are also commands to enable you to invert the POB either horizontally or vertically.This is for games where you want the same object,facing in another direction.Ever seen an upside-down train?

Other commands are: Edit,which also works on the large grid, POB, to check on the POBs you have already designed etc., LOCK, which locks the POB into the program listing itself.It converts your picture into DATA statements at the end of the program.Each time a POB is locked, it is given a number particular to that POB.

When you have designed all the POBs you want, you press a key, and the Editor deletes itself,leaving behind the POB graphics routines,and the DATA statements it has created.You can then simply save these on tape as a program,in the normal way.

Now you can write a program using the POBs you have just created, it's all so easy to do!

The POB graphic routines handle the displaying and deleting of POBs on the screen, and there is even a built in collision detector.When you want to display a POB, all it needs is the screen position, and the POB number, and it appears instantly in the colour it was created in.

Up to 20 POBs can be used at one time,and the difference they make to your program has to be seen to be believed. The instructions are very good and easy to understand,and include a sample program for the user to type in.

Gumboot Software which uses POB Graphics includes Pick & Match, Snake Snatch,and Demon Derby.

In my opinion, this is a program everyone should have, and one which you will never grow tired of.

E.J.

Games Pack 4. Demon Derby/Intelligent Games Board. This is a very good tape containing three programs altogether, as the Intelligent Games Board has both four in a line (Connect 4) and Reversi(Othello) on it. Demon Derby is a game using P.O.B. Graphics, where you have to chase demons using a tank. Once you catch a Demon, it turns into a gravestone, which will get in your way, and can kill you if you touch it. Every so often, a Super Demon will appear, and if it catches your tank, it will turn into a mangled mess, putting even more obstacles in your path. The two other games on this tape are extremely good versions of the games they are based on, and the four in a line one prevents anyone from cheating, because as soon as a line is completed, it flashes the line on and off so that you can't miss it.

Snake Snatch.

This is another game which uses the extremely useful P.O.B. graphics. You are a snake, which has to go round the screen eating various things which appear at random, and are worth varying amounts of points. The screen is full of toadstools which you are not allowed to eat or you will be poisened and die, but every now and then, a giant mushroom appears which you can eat, and which ,once eaten, allows you to eat just one toadstool. The catch in this game is that every time you eat something, you grow an extra segment, making your snake very difficult to control, so it really is a game which needs considerable skill at manouevering.

```
10 CHAR4
20 CLS:COLOUR1
30 DEFINT A-E,G-Z
40 SZ= 17408
50 PRINT@10,"ſJOſSOſtOſSſu "
60 PRINT@50,"ſeOſZOſJOſPſj "
70 PRINT@170,"  BY J. MARSHALL & J. GRUNDIL."
80 PRINT@210,"  CONVERTED FOR C. GENIE BY                B. WALKER"
90 GOSUB760
100 CHAR1
110 PRINT@12,"Mower"
120 PRINT@ 454,"INSTRUCTIONS"
130 PRINT@480,"The object is to drive your mower arbund the garden & cut down al
l the weeds,   while AVOIDING the flowers & the garden wall.Cutting down a flowe
r or colliding with the wall will LOSE you a life.You  have 3 lifes to start wit
h."
140 COLOUR4
150 PRINT@725,"FLOWERS ="¦CHR$(144)
160 COLOUR2
170 PRINT@765,"WEEDS =  "¦CHR$(146)
180 COLOUR3
190 PRINT@805,"WALL =   "¦STRING$(2,145)
200 COLOUR7
210 PRINT@845,"MOWER =  "¦CHR$(132)¦CHR$(134):PRINT@894,CHR$(133)¦CHR$(135)
220 PRINT@925,"CONTROLS - USE ARROW KEYS"¦
230 FOR PAUSE=1 TO 4000:NEXT PAUSE
240 FL=15:X2=0:Y2=0:SC=0:LV=1:LIV=3
250 CLS:PRINT@922,"SCORE="¦SC¦:PRINT@934,"Hi Score="¦HI¦:PRINT@949,"LEVEL"¦LV¦
260 PRINT@882,"LIVES="¦LIV¦:PRINT@900,20-WEEDS¦:PRINT@893,"WEEDS"¦
270 COLOUR3:PRINT@0,STRING$(40,145)¦
280 PRINT@800,STRING$(40,145)¦
290 FOR F=40 TO 760 STEP 40:PRINT@F,CHR$(145):PRINT@F+39,CHR$(145)¦:NEXT F
300 COLOUR 4:FOR F=1 TO FL
310 FZ=RND(759):IFFZ<41 OR(FZ>149 AND              FZ< 153) OR(FZ>189 AND FZ<193)
 OR (FZ>109 AND FZ<113) THEN 310
320 PRINT@FZ,CHR$(144)¦
330 IF POS(0)<2  THEN COLOUR3:PRINT @ FZ,CHR$(145)¦:COLOUR4:GOTO 310
340 NEXT F
350 FOR F=1 TO 20
360 FZ=RND(759):IF FZ<41 OR FZ=150 ORFZ=     151 OR FZ=190 OR FZ=191 THEN 360
370 FOR FY=0 TO1
380 PO=PEEK(FZ+FY+17408):IF PO<>32 THEN 360
390 NEXT FY
400 COLOUR2:PRINT@(FZ ),CHR$(146)¦
410 NEXT F
420 COLOUR7
430 X=150:A$=CHR$(132)+CHR$(134):B$=CHR$(133) +CHR$(135):X2=0:Y=150:WEEDS=0:IFPE
EK(17408+X)=146THENWEEDS=1:IFPEEK17409+X)=146THENWEEDS=WEEDS+1:IFPEEK(17448+X)=1
46 THEN WEEDS=WEEDS+1:IF PEEK(17449+X)=146THENWEEDS=WEEDS+1
440 PRINT@X,A$:PRINT@X+40,B$
450 COLOUR7
460 SOUND  7,207:SOUND  3,1:SOUND  13,12:SOUND  6,25:SOUND  12,1:SOUND  11,100:S
OUND  9,16
470 I=PEEK(-1984):IF I=0 THEN X2=0:GOTO      530
```

```
480 IF I=32THEN X2=-1 :A$=CHR$(140)+      CHR$(142):B$=CHR$(141)+CHR$(143):
 GOTO 520
490 IF I=64 THEN X2=1:A$=CHR$(137)+CHR$(138):B$=CHR$(136)+CHR$(139):GOTO520
500 IF I=8  THEN X2=-40:A$=CHR$(128)+CHR$(129):B$=CHR$(130)+CHR$(131):GOTO 520
510 IF I=16 THEN X2=40:A$=CHR$(132)+CHR$(134):B$=CHR$(133)+CHR$(135)
520 Y=X:X=X+X2
530 PO=17408+X :P1=145 : GOSUB 680:          P1=144 :P9=P2:GOSUB 680:IF P9<>P2 TH
EN GOSUB 1030
540  IF P2>0 THEN GOSUB 600 :P2=0:LIV=LIV-1 : PRINT@889,LIV;:X2=0:Y2=0:X=150:A$=
CHR$(132)+CHR$(134):  B$=CHR$(133)+CHR$(135):FOR PAUSE=1 TO 300 :NEXT PAUSE:PRIN
T@Y,"  ";:PRINT@Y+40,"  ";:PRINT@X,"  ";:PRINT@X+40,"  ";:IF LIVE>0 THEN 460 ELS
E 730
550 PRINT@893,"WEEDS";
560 P1=146:GOSUB 680:IFP2>0 THEN GOSUB      630:WEEDS=WEEDS+P2:SC=SC+(10*P2):PRI
NT@928,SC;:PRINT@900,20-WEEDS;:PRINT@Y,"  ";:PRINT@Y+40,"  ";:PRINT@X," ";:P2=0:
IF WEEDS<20 THEN 570 ELSE 590
570 PRINT@Y,"  ";:PRINT@Y+40,"  ";
580 PRINT@(X),A$;:PRINT@(X)+40,B$;:     GOTO 470
590 SOUND9,0  :FL=FL+10:A$=CHR$(132)+CHR$(134):         B$=CHR$(133)+CHR$(135):X=
150:X2=0:Y2=0:LV=LV+1:LIV=LIV+1:WEEDS=0:GOTO 250
 600 SOUND  9,0:SOUND  6,0:SOUND  7,7:SOUND  8,16:SOUND  9,16:SOUND  10,16:SOUND
 12,56:SOUND  13,0
610 SOUND9,0
620 RETURN
630 SOUND  13,1:SOUND9,16
640 FOR ZZ=1 TO 30:NEXT
650 SOUND13,12:SOUND9,16
660 RETURN
670 END
680 IF PEEK(PO)=P1 THEN   P2=P2+1
690 IF PEEK(PO+1)=P1 THEN P2=P2+1
700 IF PEEK(PO+40)=P1 THEN P2=P2+1
710 IF PEEK(PO+41)=P1 THEN P2=P2+1
720 RETURN
730 PRINT@135," Game Over ";:FOR PAUSE=1 TO 500:NEXT PAUSE:CLS:IF SC>HI THEN HI=
SC:GOTO 240
740 GOTO 240
750 END
760 FOR F=-3072 TO -2921:READ Z:POKEF,Z:NEXT F
770 DATA 48,63,48,63,48,63,24,7
780 DATA 24,248,24,248,24,248,48,192
790 DATA 3,3,3,3,4,8,8,15
800 DATA 128,128,128,128,64,32,32,224
810 DATA 15,8,8,4,3,3,3,3
820 DATA 7,24,63,48,63,48,63,48
830 DATA 224,32,32,64,128,128,128,128
840 DATA 224,24,252,12,252,12,252,12
850 DATA 143,143,144,224,0,0,0,0
860 DATA 0,0,0,0,0,244,144,143
870 DATA 0,0,0,63,127,170,170,170
880 DATA 170,170,170,234,127,63,0,0
890 DATA 0,0,252,254,87,85,85,85
900 DATA 85,85,87,254,252,0,0,0
910 DATA 0,0,0,0,7,9,241,241
```

```
920 DATA 241,9,7,0,0,0,0,0
930 DATA 0,56,68,84,56,84,40,48
940 DATA 223,223,223,0,253,253,253,0
950 DATA36,40,146,84,40,20,4,3
960 RETURN
970 IF PEEK(PZ)=144 THEN AZ=1:RETURN
980 RETURN
990 IF PEEK(PZ)=145 THEN AZ=1:RETURN
1000 RETURN
1010 IF PEEK(PZ)=146 THEN AZ=1:RETURN
1020 RETURN
1030 IF PEEK(17408+X)=144 THEN PRINT@X," ";
1040 IF PEEK(17409+X)=144 THEN PRINT@X+1," ";
1050 IF PEEK(17448+X)=144 THEN PRINT@X+40," ";
1060 IF PEEK(17449+X)=144 THEN PRINT@X+41," ";
1070 RETURN
```

NOTES ON MOWER

Mower comes from Home Computer Weekly No. 59.It was a Spectrum program.

```
  10- 220 Introduction & instructions
 230- 450 define variables & set up main screen
 460      mower sound
 470- 510 move mower
 540- 560 check to see if you will hit a weed,wall,or flower.
 570- 590 change mower to new position
 590      set variables ready  for next screen
 600- 630 hit wall/flower sound.
 670- 660 weed sound routine
 690- 710 routine to check if  there  are  weeds  in  the  way  of  the
          mower.
 730      game over routine.
 760- 960 user defined graphics data
1050-1070 remove flowers when they are hit
```

Lines 30-60 should be the following characters.see appendix c of handbook :

```
line 50 : 219,202,207,219,211,207,219,212,207,219,211,219,245
line 60 : 219,229,207,219,218,207,219,202,207,219,208,219,234
```

```
50 CLS:COLOUR 1
100 PRINT@94,"* CALENDAR *"
110 PRINT:PRINT:PRINT
120 PRINT"WHAT YEAR BETWEEN 1600 AND 2300 WOULD       YOU LIKE";
130 INPUT X
140 IF X<1600 OR X>2300 THEN PRINT"EVEN I MAKE MISTAKES":GOTO 120
150 C=6
160 FOR J=1600 TO X
170 IF J=X THEN 230
180 IF J/4<>INT(J/4) THEN220
190 IF (J-1700)*(J-1800)*(J-1900)*(J-2100)*(J-2200)*(J-2300)=0 THEN220
200 C=C+2
210 GOTO 230
220 C=C+1
230 IF C<7 THEN250
240 C=C-7
250 NEXT J
260 PRINT
270 FOR R=1 TO 12
280 READ A$
290 PRINTTAB(15);A$;" ";X
300 READ B
310 IF X/4<>INT(X/4) THEN340
64 IF A$<>"FEBRUARY" THEN 340
330 B=B+1
340 REM
350 PRINT"============================================"
360 PRINT"SUN   MON   TUE   WED   THU   FRI   SAT"
370 PRINT"============================================"
380 FOR D=1 TO B
390 PRINTTAB(6*C);D;" ";
400 C=C+1
410 IF C<7 THEN440
420 PRINT
430 C=0
440 NEXT D
450 PRINT
460 PRINT"============================================"
470 FOR P=1 TO 3
480 PRINT
490 NEXT P
492 PRINT"PRESS ANY KEY FOR THE NEXT MONTH"
494 K$=INKEY$:IF K$="" THEN 494
500 NEXT R
510 DATA "JANUARY",31,"FEBRUARY",28,"MARCH",31,"APRIL",30,"MAY",31
520 DATA "JUNE",30,"JULY",31,"AUGUST",31,"SEPTEMBER",30,"OCTOBER",31
530 DATA "NOVEMBER",30,"DECEMBER",31
540 INPUT" DO YOU WANT ANOTHER YEAR";Y$
550 IF LEFT$(Y$,1)="Y" THEN RESTORE:GOTO 50
560 END
```

This program from Kevin Hunter (a new member) is a different version of 'Character Generator, 'wich may need improving and debugging, but seems to work for him.'

```
1 '**** A K.J.Hunter production ****   '
2 CLS:PRINT" Press (C) if you only  want characters  off the tape else press any key";
3 K$=INKEY$:IF K$="" THEN 3
4 IF K$="C" THEN CLS:PRINT@410,"Press key F2":DELETE1-167
5 CLEAR 2000':GOTO3
6 GOSUB 141 'TAPE *
7 GOSUB 125 '      ** HELP LIST **
8 COLOUR10:POKE16410,101:POKE17242,0D
9 GOSUB97' ****** COLOURED SQR.BASE *
10 GOSUB  120'** SUB CHR$(   ) PRINT@ *
11 CHAR4:C=10
12 PRINT@125,"";
13 FOR L=1 TO 8
14 PRINTTAB(5)STRING$(8,141)
15 NEXT
16 A=16444:A1=16420:PRINTCHR$(14);:X=125:GR=128
17 P=PEEK(A):P1=PEEK(A1)
18 IF P=8 THEN X=X-40
19 IF P=16THEN X=X+40
20 IF P=32THEN X=X-1
21 IF P=64THEN X=X+1
22 IF P=8 AND X(45THEN X=X+40
23 IF P=32AND X(45 THEN X=X+1
24 IF P=128 THEN PRINT@X,"J";:X=X+1
25 IF P1=31 THEN PRINT@X,CHR$(141);:X=X-1
26 IF P1=72 THEN GOSUB 125:GOTO9
27 IF P1=83 THEN PRINT@50,"Saving";:GOSUB 63
28 IF  P1=47 THEN GOSUB 48
29 IF P1=84 THEN GOSUB152:GOTO9
30 PRINT@X,CHR$(14);
31 IF X=133 OR X=173 OR X=213 OR X=253 OR X=293 OR X=333 OR X=373 THEN X=X+32
32 IF X=413 THEN X=50:PRINT@50,"Save";
33 IF X=51 THEN GOSUB 38
34 IF X=67 THEN GOSUB 32
35 IF X)600 THEN GOSUB 103
36 IF P1()0 THEN POKEA1,0
37 GOTO17
38 PP=PEEK(A):P1=PEEK(A1):PRINTCHR$(15)
39 COLOUR C
40 IF PP=8 THEN GR=GR+1
41 IF PP=16THEN GR=GR-1
42 IF GR(32 THEN GR=32
43 IF GR)255 THEN GR=255
44 IF PP=32 OR PP=64 THENPRINTCHR$(14):RETURN
45 PRINT@9,GR;:PRINT@25,GR;
46 PRINT@35,CHR$(GR)
47 GOTO38
48 CHAR1:POKEA1,0:PRINT@51,CHR$(127):PRINT@67,CHR$(127);
49 PRINT@X,CHR$(14);:PP=PEEK(A):PC=PEEK(A1)
50 IF PP=8 THEN X=X-40
51 IF PP=16THEN X=X+40
52 IF PP=32 THEN X=X-1
53 IF PP=64 THEN X=X+1
54 IF PC=47 THEN PRINT@X,CHR$(GR);
55 IF PC=13 THEN CHAR4:RETURN
56 IF PC=84 THEN GOSUB152:GOTO48
57 IF X=51 OR X=67 THEN GOSUB 38
58 IF PP=8 AND X(45 THEN X=X+40
59 IF PP=32AND X(45 THEN X=X+1
60 IF PP=16AND X)880THEN X=X-40
```

```
61 IF PP=64AND X)880THEN X=X-1
62 GOTO49
63 '******  POKE CHR$ INTO MEM *******
64 Q=0:FL=0:LP=0
65 SM=17532
66 FOR FL=1 TO 8
67 DA=0
68 PP=PEEK(FL+SM):IF PP=141 THEN GOSUB 85
69 IF PP=202 THEN GOSUB 77
70 POKESM+FL,141
71 NEXT
72 SM=SM+40:LP=LP+1:GOSUB 87
73 IF LP=8THEN GOSUB 92 ELSE 66
74 GR=GR+1:PRINT@9,GR:PRINT@25,GR:X=125:PRINT@35,CHR$(GR):RETURN
76 '
77 IF FL=1 THEN DA=128
78 IF FL=2 THEN DA=64
79 IF FL=3 THEN DA=32
80 IF FL=4 THEN DA=16
81 IF FL=5 THEN DA=8
82 IF FL=6 THEN DA=4
83 IF FL=7 THEN DA=2
84 IF FL=8 THEN DA=1
85 D1=D1+DA
86 RETURN
87 Q=Q+1:D2(Q)=D1:D1=0:
88 RETURN
91 '
92 FOR L=1 TO 8
93 POKE-3073+((GR-128)*8)+L,D2(L)
94 NEXT
95 PRINT@49,"  J    "
96 RETURN
97 CLS
98 PRINT@910,""
99 PRINT"   ";:FOR A=1 TO 15
100 COLOUR A:PRINT"J";
101 NEXT:COLOUR10
102 RETURN
103 P=PEEK(A):P1=PEEK(A1)
104 IF P=8 THEN X=X-40
105 IF P=16THEN X=X+40
106 IF P=32THEN X=X-1
107 IF P=64THEN X=X+1
108 IF P=128 THEN GOSUB 115
109 IF P=16 AND X)=898 THEN X=X-40
110 IF P=64 AND X)=898 THEN X=X-1
111 IF P=32 AND X=882 THEN X=X+1
112 IF X(800 THEN RETURN
113 PRINT@X,CHR$(14);
114 POKEA1,0:GOTO103
115 C=X-882
116 IF C(1 THEN C=1
117 IF C)15 THEN C=15
118 COLOUR C
119 RETURN
120 GR=128:PRINT@51,CHR$(145):PRINT@67,CHR$(145)
```

```
121 COLOUR2:PRINT@5,"CHR$(   )"
122 PRINT@15,"PRINT CHR$(   )"
123 PRINT@9,GR:PRINT@25,GR;
124 COLOUR10:RETURN
125 CLS:COLOUR2:PRINT
126 PRINTSTRING$(39,"*")
127 COLOUR10:PRINT@135," HELP LIST ";
128 PRINT:PRINT"Clear key to rub out"
129 PRINT:PRINT"T to save character on tape !"
130 PRINT:PRINT"space bar  to fill a square"
131 PRINT:PRINT"space bar  to change colour"
132 PRINT:PRINT"arrow keys to move around"
133 PRINT:PRINT"? key to print character"
134 PRINT:PRINT"S key to  save character"
135 PRINT:PRINT"h ( keys to change character No."
136 PRINT:PRINT"But you must be in the J to change"
137 PRINT:PRINT"H to get the help list"
138 COLOUR2:PRINT:PRINTSTRING$(39,"*");
139 IF INKEY$()" " THEN 139
140 COLOUR10:RETURN
141 '************ TAPE ****************
142 CLS:PRINT:PRINT:PRINT:PRINT
143 PRINT" Set tape to play "
144 PRINT:PRINT"        Please wait"
145 PLAY(1,3,4,15):PLAY(2,4,5,15)
146 FOR LL=1 TO 1000:NEXT
147 GR=GR+1
148 PLAY(1,3,0,0):PLAY(2,4,0,0)
149 GOSUB168
150 RETURN
151 '
152 SA=-3072:PRINT@880,"";
153 PRINT" Set tape to record then press space bar                ";:PRINTSTRING$(14,8);
154 IF INKEY$()" " THEN 154
155 PRINT"  Please wait";
156 GR=GR+1
157 FOR ST=SA TO SA+(GR-127)*8
158 TT=PEEK(ST):IF TT=0 THEN TT=154
159 A$=A$+CHR$(TT)
160 IF LEN(A$)=255 THEN PRINT#-1,A$
161 NEXT
162 IF LEN (A$)()255 THEN PRINT#-1,A$
163 PRINT#-1,"EOF"
164 PRINT@880,"                                                                ";
165 PLAY(1,3,4,15):PLAY(2,4,5,15):GOSUB 97
166 PLAY(1,3,0,0):PLAY(2,4,0,0)
167 RETURN
168 SA=-3072:N=N+1:INPUT#-1,A$(N)
169 IF A$(N)="EOF" THEN 170 ELSE 168
170 PRINT:PRINT:PRINT:PRINT:PRINT:PRINT"     STOP TAPE ";
171 PLAY(1,3,4,15):PLAY(2,4,5,15)
172 FOR J=1 TO N-1
173 B=LEN(A$(J))
174 FOR K=1 TO B
175 TT=ASC(MID$(A$(J),K,1)):IF TT=154 THEN TT=0
176 POKESA+(K-1)+(J-1),TT
178 NEXTK,J
179 PLAY(1,3,0,0):PLAY(2,4,0,0)
180 RETURN
```

```
5 REM:INITIALIZATION ********************
10 CLS
20 DIM S(13),X(5),D(255),L$(13),M(255)
30 GOSUB 120:REM:TITLE & ZERO SCORES
40 GOSUB 180:REM: HIGH SCORE ROUTINE
50 GOSUB 210:REM:DICE THROW
60 GOSUB 300:REM:SWAP POSITION ROUTINE
70 GOSUB 440:REM:RETHROW ROUTINE
80 GOSUB 650:REM:PRINT &SELECT MENU
90 GOTO 50
100 GOTO 1340
110 STOP
120 PRINT@40,"d'Mb  M'  J  J JJJJJ JJJb JJJJ JJJJ"
121 PRINT@80,   " db  M  ' J  J   J    Mb  J    J   "
122 PRINT@ 120,    "  O  JJJJ JJJJ   J   Mb   JJJJ JJJJ"
123 PRINT@160,        "  O  J  J J  J   J  Mb    J    J "
124 PRINT@200,           "  O  J  J J  J   J  JJJJ  JJJJ JJJJ"
126 PRINT@320,"   ADAPTED FROM A PROGRAMME FOR ZX81":PRINT@360,"WRITTEN BY JULIAN SMITH,AND PUBLISHED IN       'COMPUTER INPUT',SEPT '8
4"
127 PRINT"        WITH MUCH SWEAT AND PAIN"
128 PRINT"BUT HOPEFULLY WITH A FEW IMPROVEMENTS,     FOR CGUG,AUCKLAND, BY KEITH McGILL"
130 PRINT@840,"PRESS ANY KEY TO PLAY"
140 K$=INKEY$:IF K$="" THEN 140 ELSE 150
150 CLS
160 HSC=0:SC=0
170 RETURN
180 IF SC>HSC THEN HSC=SC:SC=0
190 TU=0
200 RETURN
210 PRINT@0,"HIGH SCORE";HSC:PRINT@25,"SCORE  ";SC
220 IF TU=13 THEN 100
225 REM:DICE THROW ROUTINE **************
230 FOR F=1 TO 5
240 D(F)=RND(6)
250 IF D(F)=1 THEN M(F)=246ELSEIF D(F)=2 THENM(F)=252ELSEIF D(F)=3 THEN M(F)=234ELSEIF D(F)=4 THEN M(F)=247ELSEIF D(F)=5 THEN M(F)=249EL
SEIF D(F)=6 THEN M(F)=254
260 PRINT@40*F*2+2,"DICE";F;CHR$(M(F) )
270 NEXT F
280 TH=1:TU=TU+1
290 RETURN
295 REM:SWAP POSITION ROUTINE ***********
300 PRINT@640,"DO YOU WANT TO CHANGE THE ORDER OF THE  DICE? (Y/N)          "
310 U$=INKEY$
320 IF U$="N" THEN RETURN ELSE IF U$<>"Y" THEN 300
330 PRINT@640,"TYPE IN THE NUMBERS OF THE DICE YOU WANTTO SWAP "
340 FOR F=1 TO 2
350 U$=INKEY$
360 IF U$>"5" OR U$<"1" THEN 350
370 X(F)=VAL(U$)
380 PRINT@840+4*F,X(F)
390 NEXT F
400 X=D(X(1)):D(X(1))=D(X(2)):D(X(2))=X
405 IF D(X(1))=1 THEN M1=246 ELSEIF D(X(1))=2 THEN M1=252 ELSEIF D(X(1))=3 THEN M1=234 ELSE IF D(X(1))=4 THEN M1=247 ELSEIF D(X(1))=5 TH
EN M1=249 ELSEIF D(X(1))=6 THEN M1=254
407 IF D(X(2))=1 THEN M2=246 ELSE IF D(X(2))=2 THEN M2=252 ELSEIF D(X(2))=3 THEN M2=234 ELSEIF D(X(2))=4 THEN M2=247 ELSEIF D(X(2))=5 TH
EN M2=249 ELSEIF D(X(2))=6 THEN M2=254
410 PRINT@40*X(1)*2+9,CHR$(M1):PRINT@40*X(2)*2+9,CHR$(M2)
420 PRINT@844,"       "
430 GOTO 300
440 IF TH=3 THEN RETURN
```

```
450 L=0
455 REM:****RE-THROW ROUTINE ************
460 PRINT@640,"  DO YOU WANT TO THROW ANY DICE AGAIN ? (Y/N)        "
470 U$=INKEY$
480 IF U$="N" THEN RETURN
490 IF U$="Y" THEN 500  ELSE  460
500  PRINT@640,"TYPE IN THE NUMBER OF THE DICE YOU WANT TO RE-THROW"
510 U$=INKEY$
520 IF U$>"5" OR U$<"1" THEN 500
530 PRINT@844,U$
540 L=VAL(U$)
550 D(L)=RND(6)
560 PRINT@844,"    ";:PRINT@640," IS THAT ALL? (Y/N)                    "
570 U$=INKEY$
580 IF U$="N"THEN 500 ELSE 590
590 TH=TH+1
610 IF D(L)=1 THEN M(L)=246 ELSE IFD(L)=2 THEN  M(L)=252 ELSEIF D(L)=3 THEN M(L)=234ELSEIF D(L)=4 THEN M(L)=247ELSEIF D(L)=5 THEN M(L)=2
49ELSEIF D(L)=6 THEN M(L)=254
620 PRINT@40*L*2+9,CHR$(M(L))
640 GOTO60
645 REM ***MENU PRINT ROUTINE***********
650 PRINT@40,;
660 RESTORE
670 DATA ACES,TWOS,THREES,FOURS,FIVES,SIXES,THREE OF A KIND,FOUR OF A KIND,YAHTZEE,SMALL STRAIGHT,LARGE STRAIGHT,FULL HOUSE, CHANCE
680 FOR F=1 TO 13:READ L$(F)
690 IF S(F)=0 THEN PRINT@ F*40+16,F;"> ";
700 PRINT@F*40+20,F;" ";L$(F)
710 NEXT F
720 REM:MENU SELECT ROUTINE *************
730 PRINT@640,"TYPE IN YOUR SELECTION (NUMBER ONLY)              ""
740 INPUT L ·
750 IF L>13OR L<1 THEN 740
760 IF S(L)<>0 THEN 740
770 IF L<7  THEN 830
780 IF L=13 THEN 980
790 IF L=7 OR L=8 THEN 880
800 IF L=9 THEN 1000
810 IF L=10 OR L=11  THEN 1060
820 GOTO 1230
825 REM:SCORING ACES TO SIXES **********
830  FOR F=1 TO 5
840 IF D(F)=L THEN S(L)=S(L)+L
850 NEXT F
860 IF S(L)=0 THEN S(L)=-10
870 GOTO 1280
875 REM:***SCORING 3 AND 4 OF A KIND*****
880 PRINT@640,"ENSURE THAT YOUR";L-4;"OF A KIND ARE ON THE LOWEST DICE NUMBERS"
890 GOSUB 1360
900 GOSUB 300
910 FOR F=1 TO L-4
920 IF D(F)<>D(1) THEN S(L)=-10
930 NEXT F
940 FOR F=1 TO L-4
950 IF S(L)<>-10 THEN S(L)=S(L)+D(F)
960 NEXT F
970 GOTO 1280
975 REM:***SCORING CHANCE ***************
980 FOR F=1 TO 5:S(L)=S(L)+D(F):NEXT F
990 GOTO 1280
995 REM:*** YAHTZEE SCORING ROUTINE *****
1000 FOR F=1 TO 5
1010 IF D(F)<>D(1) THEN 1040
1020  NEXT F
1030 S(L)=60:GOTO 1050
1040  S(L)=S(L)-10
1050 GOTO 1280
```

```
1055 REM:*** STRAIGHT SCORING ROUTINE *****
1060 IF L=11 THEN 1100
1070 PRINT@640,"MAKE SURE THAT THE DICE NOT IN YOUR     STRAIGHT IS DICE 5"
1080 GOSUB 1360
1090 GOSUB 300
1100 PRINT@640,"MAKE SURE THAT THE STRAIGHT IS IN ORDER"
1110 GOSUB 1360
1120 PRINT@640,"AND THE LOWEST NUMBER IS ON DICE 1                          "
1130 GOSUB 1360
1140 GOSUB 300
1150 FOR F=2 TO L-6
1160 IF D(F)<>D(F-1)+1 THEN 1210
1170 NEXT F
1180 S(L)=40
1190 IF L=11 THEN S(L)=50
1200 GOTO 1220
1210 S(L)=S(L)-10
1220 GOTO 1280
1225 REM:*** FULL HOUSE SCORING ROUTINE ***
1230 PRINT@640,"MAKE SURE YOUR PAIR IS ON DICE ONE AND  DICE TWO"
1240 GOSUB 1360
1250 GOSUB 300
1260 IF  D(1)=D(2) AND D(3)=D(4)  AND D(5)=D(4)  THEN S(12)=35ELSE S(12)=S(12)-10
1270 GOTO 1280
1275 REM:*** ADDING TOTAL SCORE *******
1280 SC=0
1290 FOR F=1 TO 13:SC=SC+S(F)
1300 PRINT@F*40+16,"                              ";
1310 NEXT F
1320 IF S(1)+S(2)+S(3)+S(4)+S(5)+S(6)=63 THEN SC=SC+35
1330 RETURN
1340 PRINT@640,"GAME OVER - DO YOU WANT ANOTHER (Y/N)":INPUT U$
1350  IF U$="N" THEN END ELSE IF U$="Y" THEN GOTO 1440 ELSE IF U$<>N THEN 1350
1360 PRINT@720,"HIT A KEY"
1370 K$=INKEY$:IF K$="" THEN 1370
1380 PRINT@0,STRING$(40,32)
1390 PRINT@720,"           "
1400 RETURN
1440 FOR F=1 TO 13:S(F)=0:NEXT F:GOTO 40
```

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