TO:

COLOUR GENIE

AUCKLAND DISTRICT USER GROUP

NEWSHEET   ISSUE No.4

        Since my bold statement at the end of last months issue
with regard to the listing 'Worm', I have been reminded that it
has at least two bugs in it.   So - in an effort to remove egg
from face, here are the corrections ;-

                Line 20 should read: GOSUB 400

                Line 440 should start with a CLS statement.

        My apologies for the errors, which were realy caused
through an accute attack of foot and mouth disease. Size 9.

PROGRAM LISTING MODIFICATION:-   From Andy RUSSELL

                        HAUNTED HOUSE

        First off - my apologies to all those who have a copy
of the animated program. If you have got to the Blasted tree you
will seen a thing appear that looks like a goblet. Well that
should be a rope, not a goblet. The mistake actually comes from
the original book and I had'nt picked up the error until the other
day when I was playing the game myself. To correct the program do
the following:-
                1.   Edit line 1760 to read:

1760   DATA 46,38,35,7,13,18,28,42,10,25,26,4,2,50,47,60,43,32

                2.   Edit line 1920 to change the following
(a)   'Goblet' should be 'Rope'
(b)   'Rope' should be 'Goblet', on the next line of data.

        This should fix the problem.

        Now for some handy hints and instructions.

To activate the input part of the game, press any letter key and
the normal ? -- type symbols will appear. Type in the
instruction and press RETURN.   If you type in 'HELP' the game
will answer with "WORDS I KNOW" and then run through a list of
verbs that can be used during the game. You will not be told what
the treasures are so here is a list.

Painting, Ring, Book, Goblet, Scroll, Coins, Statue, Candlestick,
Matches, Vacuum cleaner, Batteries, Shovel, Axe, Rope, Boat, key,
Aerosol, Candle.

'Haunted House' cont.....

       The keyboard commands are as follows:
The left and right arrow keys turn your view in the appropriate
direction. You must be facing the direction you wish to move and
then press the RETURN key to move into the next room. To go down
or up the stairs just follow the previous proceedure. There is no
special 'UP' or 'DOWN' command.
       To win the game you must have 17 objects in your
possession and be back at the 'Path' through Iron Gate!

Hint:- The boat is the last item you use in the game.

BEST OF LUCK !!!!!!

       I will be improving the graphics over the next few
months and also encoding the listing. Those who want a new copy
when I have finished will be most welcome to have it.

                                ANDY RUSSELL.

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CORRESPONDENCE

       Our Secretary and the Secretary of our friends down in
'Mainland' CH.CH. have established a good communication link for
the exchange of Newsletters and information, etc.

       You will find a copy of their April Newsletter
included.   I regret the quality of reproduction, but the copy I
have is unfortunately very light. The closing page, which
contains interesting details of what appears to be a monthly
compitition did not copy too well at all.

       I hope the following transcription is accurate.

Quote"
       The following programme, by D.Clement (U.K.) ex Chewing
Gum magazine, provides the basis of this month's compitition. It
is a simple idea, and can be improved on by adding graphics,
sound, colour, betting odds, winners printed, winnings and bank
balance. By using the PLAY command and immediately cutting off
the sound, a "Click" is produced. This is handy for games moves;
in this case, many clicks make a realistic sound of hoof beats.

```
100   CHAR4:CLS:COLOUR4: REM SET BACKCOLOUR
110   S=100: REM SPEED (DELAY FACTOR)
120   CLS:COLOUR 2: REM GREEN WINNING POST
130   FORP=357 TO 677 STEP 40
140   PRINT@P,CHR$(137):NEXTP
150   COLOUR 4: REM YELLOW HORSES MATCH BACKCOLOUR (NO TRAIL MARKS)
160   FOR LOOP=1 to 26
170   PRINT@380," "
180   A=A+RND(2):B=B+RND(2):C=C+RND(2)
190   PRINT TAB(A)"A":PRINT
200   GOSUB340
210   PRINT TAB(B)"B":PRINT
220   GOSUB340
230   PRINT TAB(C)"C":PRINT
240   GOSUB340
250   S=S-5: REM EVEN OUT SPEED AS RACE LENGTHENS
260   FOR DELAY=1TOS: NEXT DELAY
270   IF A>=37 THEN 315
280   IF B>=37 THEN 315
290   IF C>=37 THEN 315
300   NEXT LOOP
310   REM CALL BELL AT &H357C
315   FOR BELL=1TO5:CALL 357C:FOR DELAY=1TOS:NEXT DELAY:NEXT BELL
320   PRINT@820," "
330   END
339   REM SOUND OF HOOFBEATS
340   PLAY(1,5,5,15):SOUND 7,255
350   RETURN
```

MEMBERS TIPS

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"NEW DOES NOT ALWAYS END THE OLD"
By: Gordon Findlay
Issue No.1 BITS & BYTES 1982.

</div>

For users of the TRS-80, or System-80 computers. A real life
saver.How many times have you typed 'new', then realised that you
have'nt saved your (Basic) program? This little routine which can
be entered from the keyboard, will restore your program, provided
that you have'nt turned off of course!   The first step is to
enter a short machine code routine as the following series of
POKE's :-

POKE 16688,42	POKE 16689,164	POKE 16690,64
POKE 16691,116	POKE 16692,205	POKE 16693,248
POKE 16694,26	POKE 16695,205	POKE 16696,89
POKE 16697,27	POKE 16698,195	POKE 16699,25
POKE 16700,26		

  Once you have done this, activate the routine by typing SYSTEM,
and answering the *? prompt with /16688(enter). Voila! Your
program is back again!   This routine works only because the NEW
command does not remove your program from the machine's memory.
Rather, the command just resets sertain pointers (memory locations
telling the system where the program lives) to values which make
the interpreter think that the program memory is empty. The tiny
machine-code routine you enter with the POKE's uses two of the
subroutines in the level II ROM which fix up the pointers as the
program is edited.
This will also work (sometimes) if you have accidentally CLOAD
before CSAVEing. If you notice you have done this, hit the RESET
quickly, and try the above routine.   Sometimes it works, because
the CLOAD command first issues a NEW, but sometimes things have
gone too far to make recovery possible.

<div align="right">

From Andrew GOLDIE
(Mt. Albert)

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Here is another routine which will get you out of the same
situation. The difference being that this one is apparently only
for the Colour Genie.   (It looks a lot simpler too!).

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RESTORING BASIC PROGRAM
Courtesy: R.W.KAY.
(Colour Genie Member)

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"If you accidentally typed in NEW, pressed the RST and R keys,
then all may not be lost. You can easily recover your cherished
work with a few simple POKE's.

If the above unfortunate problem just happened to you, dont turn
off the computer; POKE &H5801,1 or, if you have pressed MODESEL
when switching on, POKE &H4801,1. Now type in CALL 1AF8. You can
now list the program, but don't try to change anything;;.

Try POKE &H40F9,255 followed by POKE &H40FA,191.
Now CSAVE the program to tape. The computer will save the entire
RAM area (almost) to tape. Now CLOAD the program back in and lo
and behold, your program is as good as new.

<div align="right">

R.W.KAY
(Glen Eden)

</div>

To change the cursor to a line (like the B.B.C. micro) you POKE 16410,71   The other item is, I have found that the "Dick Smith VZ 200" programs run with little modification, except for the graphics, and these are very simple to modify.

RON L. BURTON
(Te Aroha)

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We have been translating programs from a couple of basic books, "MORE BASIC COMPUTER GAMES" and "33 CHALLENGING COMPUTER GAMES".   More Basic Computer Games programes need their random number statements altered, and need altering for a different width page. Apart 'from this they appear to be good programs for the Colour Genie (although without graphics!)

Barry & Irene WALKER
(Palmerston North)

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Here is a little sub-routine that I use when I want to be reminded to do something in particular.

```
10    CLS:FORS=0TO4
20    Z$="ATTENTION PLEASE"
30    PRINT@410,Z$
40    FORN=1 TO 20:NEXTN
50    CLS:NEXTS
```

Author unknown.

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TIPS FROM CHRISTCHURCH

If you want to use the PRINT (at) statement using x,y, co-ordinates. If you use PRINT (at)X + (Y * 40) you will be able to specify printing by column line................................

ex T. SMITH (UK)

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Try putting this in your basic programs for the Genie - it will disable the BREAK key.
POKE 16396,23

To enable the BREAK key again type
POKE 16396,201

Try POKE 16396,195 It has a very interesting effect.

Author unknown

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That seems to be all for tips and things this month, Not too bad I guess. Hovever as you can tell from the current members list, (ALL FINANCIAL TOO) there is still a mine of information out there yet. Remember, you dont have to be a 'Whiz Kid' to get your ideas circulated in the newsletter. Even the smallest thing can be of interest to someone. Just post them into any committee member before the middle of each month. If it misses one newsletter, it will be in the next.

COLOUR GENIE USERS GROUP MEETING - 30TH APRIL, 1984

The balance of our account stands at $243.04 at the moment with quite a few cheques and payments for subscriptions coming in at the meeting.

There were 24 present.

Nola is to write to various software distributors in Great Britain re the chance to get the 'agency' here in New Zealand for their product. There are a number of new games and utilities available now at reasonable prices, and the idea that was discussed and agreed on, was that the Group should purchase the masters of new software, copy it here in New Zealand, pay royalties to the English companies, and sell to members at between $10.00 and $20.00 per tape. This would hopefully give the group a couple of dollars profit to purchase more software as it becomes available, and would also be a source of very reasonably priced software for all Colour Genie owners in New Zealand. A list and a brief description of new software is attached. Please go through it and write a wee note to me (Nola) telling me which programs you would be interested in purchasing from our Club. (my address - Box 27-387, Auckland 4). Nothing can be done about the software until we have a good idea of what you members require in the way of games and utilities, so please spare a few minutes and drop me a note.

As Rakon Computers do not intend to purchase any new software, (they will keep supplying existing available software) the only source of new software such as Machine Code Word Processors and adventure games, is going to be our Group.   It has been decided to form a separate sub-committee and approach the Christchurch group about the sub-committee getting the agency and distributing by mail order throughout New Zealand. Nola will be writing to the Christchurch group and getting their thoughts on this.

It was also suggested (and unanimously agreed by all present) that to help start up our Software Agency, members would be willing to give the committee cheques ranging from $20.00 to $50.00 (depending on what members can afford), which would give us funds to start purchasing software.   When we know what software was to be available, they could then make their choice.   I intend to keep a 'write-up' of new programs going in the newsletters as we find out about them, so that you can tell us what you want.

COPY PROTECTION

Olwen has also got a program working from 80 Micro that will protect either basic or machine code programs.   It was decided by all at the meeting that it would be a very good idea to add this code to the start of all the programs that we get to sell, so that they cannot be copied.

MONDAY NIGHTS

Andy Russell has been seconded into the Committee and, starting from the next meeting both he and Ken Hynds (already a committee member), will be responsible for the night's 'entertainment'.

SILKWOOD FURNITURE and EX-RENTAL COLOUR T.V.s

Olwen had a brief advertising 'spot' for her Silkwood computer furniture and ex-rental colour t.v.s which she is selling.   Anyone interested in either of these items can get brochures from Olwen.

NAMETAGS

Andy Russell is to purchase 50 nametags for us while he is in Singapore this weekend. These will be a plastic case with a removeable 'card' inside which will be filled with the names of Auckland financial members by Paul Frost. (Hopefully Paul already knows about this, if not, thank you Paul!!) This way, we will all know who we are talking to, and your Secretary/Treasurer will know if the person she is talking to has paid their sub!!!

Here is the advertising information for the word processing tape, mentioned on the previous page.

THE WORD is a powerful and professional Word Processor that can cope with any serious writing job and is extremely easy to use. It contains all of the advanced features that you need to create, edit, store, format and print all kinds of text.
With THE WORD you can quickly produce a perfect, finished copy for letters, reports, articles, documents, stories, novels, screenplays, newsletters and literally thousands of other applications.

BETTER THAN A TYPEWRITER

Load in THE WORD and start to enter text. What you type is inserted at the cursor on the screen. When you type to the end of a line, the wordwrap feature moves you cleanly to the next. You can insert or delete letters, words or whole lines of text, then, having selected different format modes you can printout an error-free copy once, twice or 30 times.

CASSETTE

THE WORD will work with your cassette recorder, using very fast and specially developed data saving routines. Because of this system you can still have a state-of-the-art word processor without the extra cost of disk drives.

EASY TO USE

THE WORD comes packaged in an attractive video-style box, complete with a comprehensive manual that will

OUTSTANDING FEATURES

THE WORD contains the following features:-
* justification
* repeat printing
* automatic wrap around
* Powerful '#' command for direct typing
* Concatenate - gives you up to 72 coloumns!
* Full machine code and in - out - typable
* Superb editing, includes:
  - move
  - insert
  - delete
  - change
  - replace
  - search
* Powerful formatting allows you to change left margins, coloumns per line, line spacing, emphasised printing (EPSON) and times to print - and much much more

THE WORD
IS AVAILABLE FROM SELECTED
RETAILERS NATIONWIDE OR
DIRECT FROM:

〈JD〉

TRONICS
The ultimate in Colour Genie Software

Olwen gave a talk on 'How to Solve Adventure Programs', a summary of which is printed below.
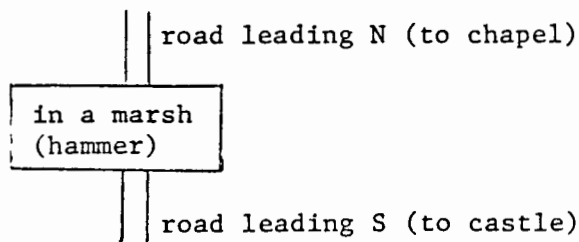
How to Solve Adventure Programs

Most adventure programs accept two word commands. These words can usually be abbreviated to three letters per word, to save typing the whole word i.e.
surround castle   to   sur cas
Often 'go north' can be shorted to just 'N'.

Work out all the words the computer knows i.e. Make out a list of words. 'Look', 'examine' and 'search' often mean the same thing, but the words vary from program to program..

Save the game often as you are playing it, so that if you are suddenly killed off, you don't have to retrace too many steps to catch up again next time you play the game. Just type in 'save game' to save your program.
Keep notes on the progress of the game, so that if you go back to the game later, you know what can be done and what doesn't work.

There are two general methods of listing places, objects etc.

1) Draw a map with boxes, i.e.

```
          ||  road leading N (to chapel)
          ||
  _____||
 | in a marsh |
 | (hammer)   |
 |_____    |
          ||
          ||  road leading S (to castle)
```

2) Make out a list of the locations, objects etc.

   1) In a marsh   - objects : torch, hammer
                           - go   : north (leads to chapel)

   2) In a chapel   - objects : altar, prayerbook, candle
                           - go   : south (leads to marsh)
                                     : north (leads to tunnel)

   etc.

Most adventure programs contain a maze.   This tends to make the different locations look the same. To work through these, pick up every object you can lay your hands on, and try to drop one in each room, cave, or whatever, and this will help you find your way around, instead of wandering in a circle forever.

Don't take anything at face value - examine everything.

If part of the game reminds you vividly of a book you have read, say so in the game, or act as the book characters did. The program author could have planned the game around the book.

If you get stuck, think about what you would do in real or imaginery life i.e.

meet a frog   - kiss it.
in a chapel   - pray

Sometimes 'help' or 'aid' will assist you.   (Mind you, there is often some smart reply instead of assistance, like 'use your head and think' - a real help.)   'Help' or 'aid' will often work in some places, often you have dor

Remember that magic often plays a part in adventures, so work along these lines, i.e. if you have a lamp - try rubbing it (unless of course, it is an electrical one.)

Most adventure programs have only one way of doing something, or only one route through a maze.

You can often come back and do something a second time that you were not allowed to do before. You may have to have a certain object, or have been to a certain place before you can do some particular thing.

Objects occasionally have more than one use, but are generally only used once. Exceptions could be say, a light which could be used in all dark places.

Listing basic programs to find the known words is generally thought of as cheating!!! However, there is often an occasion when desperate circumstances call for desperate measures!!!

Inventory often works to let you know what you are carrying. You might say 'rub lamp' and the computer might answer with 'O.K.'. But what actually happened? Try inventory you might find that your lamp has changed in some way.

Library

It was decided at the meeting to start up a 'library' of Genie articles. I have every 'Chewing Gum magazine' from the first issue and this is being photocopied for our library by Chris Bishop. (He is, of course, guarding these with his life!!) Anyone who has any articles, please either post to me, or bring to the meeting, and I will photocopy and return, or perhaps you already have photocopies available. I have a total of 6 Genie reviews which I have started the library off with. As the articles start to grow, I will keep a list of what we have and publish it with the newsletter every now and then. Anything can be photocopied for members at 10c per sheet.

Printing

I have a printer hooked up to my Genie and I am quite willing to do a printout of anything a member requires for 10c per sheet, to cover my paper cost, electricity and printer ribbon costs. The paper I use is called 'word processing paper' and has what is known as a 'clean edge'. (In other words, it rips off easily, leaving a very neat edge.)

Inverse Video Program from Newsletter #2

Roger Lockerbie has come up with the corrections necessary to make this program work:

Line 30 should be :For X=&HBF$\emptyset\emptyset\emptyset$TO &HBFFF

i.e. Add an extra zero and remove the space before TO.

I have not had the time to try this myself, but Roger assures me it works.

The next couple of pages is a list of software advertised in the last two 'Chewing Gum' magazines.

SOFTWARE PRESENTLY AVAILABLE IN GREAT BRITAIN

Title	Description of Software

Tomorrow Software

Title	Description of Software
Froids – Part 1	(Unknown – Joysticks
Froids – Part 2	(optional.
What's My Rhyme	Guess a nursery rhyme for younger children.
Music	There are 4 options available : 1) Piano with 3 octaves 2) Compose a tune and save it to tape 3) Music test of notes 4) 'Play that tune' – a 'Simon Says' game.
Gobbledegook	Unknown but supposedly a game of some sort.
Morse/Antenna	Utility program.
TR–load	Loads TRS80 programs, altering baud rate difference between the two machines – same as our 'Link' program.
Enchanted Gardens	Adventure for 32K only – Colour Quest #3
Camelot	Adventure – Colour Quest #4
Fishing Quest	Adventure – Colour Quest #6

J.D. Tronics

Title	Description of Software
The Word	A word processor in machine code that sounds so good I have enclosed a separate description of it.
Micronopoly	Same as the game. Program has a couple of bugs in it – a challenge to us budding programmers. (i.e. should a person quit the game his properties do not become available to the other players – they remain his)
Backgammon	Same as the game. The computer does not learn by its mistakes though, and if you are careful you can win most games. Good graphics.
Puckman	Good game – loads as two separate programs.
French Tutor	Teaches verb structure and nouns. 1000 word (extendable) vocabulary with accents and genders. Machine code input routine.
German Tutor	Presumably as above.

R.J. Bang

Title	Description of Software
Full Screen Editor	Allows joining of lines, changing and restoring deleted lines or simply changing existing lines.
The Key of Asmar	Maze game. Have to avoid trolls, demons and others. Collect treasure and save enslaved people.

Title	Description of Software
E.A. Jackson	
Learn to Count with Freddy Frog	For younger children – aims at teaching basic arithmetic skills.
Genie Calc	Keeps a record of goods bought and the amounts paid. Has 3 options – setting up budget, household or costings sheets – sheet calculator which includes averages, percentages, global recalculation and calculator. Includes a save routine and has a booklet of instructions.
Electronic Desk	Features calculator, calendar, telephone/name index, jotter/diary pad, budget sheet. Save or load a data tape.
Input Module	Has new commands to improve programming speed and ease of inputs.
Etch and Sketch	a graphics program, provided free with any order
POB Graphics Editor	Design POBs, save to tape. 16-colour pallet. Edit, invert, mirror image, etc.
Snake Snatch	Game – but unknown.
Demon Derby/Games Boards	A few games on one tape, otherwise unknown.
Hi-Lo and Tunes/Colours	Also known as Gumboot Games Tape #3. Hi-Lo : same as 'Play your cards right' on T.V. Tunes : a 'Simon Says' game. Good graphics.
J. Brier	
Invaders	Another space invader game.
Bank Robber	'an original arcade game' so says the advertisement. Unknown.
Algray	
Blast	(
Death Star	(
Exterminator	(All arcade games with joystick option.
Terry's Travels	(Algray have the reputation of very good
Mad Menagerie	(programs.
Double Agent	A 3-D adventure, really good, with full graphics and sound.
Labyrinth of Fear	3D adventure – unknown.
Maestro	A 'music' utility, allowing you to write music.
Uttpack	Some sort of utility, but unknown

This is a list of 39 games/utilities, which have not been sold in New Zealand by Rakon Computers, the sole software suppliers for the Genie. We will be asking for a prgram description on the unknown software when we write re agency proposals.

Please, everyone, do take a moment to jot down the programs you think you would be interested in. This will be in no way binding, it is just so that we can get an idea of how much interest there will be in the programs.

LIST OF FINANCIAL COLOUR GENIE GROUP MEMBERS AS AT 3/5/84

ALVAREZ,Fred	49 Astley Ave. New Lynn	873 120	
BERHAN,Robert	16 Asbury Cres,Campbells Bay	478 4022	Student
DISHOP,Chris	6 Jenanne Place, Glenfield	444 5301	
BURTON,Ron	P O Box 208, Te Aroha	625 Man.	Country
DYRNES,Ces	31 Rosehill Drive,Papakura	298 4107	Country
CARIAN,Craig	42A Comins Cres,Mission Bay	583 061	
	Postal Box 4326,Auckland		
EUSAK,Alex & Kevyn	14 Awakino Place, Manurewa	266 7423	
GEBDIE,George	141 Flanshaw Rd,Te Atatu Sth	83 46028	
GOLDIE,Willie & Andrew	24 Douglas Ave. Mt Albert	867 533	
GRUSNING,H.N.	46 Beatty Rd, Pukekohe	86 712	Country
GURNEY,P.A.	10 Norfolk Rise, Waiuku	59 682	Country
HAMILL,family	26 Ashlynne Ave,Papatoetoe	278 9585	
HARRIS,Bert & family	15 Seakens Way, Glen Eden	818 4660	
HILL,Gerrard & family	86 Wallace Rd,Papatoetoe	278 3446	
HOLES,Freda & family	10 Rowan Terrace,Te Atatu Sth	83 45244	
* HUGGINS,Nola	612 Mt Albert Rd,Royal Oak	655 718	
* HYNDS,Ken	13 Ngahue Cres. Whenuapai	416 7404	
IRVINE,Robyn	430 Massey Rd,Mangere East	275 7007	
KAY,Ross	2/9 Longreach Drive,Glen Eden	818 4818	
LIDDEL,Darren	91 Taikata Rd,Te Atatu Nth	834 7129	
LOCKERBIE,Claire & Roger	63 Grampian Road,St Heliers	580 270	
MacALPINE,Mr E.	45 Mutu St,Te Awamutu		Country
McGILL,Keith	15 Manapouri Place,Pakuranga	565 643	
METCALFE,E.K.	Box 13031,University of Waikato P.O., Hamilton		Country
MILLAR,Robert	17 Onewa Rd, Northcote	486 504	Student
MUZYKA,George	33 Vermont St. Ponsonby	769 176	Student
PETERS,D.R.	6 Tone Lane, Whakatane		Country
ROBINSON,Ian	4 Kingsley Street,Gisborne		Country
* ROOTS,Ernie	512 Glenfield Rd,Glenfield	444 9669	
* RUSSELL,Andy	2 Takitimu St. Whenuapai	3000 x731(work)	
SAUNDERS,A.M.	96 Oriel Ave,Tawa,Wellington		Country
SAVILLE,family	7A Southlynn Rd,Titirangi	817 6491	
SCOTHERN,D.J.	64 Princess Road. Tauranga		Country
SIMPSON,Ron	25 Renata Cres,Te Atatu Nth	834 6987	
STRANAGHAN,family	29 Haseler Cres,Howick	535 7450	
TRUE,Murray & Anne	4/503 Oliphant Rd,Hastings		Country
TUAVERA,Jeffery	732 Sandringham Rd,Sandringham	693 986	
WALKER,David	Kiwitea,No 7 R.D,Feilding		Country
WESSELING,Ralph	112 Pt View Drive,Howick	535 6134	
* WILLIAMS,Olwen	3/26A West End Rd,Herne Bay	761 954	
WALKER, Barry & Irene	20 Ellesmere Cres. Palmerston North.		Country

* - Committee Members

Remember that 3D PLOT program demonstration (the one which most of us got lost). Well here is OLWYN's explanations:-

3-D PLOT Program Conversion

This program comes from David Ahl's book "Basic Computer Games", and is written in a fairly standard form of BASIC.

It isn't necessary to understand the mathematics involved in this program to appreciate the pictures it gives or to convert the program to run on the Colour Genie. It is necessary, however, to understand some of the programming techniques involved. I will try to explain these and to show one way in which you can alter these to run on the Colour Genie, and display the result on the hi-res screen, rather than printing it on a hard-copy terminal.

The original program employs a user-defined function to evaluate the mathematical equation. Because the Colour Genie does not allow user-defined functions we will convert this into a subroutine and use the GOSUB command to access it, but first you should know what a user-defined function is, and how to recognise it.

A user-defined function enables a programmer to create her (or his) own functions to be used in programs. It must be defined before it is used, so the definition generally comes early in the program and provides a clue to its use in the program. It can be recognised by the statement DEF FN. A typical example might be:-

DEF FNA(X) = 2*X + 3

The variable X is a dummy variable and is replaced by the argument present when the function is called. After the FN you will see one or more letters, in this case an A. This is the function name. Once the function has been defined it is then possible to use it anywhere in the program ·by using an FN followed by the function name with any expression as the argument.

For example, in the line:-

Y = FNA(4 + 1)

the expression (4 + 1) is the argument. This is evaluated by the computer to give the result 5. This result is substituted by the computer for the X in the definition, and the calculation is worked out to give the value of FNA, and hence Y, of 13. If a variable X is used elsewhere inrogram it's value wouldn't be changed, because the one used in the definition is only a dummy.

To alter the "3-D Plot" program to run on the Colour Genie, the first step is to alter its defined function to a subroutine. We don't want to go through it at the beginning of the program, so to cause the program to branch over it, delete lines 1, 2 and 3, which we don't need, and insert :-

4 GOTO 100

Line 5 in the original is:-

5 DEF FNA(Z)=30*EXP(-Z*Z/100)

Replace everything to the left of the equals sign in this expression with a new data name, e.g. PA, to give:-

5 PA = 30*EXP(-Z*Z/100)

Because Z is used for other things in this program, it will make it clearer to replace the Z in this expression with something else, say B. This gives:-

5 PA = 30*EXP(-B*B/100)

Insert a return for the subroutine:-

10 RETURN

We now have a subroutine that can be referenced elsewhere in the program. When we wish to use it we first have to make B equal to the expression that appears as the argument to the function in the function call (that is the expression inside the brackets after the FNA). The function is called in line 150 of the program. Insert the following line before it:-

145 B = SQR(X*X+Y*Y)

Insert a GOSUB to call the subroutine:-

146 GOSUB 5

and change line 150 to use the resulting value of PA in place of the function:-

150 Z=INT(25+PA-.7*Y)

The original program was designed to use a printing terminal, and the lo-res screen doesn't allow us to see the whole design, so I also want to change the program to display on the hi-res screen. I'll make it plot across the screen rather than down the page. Enter the following line.

1 FGR: PCLS: PCOLOUR 2

Line 100 isn't needed now, but we have a GOTO to it earlier in the p so we'll make it a blank comment line:-

100 REM

Let's make PX the horizontal plotting position. Change line 200 to read:-

200 PX = PX + 2

This will have the effect of moving the point we are plotting across the screen in the same way as printing a line and moving the paper.

We'll make PY the vertical plotting position. Add this line:-

175 PY = 96 - Z

This is because we want our drawings to rise from the bottom of the screen rather than come down from the top.

Finally, we'll change line 180 to a plot command. This will become:-

180 PLOT PX,PY

This will now run and produce designs on the hi-res screen, but the picture will disappear as soon as it is completed when the computer reverts to the lo-res screen. To overcome this

Thanks to all those who have contributed to this months issue. Dont forget,--- give more than just a little thought to those 39 games/utilities that you studied on pages 9 and 10. Give your list of preferences to NOLA so that we can get things up and running.
Nothing much can be accomplished without support.

If there is any member who has not received a copy of the 1st Newsletter then let NOLA know when you send in your list.

A PASSING THOUGHT :

        IF BUILDERS BUILT BUILDINGS THE WAY PROGRAMMERS WROTE PROGRAMS, THEN THE FIRST WOODPECKER THAT CAME ALONG WOULD PROBABLY DESTROY CIVILISATION.

                                        Happy Computing.

NEXT MEETING MON 28TH