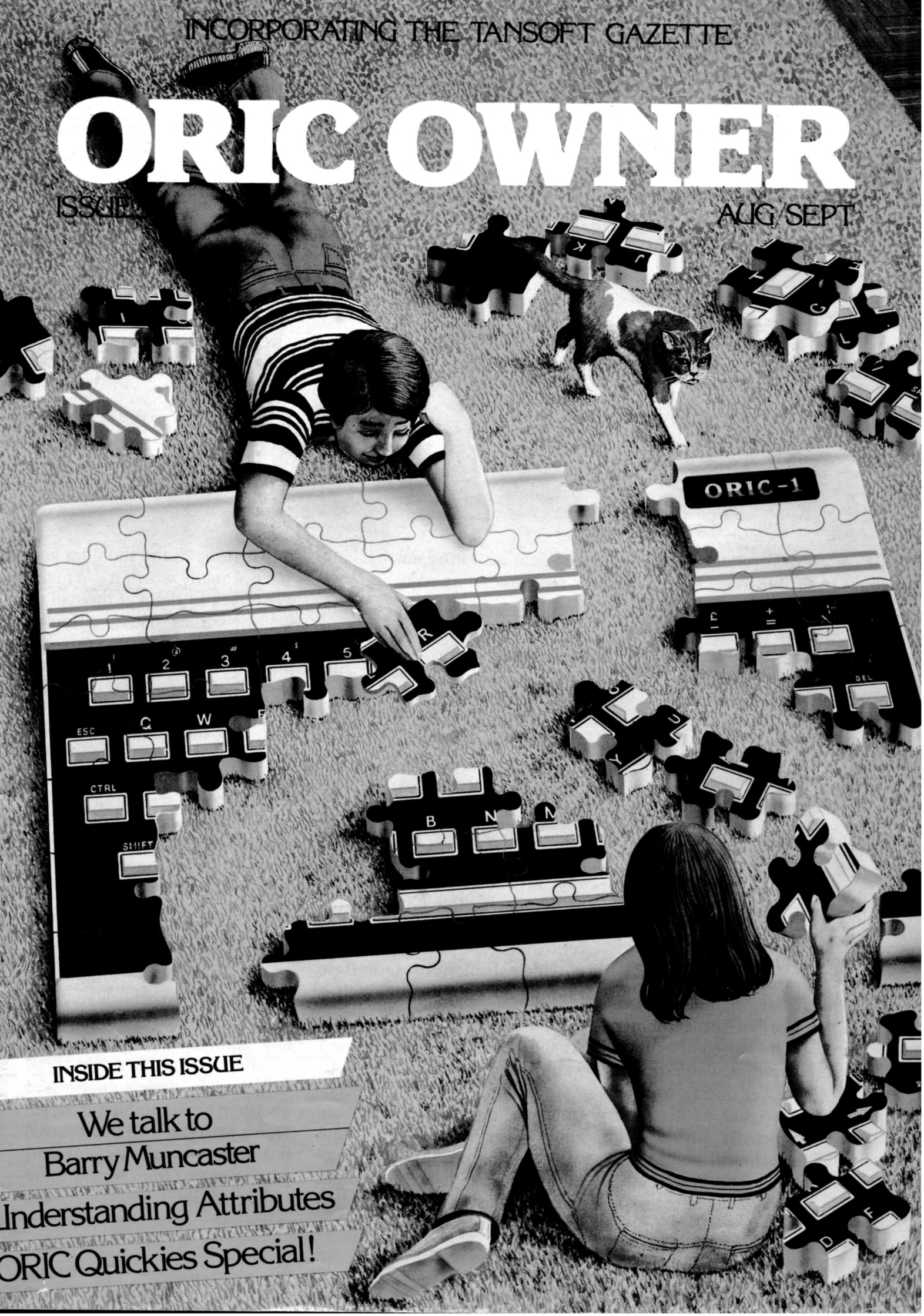
INCORPORATING THE TANSOFT GAZETTE

ORIC OWNER

ISSUE AUG/SEPT



INSIDE THIS ISSUE

We talk to Barry Muncaster

Understanding Attributes

ORIC Quickies Special!

Editor's Comment

Paul B. Kaufman

If you were very lucky you may have been able to get to the Oric stand at the recent Computer Fair at Earls Court in London. For most of the time the exhibition was packed solid, particularly around the Oric stand. This was Orics first appearance at a show of this kind and the response was overwhelming. Although the staff at the stand were expecting the inevitable barrage of complaints there were very few people who actually had something to complain about. Most people were generally very pleased with their machine and only had a few technical questions to ask. One difference between Oric and the other hardware manufacturers is that for most of the exhibition several of the directors of the company were available on the stand to answer questions. Paul Johnson, designer of the Oric, was seen heavily involved in discussing technical points with several people and Peter Harding and Barry Muncaster were seen demonstrating the machine or recommending software.

Software was on display from several companies including Salamander with their Oric-Trek and A & F Software with their version of Painter. Also available was a joystick from PASE. This simply plugs into the printer port and allows the connection of two Atari type joysticks for high speed games.

The Oric Printer got its first public showing and brought a very favourable response. As if to emphasise the fact that the Oric can connect to virtually any centronics type printer there was a demonstration of Oric-Base running in conjunction with a large daisy-wheel printer.

At the beginning of the show I went round to some of the software companies who concentrate mainly on the Spectrum and VIC-20. I asked them whether they would be producing any Oric software in the near future. Most of them replied with a shrug of the shoulder and 'it's not really worth it'. When I went back to them at the end of the show they had a different reponse, 'judging from what we've seen at the Oric stand we've got to re-think our software plans.'

Changing the subject a little we have had a flood of new subscriptions for the *Oric Owner* in the last few weeks. This has meant that our Microtan disc subscription system started to collapse under the weight of so many subscribers and we were forced to splash out on a larger machine (Sirius with 128K of RAM and 2.4Mb disc storage). This has caused several weeks delay while we transferred the data across. We do apologise for any annoyance this may have caused, particularly to those who sent in their subscriptions and then heard nothing from us. Don't worry, it's all been sorted out now so you should start getting your *Oric Owners* more or less on time.

ORIC OWNER

Issue 3 Aug/Sep

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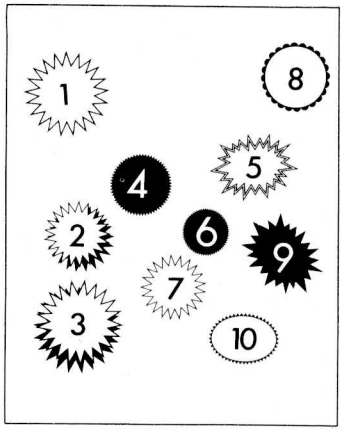
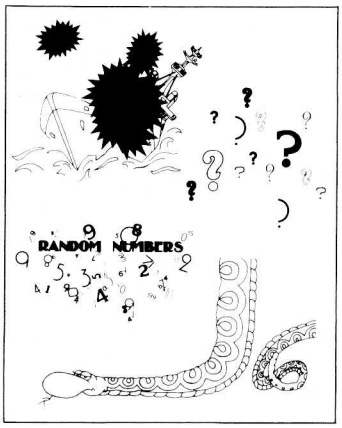
Exploiting Oric's Attributes
More in-depth explanation of this complex subject

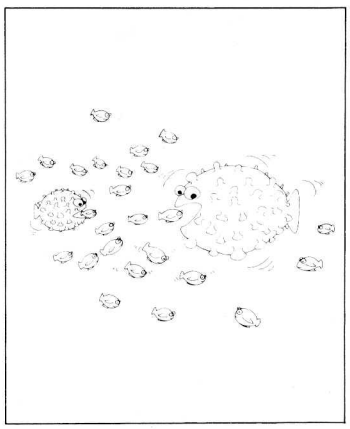
An Interview with Barry Muncaster
The Managing Director of Oric gives us his views



Ten tips to tape-recording:
Some useful hints on how to get your Oric running reliably with a cassette recorder



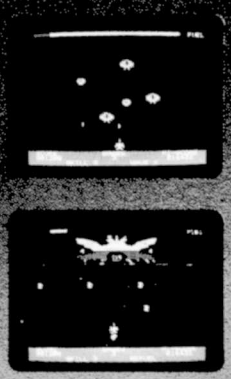
Oric Quickies Special
A Bumper selection of short and sweet programs + routines

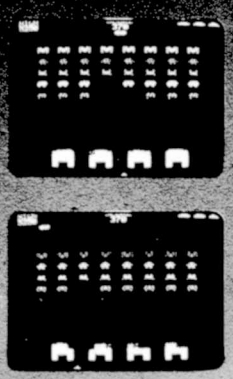


And Forthly . . .
A Recursive Decompiler: list out your words without using the Editor

Captain Tanex
His adventures continue in the land inside the machine

IJK Software and the ORIC-1 Micro continue to bring you into a new era...





NEW

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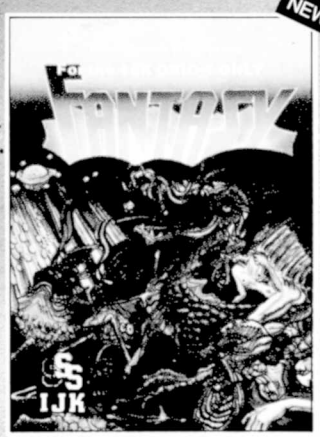

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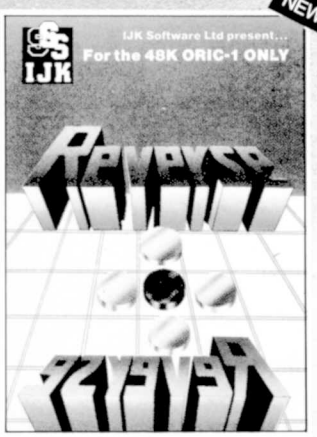

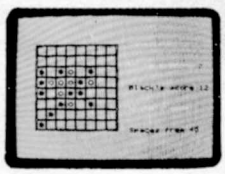

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News Brief

Oric Add-ons soon

According to a spokesman from Oric the Micro-Discs and Modem are well underway and could be released in late September. Although there is not much information available on either at the moment it is believed that the discs are based around the Hitachi 3″ microdrive. These have a capacity of about 256K per side. Up to 4 drives may be connected to the Oric through the expansion connector.

The modem, which was announced at the same time as the Oric will allow connection to Prestel and Micronet 800. It is also believed that Orics will be able to communicate with each other over the phone lines which would be great for games such as chess (phone bill will not be withstanding!).

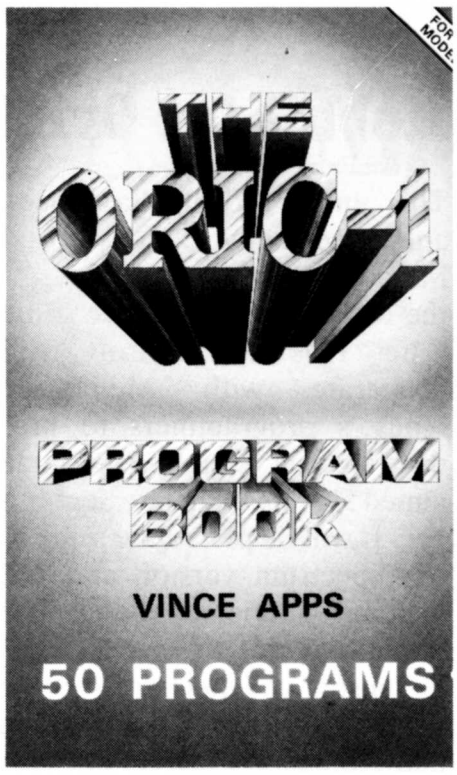
Joysticks from PASE

First of the independents with an Oric add-on are PASE from Cheshire. They have designed an interface box which plugs into the printer port of the Oric. It takes two Atari type joysticks and is also supplied with a demonstration game. Full details from PASE on 061-366-5935.

New Book from Phoenix:

Following on from Granada's 'The Oric-1 and how to get the most from it' comes another book this time from Phoenix Publishing, called 'The Oric-1 Program Book' it lists fifty useful programs with full explanations of their function. The programs cover fun + games, useful programs such as metric converters or spelling tests and programmers aid routines. The programs are designed to work on 16K or 48K Orics.

It was written by Vince Apps and costs £5.95 from most good book shops.



News Brief

Oric Owner goes French:

Almost 50% of all Orics manufactured go abroad with a large proportion going to France. With the demand for more information of the machine Denis Taieb the owner of Société ASN who are the main Oric distributors in France, has decided to put together a French language version of Oric Owner known as MICR'ORIC. Although most of the articles and programs are the same, much of the news is tailored to the French market.

Hobbit for Oric!

The major deal has been announced between Tansoft and Melbourne House, publishers of the best selling adventure game 'The Hobbit'. Tansoft will cooperate with Melbourne House's programmers to produce an Oric version of the game aimed for release in late September. It will be priced the same as the Spectrum version and will include Tolkiens book, The Hobbit.

Tansoft will be handling the distribution for Orics dealers and outlets.

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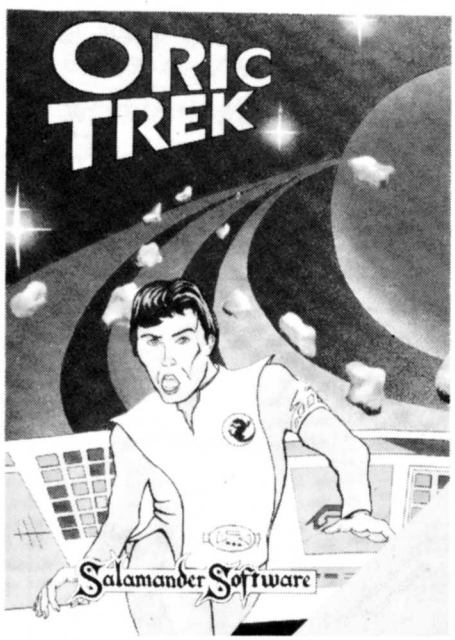
Software Scan

If you have kept your eye on Oric's advertising the last few months you will have seen an advert for Oric-Trek. We were quite surprised when it appeared as we thought it had something to do with the Oric-Trek we printed in our first issue. It turned out to be a new version of the game by Salamander Software and a vastly superior version of that. You are supplied with a cassette and a flight manual which gives you full instructions for the game. There was a picture on the cover of the cassette which looked remarkably like a cross between Mr Spock and Rudolph Nuryev! The game itself is played in real-time which means things are continually



happening even when you are not pressing any keys. You have a choice of 17 different commands which include weapons control, manoeuvring and status display. On the screen is a long range and short range map and printouts from your ships' systems. I found the game great fun to play even though I was continually wiped out.

New from I.J.K. Software is Xenon-1, an arcade quality shoot out game. As far as I am concerned this is the best arcade game yet available for the Oric. The graphics and animation are superb and the game itself, even at the lowest levels, is a real challenge. The game starts off by allowing you to shoot at circling bird-like aliens who are dropping bombs and dodging about on the screen. You then have to destroy circling bubbles which divide when hit. If you get this far you then have to dodge a swarm of meteors which are hurtling towards you. Surviving that you then have to shoot parachutists who are dropping from a hovering space ship. If any of the parachutists survives he walks along the bottom of the screen and pokes a sword up you (very nasty!). There are lots of varied and interesting levels in this game and it is worth getting just to see the graphics, let alone to play.

Next issue I hope to be looking at Author, the forthcoming word processor for the Oric.

ISSDPOL LEAVES HIS LAIR ...
YOUR GOAL IS TO FIND THE LAIR OF ISSDPOL AND STEAL THE PRIZE WHICH HE GUARDS
TO FAIL MEANS DEATH!
CAPTAIN TANE & ORIC in the EYE of TANGER
I DON'T KNOW HOW I GOT INTO THIS BUT...
I FEEL HE SEARCHES FOR US NOW
WE MUST MAKE A START
IT SEEMS THAT THE ONLY HOPE OF GETTING OUT OF THIS IS TO DO WHAT ORIC SAYS
OK LETS MOVE
AFTER HOURS.....
ORIC
WE'RE NOT GETTING ANYWHERE
DO YOU KNOW WHICH WAY TO GO?
I HAVE A PERFECT MEMORY
THE VAULTS WE HAVE SEEN SO FAR
ARE RECORDED
OBSERVE!
WOW!
WE'VE GONE THROUGH MOST OF THE CATACOMBS!
AND WE HAVE'NT SEEN ISSDPOL YET !!!

Harrier Attack ORIC-1

Pure machine-code, super-fast, action-packed, highly addictive arcade-style game requiring great skill. The harrier takes-off from an aircraft-carrier and flies over seaborne defences to attack enemy installations on a nearby island. The harrier may fly faster, slower, higher or lower, and has bombs and rocket fire with which to protect itself and make its own attack. If it flies too high it is detected by enemy jet-fighters (which it may counter-attack) – so it needs to hug the mountainous terrain which also varies with every new game. But the island is heavily defended by anti-aircraft rockets and tanks, which again the harrier may counter-attack or try to fly through. A tally is kept of fuel, bombs and rockets, plus player score and high score. Finally the harrier must make its bomb-run over the enemy base before returning to its own carrier. *£6.95*

Starfighter ORIC-1

Pure machine-code real-time graphics. The player is in command of a galactic defence vessel. His mission is to attack and destroy intruding alien vessels. At long range this can be carried-out via the ship's computer and space-scanner: the ship may be manoeuvred to a position from which a photon torpedo may be launched. However beware! If your reactions are slow you may crash into enemy space-mines. At short range the action is hair-raisingly fast as the alien ship is pursued through space under manual control. See the star-scape spin relative to your ship's manoeuvres, but watch out for alien mines whizzing past. Blast your phasor at the alien – but be careful! You must preserve your limited energy and weapon resources. Weapons, shield and energy status are all monitored throughout the game – which may itself be set for variable levels of skill. *£6.95*

Lunar Lander/Asteroids ORIC-1

Aimed at the newcomer to BASIC and/or the Oric-1, these exciting and enjoyable games are also easy to learn from, being short, simple and clearly written. Each is followed-up by a second version where every line of the BASIC is explained in an English REMark statement. These games also give a useful guide to the Oric's screen attributes. *£5.95*

Assembler/Disassembler ORIC-1

The assembler follows standard 6502 conventions and has proved very reliable while in continual use by Durell Software. Features include the following:

Generally	*List File*	*Pseudo-Operations*
Auto line numbering	LIST	EQUATE
Six character labels	DELETE	BYTE
Updatable list-file	LLIST	DBYTE
Maths on operands	ALTER	WORD
Syntax checking	INSERT	TEXT
Output to printer	END/STOP	BLOCK

The disassembler also allows output to either screen or line-printer. The tape comes complete with comprehensive instructions. *£8.95*

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Oric places you at a random point inside a 3-dimensional maze. Move through the maze and use an aerial plan to deduce where you are. Then work your way to the exit. A fascinating game requiring patience and imagination.

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A quality version of this addictive game. Level the cities of an abandoned planet to land and refuel. Comprehensive scoring with bonuses and extra ships for competitive players.

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7 sectors to explore as Blue milliblock evades the Red milliblox. You have to score 200 points in each sector before the exit appears to the next, and each sector contains a special power milliblox to turn the tables on the Red milliblox for a short while.

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An Interview with Barry Muncaster

Managing Director of Oric Products International

How did you first become involved in the Microcomputer industry?

In the mid 70's I owned a company that was involved in the design and development of taxi meters and, in fact it is difficult to get into a London cab these days which is not based on the original design concepts. We were the first UK company to commercially exploit the micro processor (TMS 1000) in large volumes. Late in 1978 I was doing some consultancy work for Cambridge consultants, who are probably the leading research and development organisation in the country, and whilst there I met Dr Paul Johnson, in general conversation I found out that he was looking for some funding capital to develop and market an idea that he had for a single board micro computer system. At that time I had access to the funds required and we very quickly got together and formed Tangerine Computer Systems which led to the very successful Microtan 65 system.

Your partner in Tangerine Dr Paul Johnson is now very involved on the technical side of the Oric. Do you feel that your role complements his?

Yes, Paul is extremely competent technically and is particularly skilled at designing electronic products for the mass consumer market without sacrificing quality, as is evident from the Tantel, Tiger and Oric range of products. Left to his own accord Paul would continually develop and improve upon a product and would not have the discipline to stop development in order to get the product on to the market in the correct manner and at the right time. I think this is the area where my expertise is most evident and complements Paul's.

You seem to have a low opinion of financial institutions who put money into the micro-computer industry. Can you give us some of your reasons?

My attitude towards banks has been formerly well recorded and could be seen to be totally negative. This is not really the case – I appreciate that the banks have a fundamental role to play in our industry and once you have an established company up and running, the services they offer are both helpful and commercially acceptable. The problem with their institutions is that our business is so fast moving and so cash hungery that they do not have the attitude of mind to respond fast enough to young companies of these kinds. This obviously stems from a history of supporting more stable industries where, in the past annual growth is of a few percent, are considered acceptable. Our industry provides opportunities for companies to grow at 200, 300 or 400% per annum. I think the banks are learning and attitudes are changing as is evident by the recent introduction of high technology support staff within the likes of Barclays and Lloyds. Unfortunately a great void in understanding still exists between banks experts who tend to have academic understanding of our industry and the entrepreneurs which have established the UK as a major force in personal computing.

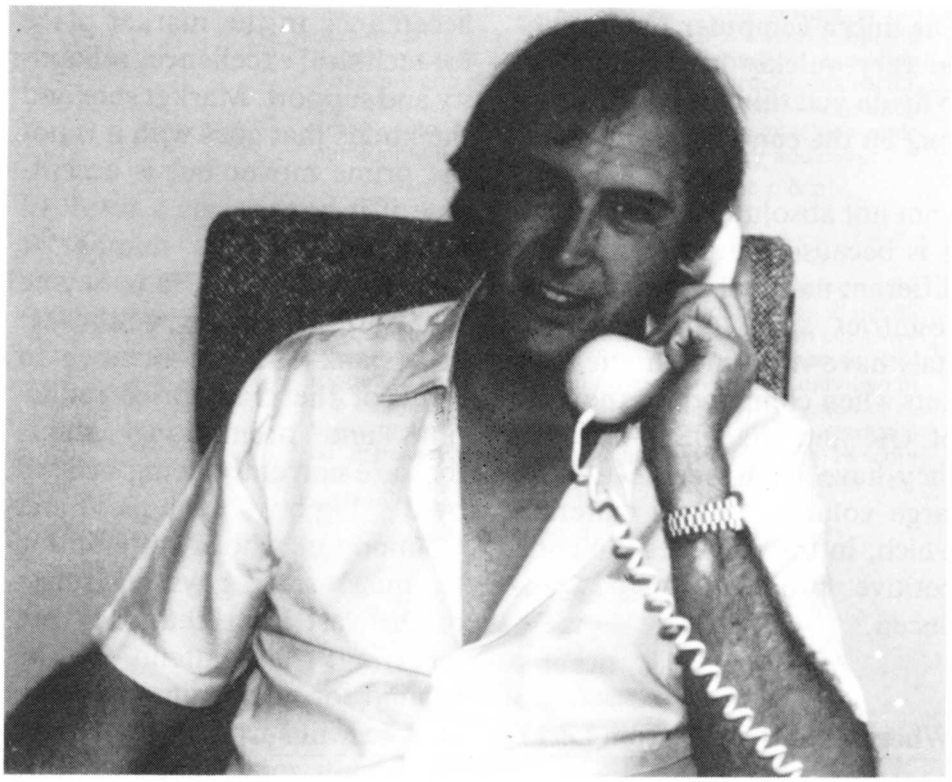
Other companies, such as Sinclair, seem to revolve around the personality of one man yet Oric seems to be a team effort. Do you

think this contributes to the success of the Oric?

From a marketing point of view I am sure that the personality of Sir Clive Sinclair has contributed significantly to the growth of his various companies. End users relate to him as an individual and look on him as friendly Uncle Clive which generates a great deal of empathy between them. I think that in the long run a single autocratic leader can inhibit the product development and support, take for example Henry Ford's attitude that you can have any colour car so long as its black, how would that attitude stand up in todays market place? With a team approach such as we have in Oric any movement of directors or senior staff is actually transparent to the customer which should mean that they can come to rely on Oric as a company for support and continued development of a very high level. At least, I hope that is what they will do.

Several years ago there was the Hi-Fi boom then the rather short-lived CB boom. Do you think the micro-computer could go the same way.

No. I think that what will happen is that during the next 2 to 3 years micro computers will lose their glamour image and will just become accepted as an everyday product, very much as calculators have been. I do not think there is a tremendous scope for such major leaps in technology



from a hardware point of view as we have seen in, say the last 10 years, but the scope for software development is fantastic.

Most of the Oric PCB is manufactured in Singapore. Could you not do your manufacturing in the UK?

Yes, we could and may well do so at some point in the future, however, in a start up operation the Far East offers a much faster ramp up opportunity and even more significantly offers the opportunity to avoid the invidious import tax of 17% on some integrated circuits. This means that we are able to ship integrated circuits from the USA direct to Singapore, assemble them in a printed circuit board, ship that to the UK and save something approaching 11% on the cost of raw materials.

Is it true you are a member of MENSA?

Yes, I am not sure what its function is, it doesn't appear to be obvious. I used to enjoy solving problems for fun and took their I.Q. test in the late '60s, at that time I had an I.Q. of 155 but I am sure that all the late nights spent setting up Oric have caused irreparable brain damage which will have reduced this to single figures.

The Oric is obviously doing very well in this country. How well is it doing abroad?

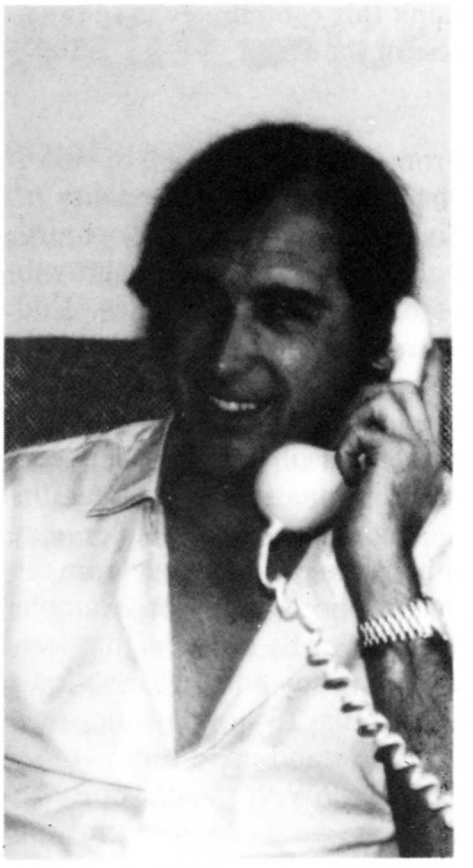
Exceptionally well, over 75% of our shipments are exported. This is great news for us and great news for the country. This is a result of a deliberate policy to take all international markets simultaneously, and it appears to be working.

The micro-computer had caught on very quickly in the country. Why do you think it has taken so long on the continent.

I am not absolutely sure, I think it is because there are so many different national languages that countries such as France and Italy have very small home markets when compared to the likes of UK and the US. Also that they have been unable to take large volumes of raw materials which, in turn enables the competitive products to be produced.

Where does Oric go from here?

Our prime objectives are to establish a company which gains acceptance in the market place for technical excellence, reliability and support. Market sure and the kudos that goes with it is not the prime mover but is acceptable if it happens as a result of adherence to our number 1 objectives, what I am saying therefore, is that we wont react in a bank stricken manner to some of the crazy price reductions and promotional stunts that are currently being offered by the 'big boys' such as TI and Commodore who are attempting to squash small guys regardless of the vast loses that they are incurring. We intend to be around for a long time to come and we will surprise the market place with some really exciting developments in the next 2 years.



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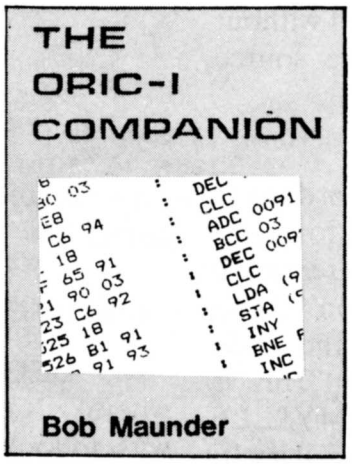

IF SO THEN THIS IS THE BOOK FOR YOU!

THE ORIC COMPANION by Bob Maunder, author of the Sinclair ZX Companion series, is a detailed manual on the Oric-1 computer, indispensable to both BASIC and machine-code programmers. It contains

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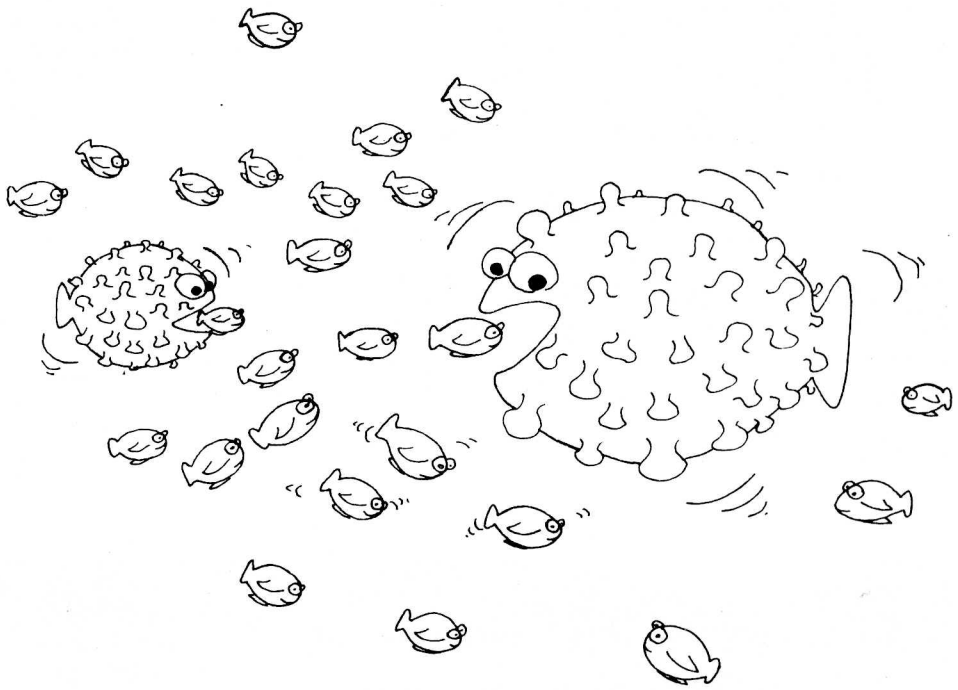
And Forthly . . .

By Paul B. Kaufman

A Recursive Decompiler



This program originally appeared in *Forth Dimensions*, the American Forth magazine. A Forth 'decompiler' is a tool that scans through a compiled dictionary entry and tells you what has been compiled. In the case of a colon definition, it prints the names of the words that are pointed to inside the definition. This means that you can look 'inside' a word without having to refer to the source screens.

Although the idea of a decompiler has been around for some time this version uses a recursive method of operation. This means that part of the code repeatedly calls itself. This is done by the word MYSELF which allows a word to call itself, which is a fairly unusual occurrence in Forth.

To execute the decompiler enter:

DECOMP XXXX

where XXXX is the word you wish to look at.

There are three control options:

1 Q: Quits operation.
2 Space: Prints next word.
3 Return: Prints words next level down.

As about 8000 people have received Forth for their Oric I am now waiting for a flood of Forth software to print in the next issue, so keep in touch.

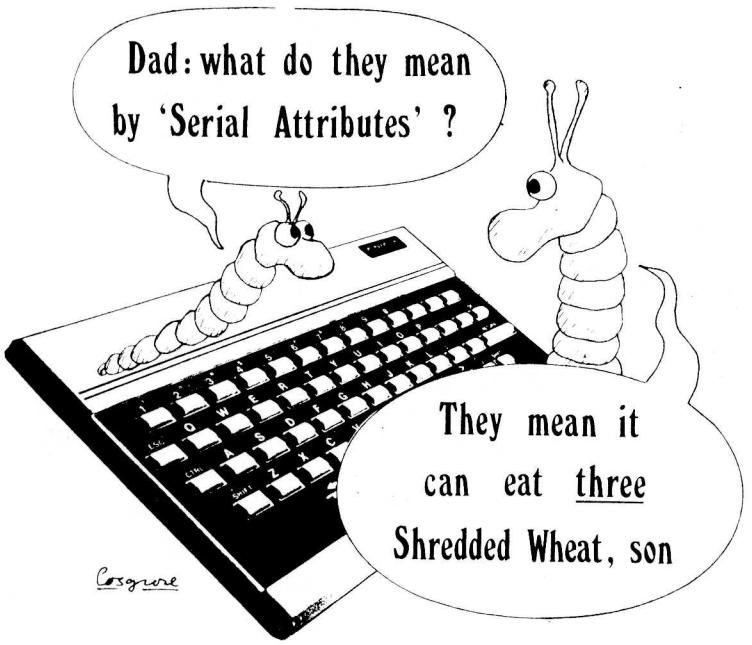
And Forthly . . .
Program Listing

```
1 LIST 2 LIST
SCR # 1
  Ø ( DECOMPILER FOR ORIC )
  1 : MYSELF LATEST PFA CFA , ; IMMEDIATE
  2
  3 Ø VARIABLE GIN
  4 : GIN+ CR GIN @ 2+ DUP GIN ! SPACES ;
  5 : DIN CR GIN @ SPACES ;
  6
  7 : GCHK DUP @ 2+ ' COMPILE = IF 2+ DUP @ 2+ NFA ID. 2+ ELSE DUP @
  8 2+ DUP ' LIT = OVER ' BRANCH = OR OVER ' ØBRANCH = OR
  9 OVER ' (LOOP) = OR SWAP ' (+LOOP) = OR IF 2+ DUP @ SPACE . 2+
 1Ø ELSE DUP @ 2+ ' CLIT = IF 2+ DUP C@ SPACE . 1+ ELSE DUP @ 2+ '
 11 (.") = IF 2+ DUP COUNT TYPE DUP C@ 1+ + ELSE 2+ THEN THEN
 12 THEN THEN
 13 -2 GIN +! ;
 14
 15 -->

SCR # 2
  Ø ( DECOMPILER CONTINUED )
  1 : (GOESINTO) ( PFA...)
  2 DUP CFA @ ' : CFA @ = OVER ' ERROR = Ø= AND IF BEGIN DUP @
  3 DUP ' ;S CFA = OVER ' (;CODE) CFA = OR Ø= WHILE 2+
  4 DUP GIN+ NFA ID. KEY DUP 81 = IF CR ." BREAK" CR SP! QUIT
  5 ELSE 13 = IF MYSELF ELSE DROP THEN THEN GCHK
  6 REPEAT 2+ DIN NFA ID. THEN DROP ;
  7
  8 : DECOMP  -FIND IF DROP Ø GIN ! (GOESINTO) ELSE
  9 ." NOT FOUND" THEN ;
 1Ø
 11
 12
 13
14
 15
OK
```

Exploiting Oric's Attributes

By Ian Stewart



From EASY PROGRAMMING FOR THE ORIC, Ian Stewart & Robin Jones, Shiva 1983.

On any microcomputer, the colour display is controlled by a series of codes, stored somewhere in memory, known as *attributes*. These also control features of the display such as whether characters are flashing or double-height. Some computers set aside one memory location for *each* character cell, to hold its attribute. This system of *parallel* attributes is extremely transparent to the user; but it means that a lot of memory is tied up holding useless information about the attributes of cells that you don't want to make use of. The ORIC saves memory by a clever system of *serial* attributes, which are stored in the same part of memory as the screen display itself. Serial attributes can be a little tricky until you've got the hang of them; but once you have, it's easy to use them to good advantage. This article is a simple guide to the basic ideas involved.

The text screen

First, let's recall a few facts about the ORIC's display. There are four modes: three low-resolution modes

TEXT LORES0 LORES1

and one high-resolution mode

HIRES.

For simplicity, I'll concentrate on the TEXT mode; but I'll say a little about the others later. The main principles are the same in all modes, but fine details differ.

The TEXT screen consists of 27 rows of 40 cells each. The rows are numbered 0–26, and the columns 0–38 (with the leftmost column reserved for the operating system of the machine, so not numbered). Appendix H of the *Manual* shows this in detail.

Each cell can hold one character. To print out a given character at a given position, you use the PLOT command. For example

```
PLOT 5,7,"Z"
```

produces the character Z in column 5 of row 7.

In the low-resolution modes, each character cell is assigned two colours, the *background* and *foreground*. These can be set for the whole screen at once by using the commands

PAPER INK

followed by a number between 0 and 7, which defines the actual colour. The codes are:

NUMBER	COLOUR
0	black
1	red
2	green
3	yellow
4	blue
5	magenta
6	cyan
7	white

So the commands

```
PAPER 6
INK 1
```

produce red text (INK code 1) on a cyan background (PAPER code 6).

However, using only these commands, you can only get two colours on screen at once. (Possibly this is what fooled some reviewers into thinking that only two are possible, as mentioned on page 38 of *Oric Owner* isue 1.) The fun really starts when you want to use lots of different colours at the same time.

Multicoloured plotting

The main idea is that the PLOT command can be used to define *colours* as well as characters, at a given position on the display. Here's a program to demonstrate it:

```
10 REPEAT
20 INPUT T
30 UNTIL T >= 0 AND T <= 7
40 PLOT 10,12,T+16
50 GOTO 10
```

Try inputting the numbers 0,1,2,. . .,7 in turn. (If you try anything else, the program won't accept it: it's been *mug-trapped*.) What do you notice? How do the colours you see match up with the codes above?

Suppose for instance that you input 2, the code for green. Then the whole of row 12, from column 10 onwards, turns green. The other colours work the same way.

What's happening is this. A command like

```
PLOT 10,12,"Z"
```

produces the character Z. But a command

```
0 PLOT 10,2,18
```

doesn't produce a character: it produces a *colour*. The colour depends on the third number, here 18, in a way that I'll explain below. But – unlike the character Z – this colour does not affect just the cell in column 10 of row 12. It affects *the whole of row 12 from column 10 onwards.* That's what *serial* means.

However, this colour can be 'switched off' by another PLOT later in the same row. Try this:

```
PLOT 1012,18
PLOT 2012,21
```

Now your stripe starts green but then turns magenta in column 20.

Essentially, that's all you need to know (aside from the attribute codes like 18), because careful choice of PLOT points lets you set up any combination of colours that you want. But there's one snag to be borne in mind. If you try to plot a *character* on a cell that holds an attribute, then the attribute is cancelled (and the previous one in that row applies). In other words, you cannot plot both a character and an attribute in the same screen cell. (There isn't room in the assigned section of memory for both: that's a price that has to be paid for the savings on memory resulting from serial attributes.)

The next program illustrates this problem.

```
10CLS
20COL = 0
30  FOR C = 0 TO 36
STEP 4
40  FOR R = 0 0 TO 26
50  COL = COL+1
60  IF COL > 7 THEN COL
= 0
70  PLOT C,R,COL+16
80  NEXT R
90  NEXT C
100  WAIT 400
110  FOR K = 0 TO 26
120  PLOT
K+1,K,"WATCH THIS!"
130  WAIT 60
140  NEXT K
```

The screen will acquire a complicated pattern of colours, set by the attribute command PLOT in line 70. Note *how* the colours are painted in, always running to the end of their row

at any stage. After a pause, some text is added: you'll see how the colours change when a character overprints an attribute cell.

Attribute codes

Attributes can set INK or PAPER colours (locally); make a character flash, or print it double height. The attribute codes run from Ø to 31, with these meanings:

Ø black INK
1 red INK
2 green INK
3 yellow INK
4 blue INK
5 magenta INK
6 cyan INK
7 white INK
8 single height steady standard
9 single height steady alternate
1Ø double height steady standard
11 double height steady alternate
12 single height flashing standard
13 single height flashing alternate
14 double height flashing standard
15 double height flashing alternate
16 black PAPER
17 red PAPER
18 green PAPER
19 yellow PAPER
2Ø blue PAPER
21 magenta PAPER
22 cyan PAPER
23 white PAPER
24–31 IGNORE THESE: may affect screen synchronisation

The words "alternate" and "standard" refer to the two character sets: see Chapter 4 of the *Manual*. Try inputting Ø–23 in turn using the next program, which will demonstrate the effect of the corresponding attribute.

```
10 CLS
20 REPEAT
30 INPUT T
40 UNTIL T >= Ø AND T <= 23
50 PLOT 1Ø,9,"ORIC ATTRIBUTE DEMO"
60 PLOT 1Ø,1Ø,"ORIC ATTRIBUTE DEMO"
70 WAIT 2ØØ
8Ø PLOT 5,9,T
9Ø PLOT 5,1Ø,T
1ØØ PRINT CHR$(3Ø)
11Ø PRINT SPC(1Ø)
12Ø PRINT CHR$(3Ø)
13Ø GOTO 2Ø
```

Note particularly how the double height characters work. You need *two* sets of characters in two consecutive rows to get double height; because the double-height attribute doubles up the size of the top half in an odd-numbered row, and the bottom half in an even-numbered row.

Other modes

The attributes work similarly in the other modes. However, in LORESØ and LORES1 an attribute affects only the square on which it is plotted.

In HIRES you must think of the display as being made up of 2ØØ rows, numbered Ø–199, each one eighth of the LORES height; and divided into 4Ø/ columns as usual. The main difference is that you can no longer use PLOT to set attributes; instead you must POKE to the part of memory that holds the screen information. To set up an attribute with code A at screen position R (hi-res row) and C (lo-res column) you must use:

```
POKE 4Ø96Ø+4Ø*R+C+1,A
                [48K ORIC]
POKE 8192+4Ø*R+C+
                [16K ORIC]
```

To affect the left hand (reserved) column, use

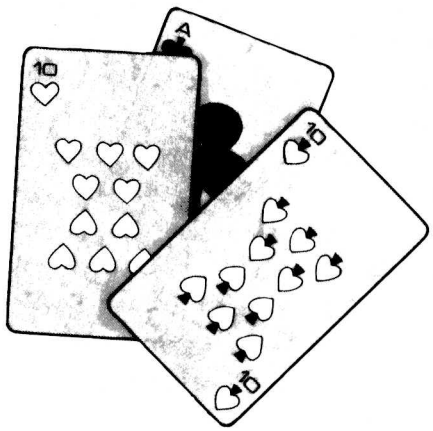
```
POKE 4Ø96Ø+4Ø*R,A
                [48K ORIC]
POKE 8192+4Ø*R,A
                [16K ORIC]
```

There isn't space to give detailed examples, but you can find them in the new book *Easy Programming for the Oric*, by Ian Stewart and Robin Jones, Shiva Publishing, 4 Church Lane, Nantwich.

Blackjack

By Jock & Stuart Hall

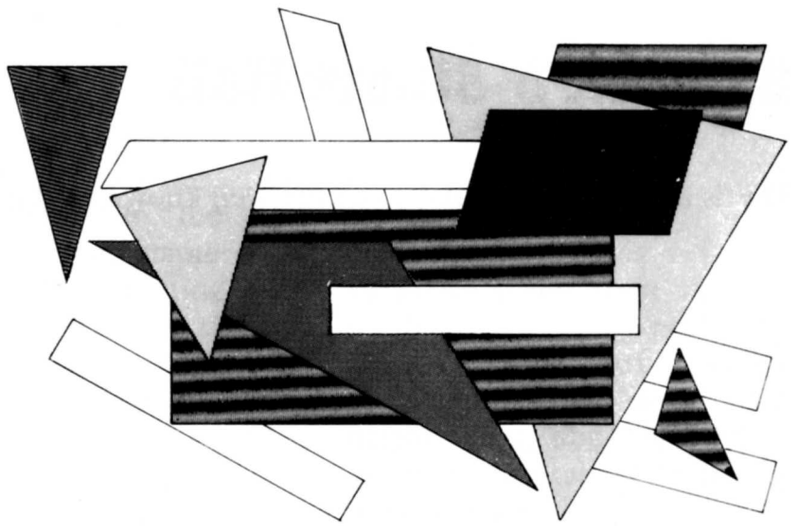
This is a computer simulation of the well known card game.



```
10 YM=1000
20 LORES 0
30 INK 0:PAPER 2
40 E$=" "+CHR$(27)
50 N$=CHR$(14)
100 GOSUB 500'GET CARD
105 CLS:PRINT"YOU HAVE _";YM;" IN CASH"
106 INK 0
110 YN=1:Y$(1)=C$ :D$(1)="":NG=17
115 Y(1)=C
117 SC=0
120 GOSUB 600'PRINT HAND
125 DOKE 18,48844
130 INPUT     "HOW MUCH TO BET";B
135 GOSUB 800'GET DEALER CARD
140 GOSUB 500
150 YN=2:Y$(2)=C$
160 Y(2)=C
170 OS=16'DEALER OFFSET
190 B=ABS(B)
200 GOSUB 600
205 IF B>YM THEN GOTO 3000
210 GOSUB 1000
215 FOR I=1 TO NG:PRINT:NEXT
220 IF SC>21 THEN PLOT 5,20,"YOU'RE BUST!
" :YM=YM-B :GOTO 260
230 PRINT N$; "SCORE";SC;"    ";
240 PRINT "DEALERS TURN"
250 GOSUB 2000
260 PRINT "YOU NOW HAVE _";YM;"          "
265 PRINT "WANT TO PLAY AGAIN? (Y/N?)";:GET Q$
267 IF Q$="Y" THEN GOTO 100
270 PRINT"BYE":END
500 REM RANDOM CARD
510 C=INT(1+RND(1)*13)
520 IF C>1ANDC<10THEN C$=CHR$(48+C):RETURN
525 IF C=10 THEN C$="10"
530 IF C=11 THEN C$="J"
540 IF C=12 THEN C$="Q"
550 IF C=13 THEN C$="K"
555 IF C>10 THEN C=10
570 IF C=1 THEN C$="A" :C=11
590 RETURN
600 REM PRINT HAND
603 IF D$(1)="DEALER"THENOS=16:GOTO 610
604 OS=0
610 I=YN
615 C$=Y$(I)
620 GOSUB 1200 :REM CARD DISPLAY
640 PRINT
790 RETURN
800 GOSUB 500
810 DN=1
820 X=18:Y=2
830 D(1)=C
840 GOSUB 1230
850 RETURN
1000 REM STICK OR TWIST
1005 IF SC>21 THEN RETURN
1010 PLOT 5,20,"STICK OR TWIST ? (S/T?)"
1015 DOKE 18,48844
1020 GET Q$ :NG=NG-1
1030 IF Q$="S" THEN GOTO 1085
1040 IF Q$<>"T" THEN GOTO 1010
1045 GOSUB 1050:GOTO 1000
1050 GOSUB 500
1060 YN=YN+1:Y$(YN)=C$
1070 Y(YN)=C
1080 GOSUB 600
1085 NA=0
1090 FOR I=1TOYN
1100 IF Y(I) =11 THEN NA=NA+1
1110 NEXT
1120 SC=0
1130 FORI=1TO YN
1140 SC =SC+Y(I)
1150 NEXT
1155 IF YN=5 AND SC<21 THEN SC=20.5
1160 IF SC<22THEN RETURN
1170 IF NA<1THENRETURN
1180 NA=NA-1 :SC=SC-10
1190 GOTO1155
1200 REM CARD DISPLAY
1210 X=I*2+OS:REM DEALER OFFSET
1220 Y=I*2
1230 FOR N=0 TO 7
1240 PLOT X,N+Y,CHR$(23)+"      "
1250 PLOT X+6,N+Y,CHR$(18)
1260 NEXT
1270 PLOT X+1,Y+1,C$
1400 RETURN
2000 REM DEALER
2010 YS=SC
2020 YN=1:Y(1)=D(1):Y$(1)=D$(1)
2030 D$(1)="DEALER"
2040 GOSUB 1050
2045 IF SC=YS THEN PRINTN$; "EVENS BET AGAIN":RETURN
2050 IF SC<YS GOTO 2040
2060 IF SC>21THEN PRINTN$; "DEALER BUST  ";:YM=YM+B:RETURN
2070 PRINT N$;" DEALER WINS!  ";:YM=YM-B
2080 RETURN
3000 REM BROKE
3010 FOR I=1 TO 3
3020 SHOOT
3030 WAIT 50
3040 NEXT
3050 CLS:PAPER1
3055 PRINTCHR$(12)
3060 INK 0
3070 PRINTCHR$(4)E$"J  IF YOU BET WHAT YOU AIN'T GOT"
3075 PRINT:PRINT:PRINT
3080 PRINTE$"J          YOU DIE!"
3090 PRINTCHR$(4):END
```

Forms

Frank Little is a freelance programmer, currently producing program packages on the IBM Personal and similar computers in the field of insurance consultancy. He is also a 6502 enthusiast, and was an interest in modular concept peripherals. MCP makes add-ons for the ORIC-1, and will soon be releasing an adventure game for it.



Manufacturers of business computers have been a bit sniffy about colour displays in the past. Prestel, and the adoption of colour screens by IBM have changed that. Apart from the fact that the average business user is as avid a computer games player as the next man (or boy), the use of colour helps in the presentation of business information and, if done tastefully, does wonders for the image of a company when its computer is used as a sales aid.

The following program makes use of the facility on the ORIC to change the background colour of areas of a screen. The purpose of the program is to simulate the filling in of a form by indicating the areas to be completed in cyan and allowing the person supplying the information to move over these areas by means of the cursor keys. The program prevents typing in the white areas by making a substitute cursor skip over them. There is one advantage over filling in a paper form – you can retype over an error without making a mess!

'FORMS' can be adapted to most personal 'data capture' situations by altering the prompts and whatever is done with the string arrays. It was originally conceived to help turn ORIC into a colour terminal for a larger computer and should prove more useful (after it has been speeded up) in a business context when the ORIC disc drives are available later this year.

In the following example, the Cwmtawe Building Society is (I hope!) entirely fictitious, very male chauvinist, and bases its mortgages on two-and-a-half times a husband's – or potential husband's – salary plus his other income once, plus half his wife's or fiancee's income.

Comments on the program:
Lines 0–26 contain the start and finish columns (X co-ordinates) of the background colour. To make it easier to amend the program, I have made the line number of the DATA statement the same as the corresponding line number on the screen (Y co-ordinate). Since typing in column 0 is taboo, a code of 0 is used to indicate that all this line is protected (see line 130).

50 This sets up an array of bytes 38 × 26 which parallels the data on the screen – each byte in the array will represent the status of each byte on the screen. High-values (CHR$(255)) means that the corresponding byte cannot be typed over; the remaining bytes contain a printable value – either the initial space, or a copy of what has been typed in.

I could save space by using a single array (DIM S$(26)) but that would have meant using MID$ to get at individual bytes, which would have made the logic less clear.

60 Turn CAPS off to allow lower-case input; cursor off to prevent distraction.

100 Process a line at a time.

110 Makes sure that the first two columns are marked 'out of bounds'.

120 takes the next two items of data.

135 clears all the line to spaces and marks the corresponding bytes in the array 'out of bounds'.

240–340 A bit sneaky – on normal exit from a FOR . . . NEXT loop, the control variable (X) in this case) is always equal to the limit (the value after the UNTIL) plus the step value, which is 1 in this case.

350 Since a FOR. . .NEXT loop is always entered once, even if the limit has already been exceeded, this line prevents us going into the final loop (360–420) if we have already plotted the last character position in the line.

450–460 These literals are going to be used in more than one place, so we can save space by defining them once.

560 plonks a pseudo-cursor in the first position to be filled in.

580 sets up the initial co-ordinates of the 'cursor' and the column number of the end of the prompts.

Lines from 600 onward are indented to make the logic as clear as it ever will be. The loop would go somewhat faster if the initial colons and spaces were removed.

620 emulates the ORIC GET command. This is a useful dodge for BASICs that do not have a GET which waits for a key to be depressed.

I cannot use GET here because there is a fault in the earlier versions of BASIC on ORIC-1 such that NULL (no value) is returned for a keyboard input of ' (apostrophe). Some addresses contain apostrophes.

(A digression. A friend of mine, who worked in a large computer establishment not a million miles from this office, lives in a village called Godre'rgraig. He makes a point of including the name in all his correspondence with large organisations, because he knows what trouble the apostrophe in the middle causes in computer data preparation and name-and-address print programs – and, of course, he can complain loud and long about the insult to the Welsh language if it is omitted.)

640, 660 127 is the decimal value of the ASCII code for DELete.

680 If the character typed in is printable, it is not only plotted onto the screen but also saved in the array.

700, 720, 740, 760 8, 10, 11 and 9 are the codes for the cursor keys in the order in which they appear on the keyboard.

712, 732, 748, 761, 794 – the character from the array has to be plotted back before the pseudo-cursor is moved.

780 13 is the code for carriage return. This section of code allows you to skip from the current line to the start of the next place for data to be entered.

840–860 Each money amount is vetted and converted to a variable.

920 FAULT is a Boolean value, true or false. If there has been an error on input, we go back to the start of the cursor movement routine.

2160, 2170 In real use, the vetting would be a lot more sophisticated and the messages more user-friendly.

2175 Clear any error indication which might be present.

Further vetting could be applied to the postcodes. For large users, there is an advantage in capturing correct postcodes because the Post Office gives a discount to bulk postings of sorted postcoded mail.

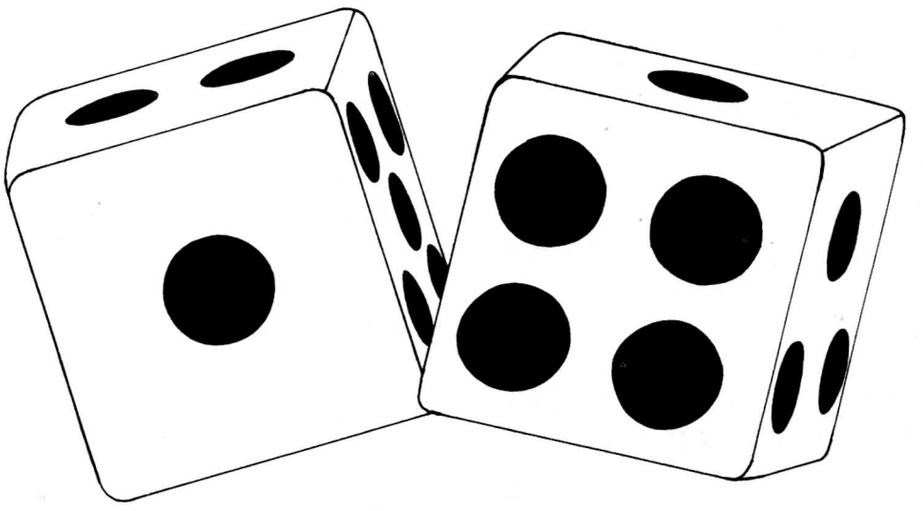
Forms

```
0 DATA 8,37
1 DATA 8,37
2 DATA 8,37
3 DATA 8,37
4 DATA 8,17
5 DATA 0,0
6 DATA 8,17
7 DATA 0,0
8 DATA 0,0
9 DATA 8,17
10 DATA 0,0
11 DATA 0,0
12 DATA 8,37
13 DATA 8,37
14 DATA 8,37
15 DATA 8,37
16 DATA 8,17
17 DATA 0,0
18 DATA 8,17
19 DATA 0,0
20 DATA 0,0
21 DATA 8,17
22 DATA 0,0
23 DATA 0,0
24 DATA 0,0
25 DATA 0,0
26 DATA 0,0
40 CLS
50 DIM S$(38,26)
60 PRINTCHR$(20);CHR$(17)
100 FOR LI=0 TO 26
110 :  S$(0,LI)=CHR$(255):S$(1,LI)=CHR$(255)
120 :  READ C1,C2
130 :  IF C1)0 THEN 160
135 :  FOR X=2 TO 38
140 :    PLOT X,LI," ":S$(X,LI)=CHR$(255)
145 :  NEXT X:GOTO 440
160 :  FOR X=2 TO C1
180 :    PLOT X,LI," "
200 :    S$(X,LI)=CHR$(255)
220 :  NEXT X
240 :  PLOT X,LI,CHR$(22)
260 :  S$(X,LI)=CHR$(255)
280 :  FOR X=X+1 TO C2
300 :    S$(X,LI)=" "
310 :    PLOT X,LI," "
320 :  NEXT X
340 :  PLOT X,LI,CHR$(23):S$(X,LI)=CHR$(255)
350 :  IF X)37 THEN 440
360 :  FOR X=X+1 TO 38
380 :    PLOT X,LI," "
400 :    S$(X,LI)=CHR$(255)
420 :  NEXT X
440 NEXT LI
450 C1$="Postcode":C2$="Salary _"
460 C3$="Other":C4$="income_"
470 PLOT 1,0,"Name and":PLOT 2,1,"address"
480 PLOT 1,4,C1$
490 PLOT 1,6,C2$
500 PLOT 1,8,C3$:PLOT 2,9,C4$
510 PLOT 1,12,"Partner":PLOT 1,13,"N/Add"
520 PLOT 1,16,C1$
530 PLOT 1,18,C2$
540 PLOT 1,20,C3$
550 PLOT 2,21,C4$
560 PLOT 10,0,128
580 X=10:Y=0:C3=8
600 REPEAT
620 :  A$=KEY$:IF A$="" THEN 620
640 :  IF A$)CHR$(127)THEN 800
660 :  IF A$=CHR$(127) THEN PLOT X,Y," ":S$(X,Y)=" ":GOTO 702
680 :  IF A$)CHR$(31) THEN PLOT X,Y,A$:S$(X,Y)=A$:GOTO 722
700 :  IF 8()ASC(A$) THEN 720
702 :    KX=X-1:KY=Y
704 :    IF KX)0 THEN 710
706 :    IF KY=0 THEN PRINTCHR$(7):GOTO 800
708 :    KY=KY-1:KX=38
710 :    IF S$(KX,KY)=CHR$(255) THEN KX=KX-1:GOTO 704
712 :    PLOT X,Y,S$(X,Y)
714 :    X=KX:Y=KY:PLOT X,Y,128
718 :    GOTO 800
720 :  IF 9()ASC(A$) THEN 740
722 :    KX=X+1:KY=Y
724 :    IF KX(39 THEN 730
726 :    IF KY=26 THEN PRINTCHR$(7):GOTO 800
728 :    KY=KY+1:KX=C3
730 :    IF S$(KX,KY)=CHR$(255) THEN KX=KX+1:GOTO 724
732 :    PLOT X,Y,S$(X,Y)
734 :    X=KX:Y=KY:PLOT X,Y,128
738 :    GOTO 800
740 :  IF 10()ASC(A$) THEN 760
742 :    KX=X:KY=Y+1
744 :    IF KY)26 THEN PRINT CHR$(7): GOTO 800
746 :    IF S$(KX,KY)=CHR$(255) THEN KY=KY+1:GOTO 744
748 :    PLOT X,Y,S$(X,Y)
750 :    Y=KY:PLOT X,Y,128
758 :    GOTO 800
760 :  IF 11()ASC(A$) THEN 780
762 :    KX=X:KY=Y-1
764 :    IF KY(0 THEN PRINT CHR$(7): GOTO 800
766 :    IF S$(KX,KY)=CHR$(255) THEN KY=KY-1:GOTO 764
768 :    PLOT X,Y,S$(X,Y)
770 :    Y=KY:PLOT X,Y,128
778 :    GOTO 800
780 :  IF 13()ASC(A$) THEN 800
782 :    KX=C3:KY=Y+1
784 :    KX=KX+1:IF S$(KX,KY)=CHR$(255)THEN 796
785 :    IF KX(38 THEN 784
788 :    IF KY(26 THEN KY=KY+1:KX=C3:GOTO 784
790 :    PRINT CHR$(7):GOTO 800
792 :    KX=KX+1:IF S$(KX,KY)=CHR$(255) THEN 796
794 :    PLOT X,Y,S$(X,Y):X=KX:Y=KY:PLOT X,Y,128:GOTO 800
796 :    IF KX(38 THEN 792
798 :    IF KY(26 THEN KY=KY+1:KX=0:GOTO 792
800 UNTIL A$=CHR$(27)
820 FAULT=FALSE
840 LI=6:GOSUB 2000:V1=A
860 LI=9:GOSUB 2000:V2=A
880 LI=18:GOSUB 2000:V3=A
900 LI=21:GOSUB 2000:V4=A
920 IF FAULT THEN 600
940 V5%=INT(2.5*V1+V2+(V3+V4)/2)
1000 PRINTCHR$(17);CHR$(20)
1020 FOR LI=3 TO 22:PRINT:NEXT LI
1040 PRINTSPC(5);"Subject to availability of funds"
1060 PRINT"the Cwmtawe Building Society would be"
1080 PRINT"prepared to advance you a mortgage of"
1100 PRINT"up to: _";V5%;
1200 END
2000 KX=C3:A$=""
2020 REPEAT
2040 :  KX=KX+1
2060 :  B$=S$(KX,LI)
2080 UNTIL B$(CHR$(128)
2100 REPEAT
2120 :  IF B$="," OR B$=" " THEN 2200
2140 :  IF B$="." THEN 2180
2160 :  F1=(B$("0")OR(B$)"9")
2170 :    IF F1 THEN PLOT 20,LI,CHR$(1)+"(- Error":B$=CHR$(255):GOT
O 2220
2175 :  PLOT 20,LI,"          "
2180 :  A$=A$+B$
2200 :  KX=KX+1:B$=S$(KX,LI)
2220 UNTIL B$)CHR$(127)
2230 FAULT=FAULT OR F1
2240 A=VAL(A$)
2260 RETURN
```

Random Chance

By David Sinfield

When writing games programs it is useful to obtain a truly random series. The ORIC 1 in common with most micros produces its random numbers by working a fairly complex formula on a 'seed' to start a series. The problem with this approach is that the same seed always produces the same series, i.e. ?RND(1) will produce a series starting ·973136996, ·103117626. . . . etc every time it is called. The series is 'reset' by a power down reset.



This is often good enough but, in some card games for instance, the player soon gains an advantage by knowing what's coming next. Some programs try to overcome this by requesting a seed at the start but again if the same seed is given at each start up the same number series will be produced.

When naive I suggested that RND(RND(1)) might do the trick for reasons which should have been obvious it doesn't.

The problem reduced to its simplest form is that the machine is wholly predictable. This is for the most part a good thing! but for games we need to introduce some 'chance' elements.

This short BASIC routine can be slotted in in place of a GET or inserted in place of the usual request for a seed:

```
10 D =KEY :REM THIS
   CLEARS KEYBOARD
   BUFFER
20 C=0:PRINT"PRESS A
   KEY TO CONTINUE"
30 A =KEY$ :C=C+1:IF A
   ="" THEN 30
```

The variable C will continue a number dependant on the time between the first execution of line 20 and the pressing of a key. The count operates at about 80Hz and the value of C is impossible to repeat at will.

C can be used as the seed as in RND(C) or can itself be used to obtain a number between 0 and n by using the formula n*(SIN (C)+1)/2.

It is possible to have another IF . . .THEN statement to protect C from overflow but the routine will loop for about 6.7×10^{28} years!

Journey of a Space Traveller

WORDS UNDERSTOOD

GO IN, GO OUT, GO TAXI, OUT, N, S, E, W, WAIT, SING, SAVE, WEAR, SCORE, ROW, SAIL, THROW, LIGHT, GET, TAKE, GRAB, CLIMB, DOWN, READ, **** OFF, TIME, DIG HELP, SEARCH, DROP, LEAVE, GIVE, OPEN, PHONE, QUIT, LOOK, KISS, PRAY, LOAD, CLOAD, PUSH, PULL, EAT, ATTACK, HIT, KILL, EXAMINE, SWIM, USE, INSERT, UNLOCK, WEAR, JUMP, INVENTORY, BUY, CRACK, COOK, SORRY, SAIL, ROW,

TREASURES TO FIND

1. GOLD
2. SILVER
3. PLATINUM
4. CAMERA
5. ROCKET FUEL
6. ZIRCONIUM
7. RADIO TRANSMITTER
8. EGYPTIAN POTTERY
9. DIAMOND RING
10. ROMAN COIN
11. ROMAN COIN

HINTS

1. MOVING ABOUT:–
N,S,E,W take you to most locations:–
but:–
(a) at cliff top JUMP --- you must have the parachute
(b) on a ledge CLIMB --- you must have the rope!!
(c) by a door:– OPEN DOOR (in warehouse)
(d) by a pigsty:– GO IN
(e) the pig won't let you past :– PUSH PIG
(f) by lake:– SWIM (or SAIL/ ROW if you have the boat)
(g) by the monument:– GO IN
(h) in the monument:– GO OUT
(I) by taxi rank:– GO TAXI
(j) in bus queue:– WAIT
(i) in bus:– WAIT

HINTS

1. SWEARING:– gives response:– how dare you speak to me like that! etc:– reply SORRY or you will end the program
2. don't light dynamite!:– you get blown up
3. CLOAD or LOAD only work if you have the software and are by the ORIC computer.
4. in the bus queue:– WAIT:– you will get on bus and find the ROMAN COIN:– then WAIT again to get off the bus
5. by the monument:– GO IN to get the RADIO TRANSMITTER
6. on the beach:– where the sunbathers are:– give lotion --- found in the supermarket to GET CAMERA
7. to get the platinum bar:– you need the trolley:– to get this you need to examine the farmer to get the hint that you need the book of poetry
(a) GET BOOK in the classroom and GIVE BOOK to the farmer!
(b) GET trolley ---- you will then be able to get the platinum!
8. to get the rocket fuel:– this is locked inside the shed near to the lake:– you need the key (near the crossroads) and must UNLOCK the shed
9. to get the GOLD pen:– it is in the classroom by the headteacher. If you try to get it you will not be allowed: Try examine HEAD, which gives the clue that you should SING:– which

will allow you to get the pen.
10. To get the roman coin:– in the BUS queue: WAIT after getting the coin on the bus type WAIT again.
11. to get the DIAMOND:– get DRIFTWOOD
12. to get RADIO transmitter GO IN at the monument
13. to get the SILVER BULLION:–DIG in the field:– you need the spade
14. to get the egyptian POTTERY:– this is in the LEAD CASKET:– you need the sword to OPEN CASKET
15. to get the CAMERA:– give the sun lotion to the sunbathers
16. to get the ZIRCONIUM:– examine pebbles:– found in the stream!
17. to move at random try PRAY:– which works 50% of the time

FROM
S. W. Lucas
47 Longcroft Lane
Cheadle Hulme
Cheshire SK8 6SE

I have been sent on a dangerous mission to a distant planet at the other end of the universe. The planet is called Earth and I have heard that this is a dangerous place for space travellers. My task is to find the ten earth treasures and bring them back to my space ship. In addition, I need to find some fuel for the return journey. You must give me instructions in the form of TWO WORD sentences such as GET ELEPHANT. The task is a difficult one. Good luck!!!

Program Listing

```
5 REM ADVENTURE GAME
6 REM WRITTEN FOR THE 48K ORIC 1
7 REM BY S.W. LUCAS 1983
10 CX=0:BX=0:YX=0:XX=0:JX=0:KX=0:PX=2:MX=0:ZX=0
20 AA=0:AB=0:AC=0:AD=0:AE=0:AF=0:AG=0:AH=0:AI=0:AJ=0:AK=0:AL=0:AM=0
:AN=0
21 AO=0:AP=0:AQ=0:AR=0:AS=0:AT=0:AU=0
25 TEXT:GRAB:PAPER0:INK7:DIM$%(85,4),D$(85),G$(53),V$(3),B%(60,1),N
$(69)
26 DIMX$(30),N%(69):PX=2:CX=0
27 GOSUB1080:RESTORE
30 GOSUB370
35 GOSUB960:CLS
40 CLS
50 PRINTCHR$(131);"I  am ":PRINTD$(PX):A$="":IFS%(PX,1)>0THENA$="No
rth"
60 GOSUB1100:IFS%(PX,2)>0ANDLEN(A$)>0THENA$=A$+",South"
61 IFS%(PX,2)>0AND LEN(A$)=0THENA$="South"
70 IFS%(PX,3)>0 AND LEN(A$)>0THENA$=A$+",East"
71 IFS%(PX,3)>0 AND LEN(A$)=0 THENA$="East"
80 IFS%(PX,4)>0 AND LEN(A$)>0 THENA$=A$+",West"
81 IFS%(PX,4)>0ANDLEN(A$)=0THENA$="West"
90 IFS%(PX,1)=0ANDS%(PX,2)=0ANDS%(PX,3)=0ANDS%(PX,4)=0THENA$="nowhe
re at all"
100 IFAX=11THENCLS:PRINT:PRINT:PRINT"Well done you have located all
 the"
101 IFAX=11THENPRINT"treasures and":PRINT:PRINT"flown your ship hom
e"
102 IFAX=11THENZAP:WAIT30:PING:PAPER1:END
110 PRINT:PRINT:PRINT:PRINTCHR$(129);"I can go:-":PRINTA$:PRINT:PRI
NT:PRINT
120 F=0:FORT=11051:PP%=0:IFB%(T,1)=PX THENPP%=1
```

Program Listing

```
130 IFPP%=1THEN150
140 NEXT:GOTO170
150 IFE=0THENPRINTCHR$(134);"That looks like:-"
160 PRINTB$(T):E=E+1:GOTO140
161 PRINTCHR$(134);
170 PRINT:PRINTCHR$(133);:INPUT"What should I do now";Z$:A=FRE("")
171 C$=LEFT$(Z$,3)
172 B$=LEFT$(Z$,1):CLS
173 IFZ$="GO IN"THENGOSUB1650:GOTO50
174 IFZ$="GO TAXI"THENGOSUB1670:GOTO50
175 IFC$="OUT"ORZ$="GO OUT"THEN2500
180 IFZ$<>"GO IN" ANDLEFT$(Z$,2)="GO"THENPRINT"JUST USE THE FIRST L
ETTER":GOTO50
190 PRINT:PRINT:PRINT"HOLD ON A SEC!":PING
200 IFB$="N"ANDS%(P%,1)<>0THENP%=S%(P%,1):GOTO50
205 IFC$="WAI"THEN2000:ELSEIFC$="SIN"THEN2100ELSEIFC$="SAV"THENPRIN
T"SORRY":GOTO50
210 IFB$="W"ANDC$<>"WEA"ANDS%(P%,4)<>0THENP%=S%(P%,4):GOTO50
215 B$=LEFT$(Z$,2)
220 IFB$="S"ANDMID$(Z$,2,1)<>"H"ANDS%(P%,2)<>0THENP%=S%(P%,2):GOTO5
0
230 IFB$="SC"THENGOSUB1100:PRINT"You have scored ";A%;" out of 11":
GOTO50
235 IFC$="ROW"ORC$="SAI"THENGOSUB1690
240 IFB$="TH"THEN1240
242 IFC$="E"ANDS%(P%,3)<>0ANDMID$(B$,2,1)<>"X"THENP%=S%(P%,3):GOTO5
0
245 IFC$="LIG"THEN2200
250 IFB$="GE"ORB$="TA"ORB$="GR"THEN600
255 IFC$="CLI"ORC$="DOW"THEN1290
257 IFB$="RE"THEN1190
258 IF(B$="FU"ORB$="PI"ORC$="BUG")THEN1160
260 IFC$="TIM"THEN1540
```

```
265 IFC$="DIG"THEN1630
270 IFB$="HE"THEN950ELSEIFC$="SEA"THEN1520
275 IF(B$="DR"ORB$="LE"ORC$="GIV")THEN730 ELSEIFC$="OPE"THEN1280
280 IFC$="PHO"THEN 1450 ELSEIFB$="QU"THEN1310
285 IFC$="LOO"THEN50 ELSEIFC$="KIS"THEN1470
287 IFB$="PR"THEN1180 ELSEIFC$="LOA"ORC$="CLO"THEN1480 ELSEIFB$="PU
"THEN1210
290 IFC$="EAT"THEN1330 ELSEIF(B$="AT"ORB$="HI"ORB$="KI")THENSHOOT:G
OTO830
295 IFC$="OPE"THEN1550ELSEIFC$="EXA"THEN840
300 IFC$="SWI"THENGOSUB1570ELSEIF(C$="USE"ORC$="INS"ORC$="UNL")THEN
930
310 IFC$="WEA"THEN1250 ELSEIFC$="JUM"THEN1270
315 IFC$="INV"THEN900ELSEIFC$="BUY"THEN1370
317 IFC$="CRA"THENPRINT"I D I O T":PING:GOTO50
318 IFC$="COO"THENPRINT"How can I cook anything????":GOTO50
320 K$=LEFT$(B$,1)
330 IFLEFT$(A$,3)<>"SOR"THENLL=1 ELSELL=0
340 IFB$<>""ANDLL=1 ANDK$<>"S"ANDK$<>"N"ANDK$<>"E"ANDK$<>"W"THENPRI
NTX$(28)
350 GOTO50
360 END
370 FORH=1TO85:FORD=1TO4
372 READ S%(H,D):NEXT
375 READ0$(H):NEXT
380 FORH=1TO51:READG$(H),B%(H,1):NEXT
390 FORH=1TO69:READN$(H),N%(H):NEXT
400 RETURN
410 DATA0,0,2,0,In a field,0,4,3,1,by a stream,0,0,71,2,paddling in
 a stream
415 DATA2,0,5,6,on a footpath,0,0,77,4,on a bridge,0,0,4,7,by a lak
e
416 DATA0,0,6,0,by a hut. It is locked,0,0,9,0,on a sandy beach
417 DATA0,0,10,8,on a footpath,0,0,0,9,on a cliff
420 DATA0,12,18,0,at the bottom of a cliff,11,0,0,13,on a beach
423 DATA14,0,12,15,on a narrow trail,0,13,0,0,in a forest,0,0,13,0,
on a ledge
425 DATA0,0,17,85,ON A FOOTPATH,0,0,19,16,BY A WALL,0,0,0,11,in the
 sea
```

Program Listing

```
427 DATA0,20,0,17,by a building,19,21,0,0,at the entrance to a ware
house,20,0
428 DATA22,0,in the warehouse,0,23,0,21,by some boxes,22,0,0,0,by a
 door
430 DATA23,0,38,25,in a carpark,0,0,24,26,in the high street
435 DATA27,0,25,29,by a supermarket,0,26,0,28,in a supermarket
437 DATA0,29,27,0,by the checkout
450 DATA28,0,26,30,in the high street,0,0,29,31,at the edge of town
455 DATA0,32,30,0,on a road,31,0,33,81,at a road junction
456 DATA0,34,0,32,by a footpath,33,35,0,0,on a footpath
457 DATA34,0,0,36,in a field,0,37,35,0,in a farmyard,36,0,0,0,by a
pigsty
460 DATA37,0,0,0,in the pigsty...It's very smelly.      a pig blocks
 my way
463 DATA38,40,0,0,by a tunnel,39,0,0,41,in a tunnel
465 DATA0,42,40,0,in a tunnel. I can see light,41,0,43,0
466 DATAat the end of a tunnel,0,0,44,42,by an old mansion. It is l
ocked
467 DATA45,0,0,43,in a garden
470 DATA46,44,0,0,in a garden,47,45,52,0,by a gate,50,46,48,0,in th
e woods
472 DATA49,0,0,47,in the woods,51,48,0,50,in the woods,0,47,49,0,in
 the woods
475 DATA0,49,0,0,in a clearing,0,53,0,46,on a footpath,52,54,0,0,on
 a slope
476 DATA53,55,0,0,on a steep slope
480 DATA54,56,0,0,at the top of a hill,55,57,0,0,by a monument
```



```
482 DATA56,0,0,0,at my spaceship.,66,59,65,24,by some traffic light
s
485 DATA58,60,0,0,on a pavement,59,64,0,61,by an electrical shop
490 DATA0,62,60,63,in an electrical shop,61,0,0,0,by the computer d
isplay
492 DATA0,0,61,0,in a TV demonstration room
495 DATA60,0,0,0,by a newsagents. It is closed.
496 DATA0,0,0,58,by a closed Fish & Chip shop,67,58,0,0,in a bus st
ation
500 DATA70,66,68,69,in a crowded bus station,0,0,0,67,in a bus queu
e
505 DATA0,0,67,0,in the enquiry office,0,67,0,0,by a taxi rank
506 DATA0,72,73,35,on the muddy banks of a stream
507 DATA71,0,0,0,on the banks of a stream
510 DATA76,74,75,71,in a quarry,73,84,0,0,by a hut,0,0,0,73,by a bu
lldozer
```



```
512 DATA0,73,0,0,by a granite rock face
513 DATA0,78,0,5,at the entrance to a primary school
515 DATA77,79,0,0,in the entrance hall of a primary      school
516 DATA78,83,80,0,in a corridor,0,82,0,79,in a classroom
517 DATA0,0,32,0,on a road. The way west is blocked     by a fallen
tree
520 DATA80,0,0,83,in a classroom,79,0,82,0,in an office
525 DATA74,0,0,0,in a hut,85,85,85,85,lost in a forest.
530 RETURN
540 DATAa boat,7,some pebbles,3,a shovel,3,,1,a rope,5,a secretary,
79
542 DATAthe headteacher,80,a book of poetry,82,a #GOLD# pen,80
545 DATAa box,22,some newspapers,64,an ORIC micro,62,computer softw
are,61
546 DATAa can of baked beans,27,a taxi driver,70,a man,69
550 DATAa queue,68,a pig,38, a monument,56,a gate,46,some mushrooms
,51
```


continued on page 31

How to get the most out of your Oric 1

By G. M. Phillips

This series of articles on the workings of Oric BASIC continues this issue with the subject of CONDITIONS.

When do you need a condition?

Computers rise above calculators because of their ability to do different actions depending on a variety of circumstances. Without conditional statements, a BASIC program would only follow one very restricted path.

So a conditional statement is one that allows the program to BRANCH off to different line, or to perform other statements.

The IF statement

The 'IF' statement in BASIC exists (in some form) in all computer languages. An IF statement is written in two parts: the IF condition(s) and the actions that are to be performed if the conditions are satisfied.

To indicate the start of actions, we use 'THEN', for instance:

IF A=7 THEN PRINT "SEVEN"

In the same way as you can have several commands on one line, so there can be many colon-separated commands after the THEN clause.

e.g. IF A=22 THEN PRINT:PRINT "twenty two"

The important thing to remember is that the instructions after 'THEN' are only executed providing that the preceding conditions are true. The exception to this is when the "awful' ELSE command is used. In this case, the ELSE stops the computer executing the actions when the conditions were satisfied, or acts like "THEN' if the tests were false.

e.g. IF A$="YES' THEN PRINT "YEA" ELSE PRINT "NAE"

Jumping around

Instead of doing a few actions depending on a set of conditions, it may be that you have two totally different tasks to perform. For this, you will need to jump off to another line, and this is done by putting a line number after the THEN clause, as in:

200 IF Y=B THEN 1200

If you want to do some other commands before jumping off, then you must specify 'GOTO' – for example:

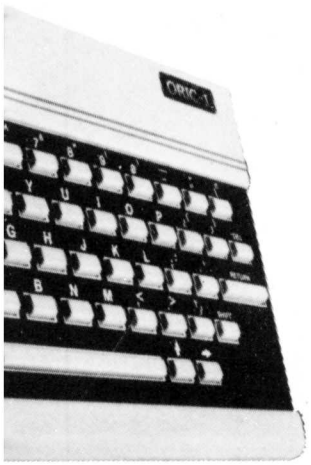
200 IF Y=B THEN PRINT:PRINT:GOTO 1200

Multiple conditions

We have seen how to include several action commands, simply by using colons, but it is the conditions which are harder to understand.

The result of an 'IF' condition is either TRUE or FALSE, and this is represented (internally) by values of −1 and 0, respectively. This is because in the Binary system, −1 is in fact 1111 1111 – i.e. all 1's, whereas 0 is obviously all zeroes.

In order to create a complicated conditional statement, we need to use the clauses: OR, AND and NOT.



The 'OR' clause is followed by a conditional statement which allows the outcome of the IF to be dependant several conditions. In the following example, we jump to line 300 if B is either 9 or 23:

30 IF B = 9 OR B = 23 THEN 300

You can use as many OR clauses as you like, to expand the conditions, or restrict conditions by using 'AND'.

The AND clause is used in an IF statement to cut down the chances of the conditions being satisfied. For instance, in the following example, two conditions must be satisfied before the action is performed:

300 IF B=9 AND C=33 THEN PRINT

You may use 'AND' with 'OR' in any combination, though you have to be careful that your conditions are understood correctly by the computer.

e.g. 100 IF A=1 OR B=2 AND C=4

In line 100, it is not clear whether we mean 'A is 1 or both B=2 and C=4' or 'Both A is 1 and B is 2 and also C is 4'.

To clarify this, as we also do in complex mathematical statements, we use parenthesis. These brackets surround parts of the conditions which are to be interpreted first. So the two possibilities for our example would be:

100 IF (A=1 OR B=2) AND C=4

100 IF A=1 OR (B=2 AND C=4)

The golden rule of logic is – Keep it simple. Use brackets whenever it could make a logical expression easier to understand. Also, try to avoid negative conditions, as in:

IF A<>4 THEN PRINT 5 ELSE PRINT 6

Can you see what is wrong with this statement?:

304 IF B=4 AND B=5 THEN . . .

Yes, the condition will never be satisfied because of the 'AND'. Easy? – How about:

100 IF B=8 OR (B=8 AND C=8)

If B is 8 then we do not need to test the value of C.

TRUE and FALSE

Earlier we stated that a true condition had a value of −1, whilst a false one was zero.

The use of this can be appreciated when you need a program switch, which is either on or off.

A program switch could be used to indicate the result of a condition, or perhaps indicate an error.
Here is an example, where a flag is set depending on a complicated condition:

1030 IF A=1 OR (B>82.2 AND C<82) THEN FLAG=−1 ELSE FLAG=0

,,
,,
,,
2000 IF FLAG=−1 THEN ,, ,, ,,

This is not using FLAG properly though; the IF/THEN can be simplified to:

1030 FLAG=(A=1 OR (B>82.2 AND C<82)

which will assign the correct logical answer to FLAG according to the result of the conditional statement.

In a similar way, we can improve line 2000 to:

2000 IF FLAG THEN ,, ,,

'FLAG' replaces the condition if FLAG=−1, since it returns a correct logical value of −1 and 0.

How to get the most out of your Oric 1

* * *

I here and I remember
I sea and I forget
I do and it doesn't even rhyme.
– old Chinese proverb.

This is fine when you want the condition to be dependant on FLAG, but if you wanted the opposite, you could either use:

2000 IF NOT (FLAG) THEN. . .

(NOT simply inverts the condition, so that TRUE becomes FALSE and vice versa)

or

2000 IF FLAG=FALSE THEN. .

TRUE and FALSE are preset variables containing −1 and 0, respectively. These can be used anytime in the program – just as PI can replace '3.14159'.

TRUE could be used to clarify a program statement, such as 'IF Y=TRUE THEN 880', but is not actually ever required. (IF Y=TRUE is the same as IF Y!)

Other conditional statements

IF is only one of the conditional statements, but is a fundamental part of the BASIC language. The same conditional logic can be found after the UNTIL command, where AND, OR and NOT are available (But not ELSE!).

ON X GOTO . . . and ON GOSUB are another type of conditional statement, though they are much less versatile. The manual explains these commands, and there is little to add here.

In a similar vein, the GOTO XX – i.e. a GOTO depending upon a variable value, is tremendously powerful. Its advantage over ON. .GOTO is that you do not need to specify dozens of line numbers for each value, but instead have to number your lines in some arithmetic progression.

For example, if you have 20 different messages/sound effects to produce, you could use the following method:

```
100 GOTO 8000+ NUMBER*10
,,
,,
,,
8000 ZAP:PRINT"ZAP":GOTO9000
8010 PING:PRINT"PING":GOTO9000
```

and so on. The program jumps to a line number that depends on Z times 10 plus 8000.

One disadvantage with this is that if RENUMBER is ever implemented on the ORIC, it could never be used on such a program! At the same time, this technique can save a lot of ON-GOTO lines!

The second DEMO program (for later ORICs) contains an example of this, as does the program 'HOUSE OF DEATH'.

Program Listing

```
553 DATAtraffic,32,a sword,43,a crab,18,a large key,58,,46,some pig
 droppings
555 DATA38,driftwood,12,a cigarette lighter,28,a farmer,36,a tracto
r,35
557 DATAsuntan lotion,27,a lead casket,49,a rubbish bin,25
560 DATAa gnome,14,sunbathers,8,a dead body..He must have got stuck
   here!
565 DATA10,a parachute,84,a bulldozer,75,,12,,56,a £PLATINUM£ bar,4
7,,3,,7
567 DATAa gamekeeper,48,,49,,21,a hammer,73,a stick of dynamite,74
568 DATAa woman,55,a viscious dog,29
570 DATABOAT,1,PEBBLES,2,SHOVEL,3,SILVER,4,ORB,4,ROPE,5,SECRETARY,6
,HEAD,7
573 DATATEACHER,7,BOOK,8,POETRY,8,GOLD,9,PEN,9,BOX,10,JEWEL,10
575 DATANEWSPAPER,11,ORIC,12,MICRO,12,SOFTWARE,13,CAN,14,BEANS,14,T
AXI,15
577 DATADRIVER,15,MAN,16,QUEUE,17,PIG,18,MONUMENT,19
580 DATAGATE,20,MUSHROOMS,21,TRAFFIC,22,SWORD,23,CRAB,24
584 DATAKEY,25,ANCIENT,47,MANUSCRIPT,47,DROPPINGS,27,DRIFTWOOD,28
585 DATACIGARETTE,29,LIGHTER,29,FARMER,30,TRACTOR,31,LOTION,32,LEAD
,33
588 DATACASKET,33,RUBBISH,34,BIN,34,GNOME,35,SUNBATHERS,36,BODY,37
590 DATAPARACHUTE,38,BULLDOZER,39,DIAMOND,40,RING,40,RADIO,41,TRANS
MITTER,41
594 DATAPLATINUM,42,BAR,42,ZIRCONIUM,43,ROCKET,44,FUEL,44
595 DATAGAMEKEEPER,45,PHEASANT,45,POTTERY,46,GRASS,26,SNAKE,26,HAMM
ER,48
597 DATADYNAMITE,49,WOMAN,50,DOG,51
600 GOSUB1020
605 IFL%=1THEN620
610 GOTO170
620 E%=0
630 FORH=1TO51
632 IFB%(H,1)=P% AND B%(N%(R),1)=P% THEN E%=1
640 NEXT
650 IFE%=0 THEN 170
660 CLS:IF(R=38ORR=39)THENAN=1:GOTO50
661 IFR=50THENB%=1
662 IF R=6THEN AA=1 ELSE IFR=1THEN AB=1 ELSE IFR=3 THEN AC=1 ELSEIF
R=31THENAE=1
663 IFR=67THENAD=1 ELSEIFR=7THENPRINTX$(16):GOTO50
664 IF (R=8 ORR=9)THENPRINTX$(17):GOTO50
665 IF (R=22 ORR=23) THENPRINTX$(9):GOTO50
666 IFR=24THENPRINTX$(9):GOTO50
667 IFR=69THENPRINT"OUCHHH. It bit me":GOTO1300
668 IFP%=6ANDR=25ANDAH=0THENPRINTX$(17):GOTO50
669 IFR=26THENPRINT"I've just been trampled to death":GOTO1300
670 IFR=27THENPRINTX$(9):GOTO50
671 IFR=30THENPRINTX$(17):GOTO50
672 IFR=36THENPRINTX$(18):GOTO50
673 IF (R=41 ORR=48 ORR=51) THENPRINTX$(17):GOTO50
674 IFP%=56AND(R=54ORR=55)ANDAP<>1THENPRINTIt's not here":GOTO50
675 IFR=68THENPRINTX$(16):GOTO50
676 IFP%=49ANDR=63ANDAO<>1THENPRINT"It's not here":GOTO50
677 IFR=31THENAR=1 ELSEIFR=40ANDAS<>1THENPRINTX$(17):GOTO50
678 IF(R=56ORR=57)ANDAT<>1THENPRINT"It's too heavy to carry":GOTO50
679 IFR=40THENAT=1 ELSEIFR=47THENPRINT"I've just been arrested for
theft":GOTO1310
680 IFR=33THEN AF=1 ELSE IF(R=20ORR=21)THEN AG=1
681 IFP%=62AND(R=17ORR=18)THENPRINTX$(25):GOTO1310
682 IFR=61THENPRINTX$(17):GOTO50 ELSEIFR=19 THEN AJ=1
683 IFP%=18ANDR=32THENPRINT"AAAGGGGHHH it's caught my artery":GOTO1
300
684 IFP%=3ANDR=58ANDAO<>1THENPRINT"I can't see it":GOTO50
685 IFR=62AND AI<>1THENPRINT"Won't let me!!!":GOTO50
686 IFP%=80AND(R=12ORR=13)ANDAL<>1THENPRINT"He won't let me":GOTO50
687 IFP%=12ANDR=37ANDAM<>1THENPRINT"There's something underneath"
688 IFP%=12ANDR=37ANDAM<>1THENS$(40)="a DIAMOND ring":AM=1
689 IFP%=49AND(R=43ORR=44)THENPRINT"TOO HEAVY!":GOTO50
```

Program Listing

```
690 E%=0
700 FORD=1TO3
705 IFV$(D)="" THENV$(D)=G$(N%(R)):E%=1:D=5
710 NEXTD
720 IFE%=0 THENPRINT"Just who do you think I am? SUPERMAN?":GOTO170
725 B%(N%(R),1)=0:PING:GOTO50
730 GOSUB1020
740 IFL%<>1THENPRINT"I haven't got a";L$:ZAP:GOTO50
750 E%=0
760 FORD=1TO3
765 IF V$(D)=G$(N%(R)) THENV$(D)="":E%=1
770 NEXT
780 IFE%<>1THENPRINT"Why are you so stupid? I don't have it":PING:G
OTO50
790 B%(N%(R),1)=P%
800 CLS
810 IFR=50THENB%=0ELSEIFR=6THENAA=0ELSEIFR=1THENAB=0ELSEIFR=3THENAC
=0
811 IFR=67THENAD=0ELSEIFR=31THENAE=0ELSEIFR=33THENAF=0
812 IF(R=20ORR=21)THENAG=0ELSEIFR=19THENAJ=0ELSEIFR=23THENAR=0
813 IFP%=48ANDR=29THENPRINT"He's so pleased he gives me a          £
PHEASANT£"
814 IFP%=48ANDR=29THENG$(45)="a #PHEASANT#":AI=1:G$(21)=""
815 IFP%=8ANDR=42THENPRINTX$(29):N$(42)="CAMERA":AK=1:G$(32)="a £CA
MERA£"
816 IFP%=8AND(R=26ORR=32ORR=49ORR=64ORR=65)THENPRINTX$(30):EXPLODE:
GOTO1300
817 IFR=38ORR=39THENAN=0
818 IFP%=36AND(R=10ORR=11)THENPRINT"He thanks me and gives me a tro
lley"
```

```
819 IFP%=36AND(R=10ORR=11)THENG$(30)="a trolley":N$(40)="TROLLEY":G
$(8)=""
820 IFP%=36AND(R=10ORR=11)THENAS=1 ELSEIFR=40THEN AT=0
821 GOTO50
830 IFP%=2THENPRINT"I'm not doing that!":GOTO50
831 PRINT"You must be mad!!!!!":GOTO50
840 GOSUB1020
850 IFP%=48ANDR=61THENPRINT"He has an empty basket and a £PHEASANT"
:GOTO50
851 IFP%=7ANDR=1THENPRINTX$(26):GOTO50 ELSEIFP%=79ANDR=7THENPRINTX$
(27):GOTO50
852 IFP%=55ANDR=68THENPRINTX$(27):GOTO50
853 IFP%=35ANDR=41THENPRINT"It's so rusty it wouldn't start":GOTO50
854 IFP%=8ANDR=48THENPRINT"They look as if they need some LOTION":G
OTO50
855 IFP%=80AND(R=80RR=9)THENPRINT"I think he likes SINGING !!!":GOT
050
856 IFP%=3ANDR=2THENPRINT"I see something!!":G$(43)="A £#IRCONIUM#
nugget":A0=1
857 IFP%=3ANDR=2THENGOTO50
858 IFP%=56ANDR=27THENPRINT"I can see a way in!":GOTO50
859 IFP%=14ANDR=47THENPRINT"I think they sell them in WOOLWORTHS":G
OTO50
860 IFP%=36ANDR=40THENPRINT"He says I can borrow his trolley if I g
et him a book"
```

```
861 IFP%=36ANDR=40THENGOTO50
862 IFP%=1THENPRINT"The ground looks soft"GOTO50
863 IFP%=38ANDR=26THENPRINT"It isn't too big to move!!!!":GOTO50
864 IFP%=29ANDR=69THENPRINT"The $£@$ing thing bit me!":GOTO1300
890 PRINTCHR$(132);"I can't see anything special!":GOTO50
900 PRINT:PRINT:PRINTCHR$(133);"I HAVE:-"
905 F%=0:FORH=1TO3:IFV$(H)<>""THENPRINTV$(H):F%=1
910 NEXT
```

Program Listing

```
920 IFF%=0THENPRINT"Not a thing":GOTO170ELSEGOTO170
930 CLS:PING:GOSUB1020:IFP%<>7THENPRINTX$(9):GOTO50
934 IFAF<>1THENPRINTX$(19):GOTO50
935 PRINTX$(20):Q$(7)="by the hut. It is open":G$(44)="#ROCKET FUEL
#"
940 GOTO50
950 CLS:PRINT"I'm not going to solve this for you !!":GOTO170
960 X$(1)="I get washed out to sea"
961 X$(2)="great fun!"
962 X$(3)="the water's not deep enough"
963 X$(4)="O.K."
964 X$(5)="SAFE LANDING!"
965 X$(6)="SPLAT!!!!!!"
966 X$(7)="made it! Sure glad I had a rope"
967 X$(8)="I slipped!"
968 X$(9)="SORRY!"
969 X$(10)="The door opens"
970 X$(11)="WOW! I've been transported somewhere"
971 X$(12)="nothing happened! Why not try again"
972 X$(13)="I've found something!"
973 X$(14)="DUMMY! I've nothing to dig with!!!"
974 X$(15)="the ground's too hard!"
975 X$(16)="I'm not that sort of person!"
976 X$(17)="Why are you always so stupid???"
977 X$(18)="I'm not carrying that! PHEW!"
990 X$(19)="no key!"
991 X$(20)="The door opens"
992 X$(21)="The driver takes me for a ride and     throws me out som
ewhere"
993 X$(22)="No boat!!"
994 X$(23)="The boat drifts into a mooring. There is a footpath nea
rby"
995 X$(24)="not at the moment!"
996 X$(25)="I get arrested for shoplifting!"
997 X$(26)="It looks O.K."
998 X$(27)="She's beautiful!"
```



```
999 X$(28)="I'm sorry I don't understand you!"
1000 X$(29)="a girl thanks me so much she gives me a #CAMERA#"
1001 X$(30)="The sunbathers scatter. I get trampledto death in the
scare!"
1010 RETURN
1020 L$=""
1025 FOR H=1 TO LEN(Z$)
1026 IF MID$(Z$,H,1)=" " THEN L$=RIGHT$(Z$,LEN(Z$)-H):H=H+50
1030 NEXT
1040 R=0
1050 L%=0:IF LEN(L$)<2 THEN RETURN
1060 FOR H=1 TO 69
1065 IF LEFT$(N$(H),LEN(L$))=L$ THEN L%=1:R=H
1070 NEXT
1071 RETURN
1080 CLS:PAPER0:INK7
1082 PRINT:PRINT:PRINT" Journey of a Space Traveller"
1083 PRINT:PRINT:PRINTCHR$(129);"    an adventure game"
1084 PRINT:PRINT:PRINT"          by"
1085 PRINT:PRINT:PRINTCHR$(134);"          S.W. Lucas"
1086 PRINT:PRINTCHR$(130);"<C> 1983"
1087 FORX=1TO3:FORY=1 TO150:SOUND1,Y,15:SOUND2,255-Y,15:NEXTY,X
1088 SOUND1,0,0:SOUND2,0,0
1089 GOSUB3000
1090 RETURN
1100 A%=0:IFB%(32,1)=57ANDAK=1THENA%=A%+1
1110 IFB%(17,1)=57THENA%=A%+1
1115 IFB%(9,1)=57THENA%=A%+1
1120 IFB%(44,1)=57THENA%=A%+1
1125 IFB%(40,1)=57THENA%=A%+1
1130 IFB%(45,1)=57THENA%=A%+1
1132 IFB%(43,1)=57THENA%=A%+1
1135 IFB%(41,1)=57THENA%=A%+1
1140 IFB%(46,1)=57THENA%=A%+1
1145 IFB%(42,1)=57THENA%=A%+1
1146 IFB%(4,1)=57THENA%=A%+1
1150 RETURN
1160 CLS:PAPER0:PRINTCHR$(129);"How dare you speak to me like that!
!":PRINT:PRINT:PRINT:PRINT
```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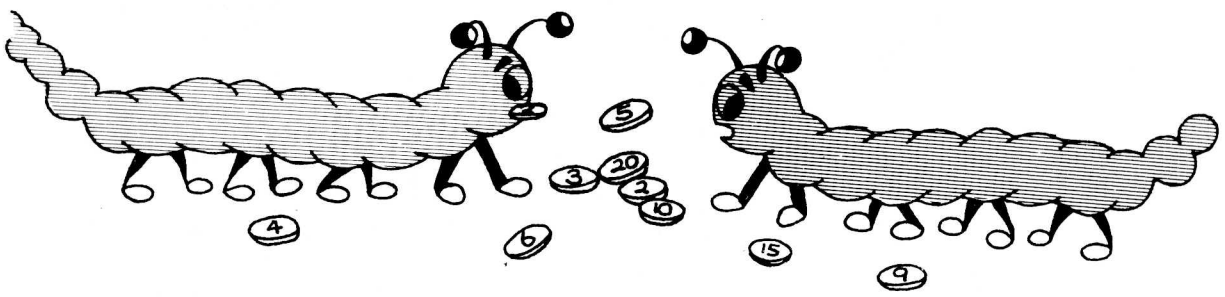
Centipede

By D. Barford and R. Bailey



This is an Oric version of the old 'snakes' game. You control your 'centipede' which is wandering across the screen in search of food pills which have a numeric value. Each time your 'centipede' eats a food pill he gets a bit longer. You will be killed if you run into the wall or cross over yourself.

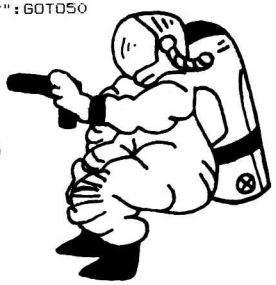
This program should work quite happliy on the 16K and 48K Oric.

Program Listing (Centipede)

```
1 :POKE #26A,2:PRINTCHR$(12):IT=1:PAPER0:INK6:GOSUB1000:GOTO2000
2 GOTO 4000
3 REM Centipede - Main program
4 CLS:PAPER 0:IC=INT(RND(1)*6)+1
5 IF IC=4THEN4ELSEINKIC
6 FORR=1TO37:PLOTR,1,CHR$(255):PLOTR,25,CHR$(255):SOUND 1,10*R,5:NE
XTR
7 FORK=1TO25:PLOT1,K,CHR$(255):PLOT37,K,CHR$(255):SOUND1,10*K,5:NEX
TK
8 WAIT 10:SOUND 1,0,1
9 B$=CHR$(9):C=0:DIMX(3000),Y(3000):X=19:Y=10
10 FORF=10TO19:X(F-9)=F:Y(F-9)=10:PLOTF,10,"@":SOUND 1,10*F,5:NEXT:
SOUND1,0,1
15 P=11:PP=1
17 PLOT16,0,"               " '13 SPACES
20 GOSUB165
30 PLOT16,0,"Score"+STR$((P-PP)-10)
35 Z$=KEY$:IFZ$>CHR$(7)ANDZ$<CHR$(12)THENB$=Z$
40 Y=Y-(B$=CHR$(10))+(B$=CHR$(11)):X=X-(B$=CHR$(9))+(B$=CHR$(8))
45 IFSCRN(X,Y)=64ORSCRN(X,Y)=255THEN500
47 GOSUB150
50 X(P)=X:Y(P)=Y:P=P+1
60 X1=X(PP):Y1=Y(PP):IFSCRN(X1,Y1)=64THENPLOTX1,Y1," "
65 PLOTX,Y,"@"
70 IFC=0THENPP=PP+1
75 C=C+(C>0)
100 GOTO30
150 F=SCRN(X,Y)-48:IFF<10RF>9THENRETURN
160 C=C+F
162 FORV=F*10TO10STEP-1:SOUND 1,V,5:NEXT:SOUND 1,0,1
165 PLOTINT(RND(1)*33)+2,INT(RND(1)*23)+2,RIGHT$(STR$(INT(RND(1)*9+
1)),1)
170 RETURN
175 REM: Game over routine.
500 IFKEY$<>""THEN500
502 ZAP:WAIT20
505 L$="                                    " ' 35 Spaces
510 FORY=2TO24:PLOT2,Y,L$:NEXT
515 PLOT 14,10,"GAME OVER"
520 PLOT 4,12,"Press any key for another game."
530 GOTO 2000
540 REM:Set up userdef'd char - "@"
1000 POKE46592,12:POKE46593,30:FORS=1TO4:POKE46593+S,45:NEXT
1010 POKE46598,30:POKE46599,33
1020 RETURN
1050 REM:Play theme tune
2000 IFKEY$<>""THEN2000
2001 IF IT=1 THEN GOSUB 5000
2005 REPEAT
2010 READ Q
2015 IFQ=13THEN2035
2017 IFQ=0THEN3500
2020 MUSIC 1,4,Q,5
2035 WAIT 20
2050 UNTIL FALSE
3000 DATA 1,10,13,5,8,6,3,1,13,3,1,13,1,3,5,6,6,8,10,8,13,13,13,13,
1,10,13
3001 DATA 5,8,6,3,1,13,3,1,13,1,3,13,3,5,3,1,6,13,0
3500 RESTORE
3510 SOUND 1,0,1
3515 IFIT=1THENGOTO2ELSEIT=0
3520 IFKEY$=""THEN3520
3540 RUN4
3550 REM:Instruction routine
4000 M$="@@@@@@@@@@@@@@ CENTIPEDE @@@@@@@@@@@@@@"
4005 PRINTCHR$(12):INK6
4010 PRINT:PRINT:PRINT
4020 FORI=1TOLEN(M$)
4030 PLOT 1,0,RIGHT$(M$,I)
4040 SOUND 1,50-I,5
4050 WAIT 8
4060 NEXTI
4070 WAIT 20:SOUND 1,0,1
4080 PRINT"The aim of the game is to move the "
4090 PRINT"centipede around eating up the food"
4100 PRINT"which appears in the form of numbers."
4110 PRINT"  For each number eaten,the centipede"
4120 PRINT"grows that number of segments longer."
4130 PRINT"  You must not collide with the walls"
4140 PRINT"or any part of the centipede's"
4150 PRINT"growing body...":PRINT:PRINT:PRINT
4160 PRINTCHR$(129);"Use the arrow keys at the bottom of"
4170 PRINTCHR$(129);"the keyboard to move.":PRINT:PRINT:PRINT:PRINT
4174 PRINTCHR$(4);
4180 PRINTCHR$(27);"N       PRESS ANY KEY TO BEGIN"
4182 PRINTCHR$(4)
4190 REM:Emit 'oscillating' sound
4200 FOR I=1TO200STEP.1
4210 T=SIN(I)*100+150
4220 SOUND 1,T,2
4225 IFKEY$<>""THENSOUND1,0,1:CLS:RUN3
4230 NEXT I
4240 GOTO4200
5000 PRINTCHR$(12)
5005 INK7:PAPER0
5010 PRINT:PRINT:PRINT
5020 PRINTCHR$(4)
5030 PRINTCHR$(27);"J @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@"
5032 PRINT
5040 PRINTCHR$(27);"N @@@@@@@@@@@@ CENTIPEDE @@@@@@@@@@@@"
5050 PRINT
5060 PRINTCHR$(27);"J @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@"
5070 PRINTCHR$(4)
5080 PRINT:PRINT:PRINT:PRINT
5090 PRINTCHR$(134);" by Duncan Barford & Richard Bailey":PRINT
5100 PRINTCHR$(129);"       For the ORIC-1 48k"
5110 PRINT:PRINT:PRINT:PRINT:PRINT
5120 PRINTCHR$(131);"            ";CHR$(96);" Futureware  9/4/1983"
6000 RETURN
```

Program Listing

```
1161 PRINTCHR$(130);"What have you got to say for yourself?":PRINT:
PRINT
1162 FORX=1 TO 3:FORY=1TO150
1163 SOUND1,Y,15
1164 NEXTY,X
1165 SOUND1,0,0
1166 INPUTZ$
1167 IFLEFT$(Z$,3)<>"SOR"THENCLS:PRINT:PRINT:PRINT"WELL BE LIKE THA
T THEN":GOTO1310
1170 PRINT:PRINT:PRINTCHR$(129)"THAT'S BETTER!!":GOTO170
1180 LETBN=INT(RND(1)*2)
1181 IFBN=1THENPRINTX$(11):P%=INT(RND(1)*57):PING:GOTO50ELSEPRINTX$
(12):GOTO50
1190 GOSUB1020
1200 ZAP:PRINT"I need my GLASSES":GOTO50
1210 IFP%<>38THENPRINTCHR$(131)"not at the moment DUMMY":GOTO50
1211 GOSUB1020:IFR=26THENPRINTCHR$(131)"That's done the trick. I ca
n go SOUTH"
1212 IFR=26THENS%(38,2)=39:0$(38)="in a pigsty. Phew ! What a smell
":GOTO50
1213 PRINTCHR$(131)"PUSH WHAT?":GOTO50
1240 PRINTCHR$(132)"I'M NOT THROWING ANYTHING HERE!":GOTO50
1250 PRINTCHR$(133)"NOW WHO'S BEING SILLY?":GOTO50
1260 GOTO50
1270 IFP%=10ANDB%<>1THENPRINT"I jump from the top & break my neck":
GOTO1300
1271 IFP%=10THENP%=11:PRINTX$(5):GOTO50
1272 IFP%=15THENPRINTX$(6)GOTO1300
1273 PRINTCHR$(134)"are you always this stupid?":GOTO50
1280 IFP%=23THENPRINTX$(10):S%(23,2)=24:GOTO50
1281 IFP%=49THEN2600
1282 PRINTX$(9):GOTO50
1290 IFP%=15ANDAA=1 THENPRINTX$(7):P%=16:GOTO50
1291 IFP%=15THENPRINTX$(8):EXPLODE:GOTO1300
1292 IFP%=17THENPRINT"SORRY":GOTO50
1293 IFP%=10THENPRINTX$(6):GOTO1300
1294 PRINT"I D I O T ! !":GOTO50
1300 PRINT:PRINT:PRINT:PRINTCHR$(129)"I am";CHR$(131)" DEAD":EXPLOD
E
```



```
1310 PRINT:PRINT:PRINT:PRINT:PRINTCHR$(133)" do you want to play ag
ain";
1311 INPUTX$
1312 IFLEFT$(X$,1)="Y"THEN RUN
1320 END
1330 IFAG=1THENPRINT"I need a can opener!":GOTO50
1331 PRINT"I don't have any food!":GOTO50
1340 FORH=1 TO 3: IF V$(H)=G$(32) THEN V$(H)="":G$(32)=""
1341 NEXT
1350 FORH=1 TO 3: IF V$(H)=G$(7) THENV$(H)="":G$(7)=""
1351 NEXT:GOTO50
1360 GOTO50
1370 IF AF<>1THENPRINTCHR$(134)"What with?":GOTO50 ELSEGOSUB1020
1380 IFP%=4AND(R=10 OR R=11 ORR=23 ORR=24 ORR=62) THEN1390
1381 PRINTCHR$(133)"NOT AT THE MOMENT!":GOTO50
1390 PRINTX$(9):FORD=1 TO 3
1391 IFV$(D)=G$(33)THENV$(D)="SOME CHANGE":G$(33)="SOME CHANGE":N$(
48)="CHANGE"
1400 NEXT:GOTO1410
1410 PRINTCHR$(129)
1420 N$(48)="CHANGE":GOTO50
1430 PRINTX$(8):S%(31,4)=26:S%(31,2)=29:S%(31,3)=40:G$(11)="":G$916
)="":GOTO50
1440 GOTO50
1450 PRINT"I'm not"CHR$(129);" E.T";CHR$(135)"you know. I need a PH
ONE":GOTO50
1460 X$(20)="":X$(21)="":PRINTX$(22):G$(17)="":S%(37,3)=36:PING:G$(
21)="":GOTO50
1470 GOSUB1020
1472 IFP%=79THENPRINT"She likes that!":GOTO50
1473 IFP%=55THENPRINT"She slaps me across the face and      runs aw
ay!":G$(50)=""
1474 IFP%=55THENGOTO50
1475 PRINT"EH?":GOTO50
1480 IFP%<>62THENPRINT"not at the moment. DUM DUM":GOTO50
1481 IFAJ<>1THENPRINT"you don't have a program!":GOTO50
1482 PRINT"WELL WASN'T THAT FUN"
1483 PRINT:PRINT:PRINT:PRINTCHR$(129)"IT WAS ANOTHER OF THOSE GREAT
 GAMES"
```

Program Listing

```
1484 PRINT"FOR ORIC PLAYERS":GOTO50
1520 IFP%=21THENG$(47)="an ancient manuscript"
1521 IFP%=45THENG$(26)="a grass snake"
1530 GOTO50
1540 PRINT"I DON'T HAVE A WATCH":GOTO50
1550 IFP%=18THENPRINT"NOTHING HERE":GOTO50ELSEPRINT"SORRY":GOTO50
1560 GOTO50
1570 IFP%=18THENPRINTX$(1):ZAP:GOTO1300
1580 IFP%=12ORP%=3THENPRINTX$(2):RETURN
1590 IFP%=71ORP%=72ORP%=2THENPRINTX$(3):RETURN
1600 IFP%=8THENP%=6:PRINTX$(4):RETURN
1610 IFP%=6THENP%=8:PRINTX$(4):RETURN
1620 PRINT"DON'T BE SILLY":RETURN
1630 IFP%=1ANDAC=1THENG$(4)="#SILVER# BULLION":PRINTX$(13)
1631 IFP%=1ANDAC<>1THENPRINTX$(14)
1632 IFP%<>1THENPRINTX$(15)
1640 GOTO50
1650 IFP%=37THENPRINTCHR$(129)"O.K.":P%=38:RETURN
1655 IFP%=56THENPRINT"O.K. It's gloomy in here."
1656 IFP%=56THENQ$(56)="inside the monument":AP=1:S%(56,1)=0:S%(56,
2)=0
1657 G$(19)="":G$(41)="A #RADIO# transmitter":RETURN
1660 PRINTCHR$(131)"NOT NOW!":RETURN
1670 IFP%<>70THENPRINTX$(9):RETURN
1680 P%=77:PRINTX$(21):RETURN
1690 IF AB<>1THENPRINTX$(22):RETURN
1691 IFP%=6THENPRINTX$(23):P%=16:RETURN
1692 IF(P%=2ORP%=8ORP%=12ORP%=18)THENPRINTX$(24):RETURN
1693 PRINTX$(17):RETURN
1700 RETURN
2000 CLS
2001 IFP%=68ANDAH<>1THENG$(17)="A ROMAN #COIN#":Q$(68)="RIDING ON A
 BUS"
2002 IFP%=68ANDAH<>1THENPRINT"I get on a bus and go for a ride":N$(
25)="COIN"
2003 IFP%=68ANDAH<>1THEN S%(68,4)=0:S%(67,3)=0:AH=1:GOTO50
2004 IFP%=68THENPRINT"The bus stops at the terminus":P%=77:GOTO50
2005 IFP%=25ORP%=26ORP%=27ORP%=28THENPRINT"I GET ARRESTED FOR LOITE
RING":GOTO1310
2006 IFP%=29ORP%=58ORP%=59ORP%=60THENPRINT"I GET ARRESTED FOR LOITE
RING":GOTO1310
2007 IFP%=61ORP%=62ORP%=63ORP%=64THENPRINT"I GET ARRESTED FOR LOITE
RING":GOTO1310
2008 IFP%=65ORP%=77THENPRINT"I GET ARRESTED FOR LOITERING":GOTO1310
2009 PRINTCHR$(129)"O.K.":WAIT100:GOTO50
2100 PRINTCHR$(131)"I'm not very good but I'll try anyway"
2101 FORZ=1TO4:FORX=1TO20:FORY=1TO10
2102 SOUND1,X,15:SOUND2,Y,15
2103 NEXTY,X,Z:SOUND1,0,0:SOUND2,0,0
2104 PRINT"WASN'T THAT TERRIBLE?"
2105 IF P%=80THENIFAL=0THENPRINT"BUT he seems to like it and puts "

2106 IFP%=80THENIFAL=0THENPRINT"the pen onto the table for me":AL=1
2107 GOTO50
2200 IFAD<>1THENPRINT"NOT AT THE MOMENT":GOTO50
2201 IFAN<>1THENPRINT"I don't have anything to light it with!":GOTO
50
2202 PRINT"BANG!!!!:EXPLODE:GOTO1300
2500 IFP%=56THENPRINT"O.K.":Q$(56)="by a monument":S%(56,1)=55:S%(5
6,2)=57
2501 IFP%=56THENG$(19)="A  monument":GOTO50
2600 IFAR<>1THENPRINT"I'll need something to prise it open":GOTO50
2601 PRINT"THAT'S DONE THE TRICK!"::G$(46)="some egyptian £POTTERY£
":AQ=1:GOTO50
3000 CLS:PRINT:PRINT:PRINTCHR$(129)"A D V E N T U R E "
3010 PRINT:PRINT:PRINTCHR$(131)"I have been sent on the first fligh
t "
3020 PRINTCHR$(131)"from my planet to the planet EARTH"
3030 PRINT:PRINTCHR$(132)"my task is to recover the 10 valuable"
3040 PRINTCHR$(133)"TREASURES and to locate the fuel for "
3050 PRINTCHR$(133)"for my return journey"
3060 PRINT:PRINTCHR$(131)"I must take my treasures to the ship"
3070 PRINTCHR$(131)"for the return journey"
3080 PRINT:PRINT:PRINTCHR$(129)"I understand two word sentences"
3090 PRINT"you must be my guide and help me to":PRINT"solve my ques
t"
3100 RETURN
```

Ten Tips to Tape-Recording

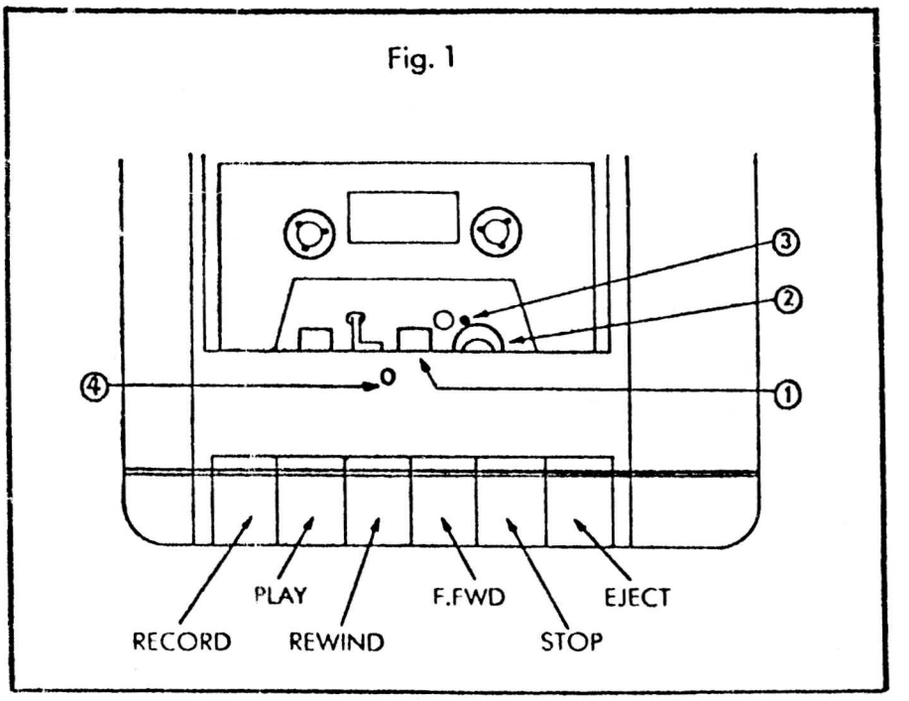
By R. White

1. Make sure that the lead from your cassette recorder to your Oric does not cross over any other electrical cables. Check that the ends of the lead's wires are properly soldered inside their plugs, and that these are securely located in the respective machines.

2. Check that your Oric is running properly (it is best to start-up your Oric *separately* from any other electrical equipment, by *clicking-on* your wall socket switch after the transformer-plug has been pushed in), and that you have typed-in the command CLOAD "NAME" for a fast-loading tape, or CLOAD "NAME", S for a slow-loading one; where NAME is the name of the program. Having typed-in this command press the RETURN key and wait for the 'searching' message to appear at the top left of your TV screen.

3. Check that your tape-recorder is set to maximum treble, minimum bass, and three-quarters volume. Check that you have rewound the tape to the appropriate point (or the beginning if you're not sure), and then press the play switch.

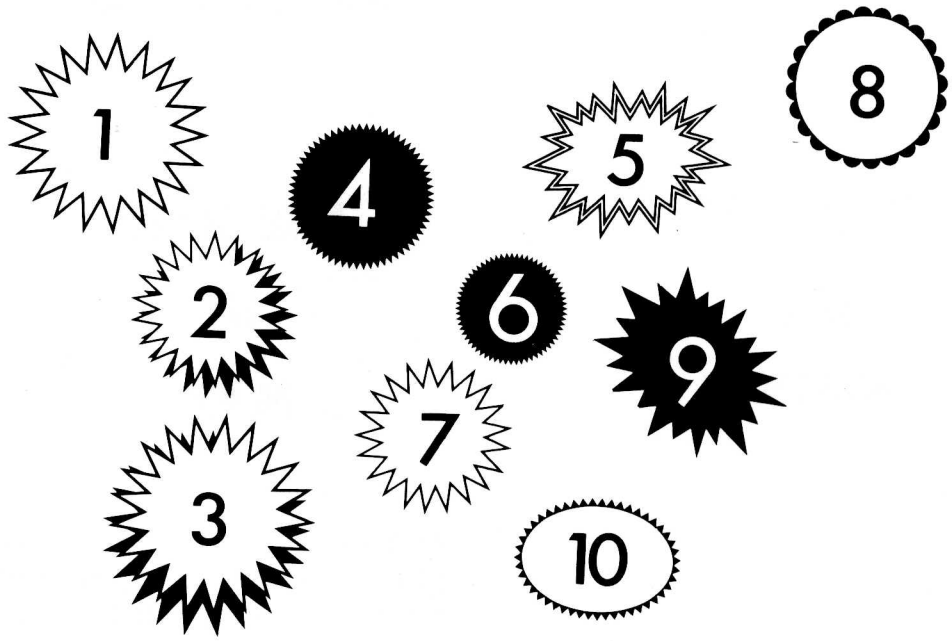
Fig. 1



4. If your cassette lead is connected to your tape recorder by a DIN plug, the chances are that you will be unable to switch-off the noise of your programme while it is loading. To stop this tiresome sound, buy a 3.5mm jack plug (about 20p) available from most electrical shops, and insert it in the EAR socket of your recorder. You will find that this prevents the noise coming out of your speaker, while still allowing the program to be transmitted to your Oric.

5. If your program consistently fails to load, or keeps loading with errors, then you will probably need to give your tape recorder an overhaul. First buy some 'Q-tips' cotton buds, and a small bottle of iso-propyl alcohol; both available cheaply from Boots and most other chemists. Dampen the end of a Q-tip with the iso-propyl alcohol and then rub it vertically up and down over the recording head 1 of your cassette player. Repeat this with more Q-tips until they stop picking-up any brown oxide.

On some tape-recorders it is possible to press the play control without a cassette in place, and with the lid open. If this is the case with your recorder then you're lucky, as you can clean your pinch-roller 2 simply by pressing a damp cotton-bud against it while it rotates. If you cannot play your recorder with the lid open you will have to perform this operation manually, turning the pinch-roller and rubing cotton-buds against it until they remain clean of any brown oxide. Finally the same process should be carried-out on the capstan 3.



6. Automatic cassette cleaners are not really capable of cleaning your recorder as thoroughly as can be done by hand, though they do provide a useful back-up. Manual cleaning should be carried-out about once a month if your recorder is being used heavily, while an automatic tape-cleaner can usefully be employed weekly to maintain optimum condition.

7. It is also essential to keep your recording head free of magnetism, so the best thing is to buy a combined automatic head-cleaner and demagnetising tape (available from W. H. Smiths for around £3.00). The demagnetising properties of this tape will long out-last its cleaning ability, so it makes good economic sense to carry-out the manual cleaning thoroughly and regularly, leaving the automatic cleaner mainly as a demagnetiser.

8. If your recorder still performs badly after all this care and attention, the chances are that its azimuth is set at a frequency unsuitable for computer data transmission. Resetting the azimuth involves nothing more than the slight adjustment of a single tuning screw, which may be done by a complete novice with nothing more than a small electrical screw-driver. However, if possible have it done by an electrician with the aid of an oscilloscope, as this will yield the best possible results, and really ought not cost more than a pound or two.

9. If you cannot find a suitable electrician, or you are as rash and miserly as myself, you will start playing a tape on your recorder and then carefully insert your screwdriver through the small hole 4 on the top of your recorder. If there is no hole on your recorder it will have to be taken apart, in which case you are definitely well advised to go to an electrician. While listening to the sound of your tape, gently turn the azimuth adjusting screw underneath the hole, back and forth until the tape plays with the clearest highest frequency (treble and tinny) sound. I've done this myself, and was surprised how easy it was to make a major improvement to my recorder's performance.

10. If you've done all of the above and your recorder still will not load and save your programmes reliably, either buy a new recorder, request your doctor for some librium, or put-in for a lobotomy!

Dates

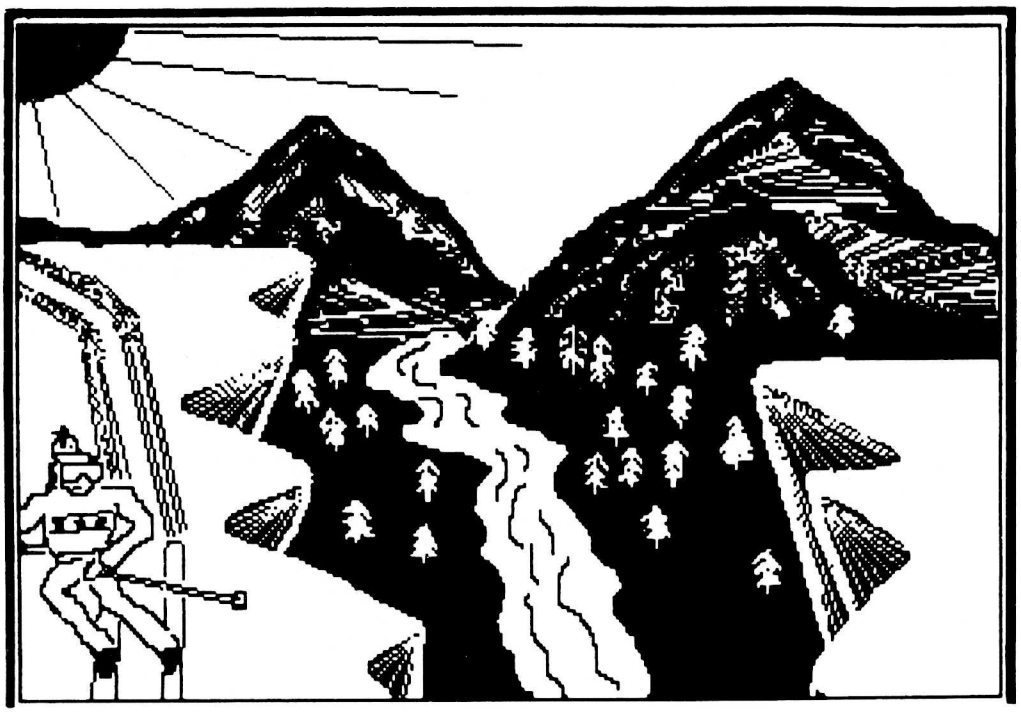
This useful program will allow you to print a calendar, work out when Easter Sunday falls, it tells you the difference between two dates and if you type in a date it will tell you which weekday it is.

```
1 REM ** DATES **
5 PRINTCHR$(17):GOSUB1400:WAIT400
10 DIMC$(3),M$(11),D$(6),D(2)
12 FORI=0TO3:READC$(I):NEXTI
14 FORI=0TO11:READM$(I):NEXTI
16 FORI=0TO6:READD$(I):NEXTI
18 C$="                ":E$=CHR$(12)+CHR$(7)+CHR$(17)+"INVALID "
20 R$=CHR$(7)+CHR$(17)+"     Press 'R' to return to menu"
23 S$=CHR$(27)+"J"
25 DEF FNA(F1)=F+INT((F1-1)/4)-INT(.75*INT(((F1-1)/100)+1))
30 DEF FNB(F1)=F-INT(.4*D(1)+2.3)+INT(F1/4)-INT(.75*INT(F1/100)+1)
40 CLS:PAPER0:INK1:PRINT:PRINT:PRINTCHR$(4)
50 PRINTSPC(9)S$"1. "C$(0):PRINT:PRINT:PRINT
60 PRINTSPC(9)S$"2. "C$(1):PRINT:PRINT:PRINT
70 PRINTSPC(9)S$"3. "C$(2):PRINT:PRINT:PRINT
80 PRINTSPC(9)S$"4. "LEFT$(C$(3),18):PRINT
90 PRINTSPC(12)S$"TWO DATES":PRINT:PRINT:PRINT
100 PRINTSPC(9)S$"5. END":PRINTCHR$(4)
110 PLOT0,26,CHR$(0)+CHR$(22)+"       Please enter your choice"
120 GETA$:Z=VAL(A$):IFZ<1ORZ>5THEN120
130 FORI=0TO1-2*(Z=4)
140 X=13:Y=(Z-1)*4+3-2*(Z=5):PLOTX,Y+I,CHR$(X+1)
150 NEXTI
160 WAIT317:CLS:PING
170 IFZ=5THEN240
180 X=INT((38-LEN(C$(Z-1)))/2)
190 FORI=2TO39:POKE#BB80+I,32:NEXTI
200 FORI=1TOLEN(C$(Z-1)):POKE#BB80+X+I,ASC(MID$(C$(Z-1),I,1)):NEXTI
210 DOKE#BB81,4355
220 ONZGOSUB2000,3000,4000,5000
230 DOKE#BB81,4096:GOTO40
240 G$=CHR$(0)+CHR$(19)
250 PLOT8,10,G$+C$+"  "+CHR$(16)
260 PLOT8,11,G$+"    "+CHR$(12)+"JOB DONE    "+CHR$(16)
270 PLOT8,12,G$+C$+"   "+CHR$(16):PLOT8,13,G$+"  PROGRAM EXITED  "+
CHR$(16)
280 PLOT8,14,G$+C$+"   "+CHR$(16)
290 WAIT400:CLS:PRINTCHR$(17):ZAP:END
1000 REM ** INPUT ROUTINE **
1010 A1$="":X1=X0
1020 REPEAT
1030 GETA$:IFASC(A$)<>127THEN1060
1040 X0=-(X0-1)*((X0-1)>=X1)-X1*((X0-1)<X1):PLOTX0,Y," "
1050 A1$=LEFT$(A1$,LEN(A1$)-1):GOTO1030
1060 IFA$<>CHR$(13)THENA1$=A1$+A$
1070 PLOTX0,Y,A$:X0=X0+1
1080 UNTILA$=CHR$(13)
1090 RETURN
1100 REM ** DATA ROUTINE **
1110 X0=X:GOSUB1000
1120 CH=1:N=0
1130 FORI=1TOLEN(A1$)
1140 B$=MID$(A1$,I,1):CI=(I=LEN(A1$))
1150 IFB$>="0"ANDB$<="9"ORB$="/"THEN1170
1160 PLOTX-1,Y,E$+"DATE "+CHR$(16):WAIT215:PLOTX-1,Y,G$+C$:GOTO1110
1170 IFB$<>"/"ANDNOTCITHEN1200
1180 D(N)=VAL(MID$(A1$,CH,I-CH-CI))
1190 CH=I+1:N=N+1
1200 NEXTI
1210 IFD(2)<1583ORD(1)<1ORD(1)>12ORD(0)<1THEN1160
1220 IF(D(1)=4ORD(1)=6ORD(1)=9ORD(1)=11)ANDD(0)>30THEN1160
```

Software

```
1230 IFD(1)<>2ANDD(0)>31THEN1160
1240 Y1=D(2)-INT(D(2)/4)*4:Y2=D(2)-INT(D(2)/100)*100
1250 Y3=D(2)-INT(D(2)/400)*400
1260 IFD(1)=2ANDD(0)>28-(Y1=0ANDY2<>0ORY3=0)THEN1160
1270 RETURN
1300 IFS=1THENPLOTX,14,"st"
1310 IFS=2THENPLOTX,14,"nd"
1320 IFS=3THENPLOTX,14,"rd"
1330 RETURN
1400 REM ** TITLE **
1410 A$=CHR$(19)+"#,(28 spaces),#"+CHR$(17)
1420 C$="############################"
1430 CLS:PAPER1:INK0
1440 PLOT3,7,CHR$(19):PLOT35,7,CHR$(17):FORI=8TO18:PLOT3,I,A$:NEXTI
1450 PLOT3,19,CHR$(19):PLOT35,19,CHR$(17):PLOT5,8,C$:PLOT5,18,C$
1460 PLOT16,11,"DATES":PLOT16,12,"-----"
1470 PLOT9,15,CHR$(96)+" Gary Nugent, 1983."
1480 RETURN
2000 REM ** CALENDER **
2010 CLS:PAPER0:INK3
2060 PLOT0,10,CHR$(7)+CHR$(20)+"Year (1753 -25000):"+CHR$(16)
2070 X0=23:Y=10:GOSUB1000
2080 FORI=1TOLEN(A1$)
2090 IFMID$(A1$,I,1)>="0"ANDMID$(A1$,I,1)<="9"THEN2110
2100 PLOT23,Y,E$+"YEAR "+CHR$(16):WAIT215:PLOT23,Y,C$:GOTO2070
2110 NEXTI
2115 YR=VAL(A1$):IFYR<1753ORYR>25000THEN2100
2120 PLOT0,12,CHR$(7)+CHR$(20)+"Month (1-12, 0 for all):"+CHR$(16):
WAIT215
2130 XC=27:Y=12:GOSUB1000
2140 FORI=1TOLEN(A1$)
2150 IFMID$(A1$,I,1)>="0"ANDMID$(A1$,I,1)<="9"THEN2170
2160 PLOT27,Y,E$+CHR$(16):PLOT228,Y+1,LEFT$(E$,3)+"MONTH "+CHR$(16)
:WAIT215
2165 PLOT27,Y,C$:PLOT28,Y+1,C$:GOTO2130
2170 NEXTI
2180 M=VAL(A1$):IFM<0ORM>12THEN2160
2190 IFM<>0THENGOSUB2300:GOTO2240
2200 FORM=1TO12:GOSUB2300
2210 IFM<12THENPLOT0,26,CHR$(7)+CHR$(17)+"       PRESS 'C' TO CONTIN
UE"
2220 IFM<12THENGETA$:IFA$<>"C"THEN22202230 NEXTM
2240 PRINTSPC(10)CHR$(27)"A"CHR$(27)"SMONTH:"CHR$(27)"P"CHR$(27)"B"
;M$(M-1)
2250 GETA$:IFA$<>"R"THEN2250
2260 RETURN
2300 A=YR+1+31*(M-1)+INT((YR-1)/4)-INT(3*INT(INT(YR+99)/100)/4)
2310 IFM>2THENA=YR+1+31*(M-1)-INT((4*M+23)/10)+INT(YR/4)
2320 IFM>2THENA=A-INT(3*INT(INT(YR/100)+1)/4)
2330 A=A-INT(A/7)*7
2340 IFA=0THENA=7
2350 A=A-1
2360 IFM=2THEN2400
2370 N=31
2380 IFM=4ORM=6ORM=9ORM=11THENN=30
2390 GOTO2420
2400 N=28
2410 IFYR-INT(YR/4)*4=0ANDYR-INT(YR/100)*100<>0ORYR-INT(YR/400)*400
=0THENN=29
2420 CLS:FORI=1TO5:PRINT:NEXTI
2430 PRINTSPC(10)CHR$(27)"A"CHR$(27)"SYEAR:"CHR$(27)"P"CHR$(27)"B";
YR:PRINT
2450 PRINT:PRINT:PRINT
2460 PRINTSPC(4)CHR$(27)"G"CHR$(27)"TSun Mon Tue Wed Thu Fri Sat "C
HR$(27)"P"
2470 PRINT:PRINTSPC(7);
2480 IFA=0THEN2500
2490 FORI=1TOA:PRINT"    ";:NEXTI
2500 FORI=1TON
2510 IFI=<10THENPRINT" ";
2515 PRINTI;
2520 A=A+1:IFA<>INT(A/7)*7THEN2540
2530 A=0:PRINT:PRINTSPC(6);
2540 PRINT" ";
2550 NEXTI
2560 RETURN
3000 REM ** WEEKDAY **
3010 FORI=1TO9:PRINT:NEXTI:PRINT" ";:PLOT0,9,CHR$(4)+CHR$(23)
3020 G$=CHR$(3):PLOT22,9,CHR$(16)+G$
3030 PRINT"DATE (d/m/y)[>1582]:"
3040 X=24:Y=9:GOSUB1100
3050 F=365*D(2)+D(0)+31*(D(1)-1)
3060 IFD(1)<=2THENF1=FNA(D(2))ELSEF1=FNB(D(2))
3070 W=F1-INT(F1/7)*7
3080 PRINT:PRINT:PRINT:PRINT:PLOT0,14,CHR$(2)
3090 PRINTM$(D(1)-1)" "D(0)" ";
3100 S=D(0)-INT(D(0)/10)*10:X=LEN(M$(D(1)-1)+STR$(D(0)))+1
3110 IFD(0)>10ANDD(0)<20ORS=0ORS>3THEN PLOTX,14,"tn":GOTO3130
3120 GOSUB1300
3130 PRINTD(2)"was a "D$(W)"."
3140 PLOT0,26,R$
3150 GETA$:IFA$<>"R"THEN3150
3160 RETURN
4000 REM ** EASTER SUNDAY **
4010 FORI=1TO9:PRINT:NEXTI:PRINT" ";:PLOT0,9,CHR$(0)+CHR$(19)
4020 PRINT"YEAR (1-25000):"
4030 PLOT19,9,CHR$(16)+CHR$(5)
4040 X0=21:Y=9:GOSUB1000
4050 FORI=1TOLEN(A1$)
4060 IFMID$(A1$,I,1)>="0"ANDMID$(A1$,I,1)<="9"THEN4080
4070 PLOT20,Y,E$+"YEAR "+CHR$(16):WAIT215:PLOT20,Y,C$:GOTO4030
4080 NEXTI
4090 YR=VAL(A1$):IFYR>1ORYR<25000THEN4070
4100 K=INT(YR/100)
4110 IFYR>1752THEN4130
4120 P=15:Q=6:GOTO4150
4130 L=INT(K/4):M=INT((K-17)/25):N=INT((K-M)/3)
4140 P1=15+K-L-N:P=P1-30*INT(P1/30):Q1=4+K-L:Q=Q1-7*INT(Q1/7)
4150 A=YR-4*INT(YR/4):B=YR-7*INT(YR/7):C=YR-19*INT(YR/19)
4160 D1=K*C+P:D=D1-30*INT(D1/30):E1=2*A+4*B+6*D+Q:E=E1-7*INT(E1/7)
4170 F=D+E:IFF>9THEN4190
4180 DT=22+F:N$=M$(2):GOTO4200
4190 DT=F-9:N$=M$(3):IFF=34ORF=35THENDT=DT-7
4200 S=DT-INT(DT/10)*10:X=LEN(STR$(DT))+23
4210 PRINT:PRINT:PRINT:PRINT:PRINT" EASTER SUNDAY:  ";:DOKE48601,56
32:DOKE48617,1040:PRINTN$" "DT" ";
4220 IFDT>10ANDDT<20ORS=0ORS>3THENPLOTX,14,"th":GOTO4240
4230 GOSUB1300
4240 PRINTYR"."
4250 PLOT0,26,R$
4260 GETA$:IFA$<>"R"THEN4260
4270 RETURN
5000 REM ** DIFFERENCE BETWEEN **
5001 REM **       TWO DATES      **
5010 FORI=1TO7:PRINT:NEXTI:PRINT" ";:PLOT0,7,CHR$(3)+CHR$(20)
5020 G$=CHR$(5):PLOT22,7,CHR$(16)+G$
5030 PRINT"DATE 1[d/m/y>1582]:"
5040 X=24:Y=7:GOSUB1100
5050 F=365*D(2)+D(0)+31*(D(1)-1)
5060 IFD(1)<=2THENF1=FNA(D(2))ELSEF1=FNB(D(2))
5070 PRINT:PRINT:PRINT" ";
5080 PLOT0,10,CHR$(3)+CHR$(20):PLOT22,10,CHR$(16)+G$
5090 PRINT"DATE 2 [d/m/y>1582]:"
5100 X=24:Y=10:GOSUB1100
5110 F=365*D(2)+D(0)+31*(D(1)-1)
5120 IFD(1)<=2THENF2=FNA(D(2))ELSEF2=FNB(D(2))
5130 PRINT:PRINT:PRINT:PRINTCHR$(27)CHR$(2)" Difference between dat
es is "ABS(F2-F1)
5140 PRINTCHR$(27)CHR$(2)" days."
5150 PLOT0,26,R$
5160 GETA$:IFA$<>"R"THEN5160
5170 RETURN
10000 REM ** Data req'd by program **
10010 DATA CALENDER,WEEKDAY,EASTER SUNDAY,DIFFERENCE BETWEEN TWO DA
TES
10020 DATA Ja uary,February,March,April,May,June
10030 DATA July,August,September,October,November,December
10040 DATA Saturday,Sunday,Monday,Tuesday,Wednesday,Thursday,F iday
```

Skiing



The game for any model ORIC, when RUN produces a course of trees and flags, the object being to manoeuvre the skier without hitting the flags or the trees. You get five lives to do this.

The double life lost on the game, is caused by player getting killed and pressing another one of the control keys. You control the skier using the cursor keys.

When RUN you will be asked to enter a skill level from 1 to 15 (1 being the hardest) take it from me it is very hard on level 1.

This is how it works:
10–16 Defines the characters (these can be changed on desire).

41–78 Sets the screen.

100–160 Moves skier.

170–180 Checks if skier has hit a) flag, b) tree, c) winning post.

300–320 If a tree has been hit, these lines tell you.

400–440 Same as 300 but for the flag.

500–570 No lives left, ask for new game.

800–870 Instructions and skill level input.

900–970 The celebration of getting to the finishing post.

1000–1080 Data statements for forming the screen.

The game is saved on both sides, at both speeds. On side 1 CLOAD"SKI". On side 2 CLOAD"SKI"'S. There are more copies on both sides, just in case.

Program Listing

```
0 CLEAR
1 PAPER4:INK7
2 GOTO800
5 CLS
6 P=5
9 PAPER1:INK2
10 POKE46952,12:POKE46953,16:POKE46953,61:POKE46954,62:POKE46955,24
:POKE46956,8
11 POKE46957,9:POKE46958,62:POKE47032,12:POKE47033,2:POKE47034,47:P
OKE47035,31
12 POKE47036,6:POKE47037,4:POKE47038,36:POKE47039,31
13 POKE46896,0:POKE46897,0:POKE46898,30:POKE46899,30:POKE46900,30:P
OKE46901,16
14 POKE46902,16:POKE46903,16
15 POKE46856, 12:POKE46857,12:POKE46858,30:POKE46859,63:POKE46860,6
3
16 POKE46861,12:POKE46862,12:POKE46863,12
17 PRINTCHR$(6)
41 PLOT0,0,"aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa":PLOT0,0,2
42 PLOT0,21,"aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa":PLOT0,21,2
50 FORN=0TO41:READA,B,C:FORM=ATOB :PLOTA,C,2:PLOTM+1,C,"a":NEXTM:NE
XTN
60 FORN=0TO27:READA,B:PLOTB,A,"f":              :NEXT:PLOT5,4," "
63 PLOT2,16,"a":PLOT3,16,"f":PLOT4,16," ":PLOT5,16,"f":PLOT3,13,"a"
64 PLOT6,13,"f"
65 FORN=0TO21:PLOT1,N,"a":PLOT32,N,"a": NEXT
66 PLOT31,21,"a":PLOT10,12,"a":PLOT10,11,"a":PLOT9,2," "
67 PLOT10,19,"f":PLOT10,17,"f":PLOT14,18,"f":PLOT12,16,"    ":PLOT17
,3,"a"
70 PLOT2,1,"S":PLOT2,2,"T":PLOT2,3,"A":PLOT2,4,"R":PLOT2,5,"T"
75 PLOT31,15,"F":PLOT31,16,"I":PLOT31,17,"N":PLOT31,18,"I":PLOT31,1
9,"S"
76 PLOT31,20,"H"
77 PLOT30,15,"!":PLOT30,16,"!":PLOT30,17,"!":PLOT30,18,"!":PLOT30,1
9,"!"
78 PLOT30,20,"!"
80 E$="m"
85 A=FRE("")
90 X=3:Y=3:A=0:B=0
99 SOUND6,2,15
100 A$=KEY$
105 IFA$=""THEN150
106 M=ASC(A$)
110 IFM = 8 THENB=-1:IF M =8 THENA=0
115 IFM  =8 THENE$="w"
120 IFM = 9 THENB=1:IFM = 9 THENA=0
125 IFM = 9 THENE$="m"
130 IFM =10 THENB=0:IFM =10 THENA=1
140 IFM =11 THENB=0:IFM =11 THENA=-1
150 X=X+A:Y=Y+B
160 PLOTY  ,X,E$:WAIT01 :PLOTY  ,X," "
170 IFSCRN(Y+B,X+A)=97THEN400'HIT TREE
180 IFSCRN(Y+B,X+A)=102THEN300'HIT FLAG
185 IFSCRN(Y+B,X+A)=124THEN900'WON
210 GOTO100
300 ZAP
305 PLOTY+B,X+A,"f"
382 PLOT5,25   ,"HA HA HIT A FLAG!":WAIT40:PLOT5,25,"ANOTHER LIFE G
ONE"
312 WAIT40:PLOT5,25,"                    "
315 P=P-1:IFP=0THEN500'NO LIVES
320 GOTO90
400 ZAP
410 PLOTY+B,X+A,"a":PLOT5,25,"HA HA HIT A TREE!":WAIT60
420 PLOT5,25,"ANOTHER LIFE GONE"
425 WAIT60:PLOT5,25,"                    "
430 P=P-1:IFP=0THEN500'NO LIVES
440 GOTO90
500 CLS:PAPER2:INK0
505 PLOT12,10,"GUESS YOU RAN ":PLOT12,12,"OUT OF LIVES"
508 FORA=12TO1STEP-1:PLAY7,0,0,0:MUSIC3,4,A,15:WAIT7:NEXT:PLAY0,0,0
,0
510 PLOT9,16,"PRESS 'R'TO RERUN":PLOT12,18,"OR 'S'TO STOP"
530 REM
560 REPEAT:A$=KEY$:IFA$="S"ORA$="s"THENEND
570 UNTILA$="R"ORA$="r":RUN
800 CLS
810 PRINTCHR$(12)
815 PLOT0,1,20:PLOT0,2,20
820 PRINTCHR$(4)CHR$(27)"N        ORIC  SKI-ING    ":PRINTCHR$(4)
825 PRINT:PRINT
830 PRINT"MAKE YOUR WAY DOWN THE SLOPE MAKING"
831 PRINT
832 PRINT"SURE YOU DON'T HIT THE FLAGS OR TREES"
833 PRINT
835 PRINT"YOU GET 5 LIVES,BUT BEWARE NOT TO GET"
836 PRINT
837 PRINT"DOUBLED KILLED,AS YOU LOOSE 2 LIVES "
839 PRINT:PRINT:PRINT
840 PRINT"USE YOUR CURSER KEYS TO MOVE"
845 PRINT:PRINT:PRINT
850 INPUT "ENTER SKILL LEVEL 1TO15(1=HARD)";Q1
865 IFQ1<1ORQ1>15THEN800
870 GOTO5
900 CLS
901 FORA=1TO12:WAIT4::PLAY7,0,0,0:MUSIC3,4,A,15:NEXT:PLAY0,0,0,0
905 PLOT12,10,"WE HAVE A WINER"
910 FORA=0TO7:PAPERA:WAIT5:NEXT
911 FORA=0TO7:PAPERA:WAIT5:NEXT
912 FORA=0TO4:PAPERA:WAIT5:NEXT
920 FORA=1TO12
930 WAIT4:PLOT9,12,"PRESS 'R' TO RERUN":PLOT12,14,"OR 'S' TO STOP"
940 PLAY7,0,0,0:MUSIC3,4,A,15
950 A$=KEY$:IFA$="r"ORA$="R"THENPLAY0,0,0,0:RUN
960 IFA$="S"ORA$="s"THENPLAY0,0,0,0:END
970 NEXT:GOTO920
1000 END
1010 DATA5,30,1,6,8,2,13,30,2,25,30,3,28,30,4,27,30,5,1,3,6,9,10,6,
22,22,6,29
1020 DATA30,6,1,23,7,30,30,7,1,7,8,12,23,8,30,30,8,1,6,9,17,22,9,1,
4,9,30,30
1030 DATA9,1,1,10,30,30,10,1,1,11,29,30,11,1,1,12,10,11,12,29,30,12
,1,1,13,9
1040 DATA14,13,22,30,13,1,1,14,5,15,14,21,30,14,1,1,14,1,1,15,5,30,
15,1,1,16
1050 DATA6,30,16,1,1,17,1,1,18,19,24,16,1,6,19,1,30,20
1060 DATA3,8,3,5,5,5,5,8,2,11,4,11,4,17,6,17,3,22,5,22,7,24,7 ,18,9
,19,9 ,18
1070 DATA12,23,10,23,11,19,13,19,10,15,12,15,8,   10,10,10,10,7,12,
7,13,3,13
1080 DATA4,16,4,16,2,17,9,19,9,19,12
9000 INPUTP
9100 WAITP
9200 ZAP
```

Fountainia

By M. J. Hall

This is a program which draws a fountain and then a fountain effect is produced so that the water looks as if it is moving. It takes about 10–15 minutes to run.

```
1 REM XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2 REM X DESIGNED BY MARTYN J.HALL  X
3 REM X         JUNE 1983          X
4 REM XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5 PAPER0:INK1
6 HIRES
7 GOSUB 5000
10 PRINT CHR$(17)
11 GOSUB 5100
14 REM XXX LEFT HAND SIDE XXX
20 B=100:A=10
30 FOR G=.25*-PI TO -1 * PI STEP-.015
35 IF A=55 THEN GOTO 70
40 CURSET(120-C)+(COS(G))*A,190+(SIN(G))*B,1
50 NEXT G
55 C=C+3.5:A=A+5
60 GOTO 30
70 REM XXX RIGHT HAND SIDE XXX
80 REM
90 A=10
100 FOR G=.75*-PI TO 0 STEP.015
110 IF A=55 THEN GOTO 205
120 CURSET(105+C)+(COS(G))*A,190+(SIN(G))*B,1
130 NEXT G
140 A=A+5:C=C+3.5
150 GOTO 100
205 REM XXX WORKING FOUNTAIN XXX
210 P1=44520:P2=46120
220 FOR C=1 TO 28
230 P1=P1+640:P2=P2+640
235 IF P1>=48520 THEN P1=44520
236 IF P2>=48520 THEN P2=44520
240 POKEP1,7:POKEP1+40,7:POKEP1+80,7
241 POKEP2,7:POKEP2+40,7:POKEP2+80,7
250 IF P1>=45760 THEN GOSUB 1000
255 IF P2>=45760 THEN GOSUB 2000
260 POKEP1,1:POKEP1+40,1:POKEP1+80,1
261 POKEP2,1:POKEP2+40,1:POKEP2+80,1
265 IF P1>=45760 THEN GOSUB 3000
266 IF P2>=45760 THEN GOSUB 4000
270 NEXT C
280 GOTO 220
1000 REM XXX COLOUR ON XXX
1010 POKEP1+19,1:POKEP1+59,1:POKEP1+99,1
1020 POKEP1+23,7:POKEP1+63,7:POKEP1+103,7
1030 RETURN
2000 REM XXX COLOUR ON XXX
2010 POKEP2+19,1:POKEP2+59,1:POKEP2+99,1
2020 POKEP2+23,7:POKEP2+63,7:POKEP2+103,7
2030 RETURN
3000 REM XXX COLOUR OFF XXX
3010 POKEP1+23,1:POKEP1+63,1:POKEP1+103,1
3020 RETURN
4000 REM XXX COLOUR OFF XXX
4010 POKEP2+23,1:POKEP2+63,1:POKEP2+103,1
4020 RETURN
5000 REM XXX TITLE XXX
5010 CURSET95,20,3:N$="FOUNTAINIA"
5020 FOR A=1 TO LEN(N$):CHAR ASC(MID$(N$,A,1)),0,1:CURMOV7,0,0:NEXT
A
5030 FOR P=44520 TO 48520 STEP40:POKEP,1:NEXTP
5040 RETURN
5100 REM XXX INITIALIZATION XXX
5110 CURSET10,190,3:FILL10,10,20
5120 CURSET134,120,3:DRAW-12,0,1
5130 DRAW2,20,1:DRAW0,30,1
5140 DRAW-5,19,1:DRAW18,0,1:DRAW-5,-19,1:DRAW0,-30,1
5150 DRAW2,-20,1
5160 RETURN
```

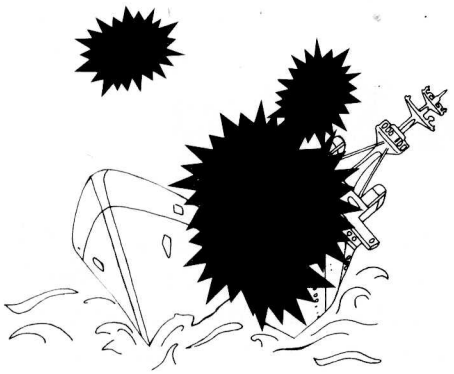
PLEASE NOTE : IF YOU HAVE PROBLEMS LOADING THIS AND ....
5110 FOR P=44520 TO 48520 STEP 40: POKEP,1:NEXTP

We pay £6 for every program printed in this section. Send all entries to: The Editor, Oric Owner, 3, Club Mews, Ely, Cambs. CB7 4NW.

Oric Quickies Special

Bomb

By R. J. Turner



This little program is simple, yet fun. An airplane flying across the screen drops a bomb on a moving boat when you press any key. The boat explodes when hit. The youngest child can play it with success, yet it amuses almost anyone. It uses the alternate character set in low resolution graphics mode. You may use your own characters (poke them) to make a better plane or boat. A splash would also be beneficial for misses.

```
100 SH$=CHR$(76)+CHR$(94)+CHR$(93)
200 AP$=CHR$(84)+CHR$(88)+CHR$(48)
250 PL$=""+AP$
300 EX$=CHR$(116)+CHR$(117)+CHR$(118)
350 PRINT CHR$(17) CHR$(20)
400 CLS:LORES 1
500 A=-1:B=0
600 FOR S=37 TO 0 STEP-1
700 GOSUB 2400
710 PLOT S,26,SH$
715 IF S<36 THEN PLOT S+3,26,""
720 IF B<>0 THEN GOTO 750
730 X$=KEY$
740 IF X$<>"" THEN GOSUB 4600
750 IF <>0 THEN GOSUB 3300
780 GOSUB 2400
800 NEXT S
900 PLOT 0,26,""
1000 GOTO 600
2400 A=A+1
2500 PLOT PLOT 37,0,""
2575 A=0
2600 PLOT A,0,PL$
3200 RETURN
3300 PLOT X,Y,""
3400 C=C+B:Y=Y+C:X=X+1
3425 IF X>38 THEN X=0
3450 IF Y>26 GOTO 3900
3500 PLOT X,Y,CHR$(36)
3900 IF Y<26 GOTO 4500
4000 B=0
4100 IF X<SGOTO 4500
4200 IF X>S+2 GOTO 4500
4300 GOSUB 5000
4400 RUN
4500 RETURN
4600 X=A:Y=1:B=0.4:C=0
4650 SHOOT
4700 RETURN
5000 PLOTS,26,EX$
5100 EXPLODE
5200 WAIT 200
5300 RETURN
```

Oric Quickies Special

Oric Renumber

By G. M. Jackson

The Program uses the following variables:

DEEK (#9A) = start of basic program
DEEK (#9C) = end of basic program = E
A = address of basic program line = DEEK (A)
N = Line number
S = (initially) = start line number from
I = increment

To use the program simply enter 'GOTO 63900'.
An increment range of 1 to 100 has been permitted but his is easily changed in line 63925.

```
63900 REM*RENUMBER BY G.M.JACKSON COPYRIGHT 1983
63905 PRINT CHR$(12);SPC(10)"RENUMBER":PRINT
63910 INPUT"COMMENCE LINE NUMBERS FROM";S
63915 IF S<1 OR S>63899 THEN GOTO 63910
63920 INPUT"INCREMENT BY";I
63925 IF I<1 OR I>100 THEN GOTO 63920
63930 A=DEEK(#9A):E=DEEK(#9C)
63935 N=DEEK(A+2)
63940 IF N>=63900 OR A>E THEN PRINT"RENUMBER
      COMPLETED":END
63945 DOKEA+2,S:S=S+I:A=DEEK(A)
63950 GOTO 63935
```

Timed Table Entry

By Mrs P. Leake

```
1700 J=6:REM FOR 6X TABLE
1710 ANS=0.00
2000 FOR I=1 TO12
2020 PRINT I;"* ";J;"=";
2030 GOSUB 10000
2040 K=I*J
2050 T=ABS(K-VAL(REPLY$))
2060 IF T<0.001 THEN PING:ANS=ANS+1
2070 IF T<0.001 THEN PRINT "CORRECT ":GOTO 4000
2080 PRINT "ANSWER IS ";K:SHOOT
2210 REPLY$=""
4000 NEXT I
4010 PRINT "YOU SCORED ";ANS;"OUT OF 12 "
4050 GOTO 32767
10000 REM GET ANSWER FROM~KEYBOARD
10010 FOR H=1 TO 175
10020 ENTRY$=KEY$
10030 IF ENTRY$="" THEN 10040
10035 REPLY$=REPLY$+ENTRY$
10037 PRINTENTRY$;
10040 NEXT H
10050 PRINT
10100 RETURN
32767 END
```

Perhaps Mums and Dads will find this little program handy when their children come home from school saying they have a table test the next day. Mrs Leake's daughter wanted a program which did not give her time to work out her tables in rote fashion. She scored full marks the next day on her six times table test!

Line 10010 can be changed to 'FOR H = 1 TO 200' when a child is just learning.

Line 1700 could be changed to:

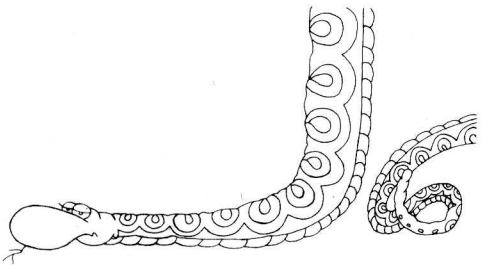
1700 J = INT (RND (1)* 12) for a fuller test.

The advantage of this program is you can hear how well the children are learning without working yourself.

Oric Quickies Special

Snake

By M. J. Hall



This is a short game where first of all you have to enter the volume which you wish to have the sound played at. Then you will have to steer your snake through the obstacles. If you hit one of the obstacles or you go too far to the left, or you go into the river, which is the blue strip on the right, then you will be blown up. Obviously you have to keep going as long as possible to obtain a high score. When you are destroyed your score is printed up together with the highest score, and then you are asked if you want another game or not.
N.B. The snake will continue going in the direction chosen unless it is changed.

CONTROLS
LEFT CURSOR – to go left
RIGHT CURSOR – to go right

```
0 POKE#26A,10
1 GOSUB 1000
2 E$=CHR$(33):CLS
3 PRINT "ENTER THE VOLUME PLEASE (0-15)"
4 PRINT"ANY OTHER KEYS WILL BE TAKEN TO BE 0":INPUT V$
5 V=VAL(V$):IF V<>INT(V) OR V<0 OR V>15 THEN 3
6 GOSUB 4000
7 PLAY7,0,0,0
9 P=48257:POKEP,124
10 REPEAT
11 S=S+1
12 SOUND1,300,V
20 X=INT(25*RND(1))+1
25 PRINT SPC(X)E$
26 POKE 49108,20
27 SOUND1,200,V
30 K$=KEY$:IF K$="" THEN K$=A$
40 IF K$=CHR$(8) THEN POKEP,32:P=P-1:A$=K$:DI=1
50 IF K$=CHR$(9) THEN POKEP,32:P=P+1:A$=K$:DI=2
60 POKEP,124
65 SOUND1,100,V
80 IF DI=2 AND PEEK(P+41)<>32 THEN 210
200 UNTIL PEEK(P+40)<>32
210 EXPLODE
220 PAPER7:CLS
230 PRINT"YOUR SCORE WAS ";S
231 PRINT
232 IFS>WTHENPRINT"THE HIGHEST SO FAR"ELSEPRINT"THE BEST WAS ";W;"B
Y ";M$
233 PRINT
234 IFS>WTHENW=S:INPUT"ENTER YOUR NAME PLEASE";M$
240 PRINT
245 PLAY0,0,0,0:S=0
250 PRINT"DO YOU WANT ANOTHER GAME(Y/N)
260 REPEAT:GET A$:UNTIL A$="Y" OR A$="N"
270 IF A$="Y" THEN K$=J$:GOTO 2
280 CLS:PAPER1
285 PLAY7,0,0,0
290 PLOT8,10,"XXXXXXXXXXXXXXXXXXXXXX"
300 PLOT8,11,"X                    X
310 PLOT8,12,"X                    X"
320 PLOT8,13,"X                    X
330 PLOT8,14,"X                    X"
340 PLOT8,15,"XXXXXXXXXXXXXXXXXXXXXX"
350 FOR L=1 TO 6
360 PLOT11,12,"THIS PROGRAM HAS"
370 PLOT15,13,"NOW ENDED"
380 SOUND1,300,7
390 WAIT 50
400 PLOT11,12,"                "
410 PLOT15,13,"          "
420 SOUND1,100,7
430 WAIT 50
440 NEXT C
450 PLAY0,0,0,0
455 WAIT 50:CLS:INK1
460 PRINT CHR$(19):END
1000 REM XXCHARACTER DEFINITIONXX
1005 REM XX       ROUTINE        XX
1010 FOR N=0 TO 7:READX:POKE(46080+264+N),X:NEXTN
1020 DATA #0,#1E,#3F,#3F,#3F,#3F,#1E,#0C,#0C
1030 FOR N=0 TO 7:READX:POKE(46080+992+N),X:NEXTN
1040 DATA #3F,#3F,#3F,#3F,#1E,#1E,#0C,#0C
1050 RETURN
4000 REM XX ROUTINE SET UP XX
4005 REM XX    THE SCREEN  XX
4010 CLS:PAPER2
4020 FOR Y=0 TO 26
4030 X=INT(25*RND(1))+1
4040 PRINT SPC(X)E$
4050 NEXTY
4060 FOR P=48068 TO 49108 STEP40
4070 POKEP,20
4080 NEXTP
4090 RETURN
```

Oric Quickies Special

Hires Demos

By H. S. Liam

The following are two programs that produce patterns in HIRES mode.

Program 1

The above program will fill the screen with different sized rectangles in different colours. It demonstrates the speed and flexibility of the FILL command. Larger rectangles can be obtained by changing the numbers in lines 50 and 60 but care has to be taken not to exceed the screen size. Line 40 is required because of the properties of the attribute.

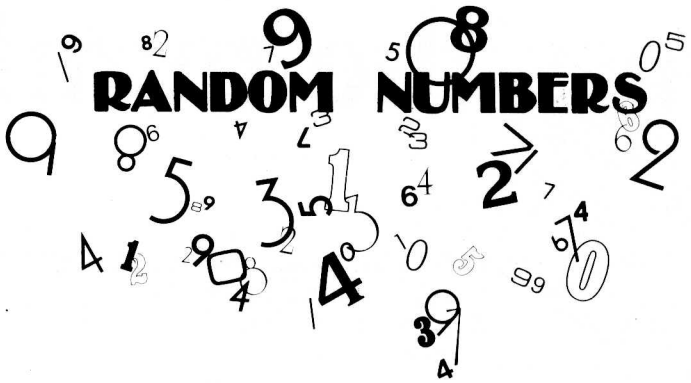
```
10 PAPER 0:INK 7
20 HIRES
30 PRINT CHR$(17):REM REMOVES THE FLASHING CURSOR
40 CURSET 0,0,3:FILL 200,40,16:REM INITIALLY FILL
   SCREEN WITH BLACK BACKGROUND
50 CURSET INT(RND(1)*200),INT(RND(1)*180),3
60 FILL 10+INT(RND(1)*11),3+INT(RND(1)*2),
   17 + INT(RND(1)*7)
70 GOTO 50
```

```
10 PAPER 0:INK 7
20 HIRES
30 PRINT CHR$(17)
40 R=RND(1)*40+80
50 FOR B=1 TO 2
60 INK 1+RND(1)*7
70 FOR A=1 TO 50
80 CURSET R,R-20,0:CIRCLE A,2
90 CURSET R-20,R,0:CIRCLE A,2
100 CURSET R+20,R,0:CIRCLE A,2
110 CURSET R,R+20,0:CIRCLE A,2
120 NEXT A,B
130 GOTO 40
```

Program 2

This program uses the CIRCLE command to fill up the circle. It also demonstrates the use of the FB code 2 to invert colours in the CIRCLE command. For a bit extra add in these lines:

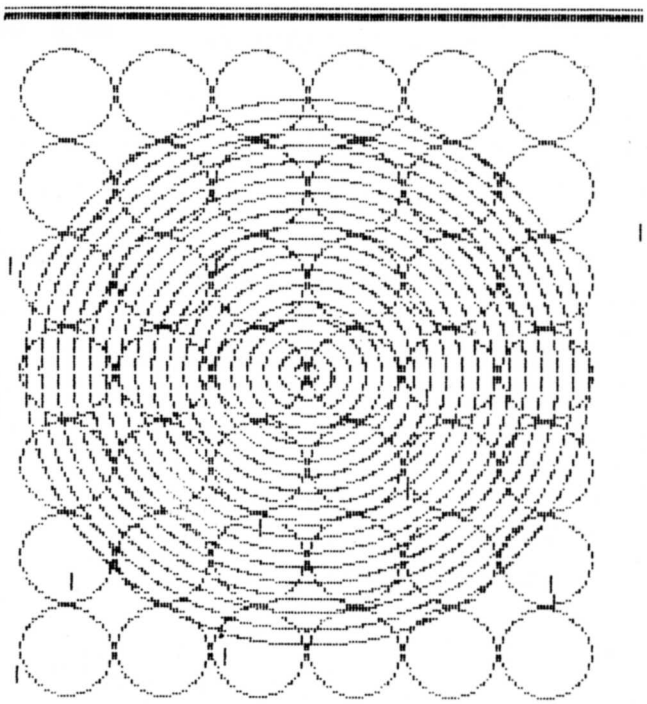
```
25 GOSUB 500
500 FOR A=40961 TO 48923 STEP 40
510 POKE A, 1+RND(1)*7
520 NEXT A:RETURN
```



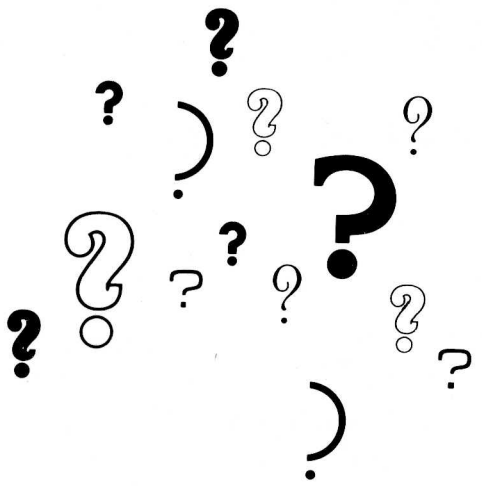

```
10 CLS
15 PRINT
20 PRINT "RANDOM NUMBERS"
30 PRINT "------ -------"
40 PRINT:PRINT
50 X=INT(RND(1)*200)+1
71 PRINT "THE COMPUTER HAS PICKED A NUMBER FROM"
72 PRINT "1 TO 200. YOU'RE JOB IS TO GUESS IT"
73 PRINT "YOU DO THIS BY TYPING IN YOUR GUESS"
74 PRINT "THE COMPUTER WILL THEN RESPOND BY"
75 PRINT "GIVING YOU A MESSAGE OF EITHER:"
76 PRINT:PRINT SPC(4)"TOO HIGH"
77 PRINT SPC(7)"OR"
78 PRINT SPC(4)"TOO LOW"
79 PRINT:PRINT"HIT A KEY TO CONTINUE"
80 GET A$
81 CLS
82 PRINT:PRINT"RANDOM NUMBERS"
83 PRINT"------ -------"
84 PRINT:PRINT
88 G=G+1
89 PRINT"ENTER GUESS NO.";G
90 INPUT N
100 IF N=X THEN 140
110 IF N<X THEN PRINT "TOO LOW"
120 IF N>X THEN PRINT "TOO HIGH"
130 GOTO 88
140 PRINT "THAT IS IT"
150 PRINT "YOU GOT IT IN ";G;"GUESSES"
155 GOSUB 210
160 PRINT:PRINT "DO YOU WANT ANOTHER GO"
170 INPUT A$
180 IF LEFT$(A$,1)="Y"THEN 10
190 IF LEFT$(A$,1)="N"THEN CLS:END
200 CLEAR:GOTO170
210 IF G<5 THEN PRINT "VERY GOOD":RETURN
220 IF G>10 THEN PRINT "THAT IS FAIR":RETURN
230 PRINT "YOU NEED A LOT MORE PRACTICE!!!":RETURN
```

Circles

```
10 REM **screen copy EPSON printer**
20 REM draw circles program
25 HIRES:PAPER 7:INK 0
30 FOR A=30 TO 210 STEP 30
40 FOR B=30 TO 180 STEP 30
50 CURSET A,B,3:CIRCLE 15,1
60 NEXT B:NEXT A
70 CURSET 120,105,3
80 FOR N=89 TO 1 STEP-5:CIRCLE N,1
90 NEXT N
100 REM
6000 REM **screen copy program**
6010 LPRINT CHR$(27);"A";CHR$(7);:REM line spacing
6020 FOR X=48920 TO 48959
6030 LPRINT CHR$(27);"K";CHR$(200);CHR$(0);:REM bit image printing
6040 FOR Y=X TO X-7960 STEP-40
6050 POKE 48,0:C=PEEK(Y)
6060 D=INT((C/64-INT(C/64))*64+.05)*SGN(C/64):REM 8 to 6 bits
6070 LPRINT CHR$(D);:REM ~rints screen
6080 NEXT Y
6090 LPRINT CHR$(10);:REM line feed
6100 NEXT X
6110 LPRINT CHR$(27);CHR$(50):REM normal line spacing
6120 PING:END
```



Guess the number



```
5 CLS
10 PRINT"GUESS THE NUMBER BETWEEN 1 AND 10"
20 LET A=RND(1)*10
25 LET A=INT(A)
30 INPUT B
60 IF A=B THEN 80
70 IF A<>B THEN 110
80 PRINT "WELL DONE"
85 PING
90 END
110 PRINT"YOU ARE WRONG"
115 ZAP
150 PRINT"DO YOU WANT ANOTHER GO";N$;"(Y/N)?"
160 INPUT A$
200 IF A$="Y"THEN GOTO 10
250 IF A$="N"THEN 300
300 PRINT "NOT VERY CLEVER ARE YOU!!!"
```

Random Sketch

By R. Massey

Following on from the Pattern program in last issues Oric Quickies, here is another program to draw interesting displays on the screen. To give a better effect a random note is played while the picture is being drawn. This program is easily modifiable to give other interesting patterns.

```
10 HIRES
20 CURSET0,0,0
30 FORX=1 TO 98
40 A=INT(RND(1)*6)+1
50 CURSET0,X,1
55 SOUND1,(X*2.5)/3,10
60 FILL 1,1,A:NEXTX
70 CURSET 120,100,1
75 FOR N=1 TO 75
80 X=(100-10)*RND(1)+10
90 Y=(50-10)*RND(1)+10
92 SOUND1,X*2.83,7
95 CURSET 120,100,0:WAIT10
100 DRAWX,Y,1
101 CURSET120,100,1:DRAW-X,Y,1
102 CURSET120,100,1:DRAWX,-Y,1
103 CURSET120,100,1:DRAW-X,-Y,1
105 NEXT:PLAY0,0,0,0
```

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The Oric Owner is the only magazine devoted to the Oric-1 computer.

Virtually every person who buys an Oric will get this magazine. If you are selling Oric related products can you afford to miss this chance to reach the market you are aiming for?

For full details of our advertising rates contact Carolyn on Ely 2271 and see if she can help you.

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NOTICE FROM OVACAM

We kindly request that Orics sent for repair from Customers and Dealers need a detailed letter sent with them, explaining exactly what the problem is and after how long the problem occurs.

The letters received at the moment are not detailed enough.

Please remember to enclose names and addresses as well.

IVYSOFT

is pleased to announce its move to new premises at 36 New Street, Barbican, Plymouth to be known as

THE SOFTWARE SHOP

Widest range of home computer software in the South West including most of the Oric software advertised in this magazine. To celebrate the new opening we will be offering a 10% discount on all orders received by August 31. Call, write or telephone for free price list. Export orders (tax free) welcome. Mail and telephone enquiries to: IVYSOFT, 91 Cleeve Drive, Ivybridge, Devon. Tel: (07554) 4088.

THE FLEXIBLE COMPUTER SYSTEM FOR THE FUTURE

ORIC-1

16K ORIC
Was £129.00 inc. Now only £99.95 inc.
48K ORIC
Was £169.95 inc. Now only £139.95 inc.
Plus £40 printer voucher free with every computer purchase.

ENHANCED

ORIC SOFTWARE

(available on cassette only. Prices include VAT and post and packing)

ORIC FORTH language. Requires 48k machine.
Price £15.90

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Price £15.40

ZODIAC adventure game. Requires 48k machine.
Price £10.39

ORIC CHESS Requires 48k machine.
Price £10.39

NEW **ORICMON** A complete machine code monitor. Either 16k or 48k machines.
Price £15.90

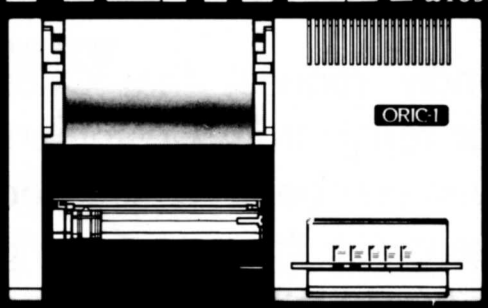
NEW **HOUSE OF DEATH** game. Requires 48k machine.
Price £10.39

NEW **MULTI GAMES PACK 2** Requires 48k machine.
Price £7.30

NEW **ORIC MUNCH** game. Requires 48k machine.
Price £8.35

NOW AVAILABLE

ORIC PRINTER £169.95 inc.



Oric Products are pleased to announce the release of the four-colour printer.
The Printer uses standard 4½ inch paper and is switchable between 40 and 80 characters per line.
The writing mechanism is a clever arrangement of four miniature ball-point pens (red, green, blue and black inks.)
There are 15 programmable character sizes and four different drawing angles.
The pen plotting facility allows the drawing of complex diagrams and pictures.
The price includes an integral power supply and printer lead.

You may place your order by phoning our telesales number on ELY (0353) 2271/2/3/4 or by completing the postal form below:

Payment may be made by cheque, postal order, Barclaycard Visa or Access.
All cheques and postal orders should be made payable to Tansoft Ltd.
For credit card payment please quote Access, Barclaycard Visa No.

All orders should be sent to Tansoft Ltd, 3 Club Mews, Ely, Cambs CB7 4NW

Name

Address

Full colour brochure and software catalogue is available on request.

Description	Qty	Price
TOTAL		

Trade enquiries welcome.

All prices are inclusive of VAT

ISO PAGE

Dear Sir,

Recently I have discovered that by leaving a 3.5mm jack plug in the extension speaker socket on my cassette recorder and using the ORIC 3 pin din lead, I could save and load whereas before I could only save programs and not load them. After seeing the letter in the *Oric Owner* magazine about the problem that someone else was having, I thought this could be useful to someone else who can save but can't load using the ORIC lead providing the sound comes out of the speaker of their cassette recorder when they are trying to load.

Also I have got a problem that I was wondering if you could solve. That is that I have recently bought a lead to connect the ORIC to my stereo and I have found that with the GROUND connected up, sound comes out of the ORIC speaker as well as on my stereo, and so could you tell me if this is correct?

I see from the magazine that you are doing an ORIC QUICKIE section, and I was wondering if you would do a section for long programs, only some of my programs are too long for that section.

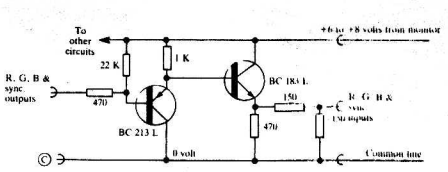
M. J. Hall

Editor: If the sound of the cassette is coming through your Oric's speaker then you probably have one of the signal leads connected to the extension speaker pins on the Oric's cassette socket. We are looking for all types of Oric programs, 'Quickies' and 'Slowies'.

Dear Sir,

Being the proud owner of an 'ex-space invader type colour monitor', I undertook to interface it to my son's Oric-1 computer. The colour monitor required an input of 1 volt into 75 ohm (for the three colour inputs and synch). By inspection I discovered that the Oric-1 video outputs were standard T.T.L.

Thus it was necessary to interface the Oric-1's T.T.L. output to the video input for the monitor. The circuit I used to achieve this, is shown below and may be of interest to other Oric-1 users with similar intentions. One word of caution, the monitor MUST have an 'Isolated mains supply' and a suitable isolating transformer must be employed if one is not fitted.



The unit was built on 'Veroboard' and mounted adjacent to the monitor. Incidently the two 150 ohm resistors may be altered to match different impedances, and becomes a voltage lossless emitter follower when no resistors are fitted.

Component list

All resistors ¼ Watt 5%

QTY.	VALUE in ohms.
8	470
8	150
4	1K
4	22K

Transistors: One BC213 L and One BC183 L (OR NEAR EQUIVALENT). Note only ONE of the four identical circuits is shown above.

P. D. Cubitt

Why you should subscribe to ORIC OWNER

Your Oric 1 is one of the most powerful low-cost computers on the market today. Oric Owner is the only magazine totally dedicated to the Oric and its supporting hardware and software.

From issue to issue Oric Owner is able to bring you in-depth information on the Oric, advance news on the latest add-ons, superb programs to try and 'behind the scenes' interviews with the engineers who designed it.

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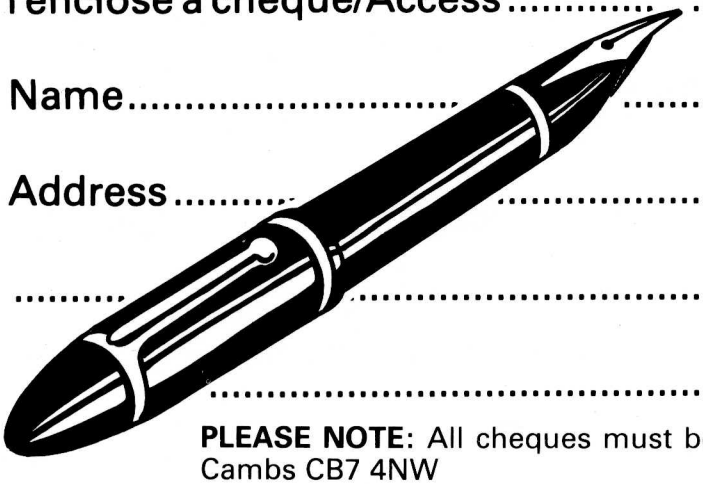
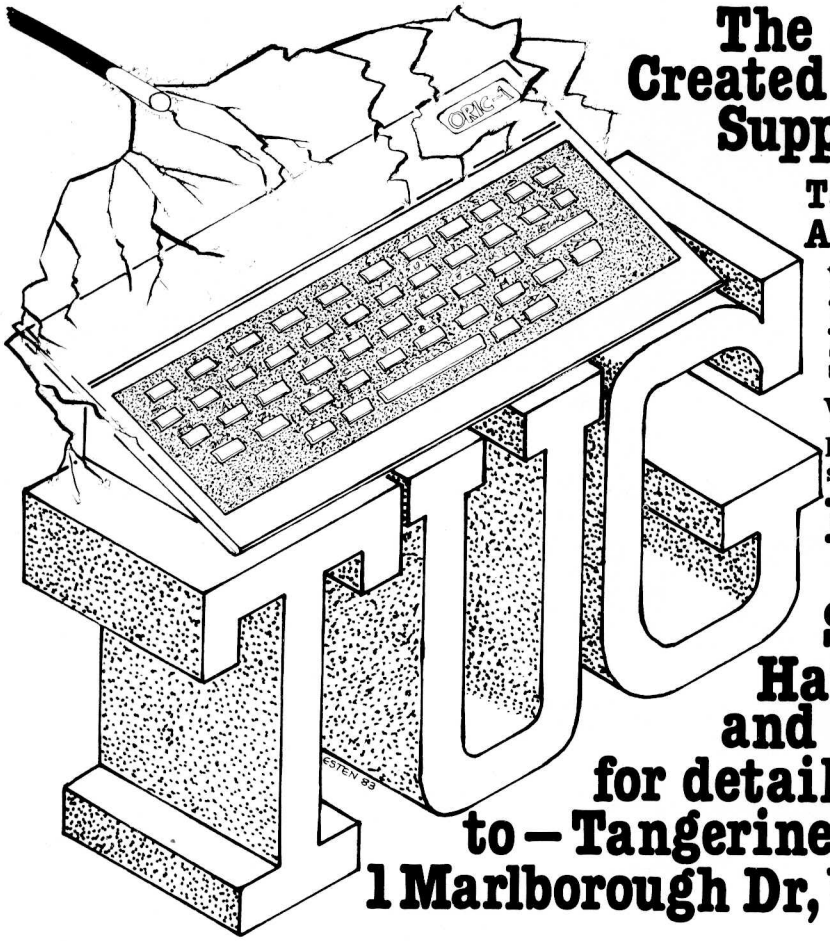


PLEASE NOTE: All cheques must be made payable to: Tansoft Ltd, 3 Club Mews, Ely, Cambs CB7 4NW



The ORIC-1 Created by Tangerine.... Supported by T.U.G.

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An independent users group with a solid reputation.
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ORIC 1

TOP QUALITY SOFTWARE FOR THE ORIC-1 COMPUTER

SPECIAL OFFER! Deduct £1 per cassette when ordering 2 or more.

ASSEMBLER (16K/48K) £7.95

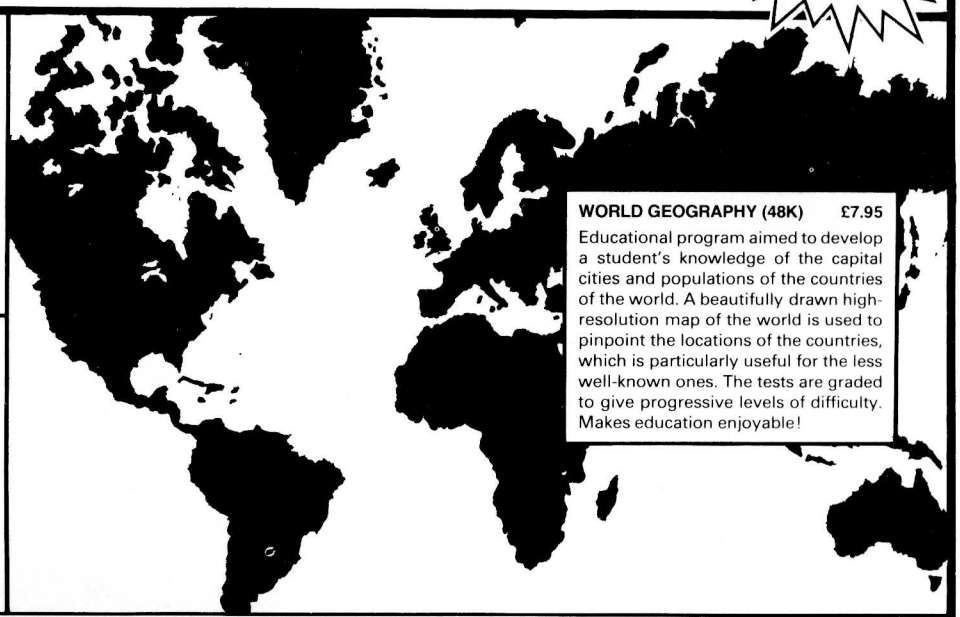
A highly sophisticated program which all serious ORIC programmers will want to own. Labels of any length; numbers may be specified in hex, decimal, binary, or octal; simple arithmetic on operands; standard editor facilities. Simple to use, yet highly versatile with all the following directives available: OPT, ORG, EQU, RES, DEFB, DEFW, DEFS. Supplied with clear and comprehensive documentation.

Please State Memory Size When Ordering.

TOOLKIT (16K/48K) £7.95

A high quality programmer's aid which can be used on its own, or as a complement to our excellent ASSEMBLER program. The TOOLKIT includes a full disassembler allowing output to memory, a monitor which enables you to step through your program one instruction at a time, COPY, VERIFY, SEARCH, and optional output to a printer. A must for all ORIC programmers. Full documentation supplied.

Please State Memory Size When Ordering.



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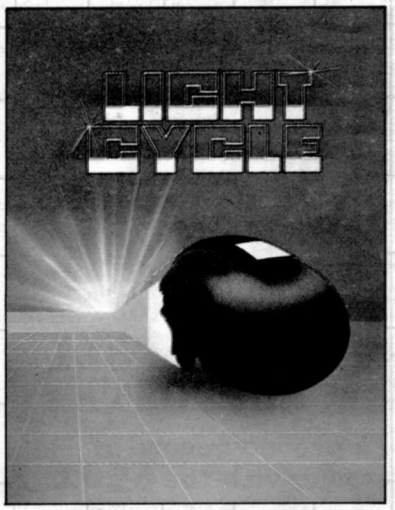
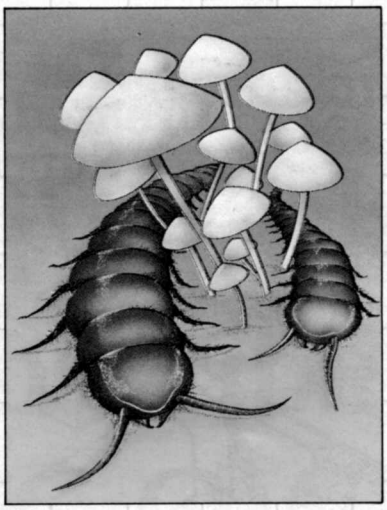
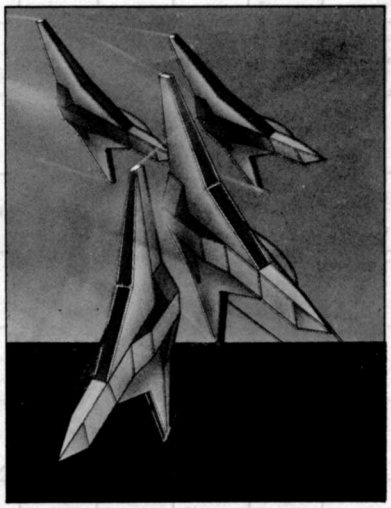


LIGHT CYCLE



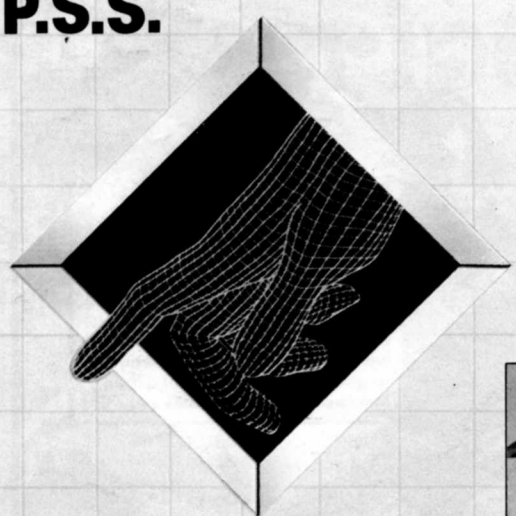
CENTIPEDE



INVADERS

REAL SOFTWARE FOR YOUR ORIC 1

AVAILABLE NOW DIRECT FROM P.S.S.



CENTIPEDE

AN ALL MACHINE CODE VERSION OF THE ARCADE GAME. FEATURES:– MUSHROOMS, SPIDERS, FLEAS, MUSHROOM LAYING BEETLES, SOUND, COLOUR, HI RES. GRAPHICS, HIGH SCORE TABLE, GAME RESET

THIS PROGRAM HAS BEEN APPROVED BY ORIC PRODUCTS INTERNATIONAL

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AVAILABLE SOON LIGHT CYCLE

YOU HAVE BEEN CHOSEN BY THE M.C.P. TO RACE ON THE INFAMOUS GRID. CAN YOU SURVIVE? 100% MACHINE CODE. 1 OR 2 PLAYERS, RACE THE COMPUTER OR ANOTHER PLAYER. . . SO FAST YOU WON'T BELIEVE IT!!

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QUITE SIMPLY THE ULTIMATE VERSION OF "SPACE INVADERS" AVAILABLE TODAY. FEATURES:– ALL MACHINE CODE, SMOOTH ACTION LASER BASE, "LIVE" ALIENS, CRUMBLING WALLS, EXPLOSIVE SOUND EFFECTS, FULL COLOUR, HI RES. GRAPHICS, INCREASING GAME SPEED, BONUS POINTS, MOTHER SHIPS AND MORE. . . .

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HOPPER

ALL MACHINE CODE VERSION OF "FROGGER" FOR YOUR ORIC 1.
FEATURES:– VARIABLE SPEED TRAFFIC, 3 LANE HIGHWAY, SNAKES, TURTLES, DIVING TURTLES, FLEAS, LOGS, DECREASING TIME LIMIT, EVER INCREASING GAME SPEED, HI SCORE TABLE, FULL COLOUR, AMAZING GRAPHICS, SUPERB SOUND. YOU HAVEN'T PLAYED "FROGGER" UNTIL YOU'VE PLAYED "HOPPER".

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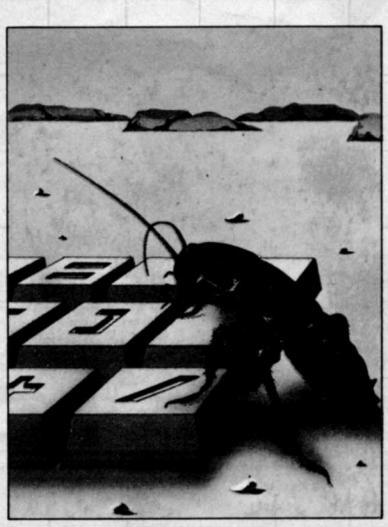
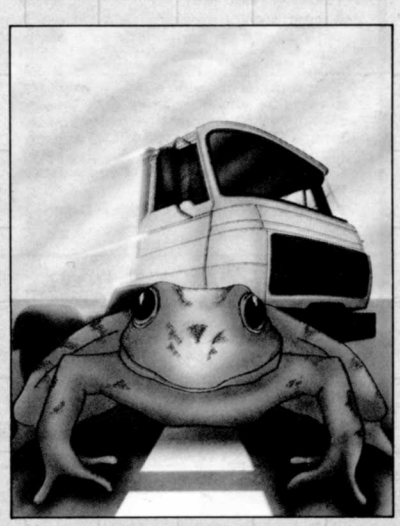


ORIC-MON



HOPPER