ØRIC
USER
MONTHLY
with Alternative Micros
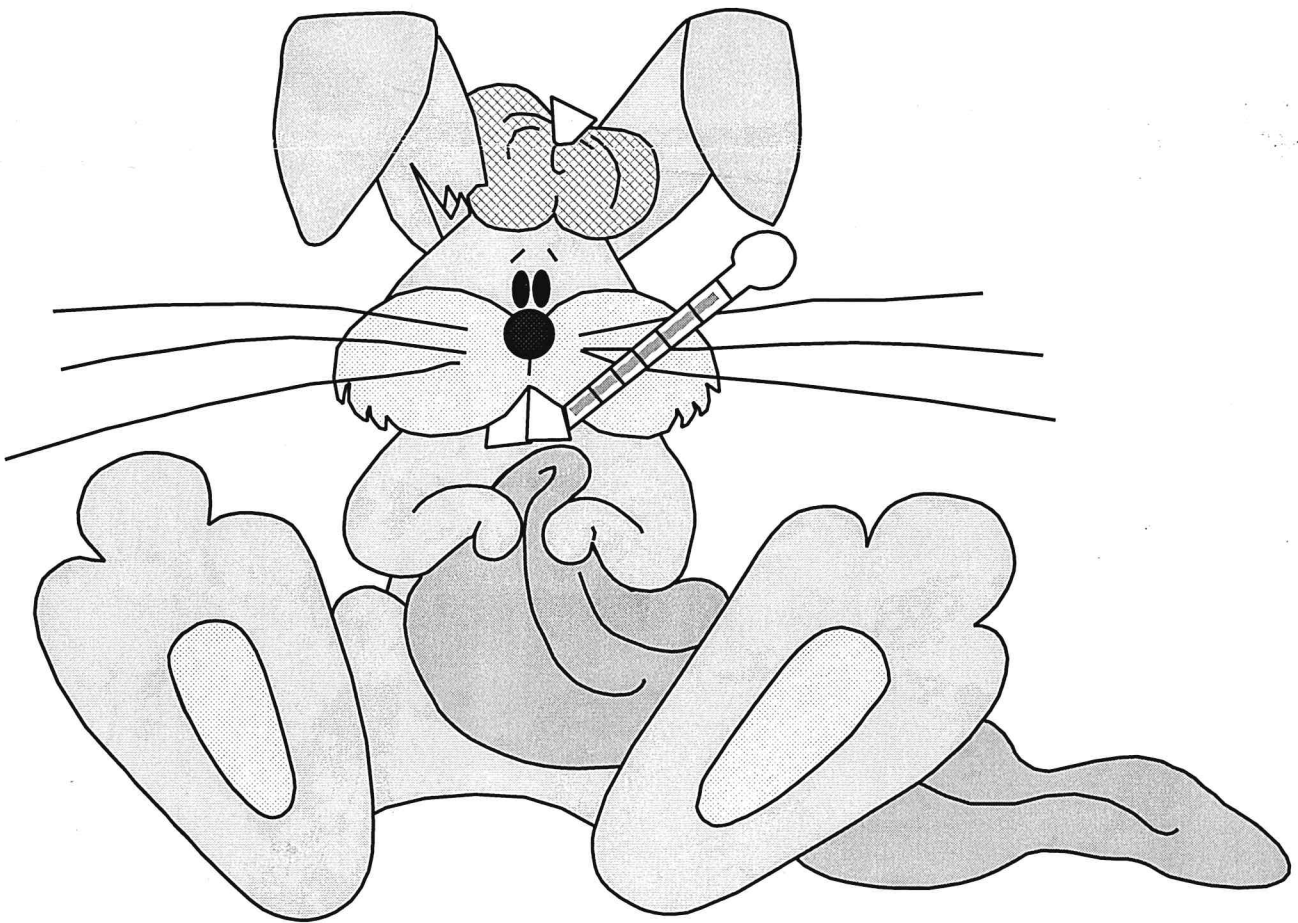
THE EDITORIAL

HELLO ONCE MORE,

and here we go with the March issue. As stated last month, there will be NO April OUM, but a double dose for May.

Plenty of articles in this issue.

Frank Bolton sorts out English Grammar, which although not Oric related, will be of benefit to many, including those who didn't bother at school, the youngsters, and our friends in other countries. If you do not want this type of article, then it is up to you to write in.

OUM membership has dwindled over the last year, as is the case with Club Europe Oric. At December 1993 we had 98 readers, after having reached the dizzy heights of 110+ at one stage. Many people had replied to our Mailshots, but had not subscribed. At least they know where we are, and I do still get contact from them occasionally. By December 1994 the membership had fallen to 84.

Obviously we cannot go on losing members at this rate. The bright notes are that: a) membership is still a lot larger than when I took over as Editor, and b) contributions with regard to articles etc. is very good.

Though I will monitor it closely; there is no reason at present to think about ceasing publication.

One of my main aims was to get people on to disc, and this I have achieved. The future of the Oric itself looks rosy, thanks mainly to the efforts of Dr.Ray.

OUM discs have been a great success.

It is now time to dig in and support the Oric and OUM.

One thing I do also ask, is that if you should stop subscribing, then please have the DECENCY to inform me why. In the past some people have had the magazine for years, had many favours done for them, and then just stopped subscribing without informing me why. It should be common courtesy to at least say if it is for financial reasons, bored with the magazine, selling the Oric, or whatever.

Now to better things!

The index for this issue.

===

ORIC VACUUM CLEANER!

YES - you had better believe it.

I recently had a telephone call from ex-Orician, PC man and ex-Aylesburyite - Tony Clark, who now resides in the West Country.

Heard on an advert on his local radio station was the ORIC VACUUM CLEANER - the new wonder vacuum at only 60 pounds. Tony thinks that the company were based in Taunton.

R E A D E R S   L E T T E R S

DEAR DAVE,
                after   reading Matthew Coates's article, (again very good), I
think I'll see if I've got enough info to write something about the old
bench tests - we will see!
    I've converted 'Two-Gun Turtle' to disc and absolutely SMASHED Graeme
Burton's hi-score (using a joystick). Despite me shoving loads of new
hi-scores on the chart, Graeme still has more than me. His scores are
incredible and beating one of his scores is something special. TGT tip -
make sure you catch all the snowflakes. This really boosts your score.
    I got 3 scores over 6000 one day, and next morning managed 9980.
    Enjoyed the colour page in OUM.
                                            -    STEVE   MARSHALL

(Edinburgh)

DEAR STEVE,
                I look forward to the article.
    Nice to see that someone is still playing games. I've actually been having
a go at a few myself recently, namely MACADAM BUMPER, VIDEO FLIPPER & MLUCH.
It's good to relax for a while.
    Meanwhile young Matthew has gotten hooked on some Oric adventures,namely -
LOST IN SPACE and ENCHANTED (penned by our very own David Goodrum).

    Not much to report from readers on new hi-scores,except an impressive one
from Denis Bonfield. His new hi-score on INSECT INSANITY is 115,050.
    Glad you liked the bit of colour in the last OUM. Other designs are
planned.
                                            - DAVE
==

DEAR DAVE,
                my wife Anne has become a fan of MACADAM BUMPER,which was
released on a CEO Disc. Worse than that;she has the irritating habit of
beating me hollow!! I'll have to find some way to nobble the Oric,when she
plays.

                                            - PETER BRAGG

DEAR PETER,
                one of the excellent features of MACADAM BUMPER is that you can
design your own tables. I suggest that you design one that baffles her. We
can't have the weaker sex beating us fellows. Incidentally,there were two
other excellent French Pinball games,and I believe they are both on CEO
Discs. They are - COBRA PINBALL & VIDEO FLIPPER.
                                            - DAVE
==

CHER DAVID,
                I turns to you in despair. Has you any of zem Orica games to
'elp me with my Karate. I has tried the Atari user group,but their version
does not allow you to chose the opponent i.e - an Crystal Palace supporter!
All for now - must get back to my painting and Kick Boxing practice!

                                            - ERIC CANTONA!

DEAR OOH! AAH! CANTONA,
                Yes we has a KARATE game in which you must jump
barriers to escape a 2000 Franc fine.
    Love and respect to the missus.
If you are in Aylesbury for our next Oric meet,then perhaps you could double
as Doorman/Bouncer, in case we have any trouble.
                                            - GEORGE GRAHAM
==

It has been a long time since I had enough to fill a page on Alternate Micros. Recently a few items have come in to the office, and I've added a couple o' things that may be of interest.

COMMODORE

A friend of OUM reader Ken Duddle is wanting to sell some COMMODORE 64 cassettes - a caseful of varied types.
To find out more, please telephone Ken on 0533 518889.

COMPONENTS

FOR SALE - new components,plus free pack of 100 Resistors,plus free PCB Mounting Nicad,assorted Resistors,Capacitors,Diodes,I.C's,Transistors etc. Valued at 50 pound plus, a bag of these goodies is yours for 12 pound (inc. post & packing).
Contact is:Don Brown, 2 Glentworth Ave, Whitmore Park,Coventry. W.Midlands. CV6 2HW

WAVE

'WAVE' are still out of stock of 3" discs. They did,however,send me their catalogue,dated Spring/Summer 94!
They purport to be the market leader in Amstrad CPC products.
They deal with cassette and disc games,utilities and business software. They also sell leads,cables,hardware products etc.
Some examples follow with prices where I've deemed relevant:

'TOUCH'N'GO' (Typing) for 6128/6128+ on disc for 7.99
Manuals for CPC464+/6128/6128+
Modulators,cables for CM14 to Sega Megadrive,Joystick extensions,CPC to video recorder, 'D' connectors, Din plugs and sockets.
CPC 12v power supplies at 14.99
CPC Emulator for PC only 5 pounds.
Tasword,Condor 1,Supercalc 2,Micro Design.
Lotus Esprit or Supercars on disc for just 3.50 each.
STAR LC10/20 printer ribbons - 4.49 per pack of 2 or a pack of 5 for 9.99. Similar prices for ribbons for: STAR LC2410,STAR LC200, DMP 2000/3000,CITIZEN 120D, CITIZEN SWIFT 9, PCW 8256, PCW 9512.

For an up to date catalogue, write to:
WAVE ELECTRONICS, 1 Buccleuch St, Barrow in Furness, Cumbria. LA14 1SR
TEL: 0229 870000
FAX: 0229 829109

ATARI

Frank Bolton has some Atari XT discs to clear. Anyone interested should contact Frank on 0533 877128.
The code is the one for Leicester,which I seem to remember as one of those that has a new one rather than that '1' added on 'PHONE DAY'. Thus if you don't ring by Easter, then check out the number.

ATARI -again!

Denis Bonfield recently picked up a 'VORTEX AT-ONCE-PLUS C16' 286 emulator card for the Atari. Unfortunately the drive software wasn't present,and thus he cannot check it or indeed use it.
Denis would be extremely grateful if anyone can tell him where he might get his hands on it.
All replies to the Editor,please.

LOOKING AT CLASSIC GAMES
with Arnt Erik Isaksen
Part 5
John Marshall

A part of "Looking at Classic Games" is dedicated to one of the Oric's best programmers, John Marshall, who was a very young freelance programmer in 1983 and 1984 when he was a programmed for both P.S.S. and Tansoft. At the time Tansoft wanted to use John Marshall's programming skills, he was only 17 years old. All of his titles are well-known in the Oric world. I guess you all have heard about Centipede, The Ultra, Rat Splat and Insect Insanity.

CENTIPEDE. P.S.S. 1983.
Centipede is a version of the classic game with the same title. You are controlling a little gun at the bottom of the screen. A centipede is moving down the screen. If you shoot it in the middle it will seperate into two smaller centipedes and so on. Kill the centipede before it will kill you. A deadly spider is also after you. Shoot it to get some bonus points.
I suppose this was J.Marshall's first ever released game. Centipede is a very fast machine code game. At the time this game was released, it was one of the fastest (!) games for our little Oric. The game itself is very simple, i.e. little use of colours and sounds. However, this is better than Mushroom Mania by Arcadia. Centipede is a good choice if you just want to play a pure shoot'em-up-game.
O:** G:**+ S:** A:***+

THE ULTRA. P.S.S. 1983.
The Ultra is similar to The Hellion, reviewed in part 2.2 of "Looking at Classic Games". This was, however, released before the latter. Shoot all of the creatures on each level to move on to the next. The Ultra is based on the classic Invaders type of game. One big difference is that the creatures move in different patterns. There are about 20 levels in this game. Beware of overheating your gun. Even though its idea is not very original, The Ultra is fun to play. That is one of the reasons for its popularity. The popularity of The Ultra is documented as it was in 3rd place in the OUM top 10 charts in issue 33 May 1990.
O:**+ G:**** S:***+ A:****

RAT SPLAT. Tansoft 1984.
Rat Splat is an extremely fast ladder arcade game. You are in control of a man, who is protecting his cheese from terrible rats. What can you do with the rats? Splat them with you hammer. Doesn't this sound rather cool? Yes, of course. It is too bad that there is no blood! This is not all. A monster appears to be one of the baddies as well as the rats. Your hammer doesn't help you here, but your aerosol spray will do the job. Spray at the monster and it will die. The smellometer increases all the time, and you must exterminate 15 rats before the smell kills you.
This is a very original ladder game, which is as fast as a real arcade game should be. A part of Tansoft's triology of well advertised arcades in 1984. The other two were Ultima Zone (Andy Green) and Defence Force (Andrew Moore). I believe I am right in saying that Rat Splat is the best of these Tansoft products. The graphics are not impressive in this game, but the sounds are nice. All in all an addictive game that is recommended for lovers of fast ladder games.
O:***** G:***+ S:**** A:*****

INSECT INSANITY. Tansoft 1984.
In Insect Insanity you are in control of a boot, and you must protect your jam. Some small insects are crawling into your jam from all places. Run araound the screen and splat them. Other insects can also be splatted, i.e. worms, fleas, etc. You must also splat the cocoon before it develops into a butterfly. I am sorry about the exaggerated use of the word "splat" in this description about Insect Insanity.
You have heard about Insect Insanity before, haven't you? This game was announced in Home Computing Weekly already in October 1984. I believe it was released a little bit too late for becoming the best selling Oric game of all time, especially because of the fact that Tansoft closed down already in 1985. What makes Insect Insanity so special? This game is probably the most complete Oric game ever. Not only is the game original. Orignality is completed with great graphics, sounds, and addictiveness. The graphics move smooth. The music that is played whilst playing Insect Insanity is "insane" and fits extremely well into the game. The sounds of splatting are also great. Robert Cook, who was the OUM editor at the time, released Insect Insanity through Mirage Software in 1990 to make this rarity available for members of our club. It was rated 5th in OUM's top 10 in May 1990.
O:***** G:***** S:***** A:*****

John Marshall showed his potential as programmer already at the time he wrote Centipede. By continually improving his programming skills, he pushed the Oric almost to its limits with the excellent Insect Insanity.

Next month, I will be looking at another great programmer. During the late 1980's and early 1990's, this author put some new blood into the Oric by making some very good games based on both original and more classic ideas. Have you guessed who I am thinking about? If not, you will have to wait for next month's issue of OUM.

HEY JUDE !

```
10 REM**** HEY JUDE .ORIC. BY JIM BLEY.****
20 DATA8,3,50,5,3,125,5,3,25,8,3,25,10,3,25,3,3,150
30 DATA3,3,25,5,3,25,6,3,50,1,4,75,1,4,25,12,3,25
40 DATA8,3,25,10,3,25,8,3,12,6,3,13,5,3,175,8,3,25
50 DATA10,3,25,10,3,50,10,3,25,3,4,25,1,4,25,12,3,12
60 DATA1,4,13,10,3,25,8,3,100,1,3,25,3,3,25,5,3,25
70 DATA10,3,25,8,3,75,8,3,25,6,3,50,5,3,50,12,2,25,1,3,125
80 DATA8,3,50,5,3,125,5,3,25,8,3,25,10,3,25,3,3,150
90 DATA3,3,25,5,3,25,6,3,50,1,4,75,1,4,25,12,3,25
100 DATA8,3,25,10,3,25,8,3,12,6,3,13,5,3,175,8,3,25
110 DATA10,3,25,10,3,50,10,3,25,3,4,25,1,4,25,12,3,12
120 DATA1,4,13,10,3,25,8,3,100,1,3,25,3,3,25,5,3,25
130 DATA10,3,25,8,3,75,8,3,25,6,3,50,5,3,50,12,2,25,1,3,125
140 DATA1,3,25,1,4,25,10,3,25,10,3,25,8,3,25,8,3,25
150 DATA6,3,25,10,3,50,1,4,25,10,3,75,1,4,25,6,3,100
160 DATA1,4,25,10,3,25,8,3,25,6,3,25,8,3,75,10,3,25
170 DATA8,3,75,6,3,25,5,3,75,3,3,25,1,3,150
180 DATA1,3,25,1,4,25,10,3,25,10,3,25,8,3,25,8,3,25
190 DATA6,3,25,10,3,50,1,4,25,10,3,75,1,4,25,6,3,100
200 DATA1,4,25,10,3,25,8,3,25,6,3,25,8,3,75,10,3,25
210 DATA8,3,75,6,3,25,5,3,75,3,3,25,1,3,150
220 DATA1,3,25,8,3,25,10,3,25,11,3,50,11,3,50
230 DATA11,3,25,1,4,25,3,4,50,3,4,25
240 DATA8,3,50,5,3,125,5,3,25,8,3,25,10,3,25,3,3,150
250 DATA3,3,25,5,3,25,6,3,50,1,4,75,1,4,25,12,3,25
260 DATA8,3,25,10,3,25,8,3,12,6,3,13,5,3,175,8,3,25
270 DATA10,3,25,10,3,50,10,3,25,3,4,25,1,4,25,12,3,12
280 DATA1,4,13,10,3,25,8,3,100,1,3,25,3,3,25,5,3,25
290 DATA10,3,25,8,3,75,8,3,25,6,3,50,5,3,50,12,2,25,1,3,130
300 :
310 TEXT:CLEAR:CLS:POKE853,40:POKE618,10:FORI=#BB80TO#BBA8:POKEI,32:NEXTI
320 PING:PAPER0:INK3:CLS:FORI=#B4F1TO#B52D:POKEI,PEEK(I)OR64:NEXTI:PRINT
330 PLOT1,3,10:PLOT1,4,10:PLOT2,3,2:PLOT2,4,4:PLOT3,3,17:PLOT3,4,17
340 PLOT16,3,"Hey Jude"
350 PLOT16,4,"Hey Jude"
360 M=ABS(DEEK(#D000)=169)
370 IFM=1THENCALL#F8D0ELSECALL#F89B
380 PLOT3,6,"Ceci est un petit morceau de musique."
390 PLOT3,8,"Ecrit par Jim Bley et Compatible          Oric1/Atmos."
400 PLOT3,11,"Le titre : Hey Jude ,compose par les"
410 PLOT2,12,5:PLOT3,12,"Beatles."
420 PLOT2,14,6:PLOT3,14,"------------------------------------"
430 PLOT2,18,2:PLOT3,18,"Volume Sonore : 1 a 15"
440 FORI=1TO18:PRINT:NEXTI
450 INPUTV
460 IFV>=16THEN310
470 PLOT1,23,7:PLOT2,23,"Appuyez sur une touche pour ecouter.":GETA$
480 FORI=1TO166:READB,A,C
490 MUSIC1,A,B,V
500 PLAY3,0,7,3000
510 MUSIC2,4,B,6
520 WAITC:PLAY0,0,0,0
530 NEXT
540 PLOT14,26,"Fin.":END
550 REM
```

You are Invited

THE 1995 AYLESBURY ORIC MEET

7

 'THE MEET' will take place on Saturday July 29th at the Mandeville Residents Community Association (M.R.C.A). The address is: The Green, Simpson Place, Off Harvey Road, Aylesbury. Those familiar with visits to my home will know that Harvey Road is the road which leads into Barnard Crescent.
 The 'MEET' will commence at 10.00 a.m and go on until about 6 p.m.
 I have changed the venue for three reasons: a) Hall hire is cheaper, b) I want to support a non-profit organisation and c) It is even closer to my home.
 Bar facilities are available, and I will arrange food for the day.
 Tickets should be bought in advance,and will cost 2 pound. I look forward to a big turn out, and of course hope that our friends from France will make the trip.
 Please send to me for your tickets and a map as soon as possible.
 If you should get lost, the phone number of the club is: 01296 24731

 As usual I hope that we will have a Grand Raffle. Perhaps we can persuade Kimbo to sell the tickets. I look forward to hearing what novel prizes you the readers will put up for grabs!

B I T S ' N ' B O B S

 Being despatched is OUMDISC #6.
If you are not yet on the mailing list for it,then it's about time to wise-up and send me your 3.50.
Included on the disc are: a Database, a drawing program, alternative versions of MASTERMIND,DOTMAN & BREAKOUT. Also - a couple of files from Dr.Ray, JABBERWOCKY,BOXING,BINGO, a cheat version of GRAVITOR, a version of MIND MADNEZ allowing you to design your own screens, a 'cleaned-up' version of NHL ICE HOCKEY MANAGER, a mortgage program, a word count utility for WORDWORTH users, a LOTTERY program, and if that is not enough - SAMPLING software and samples from Denis Bonfield,which are mentioned in this month's issue.
 WHAT A LOT YOU GOT!
===

NEXT OUM

Don't forget - there will be no APRIL OUM, but a double issue on May. Hopefully,this issue (and disc if you take it), should keep the interest up until then.
 Articles for inclusion in the May issue should reach me by April 22nd, PLEASE.

 HAVE A NICE EASTER - Dave
===

MESSAGE TO STEVE MARSHALL
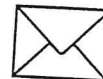
 Peter Bragg's wife is the proud owner of a BBC MASTER. Please contact Peter with regard to information that you seek on the machine.
===

ORIC SAMPLER

Having accumulated quite a lot of sound sampling/editing software for my ATARI STE over the years but not the hardware to use it I recently decided to have a go at putting one together. I soon realised though that designing a circuit from scratch while connected to the STE's catridge port could prove hazardous to its health as the MMU chip (expensive) supplied various control signals directly. I therefore decided to use my thrusty Oric to develop a working prototype, and here is the result. Along the way I also took the opportunity to develop some sampling software, more about later.

An Overview

While some might question the usefulness of such a project for the Oric given the limited amount of memory available, for me it was just the buzz of hearing something else coming from the speaker beside the usual beeps, while also giving me a reason to better aquaint myself with the Oric hardware. Having said that, I think it would be quite feasable to include short samples within programs. Now for a few specifics.

The maximium sampling rate achieveable is about 13 Khz. Unfortunately the maximium practical rate turns out to be around 5.5Khz as playback is very processor-intensive. Provision however has been made to allow the user to sample at the higher rate if he so wishes. Playback is through the Oric's 8912 sound chip. The software as it stands can capture about 6 seconds of sound at the maximium usable rate.
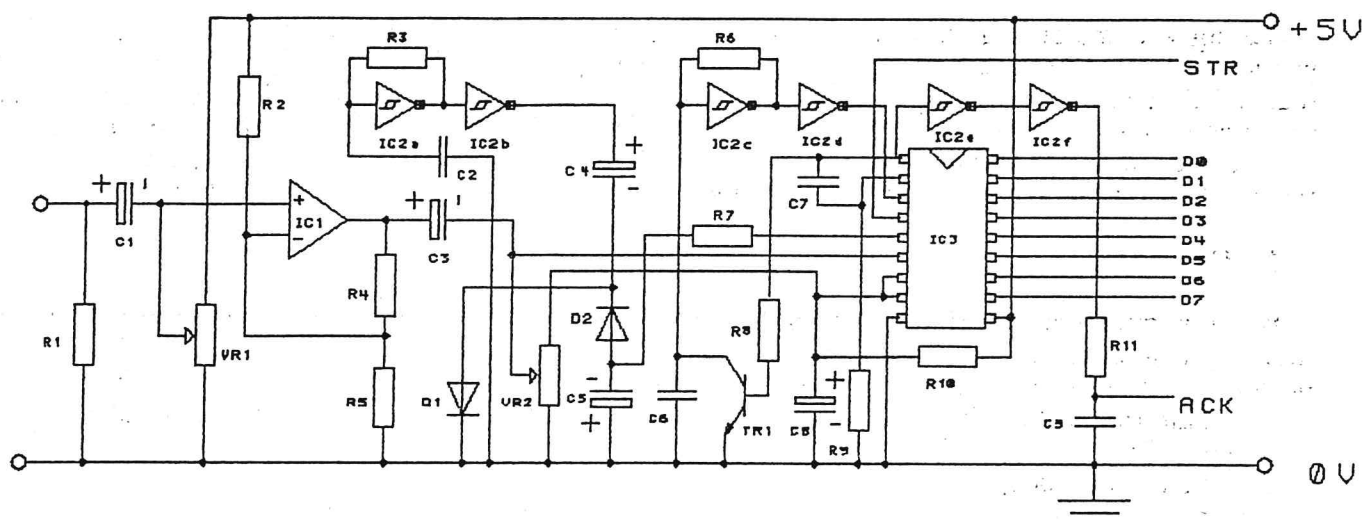
The hardware - general

The circuit uses the tried and trusted Ferannti ZN 427E 8-bit A-to-D converter. This has a tri-state 8-bit output making it ideal for interfacing to CPU's. It uses the 'successive approximation' method of conversion so that any voltage will be approximated in 9 cycles. As the ZN 427E has a maximium clock frequency of 1 Mhz this sets the maximium sampling frequency at about 100 Khz. - more than adequate. The clock pulse is formed by C6,R6,IC2c and IC2d. The voltage for conversion is fed to the non-inverting amp IC1 via C1, amplified and passed to the A-D chip. The circuitry around IC2a and IC2b is used to generate a negative going voltage needed by the ZN 427E. VR1 is set for maximium amplitude and minimum distortion at the output of the op-amp (a scope would be useful here) , VR2 is adjusted to ensure that under no-input conditions the output produces the expected 7FH - 80H value.

Oric related problems

The printer port is used as interface to the hardware. With no +5V here it is up to the constructor to rig up one of his own. Another problem with using the printer port is that there is no access to address lines which complicates things a little. While the strobe line is used to initiate conversion, there is no obvious way of enabling IC3's output while simultaneously reading its value. A solution was found by way of C7. When STR goes high, pin 1 (BUSY) of IC3 goes low which in turn causes TR1 to switch off, alleviating its 'crowbar effect' on C6. This allows the oscillator circuit to start up and so begin the conversion. Once complete, pin 1 goes high indicating that the conversion is complete. C7 also momentarily transfers this positive-going potential to pin 2 (RD) enabling IC3's output briefy. C9,R11 introduces a slight delay in the ACK pulse allowing the output lines of IC3 to settle before being latched by the printer port.

Circuit diagram

Components

R1 = see text	C1,C3,C8 = 1uF	D1,D2 = 1N4148	VR1,VR2 = 10K
R2,R5 = 15K	C2 = 0.1uF	IC1 = 741	
R3,R11 = 10K	C4 = 220uF	IC2 = 74HC14	
R4,R8 = 100K	C5 = 10uF	IC3 = ZN427E	
R6,R10 = 1K	C6 = 4.7nF	TR1 = BC108	
R7 = 81K	C7 = 100pF		
R9 = 47K	C9 = 220nF		

Construction

Just bung it together and hope, at least that what I did. Most of the component values aren't too critical, they were tried and worked! R1 should be valued to match the output impedence of the sound source - if you're concerned by that sort of thing. I simply omitted it. With the hardware connected and the software set to sample, ensure that when VR2 is adjusted from min to max the 'hex' value progresses smoothly from 00H to FFH. Try different values for C9 if this is not the case.

The software

The software was written piece-meal while developing the circuit and therefore is fairly basic. It features sampling and display options as well as some editing facilities, ie. portions of a sample may be cut or pasted etc. As the majority of the program is in Basic, including additional functions shouldn't be too difficult. Deleting the single quote in line 100 enables the DOKE command which disables the 'hex' output on sample, allowing the full sampling rate to be realised. I am including the software with this article and hope Dave has space for it on a forthcoming OUM disk. For those not interested in the hardware side of things, an alternative way to hearing samples on the Oric would be to port them from another machine. I have included one or two transferred from the Atari STE. Bye.

Denis Bonfield.

THE 8-BIT A-Z. Introduction.

Way back in the early eighties a new industry was exploding into life. New companies seemed to crop up every day demonstrating how their product was the thing you just could not live without - the best thing since sliced bread had arrived and it could be yours if you filled in the little box on the corner of the page.

This was the age of the silicon chip - the age of little black boxes - the age of the home computer.

Amongst the numerous companies jostling for a place in the market place was Oric, one of the many British firms set up to take a slice of the action. They produced a machine to be in direct competition with one of the most sucessful machines - the Sinclair Spectrum.

Many other companies were struggling for recognition, offering very good machines but the market place had become too cluttered - there was too much to choose from. In the end, most people seemed to go for what their friend owned - usually a Spectrum. Several distinct groups of computer user became apparent. The BBC owner - the type of person who may have a car sticker saying 'my other car is also a Porsche!'. This was the 'serious' user who bought word processors and the fattest computer magazine on the shelf. Then there was the games player. The kid down the road who was always waggling his joystick. He would have a Spectrum because you could get so many games for it.

Then there was the mysterious guy at school who could program in machine code before anyone else knew what a computer looked like. God knows what machine he owned, but everyone seemed to think he designed his own one anyway.

What ever the case, the world was telling you that you had to have a computer and if you didn't get one pretty soon then you would not be able to survive in the new world that was just around the corner. There was a computer to suit anyone and everyone. Buy it now.

Well, whatever 'New World' was envisaged, it never came into being. People soon realised that programming a computer wasn't as easy as everyone had been suggesting and you could buy a ready made program to do the job anyway. The games players discovered how to pirate software and the spotty kid went on to design console machines with plug in cartridges. So now every one who can be bothered with computers owns a 'PC', whilst the games players jiggle away infront of a console. Right? Wrong. Because there was another group of computer users out there. The people who could program a little, who enjoyed typing in a listing and delving into their machine to see how it works and what it can do. This is the computer enthusiast. The person who may play games as much as use a word processer. The all rounder. Quite possibly the Oric Owner.

There are a huge number of people out there still using 8-bit computers, many of them with more than one machine. Some own a PC and/or a console as well, and the machines run happily side by side. YOU DON'T HAVE TO SELL YOUR ORIC JUST BECAUSE YOU BUY A PC. YOU ARE ALLOWED TO OWN BOTH. Had to get that in. There's too many people that seem to think they have to swap one computer for another, rather like buying a car.

Anyway, the A-Z is a run down of all those machines you drooled over in the early computer magazines. The ones with loads of colours. The ones with massive cases, and the ones you might have got if they were half the price. Many of these machines you can pick up at car boot sales or track down in your local paper, so grab them before they get chucked in the bin.

     Just because you have an Oric it doesn't mean that you're not allowed another
computer. The Oric computers are excellent allrounders, but there are things that
they can't do and software that you can't get for the Oric. Having another computer
sitting next to your Oric is both acceptable and sensible. I've got about a dozen
machines lurking about the house, many more powerful than the Oric. But it is my
Oric that gets the most use.

     Every machine has its advantages and now that prices have gone down so much
for secondhand machines it makes sense to go out and get a companion for your Oric.
Make sure you see a machine working before you hand over any cash for it though !!!

* AIM 65. This is a bit of an obscure machine to start off with. It didn't have a
case and had a little LED screen. I've only seen a couple working in a college where
they had a numeric pad connected to it and programmed it by entering in hex. They
weren't really sold as home computers and cost a lot more than far superior machines.
  This 6502 machine isn't really worth buying unless you're trying to collect every 8-
bit ever made.
* ACORN ATOM. Now we're getting somewhere. This was one of the earlier home
computers being launched in 1980 and was the predecessor to the BBC computer.
Originally available in either kit form or ready assembled.
SPEC. 6502 CPU:2 K RAM:SCREENS 32 X 16 /256 X 192 graphics:Mono display (Colour
option available):LANGUAGES -BASIC;Assembler. Sound was programmable in Assembler.
62 key WP keyboard
The memory was expandable up to 12K internally or 40K externally and there was a
centronics printer port.
A decent enough machine for its time with some good facilities, but this type of
machine was soon made redundant by more powerful colour micros. One of these was
Acorns 'Electron' which they sold for less than the Atom!
* ACORN ELECTRON. A machine designed primarily as a cheap, scaled down BBC. It had
very similar specifications. Odd bits of the BASIC are missing and one of the screen
modes (mode 7) isn't there, and the Electrion has less ports than the Beeb.
A Plus 1 interface gives the Electron a centronics printer port, two cartridge ports
and an analogue to digital port joystick port. This makes it more like a BBC model B.
 An excellent machine to have with a wide range of software including many
educational programs and business software.
 Sadly lacking in available memory though.
SPEC. 6502 CPU: 32K RAM, 32K ROM:DISPLAY 7 Screens from 80 X 32 text to 640 X 256
graphics. 8 colours with 255 user definable characters: 56 keys WP type (the numeric
keys were also used as function keys).LANGUAGES (BBC) BASIC, 6502 Assembler
* BBC MICRO model A & B. Arriving later in 1980 and based largely around the Atom
with specifications that the BBC asked for came the BBC micro. Two series broadcast
by the BBC designed to help Britain become computer literate helped to promote the
BBC computer - as this was the main computer used.('Make the Most of the Micro' &
'Micro') Contracts got the machine into many of Britain's schools. Parents were then
coaxed into buying a Beeb or an Electron to keep up with the kids. One of the
fastest machines available!
The machine had many excellent features with huge potential for expansion. Extra
ROMs can be added. (Type 'HELP' to see what ROMs are resident.) The Beebs were
looked on as 'serious' machines, (with many business and educational programs
available), but the high cost meant many would turn to cheaper machines like Orics
and Speccys.
SPEC. Same for both but 'A' was 16K RAM and 'B' 32K RAM.Other Spec. as for Electron
except:All 8 screen modes. (Model 'A' doesn't have all 8 !) More BASIC commands.
More interfaces, (including Centronics), are included. There is provision on the PCB
for a disc interface - just buy 7 or so chips and plug them in!.72 keys with 10
function keys WP type. Three independent sound synthesizers with envelope control.
Worth buying, but now lacks support. Beebs can still cost a lot more than other 8-
bits, so shop around. The small amount of avilable memory makes it worth looking out
for one of the BBC Master series computers.
 See next month for details.
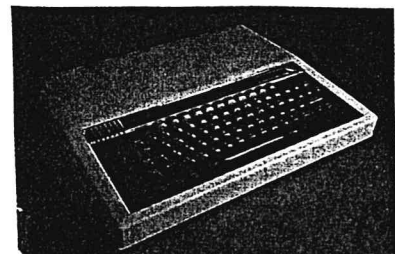
IT'S THAT MAN AGAIN. - FRANK!

     My copy of OUM for OCT/NOV went astray in the post so it wasn't
until Mid-January that I saw Steve's letter re the DISK/DISC and
PROGRAMME/PROGRAM controversy.   He ended it (rather patronisingly, I
thought) with the line "All clear, Frank?"

     You can't read my lips, Steve, but read this carefully.   It has
ALWAYS been CLEAR to me.   But then I studied linguistics in 1950
(probably before you were born) under the tutorship of Anthony Burgess
who is generally considered to have been the most erudite man in his
field in this century.   I wouldn't dream of trying to teach Steve
Marshall how many minims make a maxim (joke, Steve!), or tell Doctor
Ray about the inside of a computer. Outside my own particular field
I'm as thick as the two proverbial planks. But I HAVE studied and
taught English Grammar and Structure and Linguistics and Phonetics for
the past forty-five years so I think that, despite my advanced age and
until senility rears its ugly head, things are probably as "CLEAR" to
me today as they were before I retired. All clear, Steve?

     The clearest thing that I have learned is that there is no such
thing as correct English unless it be defined as what is acceptable
and what is not, and like fashion, acceptability can vary.   I have
just used the clause "that I have learned". I could just as easily
have written "that I have learnt". The past tense of TO LIGHT is
LIGHTED or LIT; TO BURN gives us BURNED or BURNT, and TO DREAM gives
us DREAMED or DREAMT. Scholars delight in arguing pedantically about
the advantages of one form over the other. You pays your money and
you takes your pick. And most people, sick of arguing, might believe
that the same may be said of DISK as compared with DISC and PROGRAMME
as compared with PROGRAM.

     There may, however, be valid reasons why one of a pair of
constructions is more acceptable than the other. Let me take the case
of parallel constructions which occur with several verbs. I have said
that "learned" and "learnt" are equally correct, as are "burned" and
burnt", but the "-ed" ending is preferable and should be encouraged
rather than the "t" ending which can cause errors by analogy.   This
very morning I was speaking to a man who works in a bank and holds
down a responsible job. He said, "I can splash out on my next holiday
because I've done a lot of overtime recently and earnt a lot of
money." His error was caused by a subconscious tendency to push him a
step beyond the pattern of LEARN/LEARNT that leads him to say
EARN/EARNT without feeling that anything sounds wrong. That should
give conscientious teachers sufficient reason for discouraging the
(correct) LEARNT and encouraging the equally correct but more regular
form LEARNED and BURNED and, by logical progress, EARNED. Though
LEARNT might be acceptable, EARNT certainly isn't among educated
speakers and anything that tends to lead us into such error must be
discouraged.

     It is the logical desire for conformity and rule that makes me
address the issue Steve raises with DISC and PROGRAM. One certainly
can't decide which is correct by referring to its usage or to its
meaning. Each one of each pair has the same meaning as the other, and
each has its own defending counsellors. My election of DISK rather
than DISC and PROGRAMME rather than PROGRAM is based on far firmer
grounds than mere caprice. I wave the flag of my choice rather like a
beach-guard hauls up the red flag at Newquay to advise of danger to
come if the signal is ignored.

English is often described as the language with the fewest rules and the most exceptions. This is a mistaken idea. We have many firm rules that haven't been taught for decades and my arguments for DISK and PROGRAMME are based on a belief that where the choice of a particular structure involves shattering a hitherto iron clad rule, we would be foolish to court anarchy and ambiguity when we could abide by law and certainty. In my next article I shall give reasons for my choice.

It would not be too sweeping a statement to say that English Grammar has not been effectively taught in this country since the Second World War. I was horrified to read, in the late eighties, guidelines for teachers published by HM Government stating categorically that mistakes in spelling and grammar should not be penalised in GCSE. The main criterion must be the child's ability to communicate his ideas by speech or writing -- as if spelling and grammar had nothing to do with communication of ideas! Most European countries have an authoritative body such as a Royal Academy to protect and give guidance on their language. Britain has a Royal Academy of Art, and of Music, but sadly lacks a Royal Academy of the English language. This, coupled with a lack of adequate instruction in schools, is responsible for an increasing rate of decline in the standard of English over the last fifty years to the extent that the Charles Keene College in Leicester takes pride in announcing the fact that it teaches "GRAMMER".

I have twisted Dave's arm and asked him to let me loose on a series of articles that I hope will be useful for OUM members (and their children). These articles have little or nothing to do with the ORIC computer, but now that the government has decided to put grammar and coherence of expression back into our schools perhaps an article or two from me might help. But please don't panic. There will be two parts to each article; one on theory for people who genuinely want to study grammar, and one on tips for people who just want questions answered or problems solved. Here's a quick tip for what you should say when children ask if there is one 'L' or two in BEAUTIFUL(L):-

Words with more than ONE vowel CANNOT end in "LL".
So although FULL can have "LL", BEAUTIFUL and FAITHFUL can't.
This explains why TILL has "LL" but UNTIL hasn't.
Now isn't it simple when you know how to explain it? But who has ever been given THAT rule in any school or in any grammar book?

There are words like HOWL, CRAWL and FOWL with one vowel + W that end in a single 'L'. There are words like WHIRL, CURL and GIRL with one vowel + R that have only one "L". I shall show you in later articles that the "R" and the "W" are often to be considered more as VOWELS than as CONSONANTS.
BUT NO WORD WITH MORE THAN 1 VOWEL CAN END IN 'LL'.

So next time you think of APPALLING and wonder if the verb is TO APPALL or TO APPAL, you will know which is correct without having to recourse to a dictionary.

Before the letters start pouring in I must qualify my rule by stating that a word which has been changed by adding a prefix like re- will not lose the 'LL' that it had originally. So CALL will give us RE-CALL.

It's time to clarify the DISK/DISC dilemma.

Both have the same meaning. A flattish circular object can be called a disk/disc whether it be a flying saucer, an Olympic competition or a recording for reproduction of sound, vision or data. When CDs (not CD's please — I shall tell you why later) — when CDs were called COMPACT DISCS it swung the tendency more in favour of DISCS (much to my dismay).

Look at the illogical structure we have built. DISKETTE is a hybrid, but easily acceptable under English rule. The '-ETTE' ending is from the French and means "little" (and also "feminine") and is well established in English in words like CIGARETTE and CASSETTE (which comes from English CASKET and French CASQUETTE). So from DISK we get DISKETTE, just as the French got DISQUETTE from DISQUE.

There are few exceptions to the rule that a 'K' sound after a consonant is formed by the letter 'K'. Examples are MARK, RISK, DISK, TANK etc. We have a few words directly from France with consonant + QUE, — MASQUE is one, but the general rule is ASK, PARK, DISK etc.

In the 17th century, traceable back to German, but of unknown origin we got the word for the metal ZINC which broke our rule of consonant + K.
In the eighteenth century the French word MOLLUSQUE became English MOLLUSC. Most dictionaries permit MOLLUSK spelling, though MOLLUSC is more popular. The rot had begun, although these words are seldom used in everyday life. When computer inventors wanted a set of new words they plumped for DISC instead of DISK and now even the French have had to drop their DISQUE when referring to computers and CDs and join the band-wagon of change with no regard whatsoever to the destruction it might cause. I shall show to you throughout these articles that COMPUTER-SPEAK is responsible for an acceleration in the destruction of rule and order in our language and the cause of ever increasing ambiguity because people who are amateurs in the field of linguistics invent new words and new spellings without regard to the havoc they then cause.

We were given DISC. But we could not write DISCETTE because the 'C' is softened to an 'S' sound when followed by an 'E' (compare COW with CENT). So instead of DISQUE and DISQUETTE the French were forced into DISC and DISKETTE with the C changing to K to keep the hard sound. We in England had DISK to combine with the -ETTE ending for "little" and we could have maintained rule and avoided ambiguity by pairing DISK with DISKETTE (which is why I recommend it and always use it.) Those who fell for the DISC spelling are now forced to change the C to K and make another exception to our rules.

But there is worse to come. We had almost a 100 per cent rule with the consonant + K ending. Look at a selection of them:- BASK CASK MASK TASK DISK RISK WHISK DESK RUSK THANK and ASK-- and until the idiots forced DISC upon us we had only a few words like MOLLUSC and ZINC which end in CONSONANT + C but which we seldom use. DISC, however, became a household word in a single decade and the rot set in.

    We learn as children how to read and write, not by studying
rules, but by familiarity and recognition. How often have we said
"That doesn't look right!" when we write SEPERATE instead of SEPARATE?
And now we are being bombarded by a '-SC' pattern in a world where
time is increasingly devoted to computers. Give or take another
decade and we shall find our children spelling RISK as RISC "because
it looks right". Finally, when children begin to ask "Is it ASC or
ASK?" we shall know who to blame.
    I said earlier that I was like a beach-guard waving a red flag
that people may ignore at their peril. So let me repeat the facts:-
    DISK is correct. So is DISC. DISKETTE is correct. DISCETTE
isn't. (Think how we pronounce DISCERN.) So DISK/DISKETTE is the
logical pair to use. DISK conforms to the rule that gives us ASK and
RISK. DISC does not conform to any known pattern, and will lead
eventually to RISC and later to ASC instead of ASK. So I urge you not
to use it.

    I shall deal with PROGRAMME as preferable to PROGRAM in my next
article, but meanwhile here are a few facts that might show you how
language can be pushed into ridicule by careless amateurs.
    Many of you go to Spain for your holidays. Some of you might
even have some grasp of the Spanish language. There is a rule in
Spanish stating that if a noun ends in a vowel it forms its plural,
like ours, by adding S.
LIBRO (book) becomes LIBROS (books). But if the word ends in a
consonant in Spanish, one must add ES to form the plural.
BAR (bar) becomes BARES (bars). That is a basic Spanish rule.
The Spanish had no word for BARMAN. They had CAMARERO (waiter) which
curiously enough had descended from CAMARERA (chambermaid) but when
Snack- Bars came in with tourism and when people began to sit at the
bar rather than on the terrace outside, the Spanish adopted our word
BARMAN, rolling the 'R' in a Scots fashion. When they had to speak in
plural, some cocky little geezer who thought he knew more about
English than he actually did, decided that if the plural of BOOK was
BOOKS then the plural of MAN couldn't be translated as MANES in the
Spanish fashion, so he began to speak of "ONE BARMAN, TWO BARMANS".
So, English rules give us TWO BARMEN. Spanish rules give us TWO
BARMANES.
What we get is TWO BARMANS which is a bastard spawned, (as they say of
horses) by LACK OF THOUGHT out of PRESUMPTION.

    I'll finish by giving another tip for you and the kids. We spoke
earlier of words which end in 'LL' and in 'L'. So let's deal with the
vexed question of words which end in 'LLY' or in 'LY'. I am often
asked how to spell words like FAITHFULLY and SINCERELY and how one
knows if it is single or double L.
    The rule is simple. Speak aloud the word WITHOUT the LY sound.
We get FAITHFUL and we get SINCERE. Now add '-LY' to that word.
    IF YOUR WORD ENDED IN 'L' AND YOU ADD 'LY' YOU WILL NOW HAVE 'LLY'
    IF IT DIDN'T END IN 'L' AND YOU ADD 'LY' YOU WILL NOT HAVE 'LLY'
BUT ONLY 'LY'

FAITHFUL	makes	FAITHFULLY	BUT	SINCERE	makes	SINCERELY
LOYAL	makes	LOYALLY	BUT	PERFECT	makes	PERFECTLY
CASUAL	makes	CASUALLY	BUT	EXPERT	makes	EXPERTLY

    And what could be simpler than that?

Goodbye until next month.

                                                    - FRANK

Machine Code for the Oric Atmos (Part 44)   Peter N. Bragg

The Story so far
----------------- Last time, we indulged in a little flight of fantasy.
Sometime in the future, we must have a look at how to use the Oric to invest
all those millions you have won on the lottery. We have also been looking
at programming technique. In the previous couple of issues we looked at a
short memory "swap" routine, which was initially aimed at preserving
the contents of an area of memory, by swapping them out of the way, so that
we could make use of that area for another purpose. When finished, the
"swap" call was simply repeated to return the original memory contents to
where they came from. The original excercise was intended for use with Zero
Page, although of course the resulting "swap" routine has many other uses
and can be easily adapted for use anywhere in Oric's memory.

So what is this "Zero Page" and what makes it so special ? First of all,
"Zero Page" is the first 100 bytes of computer memory starting at #0000.
I have seen it labelled as "Zero Page" and "Page00" and even "Page Zero".
Usually I use the shortest label, but it doesn't matter much which is used.

Hopefully the idea of dividing up the computer memory into "Pages" is a
familiar one as it has been used throughout this series

Each "Page" is a block of one hundred bytes (in hexadecimal), which starts
at address #nn00 and finishes at #nnFF ("nn" is the "Page" number used).
Splitting the memory into small blocks and labelling them this way, makes
for easier programming, which is why it has been used.

Another advantage of doing it this way, is that the hardware is also based
on the same idea, so it also fits in very nicely with that.

For example, most of the Oric's input and output facilities are handled by
"Page03", which is the area covered by addresses #0300 to #03FF inclusive.
In this case, Oric's system programmers set up "Page03" for that purpose.
Other computers may well use "Page03" for something completely different,
even though they use the same 6502 microprocessor, that Oric uses.

However, there are specific areas in the computer memory, earmarked by the
6502 for it's own special use. The main area reserved for the 6502 use,
starts at #0000 and ends at #01FF, which in fact is all of Page00 and Page01.
This area is genuine RAM and you can read and write to it in the normal way.
However, it is not a good idea to use it that way. At best it is a waste,
at worst, you could crash the computer. Note the fact that this applies to
all computers using the 6502 chip.

We have already encountered "Page01", more commonly known as the "Stack",
earlier in the series. The "Page01/Stack" occupies all of the RAM area from
address #0100 to address #01FF (100 bytes in all) and is used by several
instructions, such as JSR and PHA, as a fast way to preserve data and return
addresses.

The other half of that reserved area is "Page00" ("Zero Page"), which
occupies all of the RAM area from address #0100 to address #01FF. It is this
"Zero Page" which we are now going to look at.

Essentially "Zero Page" is a one hundred byte register, designed for fast
easy storage and access for data and addresses. It has it's own special set
of instructions, some of which are similar to those we have already used.

Remember the instructions that we used to fetch an item from, or put an item into an address. For example, the instruction LDA 1002 will fetch a byte into the Accumulator from address #1002. Likewise, the instruction LDA 0002 will fetch a byte from address #0002 into the Accumulator. These are Absolute instructions However, as the second address #0002 is located in "Zero Page", we have the option of using a "Zero Page" instruction, instead.

The "Zero Page" instruction LDA Z 0002 will do exactly the same as the Absolute type instruction, LDA 0002, so why is it useful ? Well this is not obvious until you look at the instruction hex codes, produced on assembly. The hex codes for instruction LDA 0002 are AD 02 00. However the hex codes for the "Zero Page" instruction LDA Z 0002 are A5 02, which is just two bytes against the three bytes required by the Absolute LDA instruction.

The Absolute type instructions that we have used in the past, can access absolutely anywhere in memory. A "Zero Page" instruction on the other hand only provides access to the memory in "Page00" (#0000 - #00FF). The top half of the address is already "built in" to all "Zero Page" instructions. The "Zero Page" version of STA 0002 is STA Z 0002 and the code for that is 85 02, instead of 8D 02 00. As these are commonly used instructions, it is possible to save a lot of programming space by making use of "Zero Page" instructions.

There is another advantage too. These "Zero Page" instructions are a bit faster. The plain Absolute versions of LDA and STA require four cycles each (4 "ticks" of the Oric clock) to complete the operation. Their "Zero Page" equivalents only require three cycles, so there is obviously a gain in speed to be had, particularly when used in frequently called routines.

Many of the instructions in the 6502 Instruction Set have a "Zero Page" version and in addition there are a number of specialised instructions, involving the use of the Index/Registers X and Y, which are a bit more complicated in operation, but can be very useful.

Ironically, it is the fact that the "Zero Page" instructions are very useful, that causes one of the drawbacks. The instructions are popular with the programmers of computer Operating Systems. They obviously have "first pick" of the "Zero Page" facilities and as a result you can find that most of the "Zero Page" has been hijacked for use with the Operating System.

Fortunately, this doesn't seem to be such a problem with the Oric. I checked on my own Atmos (with Sedoric). I found that providing "Basic" is not in use, there appears to be only six "Zero Page" locations in use and active. The rest of "Zero Page" is free for our own use. The locations to avoid are #000C to #000F, plus #0012 and #0013. These handle screen operations and do not appear to be affected by anything written into them, because anything written in, is itself promptly overwritten by Oric's Operating System.

At this point I should mention that it isn't essential to use "Zero Page". In my case I wanted my own software to run on all three at least, of the Oric, BBC Micro and Apple machines, with little or, no modification. That aim was achieved, for a lot of my software, but it mean't having to use Absolute instructions, because very little of the "Zero Page" space could be guaranteed to be free in all three machines. Absolute instructions on the other hand can access any address in the memory and they only need a common area of free RAM, in the three machines, which was not hard to find. You pays your money and takes your choice.................More next time.

RAMBLING
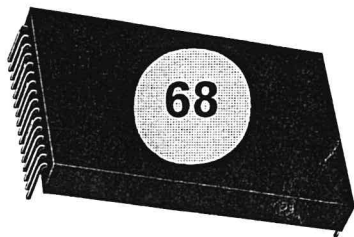
IN THE

ROM

Rambling on...

'PLOT' (COMMAND)

Principal:

Very simple. In fact the speed of display with PLOT comes from the fact that the relationship between characters displayed and the evaluation of a variable is very close. To display 100 characters, for example, it is three evaluations with PLOT and... 600 with POKE!

Bug: The move by 1 column in V1.0 arises from the routine at #D996/#DA22

D9C6 JSR $D996	DA51 JSR $DA22	take two coordinates
D9C9 JSR $CFD9	DA54 JSR $D065	look for ','
D9CC JSR $CE8B	DA57 JSR $CF17	evaluate expression
D9CF BIT 28	DA5A BIT 288	test if string
D9D1 BPL D9F0	DA5C BPL DA7B	no, jump
D9D3 JSR $D715	DA5E JSR $D7D0	yes, remove reserved space
D9D6 TAX	DA61 TAX	length of string in X
D9D7 CLC	DA62 CLC	and calculate start address
D9D8 LDA 02F8	DA63 LDA 02F8	i.e. index+base
D9DB ADC 1FF	DA66 ADC 1F	
D9DD BCC D9E1	DA68 BCC DA6C	
D9DF INC 20	DA6A INC 20	and high byte
D9E1 STA 1F	DA6C STA 1F	
D9E3 LDY #00	DA6E LDY #00	prepare index
D9E5 INX	DA70 INX	adjust number of loops
D9E6 DEX	DA71 DEX	deduct number of characters
D9E7 BEQ D9F9	DA72 BEQ DA84	it's done, exit
D9E9 LDA (91), Y	DA74 LDA (91), Y	transfer the string
D9EB STA (1F), Y	DA76 STA (1F), Y	to the screen
D9ED INY	DA78 INY	and continue
D9EE BNE D9E6	DA79 BNE DA71	unconditional
D9F0 JSR $D810	DA7B JSR $D8CB	ACC1 --> X
D9F3 TXA	DA7E TXA	code in A
D9F4 LDY 02F8	DA7F LDY 02F8	take index
D9F7 STA (1F), Y	DA82 STA (1F), Y	and save the code
D9F9 RTS	DA84 RTS	

'REPEAT' (COMMAND)

Principal:

REPEAT works exactly like GOSUB in that having stacked TXTPTR and the line number, a REPEAt is indicated simply by putting its token on the stack.

As with RETURN, the return address is stacked. This facilitates use of UNTIL, but menas the routine must exist by a jump and not a simple RTS.

D9FA	BNE DA13	DA85	BNE DA9E	error if there are parameters
D9FC	LDA #03	DA87	LDA #03	request 6 bytes on the stack
D9FE	JSR $C43B	DA89	JSR $C437	
DA01	LDA EA	DA8C	LDA EA	
DA03	PHA	DA8E	PHA	save TXTPTR high byte
DA04	LDA E9	DA8F	LDA E9	
DA06	PHA	DA91	PHA	and low byte
DA07	LDA A9	DA92	LDA A9	
DA09	PHA	DA94	PHA	line number high byte
DA0A	LDA A8	DA95	LDA A8	
DA0C	PHA	DA97	PHA	and low byte
DA0D	LDA #8B	DA98	LDA #8B	place code for REPEAT
DA0F	PHA	DA9A	PHA	on stack
DA10	JMP $C8AD	DA9B	JMP $C8C1	and return to the interpreter
DA13	JMPP $CFE4	DA9E	JMP $D070	'SYNTAX ERROR'

'PULL' (COMMAND)
'UNTIL' (COMMAND)

Principal:

The two commands are differentiated in Y, which at the start contains double the token. See POP/RETURN. The routine looks for the first block that is not FOR (so one can exit from a loop using UNTIL without fear). Then, if it's PULL, the routine simulates an exit UNTIL, i.e. an UNTIL with the condition true. If the condition is true it's enough to unstack, leaving the interpreter return address on top. If the condition is false, the routine starts again. Curiously instead of exiting with a simple jump to the interpreter, in this case TXTPTR and the return address are removed from the stack only for them to be reinserted immediately afterwards. The utility of this is yet to be explained...

DA16	LDA #FF	DAA1	LDA #FF	set address of working variable
DA18	STA B9	DAA3	STA B9	
DA1A	JSR $C3CA	DAA5	JSR $C3C6	and seek the first block not FOR
DA1D	TXS	DAA8	TXS	adjust the stack above
DA1E	CMP #8B	DAA9	CMP #8B	is it really a REPEAT block?
DA20	BEQ DA27	DAAB	BEQ DAB2	yes, OK
DA22	LDX #F5	DAAD	LDX #F5	no, 'BAD UNTIL ERROR'
DA24	JMP $C485	DAAF	JMP $C47E	
DA27	CPY #10	DAB2	CPY #10	PULL=#88: #88*2=#110, so 10
DA29	BNE DA30	DAB4	BNE DABB	if it's not PULL, jump
DA2B	STY D0	DAB6	STY D0	simulate true condition (#D0 < >0)
DA2D	TYA	DAB8	TYA	set Z=0 (pointless, Z=1, BEQ would have done)
DA2E	BNE DA36	DAB9	BNE DAC1	and finish as UNTIL
DA30	JSR $00E8	DABB	JSR $00E8	no purpose: treat UNTIL
DA33	JSR $CE8B	DABE	JSR $CF17	evaluate the condition
DA36	PLA	DAC1	PLA	remove REPEAT token from stack
DA37	LDA D0	DAC2	LDA D0	false condition?
DA39	BEQ DA40	DAC4	BEQ DACB	yes, start again
DA3B	PLA	DAC6	PLA	false condition: adjust stack
DA3C	PLA	DAC7	PLA	
DA3D	PLA	DAC8	PLA	
DA3E	PLA	DAC9	PLA	
DA3F	RTS	DACA	RTS	and that's it.
DA40	PLA	DACB	PLA	
DA41	STA A8	DACC	STA A8	recover line number
DA43	PLA	DACE	PLA	

BRIAN'S PAGE - MARCH 1995

BY THE TIME YOU HAVE READ THIS , I WILL HAVE MOVED - MY NEW ADDRESS IS :
32 KIER HARDIE CRESCENT, ROYAL OAK , NEWPORT , GWENT NP9 9DQ. I WILL GIVE NEW
PHONE NUMBER DETAILS AS AND WHEN AVAILABLE.

NOW ONTO NORMAL BUSINESS , AND AS USUAL FIRST THE ANSWER TO LAST MONTHS POSER -
INCH = 9376 (9386 * 9376 = 87909376)

NOW THIS MONTH'S POSER . TAKE THE NUMBERS 15 & 93 , THEN MULTIPLY THEM TOGETHER
AND WE GET THE ANSWER 1395 NOTE THAT ALL DIGITS WERE DIFFERENT , AND   THAT   THE
DIGITS IN THE SUM ARE THE SAME AS THE MULTIPLIERS , ALBEIT IN A DIFFERENT   ORDER
. AND YOU THEREFORE WORKOUT THE REMAINING TWO DIGIT MULTIPLIERS WITH THE SAME
PROPERTIES ?

DID YOU ENJOY THE BINGO PROGRAMME LAST MONTH ? I HOPE SO - NOW WHAT SHALL I DO
FOR AN END PIECE THIS MONTH ? HOW ABOUT ......

I KNOW A NATIONAL LOTTERY NUMBER GENERATING PROGRAMME - SO HERE GOES.....

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10 TEXT:CLS:PAPER O:INK 7:DIM Z(50)      20 POKE #26A,10:POKE#24F,9:POKE#24F,2
30 A$="LOTTERY PREDICTOR  -  BY  BRIAN  ":A=48006
40 FOR F=1 TO LEN(A$):POKE A,ASC(MID$(A$,F,1)):A=A+1:NEXT F
50 POKE 48003,4:POKE 48023,1:POKE 48026,4:POKE 48030,1:POKE 48031,12
60 ?:?"Hi ,":?"   I , your trusty old Oric am here ,"
70 ?"to make your dreams come true - yes WIN the National Lottery...":?
80 ?"Well actually I can't guarantee this"
90 ?"to happen , because like you I simply   choose my numbers randomly."
100 ?"However should you fail to win,at":?"least you'll have someone to blame."
110 ?:?"To run me , hit any key and answer any  questions that I ask .":?
120 Q$=KEY$:C=1:D=4:REPEAT:C=C+1:A$=KEY$
130 IF C>7 THEN C=1:D=D+1               140 IF D>7 THEN D=1
150 POKE 48003,D:M=RND(1):UNTIL A$<>""  160 POKE 48003,4:POKE 48031,8:Z=1:X=1
170 CLS:?:A=49                          180 ?"How many boards  do  you  wish  to
play     (1-6) ";
190 INPUT B$:B=VAL(B$)                  200 IF B<1 OR B>6 THEN 170
210 FOR F=1 TO B:CLS:PRINT              220 ?"    CHOOSING YOUR NUMBERS......."
230 FOR G=1 TO 6
235 Z(G)=INT(RND(1)*A)+1                240 IF G=1 THEN 330
250 L=0                                 260 FOR H=1 TO G
270 O=O+1:IF O>7 THEN O=1:X=X+1         280 IF X>7 THEN X=1
290 POKE 48081,X                        300 IF Z(H)=Z(G) THEN L=L+1
310 NEXT H                              320 IF L<>0 THEN 235
330 NEXT G                              340 GOSUB 540
350 PING:CLS:?:PLOT 18,1,4              360 PLOT 19,1,"Nos. FOR BOARD"
370 PLOT 36,1,STR$(F):PLOT 34,1,"#"     380 PLOT 35,1,2
390 FOR G=1 TO 6:?"No.";G;"      ";     400 IF Z(G)<10 THEN ?"0";
410 ? Z(G)                              420 NEXT G
430 PLOT 18,C,12:PLOT 17,C,1            440 PLOT 19,C,"PRESS ANY KEY"
450 A$=KEY$:GET A$                      460 NEXT F
470 CLS:?:?"THATS ALL...":?             480 ?"1=GO AGAIN : 0=QUIT"
490 D$=KEY$:REPEAT:C=RND(1)             500 C$=KEY$:UNTIL C$<>""
510 IF C$="1" THEN CLS:RUN              520 IF C$<>"0" THEN 490
530 HIRES:TEXT:PAPER 7:INK O:END        540 PING
550 PLOT 4,1,12:PLOT 5,1,3              560 PLOT 6,1,"ALL CHOSEN - NOW SORTING"
570 V=ABS(C-25):WAIT V*10               580 FOR T=1 TO 5
590 FOR Y=T+1 TO 6                      600 IF Z(Y)<Z(T) THEN 610 ELSE 620
610 Q=Z(T):Z(T)=Z(Y):Z(Y)=Q            620 NEXT Y
630 NEXT T                              640 RETURN
```

NOTE

BE CAREFUL - SOME LINES CONTINUE ON THE NEXT LINE.