

# **ORIC**

Number **137**

January 1999

# **USER MONTHLY**

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*Keeping the  
Oric alive*

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with Alternative Micros



*Just 15 years on (part 3).....*

## **The Editorial**

Hi and welcome and a Happy New Year to one and all.

Yet again this is going to be a very late issue - you probably won't get this until February. I'll plod on for a few days to see what I can put into this issue. (As long as it doesn't interfere with the re-runs of IRONSIDE on T.V).

I had an early Christmas present - my hard drive blew out on December 24th, taking with it Emulator files, e-mails, programs, documents - the whole works!

I've managed to get Euphoric back on board, and a few other things, but it is a long process, and with my present workload is one I am having trouble coping with. I have not sent out any software orders or OUM Indexes for months!!!

We are off to Tunisia for some winter sun for the first week in March, but hope to get you an OUM, software orders and Indexes before we do.

Plenty happening on the Net, though I've lost many of the e-mails concerning it. I know Jon Haworth has also been struggling to cope - judging takes up a lot of his time. Today I received from him the CEO mags for October, November and December, plus the disks for Autumn and Winter. Don't forget that Brian Kidd has moved house when you send in your puzzle answers. In a brighter vein we look at what you will find in this issue.

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### **Articles wanted!!**

We need more articles from the readers out there - come on Steve Marshall, Simon Ulliyatt etc., and anyone else who has promised some input recently. Only 8 more issues for you to get into print. I can only print what you send in, and what I can muster!!

### **Photos from the archives**

In an occasional series we look at old photos from previous Oric Meets and of course the happenings afterwards. Here a fresh faced and sobered up Peter Thornburn poses with my wife, Ann.

### **Next Month.**

As this issue is so late, and I cannot envisage me doing two in a month to catch up; then I propose that the next issue will be a double one. This February/March issue will go out by the end of February. Double doses from Peter and Jon etc, please



## NEWS....NEWS....NEWS

### **NO to RHETORIC**

Steve Marshall reports that there will be no RHETORIC magazine published to take the place of OUM once it is laid to rest.

Here is what Steve has to say: "NO RHETORIC magazine to be published, due to lack of interest. A big thank you to the four that did write in after reading the article - and to the five out of the six I wrote to myself. Sorry guys!! I had hoped to at least get into double figures!

Perhaps those most interested in the Oric are now on the Net and feel they don't need a printed magazine anymore. It would have been nice to hear from one of them though, rather than sitting back thinking 'I'm all right Jack'".

The Editor replies: I've since had a few letters and e-mails. There was even a discussion on the Net about it, which then turned into an idea about an English version of the CEO-MAG, followed by a silliness regarding whether French or English was the Oricians main language, and ended up with thoughts of Swedish and Turkish versions etc. It all got a bit out of hand, but at least there was feedback!

### **Final Aylesbury Oric Meet**

Make a note in your diaries - the final Aylesbury Oric Meet will take place on Saturday July 10th. Come and meet up with all your fellow Oricians. I had hoped to get to Paris for a French Meet this year, but this seems unlikely. However, if I can get the week off leading up to the Aylesbury Meet, then I might pop over to Paris for a few days, and hopefully meet up with a few of our French friends.

### **ZIPNZAP**

ZIPNZAP, the latest arcade from Jonathan Bristow is proving to be very popular. I hope to complete orders for it very soon. Meanwhile those on the Internet can download it from the OUM site, or Jonathan Bristow's Twilighite site. It has also been put on the Winter '98 CEO Disk.

I wouldn't be surprised if you couldn't pick it up at your local chip shop - eh! Muso!!

### **CEO - the backlog**

Along with 3 issues of the CEOMAG came the Autumn and Winter Disks. As I get the Euphoric versions I quickly loaded them in to see what goodies there were.

Autumn disk - PLOUF is a naval battle well translated into English. FLAGS is also in English and is a quiz involving National flags. OPERATION GREMLIN is the old Wintersoft game.

SHOOT AGAIN takes you into the Dominique Pessan joystick versions of CHOPPER and DEFENCE FORCE (I really must try and remember which lines in Euphoric to change to support joystick - is it now real joystick or cursor keys?).

Winter Disk - ZIPNZAP + the level editor recently reviewed in OUM comes with the CEO instruction sheet. COBRA is the old Norsoft snakey game. STYX is the No MANS LAND classic shoot 'em up in Dom's joystick routine. MINI-PUZZLE allows you to pick or get a random 96 piece puzzle - I'll have a go when I've time to note down all the instructions!

### **OUMDISC 7**

Now that I've retrieved my PC and Euphoric, I intend to finish off OUMDISC 7 as a priority. Watch this space, and watch out for the postman.

### **ADVENTURE ARTICLES**

No more adventure articles from Rob Cook at present. No contact from him since I chased him for some money owed.

### **February / March OUM**

Articles for inclusion in the February/March double issue by February 14th please. Hopefully I'll sort out a batch of listings for all the tappers out there.

**I aren't going to argue. (Frank, firing on all cylinders).**

Eight of my happiest years of teaching were spent in East London trying to instil some knowledge into Poplar 11+ rejects and often failing dismally. But the challenge was stimulating and the kids were the salt of the earth. It made teaching back in my home town seem like paradise in comparison. But it used to make or break teachers.

One day a 12 year-old approached me. "Please Sir, I ain't got no ink in my inkwell." (This in the days before the advent of the ball-point pen. God, how time flies!)

"Shouldn't that be, 'I haven't any ink in my inkwell'?" I suggested.

"Yeah, but it don't sound right, though, do it?"

Happy days! But in Poplar she was probably more correct than I. Grammar is a relative thing, as I hope to show here and now, and I am an expert, aren't I?

**AREN'T I???????** Let's analyse it.

He's an expert, isn't he? No he ISN'T. (Nothing wrong with that.)

They are experts, aren't they? No they AREN'T. (That's all right, too.)

I am an expert, aren't I? No I AREN'T..... I mean, I AMN'T (?) HELP!!!!!!

You can't conjugate the verb TO BE with I ARE, or I AREN'T or AREN'T I.

But we've been using "aren't I?" for over a century!!!! So how has this monster been allowed to live for so long? Unlike the cockney child's "It don't sound right, do it?", the construction "aren't I?" do (sorry, does) sound right. So how has it come about?

Russel Harty was born and bred three streets away from my Blackburn home, and though ten years younger than I am, before he joined the BBC he came to teach for a term at the same Blackburn school where I taught, and then, to our eternal loss, left us to teach in Giggleswick. When he wished to be pompous, which was often, he would say things like "It is a fact, is it not?" or "I am correct, am I not?" He used the old construction. He became famous for it, and it became his gimmick.

Why did the old and valid construction of "has he not?" change the order of the words from "has he not?" to "has not he?" and "am I not?" to "am not I?" I'll try to explain.

Over the centuries we began to fall in love with the idea of contracting the verb to be.

"I am" became "I'm". "You are" became "You're". "He is" became "He's" and so on.

At the same time the verb to BE married itself to the negative NOT and NOT lost the "O" in the process. HE IS NOT changed to HE'S NOT or HE ISN'T.

YOU ARE NOT became YOU'RE NOT or YOU AREN'T

But the construction "is he not?" and "are they not?" had the words in the wrong order to make the contraction, so they became "is not he?" and "are not they?" and hence "isn't he?" and "aren't they?"

But the contraction of "I AM NOT" could only be "I'M NOT" and never "I AMN'T" (if you want to know why, try pronouncing "MNT". It doesn't trip readily off the tongue) So when we wanted to contract the construction "AM NOT I?" there was no way that we could do it. We had, "isn't he?", "isn't she?", "isn't it?", "aren't we?", "aren't you?" and "aren't they?", but there was no way of pronouncing, and thus writing, "amn't I?"

They tried. The sound came out as "am't I?" or "an't I" and they even experimented with such a spelling. But starting with "the great unwashed" and slowly spreading to the "upper crust", the idea of "am't" or "an't" became confused with "aren't".

One can imagine how the purists must have hung their heads in sorrow. But like the spread of "at this moment in time" when you mean "now", the dreadful marriage of "aren't I?" took hold, and eventually stilled the critics. And so it has stayed until today, when nobody even notices anything odd about the use of ARE with first person "I".

Is it wrong? Is it bad grammar? You know my theory. Nothing is bad, nothing is wrong if (a) it works, (b) it causes no ambiguity, or (c) it doesn't frighten the animals.

But it makes you think, don't it? See you next month.

## E-mails to the Editor

Hi Dave,

I got the copy of OUM, and I find it interesting. So if you could work out a price I would be glad. There have gone so many years since I last took a glance on my Atmos. So I would like to hear your opinion about Dr. Rays Software. I would like to program in machine code so maybe the compiler could be interesting. Is this your opinion too, or should I just take the whole offer. In this case I would like it to be on 3" disc to my Microdisc system.

Perhaps you could help me with a problem I have. I have tried to get some old programs from cassettes to the Microdisc system. But when you have the introducing picture (f.e. i Hires) it vanishes on sight. Is it possible to get this right, perhaps with coding or other methods.

After finding the homepage for OUM, to my surprise I found a site with Hi-Scores on.

It was fun to find my old pages out again and see my own old hi-scores.

In the game "Frigate" have I gained a Hi-score of 531. It was back in good old 1989.

That's better than the hi-score mentioned.

I've been close with some of the other hi-scores, but I can't beat them.

F.e. 3 D Starter my score 74.410. Triathlon 4.973.

Yours sincerely and happy new year.

Henrik Holm

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Dear Dave,

I'm Cristiano Bei and I'm a Italian (I live and work in Rome). I'm 27 years old and my job is computer programmer (sorry for my bad english but i never write english e-mail). I see your site today, and other Oric's sites, because I love this machine, in fact I developed games for the Oric computer from 1984). Now I want load the program's image from the Oric's web pages and transform it in sound for Oric cassette players.

Can I do it?? If yes, how can I do it?? I hope in your help because I don't want run the oric's games with a emulator, what the real Oric machine is best and more funny.

Do you can suggest me some web address with Oric's software?

I hope in your answer.

Thank you

Cristiano Bei

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http://www.dsopen.it (my work site)

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Hello,

I found a moment to read the November OUM !!! I can read, under the pen of Frank Bolton, that you have the same problems with ambiguous sentences as we have in French. I can now imagine the difficulties for a foreigner to clearly understand (my) French.

E.g. is the meaning of "donkey delivered mail", "delivered BY a donkey" or "delivered TO a donkey" ?

Another exemple in French, currently taught in elementary schools when I was a boy, translation (hem) follows

Ne pas confondre :

"Le maitre dit : l'élève est un imbécile" et

"Le maitre, dit l'élève, est un imbécile"

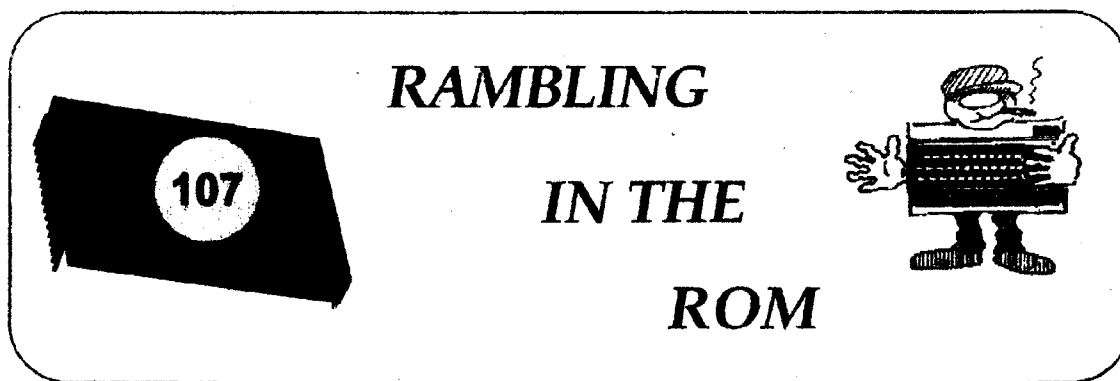
Don't mix up :

"The teacher says : the pupil is an idiot" with

"The teacher, says the pupil, is an idiot"

A no r'vir (see you later)

Jean Boileau



### Rambling on....

We continue with the graphics routines written in-house at Tangerine.....

#### DRAW (CALCULATE AND DISPLAY)

Entry: #212:FB code  
 V1.0: #202-#203: DX  
       #204-#204:DY  
 V1.1: #2E1-#2E2:DX  
       #2E3-#2E4:DY

Exit: A, X and Y unchanged in V1.0.

Principle: the routine draws by following the axis for which the displacement is greatest. One could also move from one point to another just by incrementing one of the coordinates and calculating the other.

It's the only way of drawing vertical lines (where the tangent would be infinity), and in effect represents a mathematical function. To calculate the steps (in reality the tangent) you need the absolute value of DX or DY. But since one only uses the low byte, the high byte contains the sign of the offset.

EE06	PHA	.....	.....	save A
EE07	TXA	.....	.....	
EE08	PHA	.....	.....	save X
EE09	TYA	.....	.....	
EE0A	PHA	.....	.....	save Y

#### Adjust the parameters

EE0B	LDA 0213	.....	.....	
EE0E	STA 0214	.....	.....	save the PATTERN register
EE11	JSR \$EDE3	EEF9	JSR \$EED8	adjust FB code
EE11	BIT 0203	EEFC	BIT 02E2	DX positive ?
EE17	BPL EE24	EEFF	BPL EF0B	yes, nothing to do
EE19	LDA #FF	EF01	LDA #FF	no, complement the low byte
EE1B	EOR 0202	EF03	EOR 02E1	because we want the absolute value
EE1E	STA 0202	.....	.....	
EE21	INC 0202	.....	.....	
.....	.....	EF06	TAX	
.....	.....	EF07	INX	
.....	.....	EF08	STX 02E1	
EE24	BIT 0205	EF0B	BIT 02E4	DY positive ?
EE2?	BPL EE34	EF0E	BPL EF1A	yes, nothing to do
EE29	LDA #FF	EF10	LDA #FF	no, complement the low byte
EE2B	EOR 0204	EF12	EOR 02E3	
EE2F	STA 0204	.....	.....	
EE31	INC 0204	.....	.....	
.....	.....	EE15	STA 0305	

EE37	CMP 0204	EF1D	CMP 02E3	
EE3A	BCC EE66	EF20	BCC EF31	it's DY, jump

Draw describing the X axis

EE3C	LDA #00	.....	.....	
EE3E	STA 0C	.....	.....	
EE40	STA 0201	.....	.....	
EE43	LDA 0204	.....	.....	#0C-#0D=DY (*#100)
EE46	STA 0D	.....	.....	
EE48	LDA 0202	.....	.....	
EE4B	STA 0200	.....	.....	and #201-#281= DX
EE4E	JSR \$EEFF	.....	.....	calculate DY/DX (*#100)
EE51	JSR SEF31	.....	.....	round up the quotient (the tangent)
EE54	LDA #00	.....	.....	
EE56	STA 0E	.....	.....	
EE58	STA 0F	.....	.....	departure point value = 0
EE50	LDX 0202	.....	.....	take the number of the point to draw in X
EE60	JSR SEEBB	.....	.....	and draw the line
EE63	JMP SEE8D	.....	.....	and end...
.....	.....	EF22	LDX 02E1	take DX
.....	.....	EF25	BEQ EF30	nul, exit
.....	.....	EF27	LDA 02E3	take DY
.....	.....	EF2A	JSR SEF40	calculate DY/DX (*#100)
.....	.....	EF2D	JSR SEF84	and draw the line
.....	.....	EF30	RTS	

Draw describing the Y axis

EE66	LDA #00	.....	.....	
EE68	STA 0C	.....	.....	
EE6A	STA 0201	.....	.....	
EE6D	LDA 0202	.....	.....	
EE70	STA 0D	.....	.....	#0C-#0D-DX (*#100)
EE72	LDA 0204	.....	.....	
EE75	STA 0200	.....	.....	#200-#201=DY
.....	.....	EF31	LDX 02E3	if DY is nul, exit
.....	.....	EF34	BEQ EF3F	
.....	.....	EF36	LDA 02E1	take DX
.....	.....	EF39	JSR SEF40	and calculate DX/DY (*#100)
.....	.....	EF3C	JSR SEF5C	and draw the line
.....	.....	EF3F	RTS	
.....	.....	EF40	STA 0D	save DX or DY
.....	.....	EF42	STX 0200	save DX or DY
.....	.....	EF45	LDA #00	
.....	.....	EF47	STA 0C	zero the low byte
.....	.....	EF49	STA 0201	or high
EE78	JSR \$EEFF	EF4C	JSR SEFC8	calculate DX/DY (*#100) (or DY/DX for V1.1)
EE7B	JSR SEF31	EF4F	JSR SEFFA	round up the quotient (the tangent)
EE7E	LDA #00	EF52	LDA #00	
EE80	STA 0E	EF54	STA 0E	
EE82	STA 0F	EF56	STA 0F	value of departure point = 0
EE84	STA 0200	EF58	STA 0200	
EE87	LDX 0204	.....	.....	prendre le nombre de points ~ tracer
EE8A	JSR SEE93	.....	.....	and draw the line
EE81	PLA	.....	.....	
EE8E	TAY	.....	.....	recover Y
EEBF	PLA	.....	.....	
EE90	TAX	.....	.....	recover X
EE91	PLA	.....	.....	recover A
EE92	RTS	EF5B	RTS	

# Machine Code for the Oric Atmos

## (Part 81)

8

Peter N. Bragg

### The Story so Far

We have looked at how to install a computer mouse and interface on the Oric and have reached the software stage. A listing was published in part 77 of the series (OUM August 98) and we are now looking at that listing in more detail to see how it works. The last couple of articles described how the mouse software is linked into the Oric's operating system by changing one of the system's vector addresses to point to the mouse software and also how the interface VIA 6522 chip is set up so that it can read the data generated by mouse movements and button operations.

### JSR 8060 "IRQ Vector Extension"

Once the mouse software has been linked into Oric's operating system, as described, any interrupt will automatically include the JSR 8060 routine in its interrupt servicing plus, any routines called as a result of that call. Essentially JSR 8060 has just one purpose. It provides a clean entry and exit to and from the mouse servicing routines and is a typical transparent routine.

The first instructions 8060/65 preserve the contents of the Status, Accumulator and X and Y registers, before calling up the mouse operation at instruction 8066. On return from that mouse operation, instructions 8069/6E retrieve the contents of those four registers. If that was not done, the contents of those four registers might be overwritten by the mouse routines, which could cause the Oric to crash. The final instruction at 806F is simply that instruction which was displaced, when we installed our new vector instruction in INTSL at locations #024A/4C, which is the RTI instruction that terminates the operating system's interrupt routines. In effect JSR 8060 provides a gateway to our mouse routines, which really start at JSR 80E0.

### JSR 80E0 "Read for Move or Button Pressed"

The first instruction at 80E0 calls up the routine JSR 8099, which tests to see if the mouse has been moved and if so performs the necessary update. We will go on to have a look at that routine shortly. Meanwhile, the rest of the JSR 80E0 routine is concerned with reading the mouse buttons to see if any of them have been pressed. Unlike the mouse movements, the buttons don't generate an interrupt, but are simply read on a regular basis, like the keyboard, by the operating system interrupts.

If a mouse button is pressed it will affect one of three bits in the VIA's IRB/ORB register and instructions 80E3/E8 obtain a copy of the contents of that register from location #03E0 and separate out the three relevant "Button" bits (5, 6 and 7) by masking the copy with an "AND" instruction. The resulting modified copy is stored as "Mouse Button Input" in Param 8001. Finally three "button" bits in that modified copy are tested by the routine at JSR 8210, which is called by instruction 80EB, to find out which button, if any, has been pressed. If a button has been pressed, the appropriate action is then taken by the JSR 8210 routine.

So to sum up, JSR 80E0 separates the "button press" data from any possible "mouse movement" data and then calls up JSR 8210 to deal with "button" data and JSR 8099 to deal with possible "mouse" data. We will look at how the "mouse movement" data is dealt with by JSR 8099 first.

### JSR 8099 "Update "X" or "Y" values?"

If you have done any graphic plotting on the Oric, or have used the Oric printer, you will no doubt be aware that plotting a position of an item on a flat plane, such as a mouse mat or computer display screen, is normally done using the co-ordinates "X" and "Y".

The mouse software uses these two co-ordinates to find the position of our mouse on the mouse mat and then put the cursor in a similar location on the Oric screen display. The mouse software stores the two co-ordinates "X" and "Y" in Param Block 8000 and every time the screen display is refreshed, the mouse software will read the current values of those two co-ordinates from Param Block 8000 and use them to locate the cursor in the correct screen location. It follows that if we use data produced by the mouse movements to change the values of those two co-ordinates, "X" and "Y", we will be able to move and control the position of the cursor on the Oric's display screen.



Oric

**"Mouse6"**

12 Jan 91

**Read for Move or Button Pressed JSR80E0**

80E0 20 99 80 JSR 8099 Read/Update if required trackball/mouse move.  
Button/key status ?

80E3 AD E0 03 LDA 03E0 Fetch IRB/ORB and mask out Read status of PB5, PB6  
80E6 29 E0 AND# "111"---- " all but Bits 5, 6 and 7. and PB7 Lines and then  
80E8 8D 01 80 STA 8001 save a copy in Param 8001 (Button input).  
80EB 20 10 82 JSR 8210 Test and use input as required.  
FINISH  
80EC 60 RTS Exit.

**Update "X" or "Y" values ? JSR8099**

8099 AD ED 03 LDA 03ED Test - Was interrupt caused by mouse interface ?  
809C 29 80 AND# "111"---- " Fetch IFR to test for "mouse" interrupt.  
809E F0 1A BEQ "80BA" Mask out all but Bit 7 and test it.  
← Bit 7 is clear - so skip to Finish/Exit now.  
↓ Bit 7 is set - so  
80A0 AD ED 03 LDA 03ED Test - Did "X" move cause interrupt ?  
80A3 29 10 AND# "111"---- " Fetch IFR for test again.  
80A5 F0 06 BEQ "80AD" Mask out all but Bit 4 and test it.  
← Bit 4 is clear - so skip next two instructions only.  
↓ Bit 4 is set - so  
80A7 20 BB 80 JSR 80BB go on to update "X" param value and  
80AA 18 90 0A CLC/BCC"80B7" then skip the next four instructions.  
Test - Did "Y" move cause interrupt ?  
80AD AD ED 03 LDA 03ED Fetch IFR for test again.  
80B0 29 08 AND# "111"---- " Mask out all but Bit 3 and test it.  
80B2 F0 06 BEQ "80BA" ← Bit 3 is clear - so skip to Finish/Exit.  
↓ Bit 3 is set - so  
80B4 20 CF 80 JSR 80CF go on to update "Y" param value.  
Reset for next I/O input.  
80B7 20 75 80 JSR 8075 Reset VIA 6522 "User Port" again.  
FINISH  
80BA 60 RTS Exit.

Simple Binary Table

0 = 0000	8 = 1000
1 = 0001	9 = 1001
2 = 0010	A = 1010
3 = 0011	B = 1011
4 = 0100	C = 1100
5 = 0101	D = 1101
6 = 0110	E = 1110
7 = 0111	F = 1111

**Set up "User" VIA 6522 JSR8075**

8075 AD EB 03 LDA 03EB Set up "Auxiliary Control Register" ("ACR").  
8078 29 E1 AND# E1 { AND# E1 is " - - - 0 000 - " mask. Use it to  
807A 8D EB 03 STA 03EB { clear Bit 1, for "Port B" Latch OFF,  
and disable Shift Register.

Set up "Peripheral Control Register" ("PCR").  
807D AD EC 03 LDA 03EC { AND# 0F is "0000 - - - - " mask. Use it to  
8080 29 0F AND# 0F { clear Bit 4, for CB1 Negative Edge interrupt,  
8082 8D EC 03 STA 03EC { and clear Bits 5, 6 and 7, for CB2 Negative Edge interrupt.

Set up "Interrupt Enable Register" ("IER").  
8085 AD EE 03 LDA 03EE { ORA# 98 is "1 - - 1 1 - - - " mask. Use it to  
8088 09 98 ORA# 98 { set Bit 7, for any VIA 6522 interrupt and  
808A 8D EE 03 STA 03EE { set Bit 4, for CB1 and Bit 3, for CB3 interrupts.

Set up "Data Direction Register B" ("DDRB").  
808D AD E2 03 LDA 03E2 { AND# 1A is "000 - - 0 - 0" mask. Use it to  
8090 29 1A AND# 1A { clear Bits 7, 6, 5, 2 and 0 all to "0", to make  
8092 8D E2 03 STA 03E2 { data lines PB7, 6, 5, 2 and 0, all become inputs.

FINISH  
8095 60 RTS Exit.

Oric

# "Mouse6"

12 Jan 91

## Param Block 8000

```

8000 FF * * * Page Marker
8001 00 Button Input
8002 00 lsb Prog Counter Addr
8003 00 msb
8004 4E lsb Offset
8005 00 msb
8006 00 lsb New Vector Addr
8007 00 msb
8008 00 Lo Horizontal
8009 00 Hi ("X") Mouse
800A 00 Lo Vertical movement
800B 00 Hi ("Y")
800C 4C JMP instruct
800D 00
800E 00 Oric INTSL/IRQ copy
800F 00
    
```

## IRQ Vector Extension Vector 8060

```

8060 08 PHP Preserve Status Reg
8061 48 PHA and the Accumulator
8062 8A 48 TXA/PHA and Index X
8064 98 48 TYA/PHA and Index Y contents.
8066 20 60 80 JSR 80E0 Read Mouse data and update display.
8069 68 A8 PLA/TAY Retrieve Index Y
806B 68 AA PLA/TAX and Index X
806D 68 PLA and the Accumulator
806E 28 PLP and the Status Reg contents.

FINISH
806F 40 RTI Exit from Oric O.S. interrupt system extension.
    
```

Note - The full listing was published in Part 77 of the series (OUM August 98).

We start at the first instruction of JSR 8099, knowing that an interrupt has occurred to get us there, but not knowing whether that interrupt was caused by the mouse or some other Oric function. The first three instructions 8099/9E fetch the VIA flag register "IFR" contents from location #03ED and test them in order to find out whether the interrupt was caused by the mouse being moved. This is done by masking out and testing "flag" Bit 7 in "IFR" to see if it has been set. If it hasn't been set, there has been no mouse movement and therefore no need for any action by this routine and in that case, the operation at instruction 809E will skip straight to instruction 80BA and exit from the routine at that point.

If on the other hand, Bit 7 is found to have been set, the operation continues on to test the mouse movement. The mouse can move in any direction on a flat plane, but any movement can be defined by the two values, "X" for left and right, or "Y" for forward and back. So if the mouse moved, we need to know whether it moved in an "X" direction, or a "Y" direction. This is done by the next two sets of instructions, 80A0/A7 which test for "X" movement and instructions 80AD/B4 which test for "Y" movement.

Once again, these two sets of instructions, test for "X" or "Y" by masking out a specific bit from "IFR" and testing it to see if it has been set. Bit 4 set, indicates an "X" movement and Bit 3 a "Y" movement and the two instructions at 80A7 and 80B4 handle the "X" and "Y" updates respectively. We will go on to look at the two routines called by those two instructions later.

Meanwhile, the fact that the VIA 6522 registers have been used to indicate a mouse movement, means that they must be set up again before they can be used to detect any more mouse movement. Fortunately, this is easy. We have already covered the routine JSR 8075 "Set up User VIA 6522" in the last couple of articles and a simple call to this routine at instruction 80B7 will reset the VIA 6522 for the next data input from the mouse. Instruction 80AA is a simple jump, which in the case of an "X" movement being detected, will skip the test for "Y" movement and go straight on to reset the VIA 6522 at instruction 80B7.

At this stage in the operation, we will have detected whether the mouse has moved and if it did, we also know whether that movement was in an "X" direction or "Y" direction. However, there are two possibilities for both "X" and "Y". An "X" move can be left or right and a "Y" move can be forward or back, so the next stage is to go to the appropriate updating routine which is selected by JSR 8099 at either instruction 80A7 or instruction 80B4. These two instructions call JSR 80BB if an "X" movement is detected, or JSR 80CF if a "Y" movement is detected and they sort out whether the move was to the left or right for "X" (or forward or back for "Y"). They also update the "X" and "Y" values held in Param Block 8000, ready for the next screen display refresh. We will look at these two routines next time. See you then.....



## Letters and E-mails

Dear Dave,

Enclosed is another machine code article. Only seven more to go after this, assuming one per month. The series has certainly run for a lot longer than I expected. Hopefully, readers have enjoyed and gained something from it.

Not a lot happening in the last few weeks. Acorn Computers seem determined to snatch defeat from victory, the more I hear about it, the more peculiar it all sounds. I am still working out the options for my own system. If I upgrade to the latest Acorn machine while they are still available, which seems to be the wisest option at present, I will need a higher resolution monitor, which will be incompatible with both the Oric Atmos and my two current Acorn machines, which is a bit of a problem.

Meanwhile, I enjoyed a visit to the Model Engineer Exhibition at Olympia, where I managed to trash several expensive radio controlled helicopters, plus one unfortunate spectator, before finally getting the hang of how to keep the thing airborne. Fortunately, it was all on a simulator, so when are we going to see an Oric version?

- Peter Bragg (Sutton)

Dear Peter,

I know for a fact that readers enjoy your articles.

Nice to hear that you had some fun at Olympia!

- Dave

+++++  
**Message left on the OUM web site.**

Date: 01/19/99 Name: Trevor Watson E-Mail: twatson@hornchurch24.freemove.co.uk  
 How the site was found: Found you in Yahoo

Comments: I started with an Oric-1, progressing to an Atmos. I still think they were the greatest home computers around. It's good to see they are still supported.

+++++

Dave,

Many thanks for your welcome to the age of PC technology. Your adventures in this area have been closely followed in the OUM and after three months as the proud possessor of a Tiny PC package (with scanner, camera & colour printer) the boys and I are getting to grips with more and more of the gizmos of the web and Internet.

I'm happy for you to put my e-mail address in OUM and welcome any contacts made. Wishing you all the best for 1999 and lots of happy Oricing.

Pat McNeill .....Patrick@McNeill76.freemove.co.uk

+++++

Dear Dave,

I'm trying to think of some articles/something to give OUM a bit of extra interest (apart from the regulars) for the last few issues.

Haven't thought of much yet, but we'll see.

- Steve Marshall (Crosby)

Dear Steve,

I and, am sure, all readers, look forward to any articles from you, as they are always of interest.

- Dave



Safe  
at last  
to surface

Brian's Page

OUM # 137

Page No.12.

**HELLO :** A new year is upon us - Happy New Year  
It's the last year of this century , the last year for  
OUM under Daves helm , but is it the last for OUM  
? Lets hope not .

With my move imminent , a pause may be caused with Basically  
Yours - sorry for any disappointments ! However time has been  
found at least for this page .

January not only brings a new year , but clear-out time in my little  
room - New prizes are planned , but before these are noted , old  
stock has to be found new homes . The current prize pool will be  
reproduced below , and to get shot of it , I have decided to split it  
randomly between all those who correspond with me before the next  
issue - so why not write in . A new home card would be nice !

1

### POSER SOLUTIONS

2

7	+	8	÷	3	=	5
+		x		+		-
5	+	3	÷	2	=	4
÷		÷		-		+
3	+	6	÷	3	=	3
=		=		=		=
4	+	4	÷	2	=	4

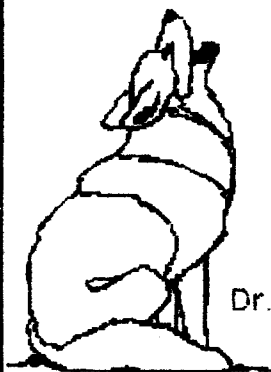
3

HOUSE

C	O	N	I	F	E	R	S
O			C	O	S		E
S	O		E	A	T		R
S	I	R		L	O	P	E
E	L	A	N			P	E
T		Y	O	W		W	E
E		E	V	A			L
D	I	L	A	T	O	R	Y

### **Current Prize Pool**

TNG Stereo Speakers  
Jolly Box  
Orange Document Folder/Wallet  
Mini Mouse Pad & Wrist Support  
Donald Duck Disk Box  
Looney Tunes Video  
Duracell Focket Torch  
Dr. Devious (Computer Graphics) Video  
3 Pce Gift Set  
( CalcPen/Organiser)





Brian's Page

OUM # 137

Page No.13.

1

## January Posers

In class 3BC of Oricland Comprehensive School, fifteen pupils play table tennis and nineteen play football. Six cannot play either sport. How many pupils can play both sports? 3BC has thirty pupils.

Planet Zorgon, recently held the universal intergalactic meeting.

100 'aliens' attended. Of them:

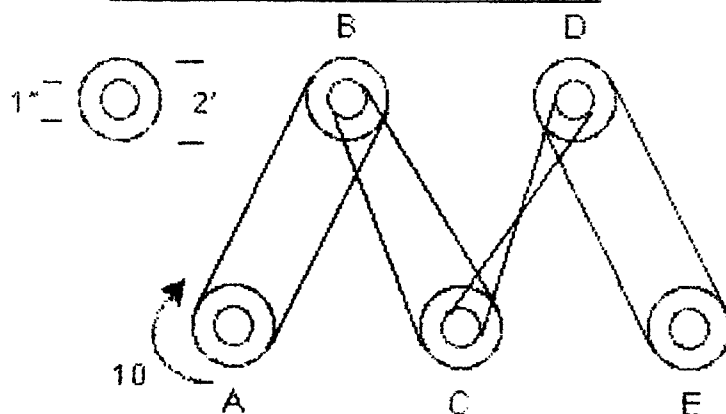
- 73 had two heads
- 28 had three eyes
- 21 had four arms
- 12 had two heads and three eyes
- 9 had three eyes and four arms
- 8 had two heads and four arms
- 4 had all three unusual features

2

How many had none of these unusual features?

3

In what direction and how fast does E revolve?



4 Oricland statistics office, recently carried out a survey of 100 members of the public, to ascertain peoples eating habits. It was disclosed that: 20 ate breakfast, 23 ate lunch and 40 ate tea. Furthermore, 6 had both breakfast and lunch, 7 had breakfast and tea, 5 had lunch and tea, and 2 ate all three. How many ate just one meal?

## Letters to the Editor

Dear Dave,

Enclosed is the cheque for renewing my subscription of OUM till the bitter end. I wrote to you my thoughts about the closure of OUM already per email, but I forgot to include the following German saying: 'Besser ein Ende mit Schrecken als Schrecken ohne Ende' - 'Better an ending with scare as scare without ending'.

- Hans Kraus (Vienna)

Dear Hans,

Thank you for the saying - I like it.

- Dave

+++++

Dear Dave,

Greetings from foggy Worcester!. I should like to order all three of Dr.Rays software as advertised in issue 135 of OUM.

So, OUM to go eh? Surely not! I wholeheartedly endorse Colin Cook's comments; I regret it is part of the 'great British character' to wait until something has gone before openly expressing appreciation for it.

As I'm sure you recall, it was your own personal efforts (together with Steve Hopps hardware) that saw my fledgling business off the ground. And even though I have gone off on a different track (including daily commuting to London!), I am most grateful for the personal interest & assistance you gave me at that important stage of my work-life.

Meanwhile, I am one of those miserable creatures who has not returned his questionnaire. I,'m still waiting to be "names & shamed"! As far as I can tell it's the only way I'll ever be "famous for fifteen minutes"! More seriously, while I've always enjoyed the sheer variety of OUM, for me the greatest pleasure has come from the long running series e.g.: RAMROM with Jon, and particularly Machine Code with Peter. Which brings me to a final point. At next year's (final?! ) Meet could Peter host a "Constructor's Corner" where we could build or assemble or complete (Or whatever) an interface and mouse unit? Dabbling with the soldering iron, as well as low - level programming was the hey-day of my computer experience in the early days. Peter's articles are very clear, but I guess I might need the incentive of a guided practical session to actually knuckle down & try it for myself. If this idea does take off and there are several eager candidates, then I might be able to help out with the advance purchase of the components, so that the time on the day itself is well spent.

- John Hughes (St.Johns, Worcester)

Dear John,

Thanks for an interesting letter. Your business project was certainly an interesting one - I'm sure I still have a copy of the software you wrote somewhere.

I'm saddened by the loss of OUM this year, but at least the decision has perked up the postbag. Hopefully Peter Bragg will contact us with regard to your suggestion - July 10th and the MEET will soon be here! It would be great to see some construction going on - do you remember the days of the Meets when Wilkie turned up with his soldering iron to repair machines, and even Chris Hearn tinkered as well?

If anyone wants to purchase components before the day, I suggest they contact me and I'll pass the name sto you.

- Dave

+++++

## **Bits'n'Bobs**

### **Turkish delight**

Oguzhan Yilmaz is still working on his version of Oric-Raid. Last update was that he is still working on the scrolling techniques.

### **New utility**

Simon Guyart has just released a fantastic utility that can convert any PC file to the Oric. Although using the simple technique of just adding a Tape header onto the specified file, the user-interface is very friendly and looks brill.

Enthusiasts can now convert Text and Sample Files quickly and easily to .TAP format without using the tricky DEBUG command to amend a file.

### **Bristow's project**

It has been a little quiet on the Oric Project over the last few weeks and so Jonathan Bristow has tended to resume back to doing his own projects. More information will be issued when he has something more concrete.

Meanwhile, Jonathan's website is looking very good. Check it out at:  
<http://www.twilichte.freemove.co.uk>

### **Rhetoric**

It may still not be too late to get Steve Marshall to get RHETORIC off the ground - if only you write to him.

### **The Welsh Wizzard**

The correct address for Brian Kidd is: 49 Harlequin Drive, Alt-y-Ryn, Newport, South Wales. NP20 5GJ  
Tel: 01633 761183

### **Welcome back!**

A big welcome back to Trevor Shaw, whom I hadn't heard from for a long time.

Trevor has been working away a lot. Trevor with his 486 SX50 is now on the Internet, albeit a little slowly.

Trevor's e-mail address is: [trevor@ergopod.freemove.co.uk](mailto:trevor@ergopod.freemove.co.uk)

### **OUM Readership**

Currently the readership of OUM is 82. A big welcome to our Danish subscriber, Henrik Holm. Did you know that since I took over the Editor's reins, OUM has gone out to 347 different readers?

### **Wanted - preferably alive!**

For his software project, Jonathan Bristow is looking for someone to help with graphics design for worm animation. Contact him by snail-mail, e-mail or 'dog & bone'.

## **A Look at the Questionnaire results.**

Way back in time I set a questionnaire in OUM. Forty five of you replied, and it is now time to look further at what you had to say.

**In question 4 I asked how much time you spent on computing per month, broken down between Oric, Euphoric, PC etc.**

Many of you had been rather busy and hadn't been on one or more machines for a while, whilst some of you gave a total time for all machines. Looking quickly at the results of time spent on the Oric; of 26 who broke the time down, 14 spent no time at all on it, 8 spent up to 20 hours a month, 3 spent between 50 and 100 hours, and one of you admitted 300 hours a month on the Oric.

Twelve of you answered regarding Euphoric - 4 spent no time at all on it, and the other 8 spent up to 20 hours a month on the emulator, though I guess by now that this time has increased.

At least 20 of you spent many hours on a PC, though a lot of this was at work. Some admitted up to 200 hours.

**In question 5 I asked you to specify what you thought were the best parts of OUM.**

Some of you picked out a couple of items particularly, whilst 25% were happy to say that they liked it all.

Top favourite by a long way with 21 votes were the pages on Readers Letters/E-mails. Next with 14 votes was the News section. Then all with 8 votes as your favourite sections were: Interviews (Especially the one with John Marshall), Bits'n'Bobs, and Reviews. Others well recieved included my humour, reviews, Peter Bragg's articles, Frank's grammar, Hardware articles, RamRom, Brian's page, and the Editorial.

So let's look at your comments in a little more detail:

"I quite like Brian Kidd's puzzle page and any hardware related topics. The English language lessons are also interesting" - John Foggin

"Articles which cover the history of the Oric. Readers Letters usually throw up something of interest" - William Falconer.

"News, interviews (e.g. John Marshall), Letters, etc." - Arnt Erik Isaksen

"The Editorial, News, and Back Page" - Hakan Karlsson

"Strange as it may sound, I personally like the letters column, e-mails to the editor and such stuff. It keeps me in perspective and reminds me that just because I don't see any Orics or Oric users around here it doesn't mean they are not there....." - Alexios Chouchoulas

"Almost all" - Ian Hutchins.

"Actually I read OUM just to get in contact with Oric users all over Europe. The mails from users are the best for me. As my favourite study on the Oric in the 80's was machine code writing, especially Rambling in the Rom is really useful for me. The telephone conversation with Bill Gates was really great in OUM - I translated it to my friends." - Oguzhan Yilmaz.

"I like the general newswiness content of the mag. I feel I've got to know the regulars quite well over the years! Technical articles are enjoyable, particularly the hardware construction type and any type of article that informs/instructs and teaches something as a result." - Paul Farnese.

"News, Bits'n'Bobs" - Fabrice Frances.

"Bits'n'Bobs, News, Brian's page, game reviews." - Stale Eikebraten.

"I love reading the letters, and like the odd puzzle of Brian's. I like Peter Bragg's stuff. I enjoy the interviews, and anything on BASIC, and Dave's sense of humour coming through occasionally." - Frank Bolton.



## **Questionnaire results (Contd.)**

"I like it all - from the light - heartedness of Brian's pages to the really Techy bits from Jon and Peter." - Trevor Banyer.

"Letters and the Editor's barbed comments!!" - rob Kimberley.

"I enjoy the news, reviews of new software, everything about games, interviews, programming articles, most of the readers letters and ads, and also the articles about the English language." - Raul Hakli.

"Jon's Rambling, general information and type-ins." - Chris Evans.

"I enjoy all of OUM." - Don Brown.

"I enjoy all of it. If I have to put something above the other, it must be the personal part where you give us some small details about the other OUM readers, e-mails, small stories etc." - Geir Pisani.

### **In question 9 I asked you what programs you run on the Oric.**

Paul Hutton always goes back to Zorgon's Revenge, Xenon I & II, Willy, Defence Force, Oric Munch & Ultima Zone.

Jim Groom likes Slime, Rabbit and Magnetix. David Goodrum goes for DPTLQ, Ratsplat & Insect Insanity. Steven Friend runs Postman Sam for his daughter - yeh I bet!!!

John Hurley likes thought provoking games like Backgammon, Draughts, Ludo, Maxit and some adventures. Pat McNeill cites about 20 games including Astro-War, Space-Chase, Galaxy, Viper, and Donkey Derby!! John Foggin goes for DPTLQ and Columns. William Falconer uses utilities such as Word-Speed, Easytext, Worksheet and Megabase, whilst playing Tetris and Mluch.

Steve Marshall goes for Nibble/Bddisk, Sonix, Lorigraph, Base plus, Easytext, Chopper, Two Gun Turtle, and various versions of Invaders. Ian Hutchins picks Compiler, Word-Speed, Psychiatric, IJK Invaders, Hellion and The Ultra. Dennis Hudson says Word-Speed and Donkey Derby. Peter Thornburn says Easytext, Rabbit, Mr. Wimpy, Magnetix and The Ultra.

Brian Kidd picks The Ultra, Cobra Pinball, and most IJK titles. For Trevor Banyer it's Chopper, Lone Raider and Gravitor. Jean Boileau chooses Videothèque nad adventures. Raul Hakli includes Grendel, Pasta Blasta, Magnetix and The Hobbit, whilst trying to get familiar with Soundtracker. Chris Evans likes Scrivener, Styx, Galaxians and Ghost Gobbler.

Allan Moore enjoys games, with PacMan being a favourite of his wife.

Matthew Coates picks Megabase. Tim Colgate says Tyrann. Geir Pisani picks Defence Force, Xenon, and some small home made Basic applications just for fun.

Well, certainly a variety!!!!

Next month we delve further into your answers, but for now it's time to put this issue to bed, as it is now January 26th.

# **Oric**



20.

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.....

```
10 TEXT:CLS:PAPER 0: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
150 POKE 48003,D:M=RND(1):UNTIL A$<>" "
170 CLS:?:A=49
play (1-6) ";
190 INPUT B$:B=VAL(B$)
210 FOR F=1 TO B:CLS:PRINT
230 FOR G=1 TO 6
235 Z(G)=INT(RND(1)*A)+1
250 L=0
270 O=0+1:IF O>7 THEN O=1:X=X+1
290 POKE 48081,X
310 NEXT H
330 NEXT G
350 PING:CLS:?:PLOT 18,1,4
370 PLOT 36,1,STR$(F):PLOT 34,1,"#"
390 FOR G=1 TO 6:?"No.":G;" ";
410 ? Z(G)
430 PLOT 18,C,12:PLOT 17,C,1
450 A$=KEY$:GET A$
470 CLS:?:?"THATS ALL...":?
490 D$=KEY$:REPEAT:C=RND(1)
510 IF C$="1" THEN CLS:RUN
530 HIRES:TEXT:PAPER 7:INK 0:END
550 PLOT 4,1,12:PLOT 5,1,3
570 V=ABS(C-25):WAIT V*10
590 FOR Y=T+1 TO 6
610 Q=Z(T):Z(T)=Z(Y):Z(Y)=Q
630 NEXT T
200 IF B<1 OR B>6 THEN 170
220 ?" CHOOSING YOUR NUMBERS....."
240 IF B=1 THEN 330
260 FOR H=1 TO G
280 IF X>7 THEN X=1
300 IF Z(H)=Z(G) THEN L=L+1
320 IF L<>0 THEN 235
340 GOSUB 540
360 PLOT 19,1,"Nos. FOR BOARD"
380 PLOT 35,1,2
400 IF Z(G)<10 THEN ?"0";
420 NEXT G
440 PLOT 19,C,"PRESS ANY KEY"
460 NEXT F
480 ?"1=GO AGAIN : 0=QUIT"
500 C$=KEY$:UNTIL C$<>" "
520 IF C$<>"0" THEN 490
540 PING
560 PLOT 6,1,"ALL CHOSEN - NOW SORTING"
580 FOR T=1 TO 5
600 IF Z(Y)<Z(T) THEN 610 ELSE 620
620 NEXT Y
640 RETURN
```

NOTE

BE CAREFUL - SOME LINES CONTINUE ON THE NEXT LINE.

